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The Competitive Threat Posed by the People's Republic of China to Latin America: An Analysis for 1990-2002

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**The Competitive Threat Posed by the
People's Republic of China to Latin
America: An Analysis for 1990–2002**



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with the assistance of Hiroshi Oikawa

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ABSTRACT

This paper explores the competitive threat posed by the People's Republic of China to markets in Latin America and the Caribbean (LAC). It focuses on the impact of PRC's rise as a major exporter of manufactures, but it also considers bilateral trade between LAC and PRC.

In response to falling trade costs and greater international capital mobility, PRC has emerged as a major exporter at both the labor-intensive low technology and increasingly at the knowledge-intensive higher technology end of the product spectrum.

Latin America is still somewhat distant from this process. Some countries are benefiting from growing imports of primary and resource-based products by PRC, although in general PRC remains a relatively small market for LAC, although as an import supplier PRC overtook Japan in 2003. The trade structure of most of LAC is generally more complementary than competitive with that of PRC. The exceptions are principally Mexico and Costa Rica, which, similar to PRC, are closely integrated into production networks of MNCs. With a differing export structure the likelihood of damaging trade diversion effects is weakened.

Our analysis of bilateral trade between LAC and PRC reveals a striking tendency towards a pattern of specialization with LAC a net exporter of primary products and a net importer of manufactures. The patterns of the two regions are almost a classic textbook illustration of trade between developing and industrialized regions, where the former (i.e. LAC) strengthens its specialization in primary products and processes resources while the latter (i.e. PRC) does the reverse. What is surprising is that LAC is the richer region, with a longer history of modern industrialization, higher human resources, more FDI per capita and with more liberal trade and investment regimes.

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The Competitive Threat Posed by the People's Republic of China to Latin America: An Analysis for 1990–2002

Sanjaya Lall and John Weiss with the assistance of Hiroshi Oikawa

1. Introduction

This paper explores the competitive threat posed by the People's Republic of China to markets in Latin America and the Caribbean (LAC). It focuses on the impact of PRC's rise as a major exporter of manufactures, but it also considers bilateral trade between LAC and PRC. We explore these issues with trade data for 1990–2002 (2003 data are not available for all relevant countries), analysing and comparing export performance and specialization patterns in the world as a whole and in the US, the main market for both. We do not undertake a detailed analysis of the competitiveness at the industrial or product level: this would require detailed empirical investigation of the main export actors, benchmarking of productivity and capabilities and comparisons of national costs and policies, well beyond our scope. Our paper is thus a preliminary mapping that may offer insights for further, more detailed exploration.

Section 2 discusses the notion of PRC's 'competitive threat' and proposes a schema for measuring PRC's competitive impact in third markets. Section 3 analyses the 'potential for competition' between LAC and PRC by comparing the structure of their exports in various ways. Section 4 assesses the competitive impact of PRC on LAC in world markets by comparing their relative market share changes in both the world and US markets over 1990–2002 by technology categories. Section 5 deals with bilateral trade between LAC and PRC. Section 6 concludes. The Appendix tables provide more detailed data.

2. The Chinese 'Competitive Threat'

The explosive growth of Chinese exports over the past decade has led to much discussion of its 'competitive threat' in developed as well as developing countries. At the popular level, the threat seems quite clear. Between 1990 and 2002, PRC's manufactured exports grew by 16.6% per annum, from \$48 billion to \$303.5 billion,¹ raising its world market share over three-fold from 1.9% to 6.4%. In 2002, PRC overtook the UK and in 2003 it overtook France, becoming the fourth largest exporter in the world after the US, Germany and Japan. In the developing world it was by far the largest exporter; its share of manufactured exports more than doubled (in a faster growing total), from 11.3% to 24.1%.

In response to falling trade costs and greater international capital mobility, PRC has emerged as a major exporter at both the labour-intensive low technology and increasingly at the knowledge-intensive higher technology end of the product spectrum. For the former goods the large labour surplus in rural PRC has ensured a plentiful

¹ All the trade data in this paper are in current US dollars and come from the UN Comtrade database.

labour supply for the export sector at what has been a relatively constant real wage set by the low opportunity of rural labour. The consequence has been that in a wide range of activities PRC has been the marginal supplier of low technology goods to the world market and its productivity and wage level have set world prices for these goods. PRC's productivity has improved fast enough to offset increases in rural wages to ensure its competitiveness at the labour-intensive end of the spectrum. At the higher technology end export growth has been based on a combination of growing domestic capability and the activities of MNCs in relocating segments of the production chain to PRC take advantage of low labour costs. The key to PRC's further progress here will be in its own capability development.²

The sheer speed, magnitude and range of its export expansion raised worries that competing countries were losing their overseas markets and FDI inflows. Latin America as a more industrialized region than PRC (its manufactured value added per capita in 2000 was nearly double that of PRC, at \$627 as compared with \$350, UNIDO, 2004) is a potential competitor particularly in the US market. The most direct threat has been perceived to be in Mexico. For example, *The Economist* describes the Mexican problem succinctly

“In the past two years it has become painfully clear that PRC is the favourite destination for the labour-intensive manufacturing that Mexico specialized in for the past three decades... The problem is simple. Labour costs in PRC, converted at the country's artificially low exchange rate, are about a quarter of the level in Mexico. The result: about 300 manufacturing plants have moved from Mexico to PRC in the past two years, reckons the Labour Ministry. Especially affected is electrical assembly. Those plants that stay have cut wages... Not only is Mexican labour being undercut, but so is its privileged access to the American market. PRC has joined the WTO, and the United States is negotiating a free-trade agreement with five Central American countries... Not surprisingly, Mexico is dropping steadily down the international league tables of competitiveness.” (‘Mexico's economy: the sucking sound from the East’, London, July 24, 2003)

2.1. Some Refinements

The popular notion of ‘competitive threat’ comes from business, where companies compete with one another and a gain in share by one is necessarily a loss by another. Transposing this to the national level means that trade is also a zero-sum game where one country gains at the expense of another: the loss of markets thus means a loss of

² For a discussion of the role of capabilities (defined simply in terms of a combination of cost and quality) in trade and of the process capability development see Sutton (2000). By one simple measure of its development R and D expenditure per capita PRC has made great strides in recent years. In R&D, according the 2004 OECD *Science, Technology and Innovation Scoreboard*, PRC reached 1.1 per cent of GDP in 2002, up from 0.6 per cent in 1996; around 60 per cent of the R&D expenditure came from companies rather than the government. In terms of business enterprise R&D as a share of GDP, this takes PRC to fourth place in the developing world, after the Republic of Korea, Taipei, China and Singapore, and well ahead of other large economies like India, Brazil, Mexico, Argentina or Indonesia.

jobs, incomes and growth. To the economist, this approach is misleading. The loss of markets in one industry does not imply that the country as a whole is 'less competitive'. Countries trade with each other in a range of products and it is unclear what higher or lower competitiveness means for an economy as a whole. The US, for instance, is becoming 'less competitive' in making apparel and 'more competitive' in making computers, but is it meaningful to declare that the US is becoming 'less' or 'more competitive'?

Krugman (1994) argues that it is not. To him, "competitiveness is a meaningless word when applied to national economies. And the obsession with competitiveness is both wrong and dangerous" (p. 44). "International trade is not a zero-sum game" and treating it as such shows a lack of understanding of basic trade theory (p. 34). If all parties gain from specialising in trade, the entry of a new competitor can raise welfare for all partners – there is no 'competitive threat'.

Krugman uses the simple Heckscher-Ohlin (H-O) model to make his case. With efficient markets, perfect information, identical production functions across countries, no scale economies, no learning, full employment, fully mobile factors within economies, exogenous technical change, and all the other assumptions of static H-O models, all participants benefit from trade. The rise or fall of particular activities is irrelevant and the opening up of trade (or the entry of a new player) leads to a new equilibrium in which again all participants are better off. In this model, the *pattern* of specialization does not matter: since there are no externalities, innovation or differentiated products, all activities are equally beneficial and all factors yield equal returns on the margin. The *size* of the entrant and its *rate of export growth* also do not matter, since adjustment is instantaneous and costless.

In this model, PRC's entry induces other countries to move along their production possibility frontier and reach a higher social indifference curve, without friction, cost or delays, and with full employment throughout. While the extent of adjustment required is particularly large due to PRC's size, as long as markets are efficient there *cannot be a 'competitive threat'* (that reduces welfare). On the contrary, PRC's size opens up greater possibilities for new specialization (in higher wage economies in more capital and skill-intensive activities) and so larger welfare gains (though there are distributional consequences as resources move across activities with different factor intensities). The policy implications are simple—governments should not delay or prevent the adjustment but should permit free trade.

Does this dispose of the 'competitive threat'? Unfortunately not: the result depends crucially on the assumptions of the canonical H-O model. If these assumptions are relaxed to allow for greater realism—scale economies, differentiated products, adjustment lags, uncertainty, technological gaps, externalities and agglomeration effects, endogenous technical change, cumulative learning, information failures, unemployment, immobile factors domestically and mobile ones abroad, large firms with market power, and so on—the outcome can be quite different. There remain benefits from specialization and trade remains a non-zero sum game, but the *realisation* of the benefits in imperfect markets depends on the ability of each economy to create (or attract) competitive capabilities and to move into activities that offer the best opportunities for growth, technological development and spillover benefits (here the structure of comparative advantage does matter).

Alternative perspectives on international trade to the simple H-O model help to clarify the adjustment problem. For example, the new 'economic geography literature' (ironically also associated with Krugman, as for example in Krugman 1998) views trade through models where increasing returns to scale, learning and externalities have an important role. This alternative type of trade model predicts strong tendencies to geographical concentration and clustering with cumulative gains. International dispersal of activities like manufacturing (but the arguments apply to any increasing returns sector) requires either large cost increases in established production centres (for example due to rising wages or congestion costs) or major falls in trade costs.

Recent globalization trends can be interpreted as a process of falling trade costs where these include not just transport costs and import tariffs or tariff equivalents, but also the less obvious time costs of goods in transit, search costs as trading partners search each other out, control and management costs in organizing a supply chain internationally and unofficial policy barriers, including unofficial payments. Falls in trade cost, in fact, have been shown empirically to have a relatively large impact on trade flows. In the 1990s, PRC, with its large labour surplus and increasing outward policy orientation and openness to FDI, was well placed to take advantage of these cost decreases.

The prediction of these models is that the de-concentration process will itself be highly inequitable and a limited number of new dispersed production centres will emerge (Puga and Venables, 1996). Hence economies that lack the flexibility to move quickly into increasing return activities may find that once producers in rival economies become established the process of catch-up may be lengthy and difficult. From this perspective the rise of the first and second tier Newly Industrialized Economies (NIEs), in part the result of FDI flows from the older established producer Japan, represents one of stage industrial dispersal, with rapid growth in PRC, also strongly influenced by FDI flows in part from the NIEs themselves, a more recent dispersal stage. The question at hand therefore is what are the implications of this more recent dispersal of production for economies in Latin America?

For an economy or group of economies (like LAC) the current process of falling trade costs and its impact on their relations with PRC can be considered from the conventional perspective of trade diversion (if they lose market share to lower cost or higher quality Chinese goods) and trade creation (as markets are created by the impact of PRC on both world trade and LAC exports). If the first effect has negative effects, provided resources are flexible, the conventional H-O analysis indicates the second should be sufficiently strong for all to benefit, at least potentially.³ However if one accepts that the trade (and production) structure of an economy matters for long-run growth due to the power of increasing returns, externalities and so forth, alternative trade models caution against this simple conclusion.

In addition, analysis that focuses on the technology structure of trade suggests that the move up the technology ladder is not automatic (in response to changing factor prices) but is dependent on many factors including the policy environment (such as

³ Macro models for recent trade developments following PRC's WTO accession assume away adjustment problems and predict strong trade creation so that all partners gain from trade liberalization and PRC's growth; see for example Roland-Holst (2002) and Weiss (2004).

targeting of hi-tech FDI, creation of high level specialized skills, promotion of R&D and so on). It is also seen as path-dependent, cumulative and gradual, so that countries can go on diverging over time with no inbuilt tendency to gravitate to some universal norm (Lall 2001). A more technology-intensive export structure is also more dynamic as across industries there is a trend over time for technology-intensive activities to grow faster in trade. In part this reflects the faster growth in production and demand of innovative products. In part it also reflects the tendency for some high-technology products to relocate to developing countries to take advantage of low labour costs; the high value-to-weight ratio of these HT products makes them particularly suited to such fragmentation (Lall, Albaladejo and Zhang, 2004).

In this more realistic world, the entry of a large, efficient low-wage competitor like PRC into new export markets can *involve significant adjustment costs* and, where full and rapid adjustment is not attained, can lead to *welfare losses*. The outcome depends on two factors:

- The *similarity of export structures* in the competing countries, with greater similarity calling for greater adjustments on the part of the established producers.
- The *speed, cost, nature and extent of adjustment* in each country. These depend on the efficiency of existing markets and institutions in each country (and access to foreign capabilities), which in turn depend on the efficiency of policy to overcome market and institutional failures where they exist.⁴

Lall and Albaladejo (2004) examine the problems of economies in East Asia (EA) adjusting to competition from PRC. LAC has two advantages over EA: greater economic distance from PRC and more different export structures (with more inter-industry complementarities). While there *are* industries in which LAC faces direct and intense competition from PRC—the most obvious examples are electronics in Mexico and apparel in Mexico and Central America—LAC should, in general, face *lower adjustment costs and benefit more from bilateral trade with PRC*.

At the same time, no LAC economy comes near the mature EA NIEs (Singapore, the Republic of Korea and Taipei, China) in terms of industrial capabilities,⁵ though there are pockets of advanced capabilities in the larger economies, like automobiles, pharmaceuticals and aircraft (in Brazil). In general, however, the opportunities for LAC ‘keeping ahead’ of PRC in terms of the product complexity are fewer. Certainly, none has the possibility of relocating industrial activities in PRC to take advantage of its lower costs. Where they compete directly, therefore, it is more likely that LAC will find it more difficult to keep ahead of PRC. Moreover, the intra-industry or vertical ‘sharing’ of export activity happening in EA is much less feasible between LAC and PRC. Not only does economic distance place a barrier, the two main

⁴ Countries may also suffer because Chinese imports raise world prices for primary and intermediate products. We ignore this and other price effects in this paper, as we do not deal with unit price data (these are only available for a small set of traded products). However, the risk of PRC raising primary product prices is very real, and attracting considerable media attention.

⁵ See Lall, Albaladejo and Moreira (2004).

industries in which such sharing occurs, automobiles and electronics, have limited potential for intra-industry trade between LAC and PRC. PRC is not a major auto exporter and products are too ‘heavy’ (in terms of value to weight ratios) to make such long-distance interchange feasible.⁶ In electronics, PRC is a major player and products are light enough to permit trans-continental production sharing (many hi-tech components originate in the US). The major electronics exporter in Latin America, Mexico, has been losing exports and jobs to PRC, although as we see later there are in fact some signs of intra-industry trade, and the net longer-term trend is unclear.

LAC may face a *more serious threat over the long term*: the export specialization of most countries is heavily biased towards resource based and primary products. It is not geared to dynamic categories in world trade and offers few technological or skill benefits. Chinese growth may well constrain their future ability to diversify into more dynamic, technology-intensive products, and so downgrade their *potential* comparative advantage. While we cannot analyse this possibility with past trade data, we can gauge from past trends the direction in which the region is heading, particularly in bilateral trade.

2.2. Measuring the Competitive Threat

There is no accepted methodology for quantifying a ‘competitive threat’ with the type of data available here. In the business literature, the common measure of competitive performance is relative market shares, and we start with this: in the simplest case, there is a competitive threat if PRC gains export market share and the other country loses it. The intensity of the threat is given by the extent of the relative change. We look at competitiveness both in world markets and in the main market for LAC, the US.

However, such market share data do not show how LAC and PRC actually interact with each other at the product level. While it is not possible to infer direct *causal relationships* for the competitive impact of Chinese entry (only detailed fieldwork can show such relationships), it is possible to make some progress by examining *combinations of market share changes* for PRC and neighbours. Using the technique in Lall and Albaladejo (2004), we distinguish five outcomes (Table 1) and quantify the exports that fall under each over time.

⁶ See Lall, Albaladejo and Zhang (2004).

Table 1. Matrix of Competitive Interactions between PRC and Other Country in Export Markets

		Chinese export market shares	
		Rising	Falling
Other country's export market shares	Rising	<p>A. <i>No threat</i> Both PRC and other country have rising market shares and latter is gaining more than PRC.</p> <p>B. <i>Partial threat</i> Both are gaining market share but PRC is gaining faster than other country.</p>	<p>C. <i>Reverse threat</i> No competitive threat from PRC. The threat is the reverse, from the other country to PRC.</p>
	Falling	<p>D. <i>Direct threat</i> PRC gains market share and other country loses it; this may indicate causal connection unless other country was losing market shares in the absence of Chinese entry.</p>	<p>E. <i>Mutual withdrawal: no threat</i> Both parties lose shares in export markets to other competitors.</p>

All the measures are only suggestive, since the data cannot, as they stand, *prove* that PRC causes a change in the export performance of the other country. There are, moreover, caveats in each indicator. For instance, the data may suggest a ‘partial threat’ where PRC is raising market share faster than the other country (i.e. in PRC’s absence, given that the other country is competitive, its share may have risen faster). However, it is possible that PRC is helping the other country to compete better by complementing it within an integrated production network and so preventing its market share from doing even less well. This may be plausible for EA economies in some sectors but is much less so for LAC. In the ‘direct threat’ PRC gains and the other country loses market share. Within EA, this may be compatible with the losing country placing export facilities in PRC and so extending its competitive advantage (this is the case with textiles and clothing and some electronics). For the PRC-LAC interaction this pattern is highly unlikely, so that a ‘direct threat’ is unambiguously negative and the share of the direct threat category in an economy’s total exports is our preferred measure of threat.

We examine the *potential for competition* between LAC and PRC by measuring the *similarity of their export structures over time*. This is done at several levels:

1. At the broad *technological level*, we examine the overlap between PRC and LAC in primary product and four technological categories of manufactured exports: RB (resource based), LT (low technology), MT (medium technology) and HT (high technology) (see Table 2). These four categories for manufactures are further disaggregated into nine sub-categories, capturing different technological or structural features, for further analysis. This technology classification offers several other benefits. It allows us to gauge the basis of each country’s comparative advantage and its evolution over time. It

shows how the country is ‘positioned’ to benefit from innovation and from changes in global trade patterns and it provides an indicator of whether the country will move up or down the technology ladder as a result of the competitive interaction with PRC.⁷

2. We use another broad level of classification, this time in terms of *product ‘sophistication’*. We group all exports into categories of sophistication according to the average income of the exporter of the product in world markets, hypothesising that a ‘rich man’s export’ has certain characteristics of interest, such as greater differentiation and branding, better design and specifications, and more advanced technology. This allows us to compare goods within one of the given technology classifications.⁸
3. At the more *detailed product level*, we examine the statistical correlation between the export structures of PRC and LAC. Higher correlation indicates greater potential for direct competition and rising correlations over time show that this potential is growing.
4. Finally, we examine the most direct trade interaction between PRC and LAC, their *bilateral trade*. Apart from showing the values and net trade balances in aggregate, we group the trade by technological characteristics to see how their relative advantages are evolving. This indicates (very broadly) the direction in which PRC may influence LAC’s future comparative advantage.

To consider variations in competitive performance within Latin America, we analyse data for *18 countries with substantial industrial sectors for 1990–2002*. The countries are divided into the following groups:

- *LAC*: All the 18 countries below taken together.
- *LAC-M*: LAC excluding Mexico because Mexico becomes an outlier after 1995 when it joins NAFTA.
- *LAC Big 3*: The ‘big three’ are Argentina, Brazil and Mexico.
- *LAC Big 2*: Argentina and Brazil only, again to exclude the outlier Mexico.
- *LAC Medium 4*: The ‘medium four’ are Chile, Colombia, Peru and Venezuela.

⁷ The technology classification is explained in detail in Lall (2000) and has been used in a number of recent studies on trade. One difficulty in applying this classification to trade is that the data do not distinguish between different processes in making a given product. A high technology product like semiconductors may in fact simply be based on low technology assembly and in the trade data its exports appear as high-tech. There is no way to overcome this problem; the only way to proceed is to apply the categories and then qualify the results with other evidence on the technological content of local production. A related problem is that at this level of aggregation it is not possible to distinguish between products in the same industry with very different technological and other features. Some low technology industries may have very complex and innovative products within them and some high technology ones may cover relatively simple and mature products.

⁸ This sophistication index is explained in detail in Lall and Weiss (2004). The authors acknowledge the insights of C. H. Kwan (REITI) who first put forward a version of this measure.

- *LAC Small 11*: The ‘small 11’ are Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Paraguay and Uruguay.
- *LAC S 10*: The ‘small 10’, S11 excluding Costa Rica because its Intel plant in the late 1990s, and resulting high technology exports, make it an outlier in the group.

The technology classification used is shown in Table 2.

Table 2. Technological Classification of Exports

Classification	Examples
Primary products	Fresh fruit, meat, rice, cocoa, tea, coffee, wood, coal, crude petroleum, gas
Manufactured products	
<u>Resource based manufactures (RB)</u>	
Agro based	Prepared meats/fruits, beverages, wood products, vegetable oils
Mineral based	Ore concentrates, petroleum/rubber products, cement, cut gems, glass
<u>Low technology manufactures (LT)</u>	
Fashion cluster	Textile fabrics, clothing, headgear, footwear, leather manufactures, travel goods
Other low technology	Pottery, simple metal parts/structures, furniture, jewellery, toys, plastic products
<u>Medium technology manufactures (MT)</u>	
Automotive	Passenger vehicles and parts, commercial vehicles, motorcycles and parts
Process industries	Synthetic fibres, chemicals and paints, fertilisers, plastics, iron, pipes/tubes
Engineering industries	Engines, motors, industrial machinery, pumps, switchgear, ships, watches
<u>High technology manufactures (HT)</u>	
Electronics and advanced electricals	Office/data processing/telecommunications equip, TVs, transistors, turbines, power generating equipment
Other high technology	Pharmaceuticals, aerospace, optical/measuring instruments, cameras
Other transactions	Electricity, cinema film, printed matter, ‘special’ transactions, gold, art, coins, pets

Source: Lall (2000)

2.3. Changes in World Market Shares

As a rough guide to trends in competitiveness we first consider changes in world market share (WMS) for LAC and PRC 1990–2002. As Table 3 shows, PRC gains WMS in all products, marginally in primary products and massively in LT and HT products. For all exports LAC raised its world market share by two percentage points in the 1990s, after losses in the 1980s. However, its performance is very modest compared to PRC and EA more generally and in part represents a catch-up from the losses of the previous decade. Surprisingly for a relatively resource-rich region, LAC's WMS in primary products barely changes (from 12.4% in 1990 to 12.7% in 2002. In manufactures, its WMS rises from 2.3% to 4.9%, with the main WMS gains in complex MT and HT products (3.4 and 3.0 points, respectively). But this improvement in the technological structure of LAC exports is due almost entirely to Mexico. Mexico accounts for almost all of LAC's improved WMS in pure manufactures (LT, MT and HT); the rest of LAC (LAC-M) loses in LT while its gains in MT and HT are marginal (0.2% and 0.4%). In the resource based categories, Mexico loses in primary products and gains slightly in RB manufactures, while LAC-M gains small market shares in both. Mexico is a larger exporter in all pure manufactured export categories than the rest of LAC put together. In absolute terms, LAC-M remains a tiny global player (with under 2% WMS) in all segments apart from primary and RB products, fashion products and process industries.

Table 3. World Market Shares of Exports by PRC, East Asia and LAC

	EA 8		PRC		LAC 18		LAC-M		Mexico	
	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002
All products	9.99%	11.09%	2.03%	5.96%	3.86%	5.89%	2.98%	2.95%	0.87%	2.95%
<u>Primary Products</u>	<u>8.15%</u>	<u>5.85%</u>	<u>2.72%</u>	<u>2.86%</u>	<u>12.38%</u>	<u>12.72%</u>	<u>9.62%</u>	<u>9.98%</u>	<u>2.76%</u>	<u>2.74%</u>
Manufactured	10.33%	11.87%	1.90%	6.42%	2.28%	4.87%	1.76%	1.90%	0.52%	2.98%
<u>Resource based</u>	<u>8.62%</u>	<u>8.32%</u>	<u>1.35%</u>	<u>3.23%</u>	<u>4.74%</u>	<u>5.85%</u>	<u>4.18%</u>	<u>4.80%</u>	<u>0.56%</u>	<u>1.05%</u>
Agro-based	9.22%	7.33%	1.43%	2.89%	5.74%	8.59%	5.23%	7.01%	0.51%	1.58%
Mineral-based	8.35%	8.72%	1.31%	3.36%	4.29%	4.73%	3.70%	3.90%	0.58%	0.84%
<u>Low technology</u>	<u>17.69%</u>	<u>11.57%</u>	<u>4.97%</u>	<u>14.85%</u>	<u>2.29%</u>	<u>4.75%</u>	<u>1.92%</u>	<u>1.78%</u>	<u>0.37%</u>	<u>2.98%</u>
Fashion cluster	24.46%	14.23%	8.07%	21.13%	2.71%	5.06%	2.47%	2.15%	0.25%	2.91%
Other LT	12.11%	9.61%	2.41%	10.21%	1.95%	4.52%	1.47%	1.50%	0.48%	3.02%
<u>Medium technology</u>	<u>6.44%</u>	<u>8.25%</u>	<u>1.27%</u>	<u>3.84%</u>	<u>1.78%</u>	<u>5.20%</u>	<u>1.09%</u>	<u>1.33%</u>	<u>0.69%</u>	<u>3.87%</u>
Automotive	1.82%	3.83%	1.12%	0.88%	2.16%	6.01%	0.84%	1.26%	1.32%	4.75%
Process	8.02%	10.86%	1.36%	3.72%	3.09%	4.18%	2.39%	2.77%	0.70%	1.41%
Engineering	8.74%	10.35%	1.33%	6.09%	0.90%	5.06%	0.64%	0.73%	0.27%	4.33%
<u>High technology</u>	<u>13.60%</u>	<u>21.11%</u>	<u>0.56%</u>	<u>6.98%</u>	<u>0.61%</u>	<u>3.66%</u>	<u>0.38%</u>	<u>0.76%</u>	<u>0.23%</u>	<u>2.90%</u>
Electronics	20.18%	31.45%	0.45%	9.78%	0.47%	4.18%	0.20%	0.49%	0.27%	3.69%
Other HT	3.11%	3.69%	0.74%	2.27%	0.84%	2.78%	0.67%	1.21%	0.17%	1.57%
(cont.)										

	LAC Big 2		LAC Med 4		LAC Small 11		LAC Small 10	
	1990	2002	1990	2002	1990	2002	1990	2002
All products	1.44%	1.55%	1.20%	1.06%	0.38%	0.39%	0.34%	0.30%
<u>Primary Products</u>	<u>2.84%</u>	<u>3.90%</u>	<u>5.78%</u>	<u>5.23%</u>	<u>1.57%</u>	<u>1.39%</u>	<u>1.39%</u>	<u>1.21%</u>
Manufactured	1.19%	1.20%	0.36%	0.44%	0.16%	0.24%	0.14%	0.17%
<u>Resource based</u>	<u>2.56%</u>	<u>2.71%</u>	<u>0.98%</u>	<u>1.38%</u>	<u>0.48%</u>	<u>0.62%</u>	<u>0.45%</u>	<u>0.55%</u>
Agro-based	3.69%	4.28%	0.87%	1.63%	0.60%	1.28%	0.55%	1.09%
Mineral-based	2.05%	2.07%	1.03%	1.27%	0.43%	0.36%	0.41%	0.32%
<u>Low technology</u>	<u>1.20%</u>	<u>1.03%</u>	<u>0.46%</u>	<u>0.42%</u>	<u>0.22%</u>	<u>0.32%</u>	<u>0.18%</u>	<u>0.22%</u>
Fashion cluster	1.48%	1.31%	0.61%	0.48%	0.37%	0.39%	0.33%	0.26%
Other LT	0.97%	0.83%	0.33%	0.38%	0.10%	0.26%	0.06%	0.19%
<u>Medium technology</u>	<u>0.88%</u>	<u>0.97%</u>	<u>0.15%</u>	<u>0.25%</u>	<u>0.04%</u>	<u>0.10%</u>	<u>0.03%</u>	<u>0.06%</u>
Automotive	0.80%	1.12%	0.03%	0.13%	0.01%	0.02%	0.01%	0.02%
Process	1.73%	1.68%	0.48%	0.79%	0.13%	0.20%	0.11%	0.17%
Engineering	0.53%	0.52%	0.07%	0.09%	0.02%	0.12%	0.01%	0.03%
<u>High technology</u>	<u>0.32%</u>	<u>0.57%</u>	<u>0.02%</u>	<u>0.05%</u>	<u>0.03%</u>	<u>0.13%</u>	<u>0.02%</u>	<u>0.02%</u>
Electronics	0.19%	0.32%	0.01%	0.02%	0.00%	0.15%	0.00%	0.00%
Other HT	0.54%	1.00%	0.04%	0.11%	0.07%	0.11%	0.05%	0.06%

Note: EA 8 are Singapore, Korea, Taipei, China, PRC, Indonesia, Malaysia, Philippines, Thailand.

Within LAC Argentina and Brazil (LAC Big 2) perform very poorly. Their manufactured WMS stagnates at just over 1% for the period 1990–2002. There are different industrial trends in these two economies: there are rises in WMS of 0.2 points or more in primary products, agro-based RB, automotives and other HT (aircraft and pharmaceuticals), but these are offset by declines in LT and process MT products. The LAC Medium 4 (Chile, Colombia, Peru and Venezuela) suffer a loss in primary products, with gains in RB, automotives, MT process and other HT. The 11 small LAC economies lose in primary products and gain in agro-based RB, other LT, process and engineering MT, and electronics. Within this group all the gain in electronics comes from Costa Rica. Several small LAC economies depend heavily on fashion cluster exports, but their WMS declines once Costa Rica is excluded.

In summary, LAC without Mexico does poorly, raising its world market share in all manufactured exports by less than 0.2 percentage points; the weakest performance is by the two large economies, Argentina and Brazil. The largest world market shares held by LAC-M are in primary and resource based products and MT process industries, industries that offer relatively low technological and other spillover benefits and that tend to grow slowly in trade. Mexico, by contrast, behaves like an EA NIE, with significant gains across the spectrum (primary products excepted). Similarly when a group of the ‘50 most dynamic products in world trade’ are identified their share in exports from Latin America (LAC-18) at 46% in 2002 is broadly similar to their trade share for both PRC (48%) and world trade as a whole (50%). However this comparison

is strongly biased by the inclusion of Mexico and when it is excluded (LAC-M) the share of these dynamic products falls to 36%.⁹

3. Potential for competition

This section considers LAC's 'potential for competition' with PRC in terms of exports to third markets, starting with the similarity of structures; the hypothesis is simply that the greater the similarity in export structures, the greater the potential threat from PRC – given its lower wages and faster expansion. Table 4 shows the distribution of regional exports by technology.

Table 4. Technology Structure of Regional Exports

	World		PRC		LAC 18		LAC-M		LAC Big 2	
	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002
Primary Products	15.6%	13.0%	21.0%	6.2%	50.1%	28.0%	50.3%	44.0%	30.7%	32.7%
Resource based	<u>17.0%</u>	<u>15.6%</u>	<u>11.3%</u>	<u>8.4%</u>	<u>20.9%</u>	<u>15.5%</u>	<u>23.8%</u>	<u>25.4%</u>	<u>30.2%</u>	<u>27.2%</u>
Agro-based	5.3%	4.5%	3.8%	2.2%	7.9%	6.6%	9.3%	10.7%	13.6%	12.4%
Mineral-based	11.7%	11.1%	7.5%	6.3%	13.0%	8.9%	14.5%	14.7%	16.6%	14.8%
Low technology	<u>16.7%</u>	<u>15.4%</u>	<u>41.0%</u>	<u>38.5%</u>	<u>10.0%</u>	<u>12.4%</u>	<u>10.8%</u>	<u>9.3%</u>	<u>13.9%</u>	<u>10.3%</u>
Fashion cluster	7.6%	6.6%	30.1%	23.3%	5.3%	5.6%	6.3%	4.8%	7.8%	5.6%
Other LT	9.2%	8.9%	10.9%	15.2%	4.6%	6.8%	4.5%	4.5%	6.1%	4.7%
Medium technology	<u>36.3%</u>	<u>35.6%</u>	<u>22.8%</u>	<u>22.9%</u>	<u>16.8%</u>	<u>31.4%</u>	<u>13.3%</u>	<u>16.1%</u>	<u>22.1%</u>	<u>22.2%</u>
Automotive	11.2%	12.0%	6.2%	1.8%	6.3%	12.3%	3.2%	5.2%	6.2%	8.7%
Process	8.1%	7.4%	5.4%	4.6%	6.5%	5.2%	6.5%	6.9%	9.7%	8.0%
Engineering	17.0%	16.2%	11.1%	16.6%	4.0%	13.9%	3.6%	4.0%	6.2%	5.5%
High technology	<u>14.4%</u>	<u>20.4%</u>	<u>4.0%</u>	<u>23.9%</u>	<u>2.3%</u>	<u>12.7%</u>	<u>1.8%</u>	<u>5.2%</u>	<u>3.2%</u>	<u>7.6%</u>
Electronics	8.8%	12.8%	1.9%	21.0%	1.1%	9.1%	0.6%	2.1%	1.2%	2.7%
Other HT	5.5%	7.6%	2.0%	2.9%	1.2%	3.6%	1.2%	3.1%	2.1%	4.9%

(cont.)

⁹ These are the 50 fastest growing products on the world market at the 3-digit SITC Rev 2 level for exports over \$10 billion in 2000 (that is excluding small exports that grow rapidly from a low base).

	LAC Med 4		LAC Small 11		LAC Small 10		Mexico	
	1990	2002	1990	2002	1990	2002	1990	2002
Primary Products	75.0%	64.2%	64.1%	46.3%	64.1%	52.2%	49.4%	12.1%
Resource based	<u>13.8%</u>	<u>20.3%</u>	<u>21.3%</u>	<u>24.8%</u>	<u>22.6%</u>	<u>28.3%</u>	<u>10.9%</u>	<u>5.6%</u>
Agro-based	3.8%	6.9%	8.4%	14.7%	8.6%	16.4%	3.1%	2.4%
Mineral-based	10.0%	13.4%	12.9%	10.1%	14.0%	11.9%	7.8%	3.2%
Low technology	<u>6.4%</u>	<u>6.2%</u>	<u>9.6%</u>	<u>12.6%</u>	<u>9.1%</u>	<u>11.3%</u>	<u>7.2%</u>	<u>15.6%</u>
Fashion cluster	3.8%	3.0%	7.3%	6.6%	7.3%	5.8%	2.1%	6.5%
Other LT	2.5%	3.2%	2.4%	6.0%	1.7%	5.5%	5.0%	9.1%
Medium technology	<u>4.6%</u>	<u>8.3%</u>	<u>3.8%</u>	<u>9.4%</u>	<u>3.4%</u>	<u>6.5%</u>	<u>28.7%</u>	<u>46.7%</u>
Automotive	0.3%	1.4%	0.2%	0.7%	0.2%	0.8%	17.1%	19.4%
Process	3.2%	5.5%	2.7%	3.8%	2.5%	4.0%	6.4%	3.5%
Engineering	1.0%	1.4%	1.0%	4.8%	0.6%	1.6%	5.2%	23.8%
High technology	<u>0.3%</u>	<u>1.0%</u>	<u>1.1%</u>	<u>6.9%</u>	<u>0.9%</u>	<u>1.6%</u>	<u>3.8%</u>	<u>20.1%</u>
Electronics	0.1%	0.2%	0.0%	4.8%	0.1%	0.1%	2.7%	16.1%
Other HT	0.2%	0.8%	1.1%	2.1%	0.9%	1.5%	1.1%	4.0%

3.1. Technological Structure of Exports

In general when this type of breakdown is undertaken, most observers conclude that this export structure is unfavourable to the growth prospects of LAC, particularly relative to EA, as LAC has a much more limited focus on technologically sophisticated goods with dynamic market prospects.¹⁰ Within LAC, over the period Mexico (like PRC) shows a sharp decline in the share of primary and RB products. Mexico also behaves similarly to PRC in terms of the growing share of HT, but has a much lower share for LT products, counter-balanced by a higher MT share. The Big 2, Medium 4 and Small 11 LAC economies all have high shares of primary and RB exports, with the larger economies having proportionately more MT exports. At the more disaggregated technology level,

¹⁰ For example, Weiss and Jalilian (2004: 287–8) argue that “In LA the higher growth manufacturing activities have been a combination of resource-processing (such as iron and steel, petrochemicals, non-ferrous metals, pulp and paper and various agro-processing activities), labour-intensive assembly in garments and simple electronics (in the export processing zones of Mexico and Central America) and, in the larger countries, automobiles. This production and export structure can have important implications for longer term growth in so far as LA economies are specialized in products with relatively low income-elasticities and therefore weak export demand prospects. Furthermore, the relative large endowment of Latin American economies in terms of natural resources has been seen as a potential constraint on the growth of manufactured exports, as commodity price booms can shift relative prices against tradable sectors like manufacturing... Whatever the price mechanism at work, Latin American economies appear to have been left behind in some of the most dynamic segments of world trade... Of the 20 fastest growing exports from LA, nine are primary commodities. ESEA [East and South East Asia], on the other hand, has succeeded in general in specializing in relatively dynamic products in terms of export growth, particularly in computers and their parts, and optical instruments.”

the highest reliance on mineral-based RB exports is in the Medium 4 (the impact of oil in Venezuela). Fashion cluster exports are relatively important for the Small 11, due to US outsourcing of apparel in the Caribbean and Central America (this will come under severe competitive threat from PRC as a result of the end of the Multi Fibre Agreement at the end of 2004). MT process industries are significant for the Big 2 and the Medium 4, while auto products are most significant for Mexico and the Big 2. MT engineering exports are very significant in Mexico but not in other LAC economies; electronics are also large in Mexico and (because of Costa Rica) in the Small 11. Other HT exports are significant only in the Big 2.

PRC has a very different technological trade pattern from most of LAC. As noted, Mexico is only country that comes near it, but it still has significant differences. PRC has a much larger role for fashion cluster products and electronics, but a much smaller one for automobiles. However, their growing similarity is particularly relevant, and we have noted the mounting Chinese threat to simple labour-intensive jobs in the Mexican *maquilas*.

These technology comparisons are fairly aggregate but they do suggest that *Chinese exports do not pose a direct threat to the bulk of LAC exports, with some exceptions*:

- Fashion products (of interest to the smaller economies and Mexico),
- ‘Other LT’ (this is a broad category but PRC may be posing a threat in specific products like toys, sports goods or travel goods that are exported by the smaller economies),
- Engineering products, where PRC is now a major exporter of machinery and consumer durables and may affect similar exports from Mexico and possibly Brazil. However their relative weight will raise transport costs and may reduce their competitiveness in markets to which LAC countries sell.
- Electronics, of export interest mainly to Mexico and Costa Rica.

Of course, these categories should be disaggregated to yield meaningful conclusions at the product and country level.¹¹

3.2. Product Structure

The similarity of export structures between LAC and PRC can be examined by product category (here we look at the 3 digit level for 181 products, excluding ‘special transactions’) without categorising them by technology. We start with the *stability of*

¹¹ For a disaggregated analysis of RB exports see Chami (2003), who finds that ‘differentiated’ RB products are highly dynamic and that economies like Chile that specialised in them did much better in US markets than countries that exported undifferentiated RB products. He also conducts a more general comparison of LAC and East Asia and finds that, “Generally speaking, exporter countries with a low share of resource based products in total exports tended to perform better in the last decade than those with high shares. Within Latin America, Mexico and Costa Rica with low shares of resource based exports performed relatively well, while Brazil, Colombia and Venezuela, with high shares of resource based exports, did not do very well.” (p. 20)

export structures in each country, the correlation between export patterns in 1990 and 2002. A high coefficient shows that the export composition is relatively unchanging, while a low coefficient indicates structural change.

The more changeable structures are in PRC and Mexico (roughly correlation coefficients of 0.4 and 0.6, respectively); the least are the LAC Medium 4 and LAC without Mexico (correlation coefficients of over 0.9). It may be expected that more rapid structural change—if it allows the exporter to respond to shifting structures in world trade—will lead to faster growth. Thus is borne out by the data since a regression of the stability coefficients on export growth rates over 1990–2002 for our sample countries in LAC and PRC supports this expectation. The adjusted R-square is 0.31 ($F=11.2$) and the coefficient is negative and significant -0.022 ($t=-3.35$). The high degree of stability in export structure in LAC, along with a specialisation in non-dynamic products, appears to be taking a toll in the growth of export earnings.

We now compare the export structures of individual LAC countries with PRC. For all products, Chinese exports overlap significantly only with Mexico and Costa Rica, and even here the correlation coefficient is relatively low (at only 0.47 and 0.27, respectively). Thereafter there is a huge drop in the coefficient, and all other LAC countries have almost no correlation with Chinese exports. As a comparison, PRC's export structure and that of the main producers in EA has a correlation coefficient of 0.75 for 2002 (Lall and Albaladejo, 2004).

Taking manufactured products only, there is a fairly dramatic decline over time in the similarity of Chinese exports with most of LAC, due to the rapid structural shifts in the latter. Only Mexico and Costa Rica in 2002 have any significant similarity to PRC in 2002 (with correlation coefficients of around 0.5 and 0.35, respectively). Most other countries have correlations with PRC that are either negative or below 0.1. Even excluding RB products (where PRC is least specialized) from exports raises the correlation only slightly. Apart from Mexico and Costa Rica in 2002, now Jamaica and Colombia, but both in 1990, have coefficients of above 0.20. All the other countries, including Mexico in 1990, have lower coefficients. In terms of the current overlap, therefore, *PRC seems to pose a very small threat to the bulk of LAC exports*, including the large industrial producers of Argentina and Brazil: even excluding RB products their coefficients for 2002 are -0.1 and 0.13 respectively. Appendix Table 1 gives the export structure correlation coefficients for PRC and all the LAC countries.

3.3. 'Sophistication' Structure

Another way of analysing export structure and similarity is the 'sophistication' of manufactured exports based on *average income level of the exporter* of each product: the higher the level the more sophisticated the product. 'Sophistication' captures technological and other product characteristics based on the location of export production: a product exported by richer countries has features that allow relatively high wage economies to compete and are (in the relevant period) out of reach of lower wage economies. For a given product, greater sophistication presumably embodies higher levels of processing and greater value added; the inability to raise sophistication with rising wages leads to the loss of competitive advantage.

As a simple comparison we calculate an average sophistication score for each country based on the scores of each of its products.¹² Table 5 shows the score for 1990 and 2000 for PRC, some of the countries in LAC and EA, along with some developed and poorer countries for comparison.

Table 5. Rank by Export Sophistication Scores (ranked by 2000 score)

Score	1990	2000
USA	84.44	74.83
Japan	85.14	74.62
Germany	83.87	74.57
UK	81.82	73.59
Finland	82.84	72.97
Singapore	74.59	68.11
Mexico	80.38	67.42
Taipei,China	73.37	67.05
Korea	69.21	66.52
Argentina	66.90	64.64
Brazil	67.69	64.22
Philippines	60.53	64.08
Malaysia	68.08	63.43
Costa Rica	69.26	62.51
Thailand	65.12	61.88
Chile	65.16	57.16
PRC	65.04	56.55
Ireland	79.89	56.55
Indonesia	57.33	55.37
India	61.05	55.21
Hong Kong, China	67.62	53.74
Bangladesh	46.62	35.64

The industrialized countries are, expectedly, at the top, with the US in the lead. Each has a decline in its sophistication score over the 1990s, reflecting the shift in exports to lower wage countries. In fact, most countries, including developing ones, see a decline in their scores for this reason. Note that Ireland, a relative newcomer to the industrial world with a strong specialisation in (MNC driven) electronics, comes much lower (after PRC) for this reason.

¹² The share of each manufactured product in a country's total manufactured exports is multiplied by the sophistication score of that product (in world trade); the figure is then totalled across all products.

Mexico comes just after Singapore, with a higher score than the two larger NIEs (Taipei, China and Korea) due to its concentration on autos, which has a higher sophistication score than electronics (the production of autos remains more a privilege of rich countries than does electronics). The larger LAC economies, Brazil, Mexico and Argentina are in fact considerably closer to the EA NIEs than they are to PRC by this indicator.

The most helpful role for the sophistication index is likely to be in distinguishing different types of products within broad categories. The technology categories in Table 4 for example may contain a range of products of differing quality, subject to different marketing strategies and undergoing different degrees of processing and technology development. In such instances the index provides a simple way of differentiating within these broad technology categories. Table 6 gives the average sophistication score within some important product categories for PRC and the LAC groupings, with Mexico shown separately.

Table 6. Average Sophistication Score for Some Products

Products	PRC	LAC	Mexico	Developed economies
Automobiles	89.9	72.9	72.9	76.3
Electronics	55.2	56.2	56.0	63.1
Industrial Chemicals	54.1	47.8	50.4	66.5
Instruments	59.0	52.9	53.2	66.6
Metalworking Machinery	86.0	51.5	66.1	74.6
Textiles and Clothing	43.1	47.5	46.4	56.7

The sophistication scores capture several factors and do not, as they stand, point to direct competitive effects within these broad categories. However it is interesting to note that despite its lower score for its total exports and the important category of textiles and clothing, PRC has higher sophistication scores than LAC and Mexico for automobiles and metalworking machinery (where its score is very high), as well as for instruments and industrial chemicals. Its very high scores may be due to a division of the supply chain by MNCs, which concentrate relatively sophisticated activities (that those normally carried out in developed economies) in PRC. For the important category of electronics the sophistication scores for PRC, LAC and Mexico are similar. Hence for the two largest product categories in terms of export value, textiles and clothing and electronics, the sophistication scores for PRC are either below or broadly similar to the scores for its LAC trading partners.

4. Competitive Impact on LAC in World Markets

We now turn to the five-fold matrix of competitive effects of PRC on LAC economies, starting with exports to world markets and then considering the US market alone (see Table 1 for definitions of the ‘threat’ categories). We work at the 3-digit SITC level and over the period 1990–2002 calculate changes in world market share (WMS) based on comparison growth rates for LAC countries and PRC. For the two years 1990 and 2002 we show the proportions of trade that taken by the five ‘threat categories.’

As noted earlier, these calculations can be only suggestive—they cannot *prove* causation—but nonetheless they are plausible and interesting. Table 7 summarizes the position for Latin America as a whole (LAC 18) in the world market and Table 8 gives the same for the US market. Figures 1 and 2 show the shares of exports for each LAC country under these five categories in 1990 and 2002, for the world and US markets, respectively. Appendix Tables 2 to 7 give the detailed data on the values of exports by the five categories for each country as well as the main five products that fall under each category.

Table 7. Competitive Threat from PRC in World Market for LAC 18

	Values (\$ m.)		Distribution (%)	
	1990	2002	1990	2002
Partial Threat	17,164.8	91,288.9	14.6%	28.0%
No Threat	12,661.4	102,644.9	10.8%	31.5%
Direct Threat	35,809.9	37,142.1	30.5%	11.4%
PRC under Threat	14,229.0	47,648.8	12.1%	14.6%
Mutual Withdrawal	37,538.4	47,253.8	32.0%	14.5%
Total	117,403.4	325,978.5	100.0%	100.0%

There are large variations by country in the competitive threat from PRC and the nature of the threat changes significantly for several countries. For the world market for all the LAC 18 countries together, the average weighted share of ‘threatened exports’—under *direct plus partial threat*—is surprisingly stable at 45.1% in 1990 and 39.4% in 2002 (Table 7); there is also a shift in the composition of the threat, from direct to partial. Recall that the direct threat is where a country loses WMS and PRC gains and by this measure the *intensity of the Chinese threat decreases significantly over time* (this is also true of EA, although there the degree of threat is much higher with, on an unweighted basis, 75% of exports under some form of threat (see Lall and Albaladejo, 2004).¹³ By our direct threat measure in 2002 on, 11% of LAC exports are in this category.

¹³ The unweighted average for threatened exports in EA of 75% is much higher than LAC’s unweighted average of 47%. The highest figures for LAC are 75% for Costa Rica and 71% for El Salvador, while in EA they are 98% for

Table 8. Competitive Threat from PRC in the US Market for LAC 18

	Values (\$ m.)		Distribution (%)	
	1990	2002	1990	2002
Partial Threat	3,913.2	20,777.3	8.5%	10.8%
No Threat	7,508.3	101,371.3	16.3%	52.7%
Direct Threat	13,663.2	14,567.0	29.6%	7.6%
PRC under Threat	10,740.6	42,442.7	23.3%	22.1%
Mutual Withdrawal	10,267.9	13,238.9	22.3%	6.9%
Total	46,093.2	192,397.2	100.0%	100.0%

Figure 1 shows the share of ‘threatened exports’ both direct and partial in the two years, ranked by the total threat in 2002. The least threatened is Venezuela (less than 20% of exports), shielded by its heavy dependence on oil-based exports. The countries with the largest reduction in the competitive threat in these two categories are Paraguay, Peru and Argentina: all countries that have moved over time into primary or RB products where PRC does not have a strong competitive position or into products like automobiles where PRC is not yet a significant exporter. Countries like Guatemala and Colombia appear to place PRC under threat, because they gain market share in primary products where PRC is a small exporter and is losing market share.

Hong Kong, China and 85% for Malaysia. The lowest figure in LAC is 16% for Venezuela, while in EA it is 50% for Indonesia.

Fig 1. Shares of Exports under Direct and Partial Threat from PRC in World Markets, 1990–2002

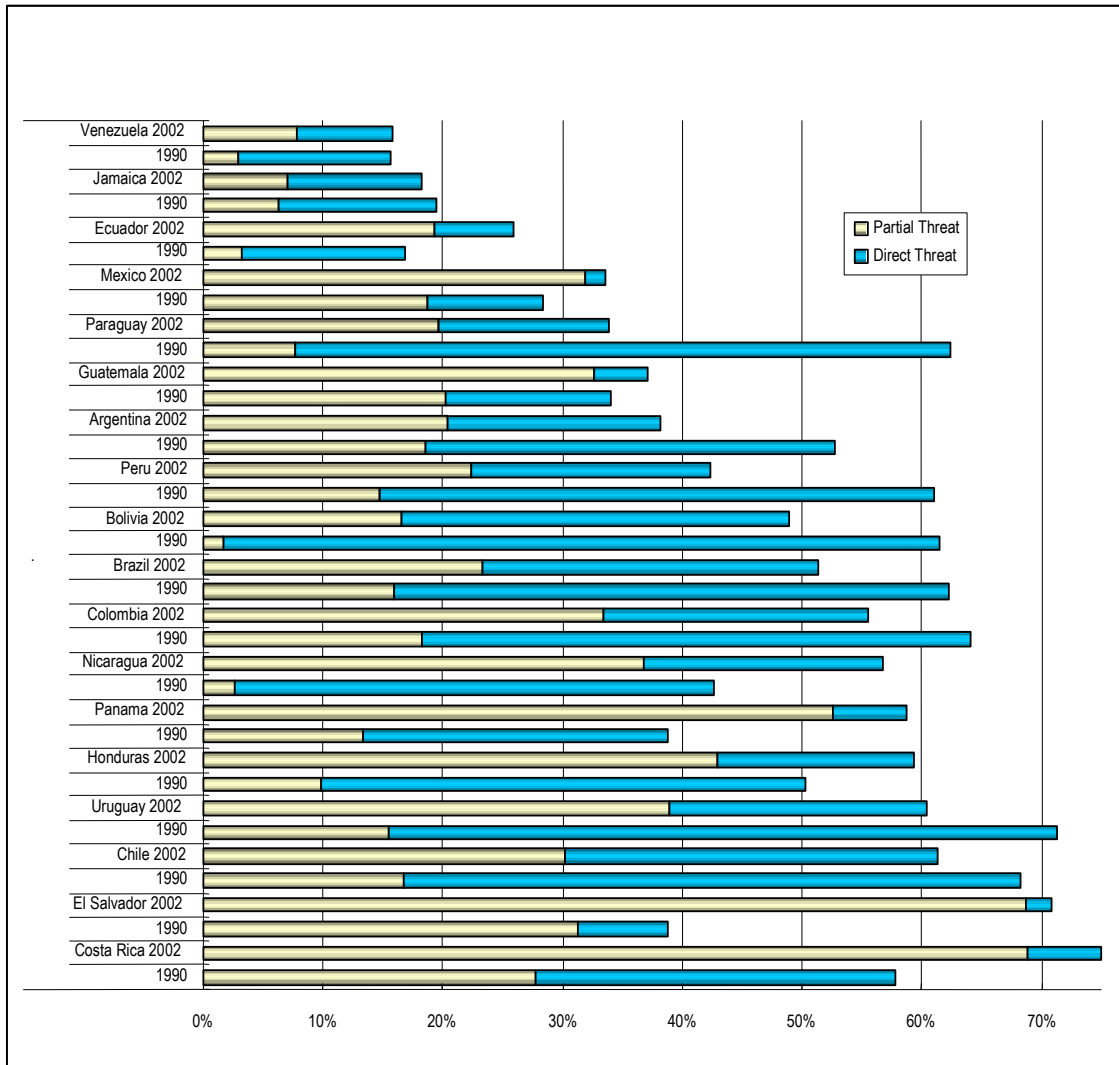
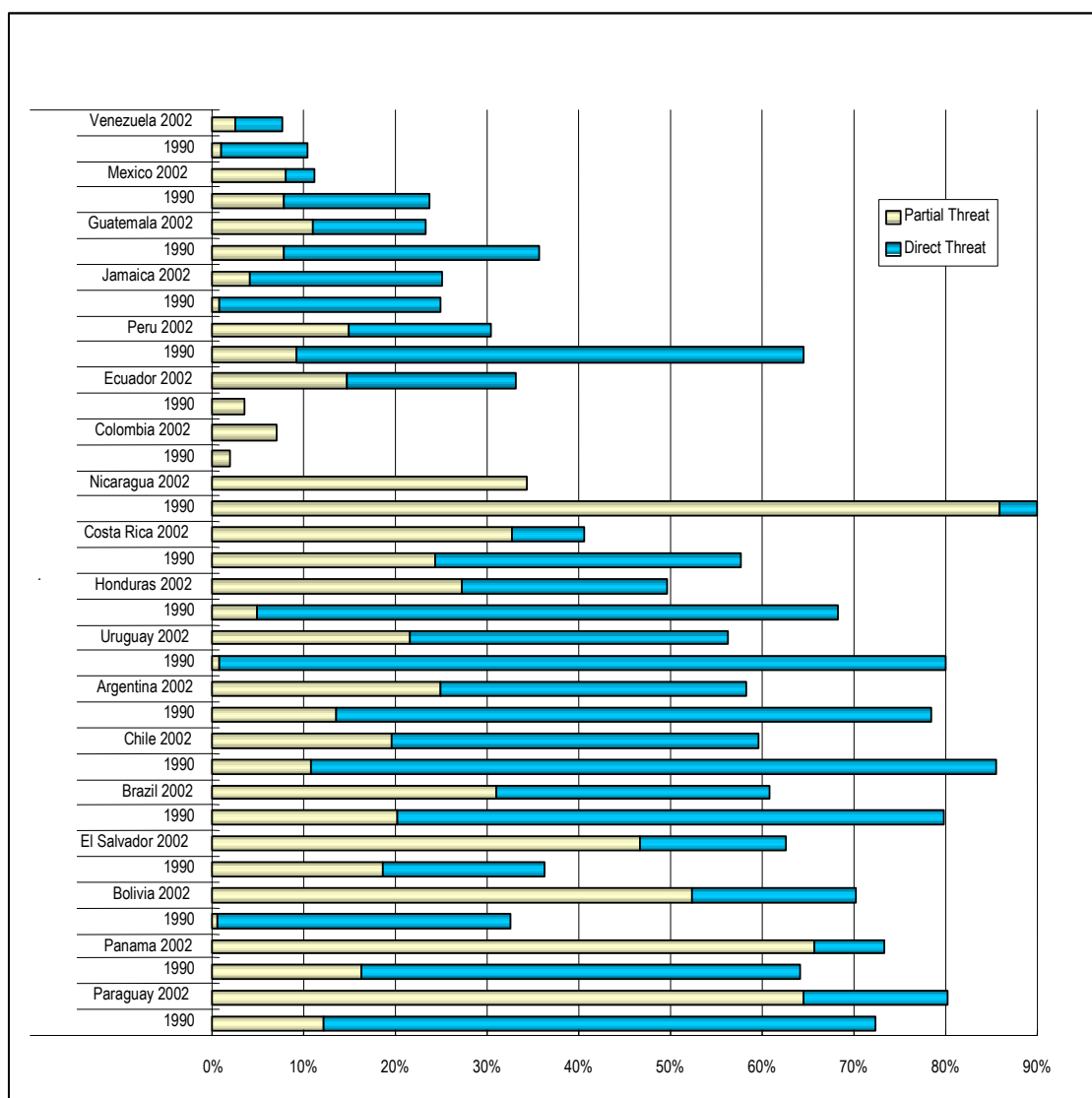


Fig 2. Shares of Exports under Direct and Partial Threat from PRC in US Market, 1990–2002



The most ‘threatened’ countries in LAC in total are Costa Rica, El Salvador and Chile (over 70% of total exports are under threat for the first two countries and around 60% in the case of Chile). While the presence of Chile as a highly threatened country may appear surprising, it reflects the large share of its exports in copper, where PRC gains WMS while Chile loses. Its large exports of fish appear partially threatened because PRC gains more WMS than it does. In Costa Rica the Chinese threat is overwhelmingly partial, with PRC gaining WMS in electronics, instruments, apparel and processed food exports. In El Salvador, it reflects a direct and partial threat in the textile and clothing industry. In terms of the more serious category ‘direct threat’ all countries see a decline as a share of their exports 1990–2002 and seven (Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Panama and Venezuela) have less than 10% of their exports in this category in 2002. In terms of direct threat the most threatened are

now Chile, Bolivia, Brazil, Uruguay and Colombia) all with more than 20% of their exports in this category (see Appendix Table 4 for details of the main products involved).

While earlier export structure comparisons show that Mexico faces the greatest potential threat from PRC, this calculation shows that due to its very rapid gains in WMS it has not actually faced a significant threat over 1990–2002. The ‘directly threatened’ exports, in which Mexico loses WMS and PRC gains, constitute only 1.6% of its exports in 2002, down from nearly 10% in 1990. The ‘partially threatened’ exports percentage is much larger, 32% in 2002, up from 19% in 1990, and comprises mainly electronic and electrical products and furniture. These may turn into direct threats if PRC continues to gain market share and actually takes markets away from Mexico. Brazil faces a larger competitive threat (28% direct and 23% partial threat in 2002) but the extent of the direct threat declines substantially, from 46% in 1990. The largest threatened exports for Brazil in the ‘partial threat’ category are telecoms and footwear. On the other hand, its largest single export, aircraft, faces no threat from PRC.

We test in what type of product Latin America countries are losing market share most rapidly by a simple correlation analysis. At the 3 digit SITC level we correlate relative change in market share 1990–2002 (the growth of PRC exports minus the growth of Latin American exports) with firstly the growth of world exports for the product concerned and secondly with the degree of specialization of Latin American exporters (as measured by the revealed comparative advantage ratio, RCA). We carry out this correlation analysis for LAC as a group and for individual countries. For all countries we find the loss of market share to PRC is greatest in the fastest growing categories. For LAC as a group the correlation coefficient although relatively low (0.16) is significant at the 1% level. For Mexico the correlation is higher (0.32) and again strongly significant. As far the degree of specialization is concerned there is some evidence that LAC has held its position better in its more specialized product lines. The correlation coefficient between RCA in 2002 and relative export growth is negative and significant at the 1% for LAC as a group (–0.19) and for Mexico (–0.24) but not for many other individual countries. It also does not hold if we take specialization at the beginning of the period, that is the RCA for 1990.

These results suggest that while *potential* for a competitive threat exists, LAC faces a significantly smaller threat overall than EA for two reasons. First, export structures as compared with PRC differ far more, and second, structural similarities that do exist have yet to translate into a genuine market share challenge. This is evidenced by the fact that if for 2002 one ranks LAC countries by the correlation coefficient of their total export structure with that of PRC and compares this ranking with that of the degree of direct threat (the direct threat category as a share of total exports) there is a significant negative correlation. The Spearman rank correlation coefficient is –0.504 (significant at the 1% level). In other words, the countries with the more similar export structure show lower degrees of export threat. The clearest example is Mexico, the LAC country with the greatest similarity, which has been growing sufficiently rapidly over the 1990s to avoid a loss of WMS to PRC. However, it remains to be seen whether this will continue to be the case.

We now conduct a similar competitive impact exercise for the US market (Table 8).¹⁴ PRC had a share of US imports of 12% in 2002 compared with just 3% in 1990. Its *gain* in US market share over 1990–2002, 8 percentage points, was nearly double of that of LAC 18 (note that LAC-M *lost* market share in the US in this period, almost entirely in RB products). Latin America as a whole (LAC 18) had a share of 17% in 2002, but of this 11% is due to Mexico alone. PRC accounts for about double US imports of LT products as compared to LAC 18 and for almost as much of HT imports. By 2002, it overtook Mexico in HT products (it lagged in 2000) and almost matched it in RB products. For the US market Appendix Tables 5 to 7 give the value of the threat by each category for each LAC country and the five main products in each.

In comparison with the analysis of the world market there are similarities as well as differences (Figures 1 and 2). In terms of total threat (direct plus partial) Venezuela continues to be the least threatened country in LAC in both exercises. However, in 2002 Paraguay appears as the most threatened country in the US as compared to Costa Rica in the world as a whole, which now appears about half-way in the threat ranks. Mexico appears even less threatened than in world markets, while Brazil appears somewhat more threatened. Argentina also moves up the threat ranks.

By our preferred indicator of direct threat all LAC appear to have a smaller share of trade directly threatened in 2002 as compared with 1990. The most threatened countries are now Chile (around 40% of trade in this category), followed by Argentina and Uruguay with around 35% and Brazil with 30%. The main products involved are Copper (Chile), and Fruits (Chile, Brazil), Petroleum products (Argentina, Brazil), Sugar and Fish (Uruguay) and Internal Combustion Engines (Brazil), none of which appear to be goods in which PRC might be expected to have an obvious comparative advantage over LAC. The least threatened countries are Costa Rica, Mexico, Panama and Venezuela all with less than 10% of their trade with the US in this category. In 2002 a serious threat to Mexico in particular does not show up in these figures are only about 3% of its exports to the US are ‘directly threatened’.

When we carry out a similar correlation analysis to that for the world market we find there is a tendency for the growth of PRC’s exports relative to those of individual LAC to be higher in the faster growing categories of US imports; however, this result is not significant either for LAC as a group or for Mexico. For LAC-M there is a weak correlation of 0.15 (at the 5% level).

¹⁴ The competitive impact calculations below are carried out on the basis of *export figures for each country to the US* (with market shares based on world exports to the US) rather than on import figures into the US. We used the export figures to make these results comparable with the previous world market exercise. A calculation with US import data may well yield slightly different results.

5. Bilateral Trade between LAC and PRC

Closer trade ties between LAC and PRC may also lead to trade creation through increased bilateral trade and at least in principle this may compensate for losses in markets where these economies compete. Currently LAC is running a large and growing trade deficit with PRC with the latter accounting for just under 5% of total imports in 2003. From a surplus of \$175 million in 1980, LAC as whole ran a deficit of \$5.5 billion in 2002. Not every country is in deficit, of course: in 2002 of the LAC 18, five ran a surplus with PRC in 2002, including Argentina and Brazil. The largest deficit was for Mexico, with a figure larger than for LAC 18.

The deficits are all in non-resource based products: in 2002, primary products and RB manufactures show a surplus of \$2.3 and \$1.0 billion, respectively. However, these are offset by much larger deficits in manufactures: LT products (\$3.0 billion), MT products (\$2.8 billion) and HT MT products (\$3.0 billion). This illustrates clearly the structural shift in the pattern of competitiveness in LAC towards resource based products and away from both simple low technology manufactures and more complex (medium and high technology) products. Table 9 shows the percentage breakdowns of the two regions' exports to each other by technological sub-categories. There has been a *rapid structural transformation of LAC's trade pattern with PRC* in the course of a relatively few years.

At the sub-category level, for exports by LAC to PRC there is a rise in the share of mineral-based RB, a sharp decline in that of MT process exports and the significant rise in the share of HT electronics products. PRC's exports to LAC are predominantly LT products, but their share appears to have peaked, and recent growth is largely, again, in HT electronics products. The growth of electronics exports by both regions suggests the start of a similar intra-industry specialisation as observed in EA; as noted below, it is largely confined to Mexico and may reflect the emergence of an integrated MNC-driven network across the regions.

**Table 9. Distribution of Bilateral Exports between LAC and PRC
(% of total exports)**

	LAC 18 exports to PRC				PRC exports to LAC 18			
	1990	1995	2000	2002	1990	1995	2000	2002
Primary Products	34.32%	24.69%	53.55%	42.52%	29.03%	1.66%	1.51%	3.17%
Manufactured	65.68%	75.31%	46.45%	57.48%	70.97%	98.34%	98.49%	96.83%
<u>Resource based</u>	<u>31.84%</u>	<u>53.66%</u>	<u>28.81%</u>	<u>33.63%</u>	<u>10.52%</u>	<u>8.26%</u>	<u>9.27%</u>	<u>10.50%</u>
Agro-based	22.97%	37.14%	8.50%	13.26%	0.48%	0.42%	0.45%	0.39%
Mineral-based	8.87%	16.52%	20.31%	20.37%	10.04%	7.84%	8.82%	10.11%
<u>Low technology</u>	<u>10.30%</u>	<u>10.15%</u>	<u>5.98%</u>	<u>8.27%</u>	<u>30.37%</u>	<u>53.26%</u>	<u>48.32%</u>	<u>45.49%</u>
Fashion cluster	1.71%	6.15%	5.18%	5.44%	19.49%	34.90%	32.09%	32.82%
Other LT	8.59%	3.99%	0.80%	2.83%	10.88%	18.36%	16.23%	12.67%
<u>Medium technology</u>	<u>23.31%</u>	<u>10.75%</u>	<u>5.09%</u>	<u>9.00%</u>	<u>27.24%</u>	<u>30.94%</u>	<u>28.42%</u>	<u>26.43%</u>
Automotive	0.91%	2.90%	0.51%	2.65%	3.17%	3.30%	2.44%	2.64%
Process	21.93%	5.10%	3.36%	4.25%	3.97%	6.25%	7.48%	7.28%
Engineering	0.48%	2.75%	1.22%	2.10%	20.10%	21.40%	18.50%	16.51%
<u>High technology</u>	<u>0.24%</u>	<u>0.75%</u>	<u>6.57%</u>	<u>6.58%</u>	<u>2.83%</u>	<u>5.88%</u>	<u>12.48%</u>	<u>14.41%</u>
Electronics	0.11%	0.17%	5.04%	5.69%	0.41%	3.20%	10.11%	11.75%
Other HT	0.13%	0.58%	1.53%	0.90%	2.42%	2.68%	2.37%	2.66%
Primary + RB 'Pure' manufactures	66.15%	78.36%	82.36%	76.15%	39.55%	9.92%	10.78%	13.67%
	33.85%	21.64%	17.64%	23.85%	60.45%	90.08%	89.22%	86.33%

If one looks within the LAC figures at the technology composition of bilateral trade between the LAC Big 3 (Argentina, Brazil, Mexico) and PRC different patterns emerge (see Appendix Table 8). Argentina is overwhelmingly an exporter of primary products, with its share of RB products declining significantly. It has no noticeable exports of HT products to PRC. Its imports from PRC are predominantly LT products, but with large and growing shares of MT and HT products. Argentina runs a trade surplus with PRC, \$763 million. In 2002, most of it, as expected, was in primary products, with a smaller surplus in agro-based RB products. It ran a deficit in mineral-based RB products.

Brazil also raises its exports of primary products but maintains a very large share for RB products. It has a small but growing share for HT products but a sharply falling one for MT products. PRC's exports to Brazil span the five categories, with all the manufactured categories growing at the expense of primary products. The largest category by far is HT products. Brazil also runs a trade surplus with PRC, \$823 million, mostly in primary products and RB manufactures (both mineral and agro-based products). Its largest deficit is in HT products, followed by MT engineering products. As Brazil is a major exporter of other LT products (footwear), it is interesting to see a large and growing deficit in both LT categories (bearing out reports of a massive threat to its footwear exporters).

Mexico exports hardly any primary or resource based products to PRC, a surprising contrast to the rest of LAC. Over time it makes a massive shift from MT to HT products. Chinese exports to Mexico also have HT as the largest category, but very

large shares of MT and LT products are also indicated. However, the *values of Mexican HT exports to PRC* are far smaller than Chinese HT exports to Mexico. In 2002, for instance, the figures are \$320 million and \$2.1 billion, respectively. Overall, Mexico runs a huge \$5.7 billion trade deficit with PRC. It also runs a deficit with PRC in every single category of trade, possibly reflecting the import of components for assembly for the US market by MNCs from Japan and other countries.

In summary, a new pattern of specialization is emerging in LAC-PRC bilateral trade with the former region a net exporter of primary and resource-base products and a net importer of manufactures. Some countries in LAC are benefiting from growing imports of primary and RB products by PRC. However, as *trade between PRC and LAC account for tiny shares of their total trade*, we cannot assume that this direct trade can have significant effects on their overall patterns. LAC accounted for only 2.4% of Chinese exports and PRC for less than 2% of LAC's exports in 2002. *The main competitive arena is thus the US (which took over 20% of PRC's exports in 2002 and nearly 60% of LAC's), with EU some distance behind.* It is here that the real effects of the Chinese threat are likely to be felt, although as yet we have found little direct evidence of this threat being very substantial.

6. Conclusions

The idea of an economy facing a competitive threat has been much discussed and in a world of instant adjustment, trade diversion as an economy's market share is taken by a lower cost or higher quality competitor will pose no problems. In practice we have argued that once a whole range of real world considerations are introduced growth can be cumulative and export success in dynamic products with strong learning externalities can place an economy on a higher growth path than a concentration on an alternative set of 'simpler' export goods. The current trading environment is characterized not just by a lowering of tariff barriers through the WTO, but also by major reductions in transport and communications costs leading to a fall in 'trade cost' more broadly. In this situation the rise of PRC is important both because its size and rapid growth suggest important trade creation effects as it provides an expanding markets for others, and because it is becomingly increasing competitive in a wide range of goods in both low and high technology categories.

Latin America is still somewhat distant from this process. Some countries are benefiting from growing imports of primary and RB products by PRC, although in general PRC remains a relatively small market for LAC, although as an import supplier PRC overtook Japan in 2003. The trade structure of most of LAC is generally more complementary than competitive with that of PRC. The exceptions are principally Mexico and Costa Rica, which, similar to PRC, are closely integrated into production networks of MNCs. With a differing export structure the likelihood of damaging trade diversion effects is weakened.

Our analysis has provided a simple framework for classifying trade data on the basis of 'competitive threats'. In general the threatened (direct plus partial) category at just below 40% of all trade is well below a comparable figure for EA. Goods in the more serious direct threat category are only 10% of total trade. Interestingly the two LAC economies with the most similar export structure, Mexico and Costa Rica, have very low shares of trade in the direct threat categories (2% and 6%, respectively)

although the shares in the partial threat groups are far higher (32% and 69%, respectively). When the US market alone is considered the direct threat groups remain small and now the partial threat share is also much lower (8% for Mexico and 33% for Costa Rica), reflecting rapid export growth from these economies to the US up to 2002.

We should stress some caveats to our basic results on competitive threats. Apart from the problems in attributing causation to these relationships, we emphasise that the past may not be a good guide to the future, particularly as far as the rather sanguine result for Mexico goes. Ironically the long-time suspicion of export-oriented FDI in Latin America may prove relevant here, if in the face of falling trade costs that lower the disadvantage of distant production locations, MNCs decide to shift from bases in Mexico and Central America to take advantage of lower labour costs in PRC. It is this process, at least as much as competition from exports from PRC, that produces the real challenge to policy makers in Mexico in serving the US market.

Our analysis of bilateral trade between LAC and PRC reveals a striking tendency towards a pattern of specialization with LAC a net exporter of primary products and a net importer of manufactures. The patterns of the two regions are almost a classic textbook illustration of trade between developing and industrialized regions, where the former (i.e. LAC) strengthens its specialisation in primary products and processes resources while the latter (i.e. PRC) does the reverse. What is surprising is that LAC is the richer region, with a longer history of modern industrialization, higher human resources, more FDI per capita and with more liberal trade and investment regimes. The result is arguably a massive downgrading of comparative advantage in a dynamic sense, surprising for such a relatively industrialized region.

The non-threatened LAC countries—which have such different specialisations that they do not face Chinese competition in the US or elsewhere—may nonetheless face a serious threat to their long-term development. A heavy reliance on primary and resource based products is not conducive to a dynamic comparative advantage or technological upgrading, yet any such upgrading may well face a strong competitive threat from PRC because the kinds of products they may feasibly move into are already ‘taken’ by PRC. The issue is then much less about current competition, but more about the future ‘spaces’ open for the development of industrial exports in a liberalised world in which PRC is pre-empting many markets for products that developing countries can export. LAC will remain a high wage location relative to PRC for the foreseeable future and it will require high levels of skill or technological competence to offset this.

This point about patterns of specialization and levels of skill and technological competence raises more general issues concerning LAC’s competitive position in the world economy, its institutional structure and apart from Mexico and some Central American economies, its relatively weak positioning in global production networks (see Lall, Albaladejo and Moreira 2004). These are not problems created by the ‘rise of PRC’ but rather that the substantial global trade diversion and trade creation resulting from PRC’s rapid expansion are creating new challenges and hence making it more urgent to address these longer-term issues.

References

- Chami, J. (2003) 'Latin American export specialization and growth: an enquiry into the nature of product composition between different exporters', Draft, Federal University of Rio de Janeiro.
- Krugman, P. (1994) 'Competitiveness: a dangerous obsession', *Foreign Affairs*, Vol. 73, No. 2, 28–44.
- Krugman, P. (1998) 'What's New About Economic Geography?' *Oxford Review of Economic Policy*, Vol 14, No 2, 7–17.
- Lall, S. (2000) 'The technological structure and performance of developing country manufactured exports, 1985–98', *Oxford Development Studies*, Vol. 28, No. 3, 337–69.
- Lall, S. (2001) *Competitiveness, Technology and Skills*, Cheltenham: Edward Elgar.
- Lall, S. and Albaladejo, M. (2004) 'China's competitive performance: a threat to East Asian manufactured exports?' *World Development*, Vol. 32, No. 9, September.
- Lall, S., Albaladejo, M. and Moreira, M. M. (2004) *Latin American Industrial Competitiveness and the Challenge of Globalization*, Washington DC: Inter-American Development Bank, Integration and Regional Programs Department, INTAL-ITD Occasional Paper-SITI-05.
- Lall, S., Albaladejo, M. and Zhang, J. (2004) 'Mapping fragmentation: electronics and automobiles in East Asia and Latin America', *Oxford Development Studies*, Vol. 32, No. 3, 407–432.
- Lall, S and Weiss, J (2004) 'Industrial Competitiveness: the challenge for Pakistan' Asian Development Bank Institute—Pakistan Resident Mission *Research Paper*, Islamabad.
- Puga, D and Venables, A (1996) 'The Spread of Industry: spatial agglomeration and economic development' *Journal of Japanese International Economics*, Vol 10, No 4, 440–464.
- Roland-Holst, D (2002) 'An Overview of PRC's Emergence and East Asian Trade patterns to 2020' ADB Institute Research Paper No 44, available at www.adbi.org
- Sutton, J (2000) 'Rich Trades and Scarce Capabilities' Keynes Lecture, British Academy, mimeo.
- UNIDO (2004) *Industrial Development Report 2004*, Vienna: United Nations Industrial Development Organization.

Weiss, J. (2004) 'People's Republic of China and its neighbours: partners or competitors for trade and investment?' ADB Institute Discussion paper No 12, available at www.adbi.org

Weiss, J. and Jalilian, H. (2004) 'Industrialization in an age of globalization: some comparisons between East and South East Asia and Latin America', *Oxford Development Studies*, Vol. 32, No. 2, 283–308.

Appendix Tables

**Appendix Table 1. Correlation of Export Structure between LAC and Each LAC
(sorted by 2002 ranking)**

All Export Products			Manufactured Products only (incl. RB)		
LAC countries	PRC 2002	PRC 1990	LAC countries	PRC 2002	PRC 1990
Mexico 2002	0.470	0.356	Mexico 2002	0.512	0.196
Costa Rica 2002	0.274	0.023	Costa Rica 2002	0.345	0.026
El Salvador 2002	0.068	0.100	Costa Rica 1990	0.181	0.210
Brazil 2002	0.068	0.214	Colombia 1990	0.148	0.282
Colombia 2002	0.019	0.403	El Salvador 1990	0.141	0.272
Colombia 1990	0.018	0.334	Uruguay 1990	0.092	0.222
Mexico 1990	0.012	0.406	Brazil 2002	0.086	0.125
Brazil 1990	0.008	0.119	El Salvador 2002	0.069	0.148
Uruguay 1990	0.004	0.086	Colombia 2002	0.062	0.172
El Salvador 1990	0.002	0.025	Mexico 1990	0.033	0.035
Venezuela 1990	-0.002	0.413	Peru 2002	0.028	0.124
Venezuela 2002	-0.002	0.417	Panama 2002	0.017	0.083
Panama 2002	-0.004	0.051	Ecuador 1990	0.017	0.088
Costa Rica 1990	-0.007	0.021	Ecuador 2002	0.010	0.031
Ecuador 2002	-0.013	0.370	Brazil 1990	0.008	0.130
Ecuador 1990	-0.014	0.396	Honduras 1990	0.005	0.083
Peru 1990	-0.016	0.078	Guatemala 1990	0.003	0.075
Uruguay 2002	-0.018	0.066	Peru 1990	0.003	0.110
Jamaica 1990	-0.019	0.013	Panama 1990	-0.001	0.059
Peru 2002	-0.023	0.082	Uruguay 2002	-0.006	0.085
Panama 1990	-0.024	0.056	Guatemala 2002	-0.019	0.018
Guatemala 2002	-0.033	0.123	Argentina 1990	-0.024	0.068
Jamaica 2002	-0.034	-0.005	Paraguay 1990	-0.024	0.017
Guatemala 1990	-0.035	0.033	Jamaica 1990	-0.027	0.013
Chile 1990	-0.035	-0.013	Nicaragua 2002	-0.035	-0.025
Honduras 1990	-0.040	-0.001	Venezuela 1990	-0.041	0.055
Argentina 1990	-0.041	0.116	Jamaica 2002	-0.042	-0.007
Paraguay 2002	-0.041	0.063	Paraguay 2002	-0.042	-0.020
Paraguay 1990	-0.044	0.044	Bolivia 2002	-0.044	-0.004
Chile 2002	-0.046	-0.021	Nicaragua 1990	-0.045	0.016
Argentina 2002	-0.053	0.272	Bolivia 1990	-0.056	-0.020
Nicaragua 2002	-0.056	0.027	Venezuela 2002	-0.059	0.115
Bolivia 2002	-0.057	0.064	Argentina 2002	-0.059	0.065
Nicaragua 1990	-0.064	0.012	Chile 1990	-0.065	-0.019
Honduras 2002	-0.068	-0.025	Chile 2002	-0.075	-0.039
Bolivia 1990	-0.068	-0.037	Honduras 2002	-0.088	-0.051

Appendix Table 2. PRC's Potential Threat to LAC in World Markets by Type of Threat 1990 and 2002 (US\$ thousand)

	Argentina		Bolivia		Brazil	
	1990	2002	1990	2002	1990	2002
Partial Threat	2,289,137	5,185,574	17,051	225,490	4,957,834	13,797,133
No Threat	568,439	3,529,848	25	99,116	3,038,885	11,591,197
Direct Threat	4,231,615	4,542,278	549,894	445,081	14,368,972	16,678,024
PRC under Threat	3,825,753	10,491,826	55,537	448,568	2,740,785	9,880,188
Mutual Withdrawal	1,426,440	1,703,906	299,461	150,089	5,926,048	7,371,005
Total	12,341,383	25,453,433	921,968	1,368,343	31,032,523	59,317,547
	Chile		Colombia		Costa Rica	
	1990	2002	1990	2002	1990	2002
Partial Threat	1,365,399	5,039,703	1,231,031	3,979,115	373,278	3,401,972
No Threat	395,272	1,780,113	19,008	719,726	2,172	21,658
Direct Threat	4,219,832	5,176,857	3,077,901	2,634,036	403,401	305,847
PRC under Threat	1,554,214	4,142,127	1,947,471	4,006,632	516,018	1,193,312
Mutual Withdrawal	643,639	530,384	444,980	549,713	50,431	25,117
Total	8,178,357	16,669,185	6,720,390	11,889,222	1,345,300	4,947,907
	Ecuador		El Salvador		Guatemala	
	1990	2002	1990	2002	1990	2002
Partial Threat	90,349	970,921	127,928	845,925	236,169	728,362
No Threat	1,089	68,862	180,176	123,393	336,925	315,266
Direct Threat	368,446	334,636	31,025	28,286	159,903	98,626
PRC under Threat	517,054	1,434,128	48,927	220,497	324,811	981,568
Mutual Withdrawal	1,735,810	2,232,343	21,013	15,083	105,162	103,556
Total	2,712,748	5,040,890	409,070	1,233,184	1,162,970	2,227,377
	Honduras		Jamaica		Mexico	
	1990	2002	1990	2002	1990	2002
Partial Threat	55,173	576,059	70,451	75,912	4,920,465	51,435,190
No Threat	357	6,732	11,467	37,503	7,594,492	81,385,144
Direct Threat	223,402	219,170	145,476	123,222	2,525,043	2,519,583
PRC under Threat	18,145	334,610	76,454	94,423	1,716,008	11,787,713
Mutual Withdrawal	256,445	203,415	804,614	753,154	9,491,396	13,361,572
Total	553,522	1,339,987	1,108,461	1,084,214	26,247,404	160,489,203
	Nicaragua		Panama		Paraguay	
	1990	2002	1990	2002	1990	2002
Partial Threat	8,356	220,607	44,993	395,399	74,258	186,917
No Threat	80,719	101,234	1,359	15,078	0	13,893
Direct Threat	130,319	118,436	85,372	47,154	525,044	134,843
PRC under Threat	21,783	100,261	104,163	187,574	32,798	234,071
Mutual Withdrawal	84,416	58,232	100,826	107,494	326,581	379,593
Total	325,593	598,770	336,712	752,698	958,681	949,317
	Peru		Uruguay		Venezuela	
	1990	2002	1990	2002	1990	2002
Partial Threat	489,083	1,685,744	264,609	717,967	549,276	1,820,890
No Threat	108,157	1,920,361	311,326	470,616	11,512	445,163
Direct Threat	1,532,536	1,481,256	939,928	391,952	2,291,745	1,862,777
PRC under Threat	495,802	1,389,879	55,462	150,314	177,803	571,099
Mutual Withdrawal	687,172	1,013,173	120,027	108,887	15,013,918	18,587,110
Total	3,312,750	7,490,413	1,691,351	1,839,736	18,044,254	23,287,039

Note: For some countries these totals are less than total exports because some exports could not be classified (e.g. special transactions).

Appendix Table 3. PRC's Potential Threat to LACs in World Markets by Threat Type 1990 and 2002 (% to total exports)

	Argentina		Bolivia		Brazil	
	1990	2002	1990	2002	1990	2002
Partial Threat	18.55%	20.37%	1.85%	16.48%	15.98%	23.26%
No Threat	4.61%	13.87%	0.00%	7.24%	9.79%	19.54%
Direct Threat	34.29%	17.85%	59.64%	32.53%	46.30%	28.12%
PRC under Threat	31.00%	41.22%	6.02%	32.78%	8.83%	16.66%
Mutual Withdrawal	11.56%	6.69%	32.48%	10.97%	19.10%	12.43%
	Chile		Colombia		Costa Rica	
	1990	2002	1990	2002	1990	2002
Partial Threat	16.70%	30.23%	18.32%	33.47%	27.75%	68.76%
No Threat	4.83%	10.68%	0.28%	6.05%	0.16%	0.44%
Direct Threat	51.60%	31.06%	45.80%	22.15%	29.99%	6.18%
PRC under Threat	19.00%	24.85%	28.98%	33.70%	38.36%	24.12%
Mutual Withdrawal	7.87%	3.18%	6.62%	4.62%	3.75%	0.51%
	Ecuador		El Salvador		Guatemala	
	1990	2002	1990	2002	1990	2002
Partial Threat	3.33%	19.26%	31.27%	68.60%	20.31%	32.70%
No Threat	0.04%	1.37%	44.05%	10.01%	28.97%	14.15%
Direct Threat	13.58%	6.64%	7.58%	2.29%	13.75%	4.43%
PRC under Threat	19.06%	28.45%	11.96%	17.88%	27.93%	44.07%
Mutual Withdrawal	63.99%	44.28%	5.14%	1.22%	9.04%	4.65%
	Honduras		Jamaica		Mexico	
	1990	2002	1990	2002	1990	2002
Partial Threat	9.97%	42.99%	6.36%	7.00%	18.75%	32.05%
No Threat	0.06%	0.50%	1.03%	3.46%	28.93%	50.71%
Direct Threat	40.36%	16.36%	13.12%	11.37%	9.62%	1.57%
PRC under Threat	3.28%	24.97%	6.90%	8.71%	6.54%	7.34%
Mutual Withdrawal	46.33%	15.18%	72.59%	69.47%	36.16%	8.33%
	Nicaragua		Panama		Paraguay	
	1990	2002	1990	2002	1990	2002
Partial Threat	2.57%	36.84%	13.36%	52.53%	7.75%	19.69%
No Threat	24.79%	16.91%	0.40%	2.00%	0.00%	1.46%
Direct Threat	40.03%	19.78%	25.35%	6.26%	54.77%	14.20%
PRC under Threat	6.69%	16.74%	30.94%	24.92%	3.42%	24.66%
Mutual Withdrawal	25.93%	9.73%	29.94%	14.28%	34.07%	39.99%
	Peru		Uruguay		Venezuela	
	1990	2002	1990	2002	1990	2002
Partial Threat	14.76%	22.51%	15.64%	39.03%	3.04%	7.82%
No Threat	3.26%	25.64%	18.41%	25.58%	0.06%	1.91%
Direct Threat	46.26%	19.78%	55.57%	21.30%	12.70%	8.00%
PRC under Threat	14.97%	18.56%	3.28%	8.17%	0.99%	2.45%
Mutual Withdrawal	20.74%	13.53%	7.10%	5.92%	83.21%	79.82%

Appendix Table 4. Top Five Threatened Items in LAC in World Markets by Type of Threat from PRC

	Mexico					Argentina				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	752	Automatic data processing machines	9,262	5.7%	3.8%	611	Leather	677	2.3%	0.4%
	821	Furniture and parts thereof	3,429	6.3%	5.2%	678	Tubes, pipes and fittings, of iron	528	2.4%	0.2%
	759	Parts of and accessories	2,709	3.8%	1.9%	583	Polymerization and copolymerization	397	0.2%	0.0%
	749	Non-electric parts and accessories	2,155	2.4%	2.3%	054	Vegetab., fresh, chilled, frozen/pres.	227	1.7%	0.1%
	771	Electric power machinery and parts	2,099	10.0%	8.0%	821	Furniture and parts thereof	215	6.3%	0.3%
No Threat	781	Passenger motor cars, for transport	13,948	0.0%	3.9%	044	Maize (corn), unmilled	925	7.7%	8.1%
	764	Telecommunications equipment	9,284	5.1%	5.4%	341	Gas, natural and manufactured	625	0.3%	0.5%
	761	Television receivers	6,694	1.3%	20.8%	781	Passenger motor cars, for transport	604	0.0%	0.2%
	782	Motor vehicles for transport of goods	6,356	0.1%	8.4%	782	Motor vehicles for transport of goods	481	0.1%	1.0%
	773	Equipment for distributing electric	5,887	3.8%	16.9%	022	Milk and cream	237	0.2%	1.2%
Direct Threat	334	Petroleum products, refined	1,122	0.1%	-0.2%	334	Petroleum products, refined	1,398	0.1%	-0.3%
	681	Silver, platinum	533	0.4%	-2.2%	011	Meat, edible meat offal	441	0.2%	-0.3%
	522	Inorganic chemical elements, oxides	203	5.1%	-0.7%	684	Aluminium	347	0.8%	-0.1%
	686	Zinc	149	12.0%	-1.2%	034	Fish, fresh (live or dead)	336	4.2%	0.0%
	278	Other crude minerals	128	4.7%	-0.5%	674	Universals, plates and sheets, of iron	300	0.6%	-0.2%
PRC under Threat	784	Parts & accessories of 722--,781--, Medicinal and pharmaceutical products	6,608	-3.4%	3.6%	081	Feedstuff for animals (not incl. Unmilled)	2,783	-3.5%	4.1%
	541	Fruit & nuts (not including oil nuts)	1,172	-0.1%	0.6%	333	Petrol. oils, crude	2,224	-1.7%	0.8%
	057	Perfumery, cosmetics and toilet preps.	731	-0.2%	1.4%	423	Fixed vegetable oils	1,949	-0.7%	3.4%
	553	Soap, cleansing and polishing preparations	534	-0.3%	1.3%	041	Wheat (including spelt) and meslin	1,097	0.0%	2.8%
	554		454	-0.1%	2.8%	287	Ores and concentrates of base metal	562	-0.9%	1.8%
Mutual Withdrawal	333	Petrol. oils, crude	13,110	-1.7%	-1.7%	222	Oil seeds and oleaginous fruit, whole	1,280	-3.2%	-1.2%
	287	Ores and concentrates of base metal	158	-0.9%	-0.6%	061	Sugar and honey	196	-1.5%	-0.3%
	512	Alcohols, phenols, phenol-alcohols	54	-0.2%	-0.5%	673	Iron and steel bars, rods, angles, shapes	82	-0.4%	-0.3%
	222	Oil seeds and oleaginous fruit, whole	14	-3.2%	-0.2%	512	Alcohols, phenols, phenol-alcohols	53	-0.2%	-0.2%
	274	Sulphur and unroasted iron pyrites	12	-0.3%	-7.3%	045	Cereals, unmilled (no wheat, rice, barley)	41	-1.5%	-4.0%

Note: GC is growth of PRC exports; GL is growth of LAC country exports.

(cont.)

	Brazil					Bolivia				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	764	Telecommunications equipment	1,470	5.1%	0.4%	897	Jewellery, goldsmiths and other art	59	6.9%	0.2%
	851	Footwear	1,449	19.8%	0.3%	723	Civil engineering & contractors	17	0.5%	0.1%
	611	Leather	956	2.3%	2.1%	635	Wood manufactures, n.e.s.	14	5.1%	0.1%
	821	Furniture and parts thereof	560	6.3%	0.7%	846	Undergarments, knitted or crocheted	13	7.3%	0.0%
	625	Rubber tyres, tyre cases	496	3.7%	0.6%	821	Furniture and parts thereof	13	6.3%	0.0%
No Threat	792	Aircraft & associated equipment	2,799	0.5%	2.4%	971	Gold, non-monetary	90	0.0%	0.4%
	011	Meat, edible meat offals	2,741	0.2%	2.7%	091	Margarine and shortening	9	0.9%	1.6%
	781	Passenger motor cars, for transport	2,006	0.0%	0.3%		(only two items)	0		
	251	Pulp and waste paper	1,161	0.0%	3.6%			0		
	121	Tobacco, unmanufactured	978	1.5%	2.7%			0		
Direct Threat	672	Ingots and other primary forms	1,615	4.4%	-2.1%	341	Gas, natural and manufactured	268	0.3%	-0.8%
	071	Coffee and coffee substitutes	1,385	0.1%	-1.2%	289	Ores & concentrates of precious metals	64	0.0%	-3.1%
	713	Internal combustion piston engines	1,359	0.5%	-0.8%	687	Tin	49	21.9%	-2.0%
	684	Aluminium	1,218	0.8%	-0.8%	248	Wood, simply worked, and railway sleepers	23	0.9%	-0.1%
	334	Petroleum products, refined	1,188	0.1%	-0.5%	611	Leather	21	2.3%	0.0%
PRC under Threat	001	Live animals chiefly for food	5	-1.1%	0.0%	081	Feed. stuff for animals	212	-3.5%	0.6%
	012	Meat & edible offals, salted, in brin	6	-0.8%	0.1%	423	Fixed vegetable oils, soft, crude	107	-0.7%	0.9%
	025	Eggs and yolks, fresh, dried or other	10	-1.0%	0.6%	333	Petrol. oils, crude	62	-1.7%	0.0%
	041	Wheat (including spelt) and meslin	0	0.0%	0.0%	057	Fruit & nuts (not includ. oil nuts)	31	-0.2%	0.0%
	057	Fruit & nuts (not includ. oil nuts)	363	-0.2%	0.3%	223	Oils seeds and oleaginous fruit	16	-5.3%	5.2%
Mutual Withdrawal	281	Iron ore and concentrates	3,049	0.0%	-2.2%	287	Ores and concentrates of base metal	130	-0.9%	-0.4%
	081	Feed.stuff for animals	2,300	-3.5%	-3.2%	061	Sugar and honey	16	-1.5%	-0.3%
	423	Fixed vegetable oils, soft, crude, ref	808	-0.7%	-1.6%	211	Hides and skins (except furskins)	2	-2.3%	-0.1%
	673	Iron and steel bars, rods, angles	293	-0.4%	-1.9%	072	Cocoa	1	-0.4%	-0.1%
	512	Alcohols, phenols, phenol-alcohols	261	-0.2%	-0.2%	001	Live animals chiefly for food	1	-1.1%	-0.6%

(cont.)

	Chile					Colombia				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	034	Fish, fresh (live or dead)	1,196	4.2%	3.5%	322	Coal, lignite and peat	972	4.0%	1.4%
	248	Wood, simply worked	588	0.9%	0.8%	583	Polymerization and copolymerization	305	0.2%	0.2%
	641	Paper and paperboard	338	0.4%	0.2%	591	Disinfectants, insecticides, fungicid	190	3.4%	1.1%
	058	Fruit, preserved, and fruit	204	3.7%	0.9%	846	Under garments, knitted or crocheted	155	7.3%	0.1%
	523	Other inorganic chemicals	194	5.0%	0.5%	642	Paper and paperboard, cut to size	151	2.3%	0.3%
No Threat	251	Pulp and waste paper	823	0.0%	3.0%	533	Pigments, paints, varnishes	231	0.4%	1.4%
	112	Alcoholic beverages	614	0.1%	1.8%	781	Passenger motor cars, for transport	163	0.0%	0.0%
	288	Non-ferrous base metal waste	103	0.3%	1.1%	062	Sugar confectionery and other sugar	115	1.4%	2.1%
	782	Motor vehicles for transport of goods	84	0.1%	0.2%	971	Gold, non-monetary	113	0.0%	0.0%
	781	Passenger motor cars, for transport	55	0.0%	0.0%	122	Tobacco manufactured	40	0.0%	0.1%
Direct Threat	682	Copper	4,649	1.7%	-1.2%	071	Coffee and coffee substitutes	865	0.1%	-9.1%
	246	Pulpwood (including chips and woods)	123	4.5%	-0.9%	334	Petroleum products, refined	684	0.1%	-0.1%
	054	Vegetab, fresh, chilled	120	1.7%	-0.3%	671	Iron, spiegeleisen, sponge iron	273	6.3%	-0.8%
	681	Silver, platinum & oth. metals	91	0.4%	-1.0%	842	Outer garments, men's, of textile fabrics	148	15.1%	-0.1%
	289	Ores & concentrates of precious metals	27	0.0%	-5.1%	843	Outer garments, women's	133	11.4%	-0.6%
PRC under Threat	287	Ores and concentrates of base metal	1,976	-0.9%	8.4%	333	Petrol.oils, crude	2,578	-1.7%	0.2%
	057	Fruit & nuts (not includ. oil nuts),	1,325	-0.2%	0.5%	292	Crude vegetable materials, n.e.s.	675	-0.4%	2.0%
	512	Alcohols, phenols, phenol-alcohols	314	-0.2%	1.3%	541	Medicinal and pharmaceutical product	242	-0.1%	0.2%
	292	Crude vegetable materials, n.e.s.	173	-0.4%	0.7%	061	Sugar and honey	226	-1.5%	0.6%
	036	Crustaceans and molluscs, fresh	112	-4.3%	0.4%	553	Perfumery, cosmetics and toilet preps	73	-0.3%	0.2%
Mutual Withdrawal	081	Feed.stuff for animals	343	-3.5%	-1.4%	057	Fruit & nuts (not includ. oil nuts)	455	-0.2%	0.0%
	281	Iron ore and concentrates	140	0.0%	-0.5%	036	Crustaceans and molluscs	84	-4.3%	-0.2%
	247	Other wood in the rough	37	-0.5%	-0.7%	072	Cocoa	8	-0.4%	-0.9%
	211	Hides and skins (except furskins)	4	-2.3%	-0.1%	512	Alcohols, phenols, phenol-alcohols	1	-0.2%	0.0%
	282	Waste and scrap metal of iron	4	-0.1%	0.0%	941	Animals, live,n.e.s., incl. zoo-animals	1	-1.3%	-0.2%

(cont.)

	Costa Rica					Ecuador				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	759	Parts of and accessories	898	3.8%	1.1%	037	Fish, crustaceans and molluscs	343	14.1%	1.8%
	872	Medical instruments and appliances	357	1.6%	0.8%	058	Fruit, preserved, and fruit preparations	75	3.7%	0.5%
	846	Under garments, knitted or crocheted	187	7.3%	0.5%	335	Residual petroleum products	51	1.0%	0.8%
	098	Edible products and preparations	134	1.0%	0.4%	054	Vegetab., fresh, chilled, frozen/pres.	39	1.7%	0.1%
	058	Fruit, preserved, and fruit preparations	127	3.7%	0.9%	062	Sugar confectionery and other sugar	29	1.4%	0.5%
No Threat	971	Gold, non-monetary	8	0.0%	0.0%	781	Passenger motor cars, for transport	46	0.0%	0.0%
	035	Fish, dried, salted or in brine	6	0.1%	0.3%	971	Gold, non-monetary	13	0.0%	0.0%
	047	Other cereal meals and flours	4	0.4%	1.0%	431	Animal & vegetable oils and fats	9	0.1%	0.3%
	073	Chocolate & other food preptns.	4	0.0%	0.1%	047	Other cereal meals and flours	1	0.4%	0.4%
		(only four items)					(only four items)			
Direct Threat	071	Coffee and coffee substitutes	170	0.1%	-0.7%	334	Petroleum products, refined	171	0.1%	-0.1%
	843	Outer garments, women's, of textile	35	11.4%	0.0%	034	Fish, fresh (live or dead), chilled	91	4.2%	0.0%
	899	Other miscellaneous manufactured	25	8.6%	-0.1%	071	Coffee and coffee substitutes	42	0.1%	-1.3%
	011	Meat, edible meat offals, fresh	24	0.2%	-0.1%	098	Edible products and preparations	7	1.0%	0.0%
	874	Measuring, checking, analysing instruments	16	0.9%	0.0%	073	Chocolate & other food preptns.	6	0.0%	0.0%
PRC under Threat	057	Fruit & nuts (not includ. oil nuts),	708	-0.2%	0.7%	057	Fruit & nuts (not includ. oil nuts),	999	-0.2%	0.4%
	541	Medicinal and pharmaceutical product	174	-0.1%	0.1%	292	Crude vegetable materials, n.e.s.	294	-0.4%	1.0%
	292	Crude vegetable materials, n.e.s.	160	-0.4%	0.5%	541	Medicinal and pharmaceutical product	37	-0.1%	0.0%
	424	Other fixed vegetable oils, fluid	38	-1.3%	0.4%	222	Oil seeds and oleaginous fruit, whole	19	-3.2%	0.1%
	061	Sugar and honey	30	-1.5%	0.0%	081	Feed.stuff for animals	18	-3.5%	0.0%
Mutual Withdrawal	512	Alcohols, phenols, phenol-alcohols	9	-0.2%	-0.1%	333	Petrol.oils, crude	1,838	-1.7%	-0.2%
	001	Live animals chiefly for food	4	-1.1%	0.0%	036	Crustaceans and molluscs, fresh	256	-4.3%	-1.8%
	075	Spices	4	-1.3%	-0.1%	072	Cocoa	122	-0.4%	-3.2%
	072	Cocoa	3	-0.4%	-0.2%	265	Vegetable textile fibres and waste	8	-4.5%	-0.7%
	551	Essential oils, perfume and flavour	2	-1.7%	0.0%	784	Parts & accessories of 722--,781--,	4	-3.4%	0.0%

(cont.)

	El Salvador					Guatemala				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	642	Paper and paperboard, cut to size	96	2.3%	0.2%	048	Cereal prepar. & preps. of flour	67	1.3%	0.2%
	334	Petroleum products, refined	61	0.1%	0.0%	893	Articles of materials	52	7.1%	0.0%
	048	Cereal prepar. & preps. of flour	47	1.3%	0.1%	054	Vegetab., fresh, chilled, frozen/pres.	44	1.7%	0.2%
	674	Universals, plates and sheets, of iron	45	0.6%	0.1%	642	Paper and paperboard, cut to size	37	2.3%	0.1%
	846	Under garments, knitted or crocheted	43	7.3%	0.1%	591	Disinfectants, insecticides, fungicide	36	3.4%	0.3%
No Threat	071	Coffee and coffee substitutes	109	0.1%	0.3%	071	Coffee and coffee substitutes	262	0.1%	0.8%
	047	Other cereal meals and flours	7	0.4%	2.2%	232	Natural rubber latex; nat. rubber	29	0.0%	0.4%
	073	Chocolate & other food preptns.	4	0.0%	0.0%	122	Tobacco manufactured	10	0.0%	0.0%
	431	Animal & vegetable oils and fats	4	0.1%	0.1%	431	Animal & vegetable oils and fats	8	0.1%	0.2%
	971	Gold, non-monetary	0	0.0%	0.0%	047	Other cereal meals and flours	6	0.4%	0.9%
Direct Threat	651	Textile yarn	15	4.2%	0.0%	778	Electrical machinery and apparatus	18	5.2%	0.0%
	693	Wire products and fencing grills	3	3.8%	0.0%	625	Rubber tyres, tyre cases, etc.	12	3.7%	0.0%
	842	Outer garments, men's, of textile fabric	1	15.1%	0.0%	658	Made-up articles	9	3.8%	0.0%
	657	Special textile fabrics and related	1	2.4%	0.0%	248	Wood, simply worked, and railway sleepers	8	0.9%	0.0%
	898	Musical instruments, parts and acces	1	1.1%	0.0%	062	Sugar confectionery and other sugar	7	1.4%	-0.3%
PRC under Threat	061	Sugar and honey	57	-1.5%	0.3%	057	Fruit & nuts (not includ. oil nuts)	253	-0.2%	0.4%
	554	Soap, cleansing and polishing	55	-0.1%	0.2%	061	Sugar and honey	245	-1.5%	0.6%
	541	Medicinal and pharmaceutical product	52	-0.1%	0.0%	333	Petrol.oils, crude,& c.o.obtain. from	149	-1.7%	0.0%
	673	Iron and steel bars, rods, angles	10	-0.4%	0.0%	075	Spices	94	-1.3%	0.4%
	553	Perfumery, cosmetics and toilet preps	6	-0.3%	0.0%	554	Soap, cleansing and polishing	65	-0.1%	0.3%
Mutual Withdrawal	036	Crustaceans and molluscs, fresh	13	-4.3%	0.0%	541	Medicinal and pharmaceutical product	73	-0.1%	-0.1%
	222	Oil seeds and oleaginous fruit, whole	2	-3.2%	-0.1%	222	Oil seeds and oleaginous fruit, whole	21	-3.2%	-0.2%
	057	Fruit & nuts (not includ. oil nuts)	1	-0.2%	0.0%	036	Crustaceans and molluscs, fresh	5	-4.3%	0.0%
	585	Other artificial resins and plastic	0	-4.1%	0.0%	551	Essential oils, perfume and flavour	3	-1.7%	0.0%
	281	Iron ore and concentrates	0	0.0%	0.0%	045	Cereals, unmilled (no wheat, rice)	1	-1.5%	0.0%

(cont.)

	Honduras					Jamaica				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	248	Wood, simply worked	181	0.9%	0.1%	054	Vegetab., fresh, chilled, frozen/pres.	18	1.7%	0.0%
	054	Vegetab., fresh, chilled, frozen/pres.	107	1.7%	0.2%	098	Edible products and preparations	15	1.0%	0.0%
	635	Wood manufactures, n.e.s.	32	5.1%	0.1%	048	Cereal prepar. & preps. of flour	13	1.3%	0.0%
	058	Fruit, preserved, and fruit	29	3.7%	0.0%	846	Under garments, knitted or crocheted	7	7.3%	0.2%
	288	Non-ferrous base metal	29	0.3%	0.1%	111	Non alcoholic beverages, n.e.s.	4	1.0%	0.0%
No Threat	047	Other cereal meals and flours	4	7.7%	8.1%	071	Coffee and coffee substitutes	33	0.1%	0.2%
	023	Butter	2	0.3%	0.5%	024	Cheese and curd	5	0.0%	0.0%
	073	Chocolate & other food (only three items)	0	0.0%	0.2%		(only two items)			
Direct Threat	071	Coffee and coffee substitutes	163	0.1%	-0.4%	112	Alcoholic beverages	52	0.1%	0.0%
	642	Paper and paperboard, cut to size	13	2.3%	0.0%	334	Petroleum products, refined	29	0.1%	0.0%
	893	Articles of materials	8	7.1%	0.0%	058	Fruit, preserved, and fruit preparations	12	3.7%	0.0%
	641	Paper and paperboard	4	0.4%	0.0%	844	Under garments of textile fabrics	4	10.0%	0.0%
	034	Fish, fresh (live or dead), chilled	4	4.2%	0.0%	893	Articles of materials	4	7.1%	0.0%
PRC under Threat	061	Sugar and honey	162	-1.5%	0.7%	061	Sugar and honey	54	-1.5%	0.1%
	424	Other fixed vegetable oils, fluid	58	-1.3%	0.5%	512	Alcohols, phenols, phenol-alcohols	35	-0.2%	0.3%
	554	Soap, cleansing and polishing	40	-0.1%	0.2%	036	Crustaceans and molluscs, fresh	4	-4.3%	0.0%
	282	Waste and scrap metal of iron	38	-0.1%	0.1%	074	Tea and mate	1	-0.2%	0.0%
	673	Iron and steel bars, rods, angles	27	-0.4%	0.0%	211	Hides and skins (except furskins),	0	-2.3%	0.0%
Mutual Withdrawal	057	Fruit & nuts (not includ. oil nuts)	187	-0.2%	-0.1%	287	Ores and concentrates of base metal	709	-0.9%	-1.1%
	036	Crustaceans and molluscs, fresh	5	-4.3%	-0.3%	057	Fruit & nuts (not includ. oil nuts)	26	-0.2%	-0.1%
	247	Other wood in the rough or roughly	3	-0.5%	-0.2%	075	Spices	5	-1.3%	-0.3%
	292	Crude vegetable materials, n.e.s.	2	-0.4%	0.0%	553	Perfumery, cosmetics and toilet preps	3	-0.3%	0.0%
	211	Hides and skins (except furskins)	2	-2.3%	0.0%	551	Essential oils, perfume and flavour	3	-1.7%	-0.1%

(cont.)

	Nicaragua					Panama				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	054	Vegetab., fresh, chilled, frozen/pres.	23	1.7%	0.0%	034	Fish, fresh (live or dead), chilled	210	4.2%	0.6%
	022	Milk and cream	21	0.2%	0.0%	334	Petroleum products, refined	46	0.1%	0.0%
	121	Tobacco, unmanufactured	17	1.5%	0.1%	037	Fish, crustaceans and molluscs	22	14.1%	0.0%
	034	Fish, fresh (live or dead), chilled	15	4.2%	0.0%	011	Meat, edible meat offals, fresh	20	0.2%	0.0%
	248	Wood, simply worked	15	0.9%	0.0%	054	Vegetab., fresh, chilled, frozen/pres.	14	1.7%	0.0%
No Threat	071	Coffee and coffee substitutes	77	0.1%	0.5%	035	Fish, dried, salted or in brine	15	0.1%	1.0%
	024	Cheese and curd	19	0.0%	0.2%	122	Tobacco manufactured	0	0.0%	0.2%
	122	Tobacco manufactured	6	0.0%	0.1%		(only two items)	0		
		(only three items)	0					0		
Direct Threat	011	Meat, edible meat offals, fresh	91	0.2%	-0.1%	098	Edible products and preparations	13	1.0%	0.0%
	694	Nails, screws, nuts, bolts etc.of iron	5	2.1%	0.0%	071	Coffee and coffee substitutes	9	0.1%	0.0%
	699	Manufactures of base metal, n.e.s.	3	3.2%	0.0%	642	Paper and paperboard, cut to size	8	2.3%	0.0%
	778	Electrical machinery and apparatus,	3	5.2%	0.0%	611	Leather	7	2.3%	0.0%
	112	Alcoholic beverages	2	0.1%	0.0%	847	Clothing accessories of textile fabrics	2	4.3%	0.0%
PRC under Threat	036	Crustaceans and molluscs, fresh	36	-4.3%	0.6%	057	Fruit & nuts(not includ. oil nuts),	152	-0.2%	0.1%
	222	Oil seeds and oleaginous fruit, whole	27	-3.2%	0.1%	001	Live animals chiefly for food	13	-1.1%	0.2%
	001	Live animals chiefly for food	21	-1.1%	0.3%	081	Feed.stuff for animals	6	-3.5%	0.0%
	512	Alcohols, phenols, phenol-alcohols	4	-0.2%	0.0%	025	Eggs and yolks, fresh, dried or other	4	-1.0%	0.1%
	423	Fixed vegetable oils, soft, crude	3	-0.7%	0.0%	512	Alcohols, phenols, phenol-alcohols	3	-0.2%	0.0%
Mutual Withdrawal	061	Sugar and honey	29	-1.5%	-0.1%	036	Crustaceans and molluscs, fresh	77	-4.3%	0.0%
	057	Fruit & nuts(not includ. oil nuts)	16	-0.2%	-0.1%	061	Sugar and honey	15	-1.5%	-0.2%
	673	Iron and steel bars, rods, angles	6	-0.4%	0.0%	541	Medicinal and pharmaceutical product	14	-0.1%	0.0%
	081	Feed.stuff for animals	4	-3.5%	0.0%	072	Cocoa	0	-0.4%	0.0%
	554	Soap, cleansing and polishing	1	-0.1%	0.0%	784	Parts & accessories of 722--,781--	0	-3.4%	0.0%

(cont.)

	Paraguay					Peru				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	611	Leather	53	2.3%	0.1%	846	Under garments, knitted or crocheted	319	7.3%	0.7%
	248	Wood, simply worked	39	0.9%	0.0%	845	Outer garments and other articles	166	8.2%	0.1%
	044	Maize (corn), unmilled	26	7.7%	0.3%	054	Vegetab., fresh, chilled, frozen/pres.	149	1.7%	0.3%
	634	Veneers, plywood, improved or reconst	7	1.8%	0.0%	686	Zinc	132	12.0%	0.8%
	612	Manufactures of leather/of composite	6	7.8%	0.0%	056	Vegetab., roots & tubers, prepared	123	2.3%	1.0%
No Threat	122	Tobacco manufactured (only one item)	14 0 0 0 0	0.0%	0.1%	971	Gold, non-monetary	1,467	0.0%	5.5%
						071	Coffee and coffee substitutes	188	0.1%	0.7%
						681	Silver, platinum & oth. metals	175	0.4%	1.6%
						411	Animal oils and fats	70	0.6%	5.8%
						122	Tobacco manufactured	11	0.0%	0.1%
Direct Threat	011	Meat, edible meat offals, fresh	73	0.2%	-0.3%	682	Copper	829	1.7%	-0.6%
	263	Cotton	36	0.5%	-3.4%	334	Petroleum products, refined	309	0.1%	-0.3%
	121	Tobacco, unmanufactured	4	1.5%	-0.1%	897	Jewellery, goldsmiths and other art.	60	6.9%	-0.3%
	657	Special textile fabrics and related	3	2.4%	0.0%	651	Textile yarn	53	4.2%	-0.4%
	672	Ingots and other primary forms, of iron	3	4.4%	0.0%	289	Ores & concentrates of precious metals	45	0.0%	-2.7%
PRC under Threat	081	Feed.stuff for animals	126	-3.5%	0.3%	081	Feed.stuff for animals	848	-3.5%	2.0%
	423	Fixed vegetable oils, soft, crude	74	-0.7%	0.4%	333	Petrol.oils, crude, & c.o. obtain. from	162	-1.7%	0.0%
	001	Live animals chiefly for food	11	-1.1%	0.1%	036	Crustaceans and molluscs, fresh	85	-4.3%	0.1%
	061	Sugar and honey	9	-1.5%	0.0%	281	Iron ore and concentrates	83	0.0%	0.0%
	541	Medicinal and pharmaceutical product	7	-0.1%	0.0%	057	Fruit & nuts (not includ. oil nuts),	79	-0.2%	0.1%
Mutual Withdrawal	222	Oil seeds and oleaginous fruit, whole	350	-3.2%	-0.7%	287	Ores and concentrates of base metal	959	-0.9%	-0.6%
	041	Wheat (including spelt) and meslin,	11	0.0%	-0.1%	061	Sugar and honey	18	-1.5%	-0.3%
	551	Essential oils, perfume and flavour	10	-1.7%	-0.4%	072	Cocoa	14	-0.4%	-0.3%
	424	Other fixed vegetable oils, fluid	3	-1.3%	-0.2%	551	Essential oils, perfume and flavour	8	-1.7%	-0.1%
	512	Alcohols, phenols, phenol-alcohols	3	-0.2%	-0.1%	654	Textiles. fabrics, woven, oth. than cotton	7	-1.0%	-0.2%

(cont.)

	Uruguay					Venezuela				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	611	Leather	208	2.3%	0.2%	671	Pig iron, spiegeleisen, sponge iron	369	6.3%	2.2%
	651	Textile yarn	133	4.2%	0.3%	322	Coal, lignite and peat	272	4.0%	0.4%
	048	Cereal prepar. & preps. of flour	63	1.3%	0.0%	583	Polymerization and copolymerization	153	0.2%	0.1%
	641	Paper and paperboard	33	0.4%	0.0%	516	Other organic chemicals	147	2.0%	1.0%
	893	Articles of materials	32	7.1%	0.0%	522	Inorganic chemical elements, oxides	86	5.1%	0.2%
No Threat	011	Meat, edible meat offals, fresh	284	0.2%	0.2%	334	Petroleum products, refined	331	0.1%	5.1%
	022	Milk and cream	78	0.2%	0.4%	781	Passenger motor cars, for transport	59	0.0%	0.0%
	122	Tobacco manufactured	40	0.0%	0.4%	971	Gold, non-monetary	46	0.0%	0.1%
	781	Passenger motor cars, for transport	36	0.0%	0.0%	047	Other cereal meals and flours	5	0.4%	1.8%
	024	Cheese and curd	33	0.0%	0.2%	073	Chocolate & other food preptns.	4	0.0%	0.1%
Direct Threat	042	Rice	140	6.5%	-0.2%	684	Aluminium	719	0.8%	-1.7%
	034	Fish, fresh (live or dead), chilled	81	4.2%	-0.1%	674	Universals, plates and sheets, of iron	223	0.6%	-0.1%
	848	Art. of apparel & clothing accessories	26	22.2%	-0.5%	672	Ingots and other primary forms, of iron	223	4.4%	-0.2%
	268	Wool and other animal hair	25	5.3%	-5.7%	562	Fertilizers, manufactured	51	1.9%	-0.1%
	014	Meat & edib. offals, prep./pres., fish	19	2.4%	-0.4%	641	Paper and paperboard	50	0.4%	0.0%
PRC under Threat	247	Other wood in the rough or roughly	42	-0.5%	0.6%	784	Parts & accessories of 722--,781--	163	-3.4%	0.0%
	057	Fruit & nuts(not includ. oil nuts)	35	-0.2%	0.0%	512	Alcohols, phenols, phenol-alcohols	107	-0.2%	0.8%
	541	Medicinal and pharmaceutical product	27	-0.1%	0.0%	036	Crustaceans and molluscs, fresh	87	-4.3%	0.4%
	784	Parts & accessories of 722--,781--	19	-3.4%	0.0%	541	Medicinal and pharmaceutical product	62	-0.1%	0.0%
	036	Crustaceans and molluscs, fresh	16	-4.3%	0.1%	287	Ores and concentrates of base metal	57	-0.9%	0.2%
Mutual Withdrawal	222	Oil seeds and oleaginous fruit, whole	41	-3.2%	-0.1%	333	Petrol.oils, crude, & c.o.obtain. from	18,323	-1.7%	-4.5%
	654	Textile. fabrics, woven, oth. than cotton	34	-1.0%	-0.1%	673	Iron and steel bars, rods, angles	97	-0.4%	-0.3%
	061	Sugar and honey	18	-1.5%	-0.1%	281	Iron ore and concentrates	93	0.0%	-3.7%
	211	Hides and skins (except furskins)	5	-2.3%	-0.2%	057	Fruit & nuts(not includ. oil nuts),	17	-0.2%	-0.1%
	554	Soap, cleansing and polishing	4	-0.1%	-0.1%	553	Perfumery, cosmetics and toilet preps	12	-0.3%	-0.2%

Note: GC is growth of PRC exports; GL is growth of LAC country exports.

Appendix Table 5. PRC's Potential Threat to LACs in US Market by Type of Threat, 1990 and 2002 (US\$ thousand)

	Argentina		Bolivia		Brazil	
	1990	2002	1990	2002	1990	2002
Partial Threat	228,353	732,507	1,102	100,893	1,571,573	4,820,115
No Threat	93,318	335,110	104	11,860	1,108,727	4,602,035
Direct Threat	1,089,450	977,547	59,082	34,322	4,601,856	4,607,537
PRC under Threat	243,831	867,425	45	11,882	137,357	995,120
Mutual Withdrawal	21,995	20,943	124,029	33,693	312,234	480,610
Total	1,676,948	2,933,531	184,362	192,650	7,731,747	15,505,417
	Chile		Colombia		Costa Rica	
	1990	2002	1990	2002	1990	2002
Partial Threat	145,208	666,191	59,052	380,747	139,472	822,210
No Threat	142,147	1,122,507	236,610	983,706	217,706	1,261,987
Direct Threat	998,772	1,361,403	1,258,372	1,403,881	190,934	197,873
PRC under Threat	18,412	146,702	1,349,530	2,483,693	20,423	223,419
Mutual Withdrawal	35,592	102,909	92,973	75,480	4,446	4,220
Total	1,340,131	3,399,712	2,996,537	5,327,508	572,981	2,509,708
	Ecuador		El Salvador		Guatemala	
	1990	2002	1990	2002	1990	2002
Partial Threat	50,234	301,804	25,946	116,708	35,920	74,381
No Threat	12,029	258,509	69,620	44,915	254,283	359,458
Direct Threat	583,463	379,434	24,685	39,037	129,484	83,045
PRC under Threat	532,593	956,574	310	25,121	20,885	151,458
Mutual Withdrawal	259,067	160,907	18,778	23,880	22,582	6,460
Total	1,437,386	2,057,229	139,339	249,661	463,153	674,802
	Honduras		Jamaica		Mexico	
	1990	2002	1990	2002	1990	2002
Partial Threat	13,987	111,270	3,011	12,489	1,425,071	11,655,037
No Threat	49,988	196,261	49	37,309	5,206,800	90,348,215
Direct Threat	180,437	91,483	78,376	64,011	2,942,150	4,289,304
PRC under Threat	76	2,562	221,105	166,117	8,125,726	35,945,896
Mutual Withdrawal	40,162	7,520	24,993	24,521	794,308	843,171
Total	284,649	409,095	327,533	304,448	18,494,056	143,081,622
	Nicaragua		Panama		Paraguay	
	1990	2002	1990	2002	1990	2002
Partial Threat	19,267	62,856	24,731	236,702	4,982	23,523
No Threat	186	88,355	2,105	27,025	0	0
Direct Threat	878	321	73,204	28,074	24,694	5,652
PRC under Threat	2,069	32,209	17	2,872	1,754	4,904
Mutual Withdrawal	0	0	52,864	65,617	9,563	2,354
Total	22,399	183,741	152,922	360,290	40,992	36,433
	Peru		Uruguay		Venezuela	
	1990	2002	1990	2002	1990	2002
Partial Threat	69,967	284,908	1,029	30,147	94,325	344,814
No Threat	63,837	904,306	1,540	7,800	49,217	781,920
Direct Threat	424,176	295,636	125,980	48,364	877,181	660,086
PRC under Threat	21,907	295,947	17,500	50,639	27,040	80,120
Mutual Withdrawal	184,226	136,227	13,000	2,588	8,257,119	11,247,814
Total	764,113	1,917,024	159,049	139,539	9,304,881	13,114,755

Note: For some countries these totals are less than total exports because some exports could not be classified (e.g. special transactions).

**Appendix Table 6. PRC's Potential Threat to LACs in US Market by Threat Type
1990 and 2002 (% to total exports)**

	Argentina		Bolivia		Brazil	
	1990	2002	1990	2002	1990	2002
Partial Threat	13.62%	24.97%	0.60%	52.37%	20.33%	31.09%
No Threat	5.56%	11.42%	0.06%	6.16%	14.34%	29.68%
Direct Threat	64.97%	33.32%	32.05%	17.82%	59.52%	29.72%
PRC under Threat	14.54%	29.57%	0.02%	6.17%	1.78%	6.42%
Mutual Withdrawal	1.31%	0.71%	67.27%	17.49%	4.04%	3.10%
	Chile		Colombia		Costa Rica	
	1990	2002	1990	2002	1990	2002
Partial Threat	10.84%	19.60%	1.97%	7.15%	24.34%	32.76%
No Threat	10.61%	33.02%	7.90%	18.46%	38.00%	50.28%
Direct Threat	74.53%	40.04%	41.99%	26.35%	33.32%	7.88%
PRC under Threat	1.37%	4.32%	45.04%	46.62%	3.56%	8.90%
Mutual Withdrawal	2.66%	3.03%	3.10%	1.42%	0.78%	0.17%
	Ecuador		El Salvador		Guatemala	
	1990	2002	1990	2002	1990	2002
Partial Threat	3.49%	14.67%	18.62%	46.75%	7.76%	11.02%
No Threat	0.84%	12.57%	49.96%	17.99%	54.90%	53.27%
Direct Threat	40.59%	18.44%	17.72%	15.64%	27.96%	12.31%
PRC under Threat	37.05%	46.50%	0.22%	10.06%	4.51%	22.44%
Mutual Withdrawal	18.02%	7.82%	13.48%	9.56%	4.88%	0.96%
	Honduras		Jamaica		Mexico	
	1990	2002	1990	2002	1990	2002
Partial Threat	4.91%	27.20%	0.92%	4.10%	7.71%	8.15%
No Threat	17.56%	47.97%	0.02%	12.25%	28.15%	63.14%
Direct Threat	63.39%	22.36%	23.93%	21.03%	15.91%	3.00%
PRC under Threat	0.03%	0.63%	67.51%	54.56%	43.94%	25.12%
Mutual Withdrawal	14.11%	1.84%	7.63%	8.05%	4.29%	0.59%
	Nicaragua		Panama		Paraguay	
	1990	2002	1990	2002	1990	2002
Partial Threat	86.02%	34.21%	16.17%	65.70%	12.15%	64.57%
No Threat	0.83%	48.09%	1.38%	7.50%	0.00%	0.00%
Direct Threat	3.92%	0.17%	47.87%	7.79%	60.24%	15.51%
PRC under Threat	9.23%	17.53%	0.01%	0.80%	4.28%	13.46%
Mutual Withdrawal	0.00%	0.00%	34.57%	18.21%	23.33%	6.46%
	Peru		Uruguay		Venezuela	
	1990	2002	1990	2002	1990	2002
Partial Threat	9.16%	14.86%	0.65%	21.60%	1.01%	2.63%
No Threat	8.35%	47.17%	0.97%	5.59%	0.53%	5.96%
Direct Threat	55.51%	15.42%	79.21%	34.66%	9.43%	5.03%
PRC under Threat	2.87%	15.44%	11.00%	36.29%	0.29%	0.61%
Mutual Withdrawal	24.11%	7.11%	8.17%	1.85%	88.74%	85.76%

Appendix Table 7. Top Five Threatened Items in US Export Market by Type of Threat and by Country

	Mexico					Argentina				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	775	Household elect. & non-electric	1,904	24.9%	21.5%	821	Furniture and parts thereof	173	11.4%	0.9%
	893	Articles of materials described	1,658	17.8%	16.3%	058	Fruit, preserved, and fruit preparations	87	5.9%	2.3%
	812	Sanitary, plumbing, heating, lighting	1,108	28.7%	26.0%	784	Parts & accessories of 722--,781--	59	0.9%	0.0%
	894	Baby carriages, toys, games and sport	1,034	41.4%	4.8%	673	Iron and steel bars, rods, angles, shapes	53	2.2%	0.1%
	672	Ingots and other primary forms	485	3.9%	2.6%	034	Fish, fresh (live or dead), chilled	47	7.4%	0.3%
No Threat	764	Telecommunications equipment	8,989	4.8%	24.3%	684	Aluminium	116	0.2%	1.4%
	752	Automatic data processing machines	8,383	8.5%	14.9%	792	Aircraft & associated equipment	70	0.4%	0.4%
	784	Parts & accessories of 722--,781--	6,343	0.9%	16.0%	121	Tobacco, unmanufactured; tobacco ref	36	1.7%	2.7%
	782	Motor vehicles for transport of goods	6,181	0.0%	30.0%	057	Fruit & nuts(not includ. oil nuts)	35	0.3%	1.1%
	773	Equipment for distributing electricity	5,789	3.4%	58.7%	061	Sugar and honey	34	1.4%	2.6%
Direct Threat	054	Vegetables, fresh, chilled, frozen/pres.	2,141	0.0%	-7.6%	334	Petroleum products, refined	571	0.3%	-3.9%
	334	Petroleum products, refined	816	0.3%	-0.2%	014	Meat & edib. offals, prep./pres. fish	56	0.7%	-11.3%
	641	Paper and paperboard	151	0.1%	0.0%	678	Tubes, pipes and fittings, of iron	38	3.4%	-1.5%
	522	Inorganic chemical elements, oxides	147	3.3%	-6.8%	612	Manufactures of leather/of composites	24	18.3%	-1.0%
	673	Iron and steel bars, rods, angles, shapes	139	2.2%	-1.4%	335	Residual petroleum products, nes.	22	7.3%	-3.5%
PRC under Threat	781	Passenger motor cars, for transport	12,097	0.0%	8.1%	333	Petrol. oils, crude, & c.o.	553	-1.0%	0.6%
	333	Petrol. oils, crude, & c.o.	10,247	-1.0%	4.1%	611	Leather	178	-0.2%	3.4%
	761	Television receivers	6,514	-1.5%	62.8%	112	Alcoholic beverages	36	0.0%	0.5%
	842	Outer garments, men's, of textile fabric	1,906	-0.1%	28.1%	551	Essential oils, perfume and flavour	35	-0.2%	3.2%
	846	Under garments, knitted or crocheted	1,481	-0.1%	23.9%	074	Tea and mate	29	-7.7%	12.2%
Mutual Withdrawal	681	Silver, platinum & oth. metals	495	-0.1%	-12.6%	541	Medicinal and pharmaceutical product	8	-0.4%	0.0%
	001	Live animals chiefly for food	308	0.0%	-7.2%	652	Cotton fabrics, woven	5	-3.2%	-0.3%
	287	Ores and concentrates of base metal	24	-3.3%	-8.3%	081	Feed. stuff for animals	5	-0.5%	-1.4%
	689	Miscell. non-ferrous base metals	12	-2.4%	-1.5%	658	Made-up articles, wholly	1	-3.1%	-0.1%
	896	Works of art, collectors pieces	4	-1.1%	0.0%	846	Under garments, knitted or crocheted	1	-0.1%	-0.2%

Note: GC is growth of PRC exports; GL is growth of LAC country exports.

(cont.)

	Brazil					Bolivia				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	764	Telecommunications equipment	1,034	4.8%	0.9%	897	Jewellery, goldsmiths and other art.	12	5.8%	0.8%
	851	Footwear	519	40.9%	0.4%	635	Wood manufactures, n.e.s.	7	7.1%	0.5%
	672	Ingots and other primary forms	302	3.9%	3.7%	821	Furniture and parts thereof	5	11.4%	0.1%
	743	Pumps & compressors, fans & blowers	293	1.4%	0.4%	334	Petroleum products, refined	2	0.3%	0.0%
	635	Wood manufactures, n.e.s.	2,282	7.1%	2.0%	522	Inorganic chemical elements, oxides	8	3.3%	0.1%
No Threat	792	Aircraft & associated equipment	447	0.4%	4.5%	723	Civil engineering & contractors pla	2	0.1%	0.2%
	671	Pig iron, spiegeleisen, sponge iron	300	1.6%	8.6%	971	Gold, non-monetary	1	0.0%	0.1%
	251	Pulp and waste paper	283	0.0%	5.5%	045	Cereals, unmilled (no wheat, rice, barley)	0	0.0%	0.3%
	248	Wood, simply worked, and railway sleepers	259	0.2%	2.1%	054	Vegetab., fresh, chilled, frozen/pres.	0	0.0%	0.0%
	971	Gold, non-monetary	671	0.0%	14.5%	792	Aircraft & associated equipment	12	0.4%	0.7%
Direct Threat	334	Petroleum products, refined	503	0.3%	-3.4%	248	Wood, simply worked, and railway sleepers	10	0.2%	-0.6%
	713	Internal combustion piston engines	413	0.2%	-4.2%	057	Fruit & nuts (not includ. oil nuts)	6	0.3%	-0.2%
	784	Parts & accessories of 722--,781--	234	0.9%	-0.1%	845	Outer garments and other articles	3	4.8%	0.0%
	071	Coffee and coffee substitutes	190	0.0%	-9.4%	061	Sugar and honey	2	1.4%	-0.7%
	058	Fruit, preserved, and fruit preparations	634	5.9%	-29.0%	071	Coffee and coffee substitutes	11	0.0%	0.0%
PRC under Threat	781	Passenger motor cars, for transport	186	0.0%	0.1%	846	Under garments, knitted or crocheted	0	-0.1%	0.2%
	333	Petrol.oils, crude, & c.o.obtain. from	105	-1.0%	0.1%	781	Passenger motor cars, for transport	0	0.0%	0.0%
	611	Leather	25	-0.2%	2.1%	658	Made-up articles, wholly/chiefly of	0	-3.1%	0.0%
	681	Silver, platinum & oth. metals	17	-0.1%	0.1%	611	Leather	0	-0.2%	0.0%
	687	Tin	184	-2.7%	4.8%	652	Cotton fabrics, woven	31	-3.2%	0.0%
Mutual Withdrawal	658	Made-up articles, wholly/chiefly of	152	-3.1%	-2.8%	687	Tin	2	-2.7%	-13.4%
	036	Crustaceans and molluscs, fresh	32	-9.4%	-1.1%	287	Ores and concentrates of base metal	1	-3.3%	-1.2%
	846	Under garments, knitted or crocheted	31	-0.1%	-1.1%	842	Outer garments, men's, of textile fabric	0	-0.1%	0.0%
	551	Essential oils, perfume and flavour	25	-0.2%	-1.3%	112	Alcoholic beverages	0	0.0%	0.0%
	287	Ores and concentrates of base metal	0	-3.3%	-2.5%	689	Miscell. non-ferrous base metals	0	-2.4%	-0.4%

(cont.)

	Chile					Colombia				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	635	Wood manufactures, n.e.s.	99	7.1%	1.2%	667	Pearls, precious& semi-prec. stones	54	0.1%	0.1%
	334	Petroleum products, refined	66	0.3%	0.2%	583	Polymerization and copolymerization	46	0.5%	0.2%
	058	Fruit, preserved, and fruit preparations	66	5.9%	2.7%	122	Tobacco manufactured	32	0.9%	0.3%
	522	Inorganic chemical elements, oxides	60	3.3%	0.9%	665	Glassware	21	6.3%	0.4%
	523	Other inorganic chemicals	59	7.0%	0.0%	678	Tubes, pipes and fittings of iron	19	3.4%	0.6%
No Threat	034	Fish, fresh (live or dead), chilled	465	7.4%	9.8%	292	Crude vegetable materials, n.e.s.	551	0.5%	3.6%
	248	Wood, simply worked, and railway sleepers	344	0.2%	2.4%	322	Coal, lignite and peat	253	0.1%	10.8%
	512	Alcohols, phenols, phenol-alcohols	149	0.0%	3.1%	971	Gold, non-monetary	106	0.0%	0.4%
	641	Paper and paperboard	72	0.1%	0.4%	533	Pigments, paints, varnishes & related	56	0.2%	15.2%
	044	Maize (corn), unmilled	51	0.0%	12.1%	847	Clothing accessories of textile fabrics	9	0.0%	0.2%
Direct Threat	682	Copper	658	0.9%	-8.2%	334	Petroleum products, refined	549	0.3%	-1.1%
	057	Fruit & nuts (not includ. oil nuts),	587	0.3%	-4.8%	071	Coffee and coffee substitutes	288	0.0%	-0.1%
	037	Fish, crustaceans and molluscs	21	9.3%	-0.4%	057	Fruit & nuts (not includ. oil nuts),	175	0.3%	-1.8%
	054	Vegetab., fresh, chilled, frozen/pres.	17	0.0%	-2.2%	843	Outer garments, women's	94	4.9%	-0.6%
	812	Sanitary, plumbing, heating, lighting	13	28.7%	-0.4%	661	Lime, cement, and fabricated construct	61	6.0%	-0.3%
PRC under Threat	112	Alcoholic beverages	131	0.0%	1.5%	333	Petrol.oils, crude, & c.o. obtain.from	2,313	-1.0%	2.1%
	036	Crustaceans and molluscs, fresh	6	-9.4%	0.2%	842	Outer garments, men's, of textile fabrics	117	-0.1%	1.0%
	001	Live animals chiefly for food	4	0.0%	0.2%	846	Under garments, knitted or crocheted	38	-0.1%	0.1%
	551	Essential oils, perfume and flavour	2	-0.2%	0.1%	656	Tulle, lace, embroidery, ribbons	11	-0.3%	0.7%
	541	Medicinal and pharmaceutical product	1	-0.4%	0.0%	289	Ores & concentrates of precious metals	2	0.0%	0.1%
Mutual Withdrawal	287	Ores and concentrates of base metal	84	-3.3%	-0.7%	036	Crustaceans and molluscs, fresh	34	-9.4%	-1.3%
	681	Silver, platinum & oth. metals	13	-0.1%	-0.2%	658	Made-up articles, wholly/chiefly of	18	-3.1%	-0.1%
	842	Outer garments, men's, of textile fabrics	5	-0.1%	-0.1%	611	Leather	8	-0.2%	-2.1%
	081	Feed.stuff for animals	1	-0.5%	-1.8%	541	Medicinal and pharmaceutical product	7	-0.4%	0.0%
	846	Under garments, knitted or crocheted	0	-0.1%	0.0%	681	Silver, platinum & oth. metals	6	-0.1%	-0.3%

(cont.)

	Costa Rica					Ecuador				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	034	Fish, fresh (live or dead), chilled	75	7.4%	0.3%	037	Fish, crustaceans and molluscs	146	9.3%	2.1%
	844	Under garments of textile fabrics	69	2.1%	1.1%	034	Fish, fresh (live or dead), chilled	72	7.4%	0.1%
	778	Electrical machinery and apparatus,	65	5.5%	0.3%	058	Fruit, preserved, and fruit preparations	17	5.9%	0.6%
	292	Crude vegetable materials, n.e.s.	63	0.5%	0.3%	897	Jewellery, goldsmiths and other art.	8	5.8%	0.0%
	058	Fruit, preserved, and fruit preparations	61	5.9%	3.1%	056	Vegetab., roots & tubers, prepared	8	1.3%	0.5%
No Threat	759	Parts of and accessories	421	2.4%	2.6%	292	Crude vegetable materials, n.e.s.	203	0.5%	4.2%
	057	Fruit & nuts(not includ. oil nuts),	379	0.3%	3.1%	335	Residual petroleum products	43	7.3%	7.9%
	872	Medical instruments and appliances	335	3.2%	4.0%	054	Vegetab., fresh, chilled, frozen/pres.	10	0.0%	0.1%
	071	Coffee and coffee substitutes	86	0.0%	1.3%	847	Clothing accessories of textile fabrics	3	0.0%	0.1%
	847	Clothing accessories of textile fabrics	29	0.0%	2.6%	247	Other wood in the rough or roughly	0	0.0%	0.0%
Direct Threat	054	Vegetab., fresh, chilled, frozen/pres.	51	0.0%	0.0%	057	Fruit & nuts (not includ. oil nuts)	274	0.3%	-10.0%
	628	Articles of rubber, n.e.s.	37	2.6%	-0.8%	072	Cocoa	34	0.7%	-10.4%
	893	Articles of materials	24	17.8%	-0.1%	248	Wood, simply worked, and railway sleepers	17	0.2%	0.0%
	011	Meat, edible meat offals, fresh	21	0.0%	-1.3%	334	Petroleum products, refined	16	0.3%	-1.3%
	874	Measuring, checking, analysing instruments	11	1.7%	-0.1%	812	Sanitary, plumbing, heating, lighting	16	28.7%	-0.1%
PRC under Threat	846	Under garments, knitted or crocheted	186	-0.1%	2.1%	333	Petrol.oils, crude, & c.o. obtain.from	949	-1.0%	0.2%
	842	Outer garments, men's, of textile fabrics	23	-0.1%	0.7%	842	Outer garments, men's, of textile fabrics	2	-0.1%	0.0%
	036	Crustaceans and molluscs, fresh	10	-9.4%	0.1%	658	Made-up articles, wholly/chiefly of	1	-3.1%	0.0%
	656	Tulle, lace, embroidery, ribbons	2	-0.3%	1.0%	846	Under garments, knitted or crocheted	1	-0.1%	0.0%
	289	Ores & concentrates of precious metals	1	0.0%	0.7%	781	Passenger motor cars, for transport	1	0.0%	0.0%
Mutual Withdrawal	551	Essential oils, perfume and flavour	2	-0.2%	-0.2%	036	Crustaceans and molluscs, fresh	160	-9.4%	-9.9%
	541	Medicinal and pharmaceutical product	2	-0.4%	0.0%	081	Feed.stuff for animals	0	-0.5%	-0.1%
	611	Leather	1	-0.2%	0.0%	265	Vegetable textile fibres and waste	0	-1.1%	-1.4%
	652	Cotton fabrics, woven	0	-3.2%	0.0%		(only three items)			
	896	Works of art, collectors piece	0	-1.1%	0.0%					

(cont.)

	El Salvador					Guatemala				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	061	Sugar and honey	29	1.4%	0.5%	292	Crude vegetable materials, n.e.s.	23	0.5%	0.5%
	674	Universals, plates and sheets of iron	12	1.6%	0.0%	714	Engines & motors, non-electric	5	0.4%	0.0%
	899	Other miscellaneous manufactured	9	24.9%	0.2%	075	Spices	4	0.6%	0.2%
	845	Outer garments and other articles	7	4.8%	0.0%	684	Aluminium	4	0.2%	0.1%
	697	Household equipment of base metal	6	19.9%	0.1%	893	Articles of materials	3	17.8%	0.0%
No Threat	071	Coffee and coffee substitutes	34	0.0%	1.7%	057	Fruit & nuts (not includ. oil nuts)	236	0.3%	1.9%
	054	Vegetab., fresh, chilled, frozen/pres.	7	0.0%	0.0%	071	Coffee and coffee substitutes	120	0.0%	0.5%
	512	Alcohols, phenols, phenol-alcohols	4	0.0%	0.4%	512	Alcohols, phenols, phenol-alcohols	2	0.0%	0.1%
	073	Chocolate & other food preptns.	0	0.0%	0.0%	044	Maize (corn), unmilled	1	0.0%	0.0%
	047	Other cereal meals and flours	0	0.3%	0.4%	554	Soap, cleansing and polishing	0	0.4%	1.9%
Direct Threat	642	Paper and paperboard, cut to size	25	6.4%	-0.2%	061	Sugar and honey	46	1.4%	-0.4%
	651	Textile yarn	7	0.4%	-0.6%	054	Vegetab., fresh, chilled, frozen/pres.	16	0.0%	-0.5%
	292	Crude vegetable materials, n.e.s.	1	0.5%	-0.1%	222	Oil seeds and oleaginous fruit, whole	9	0.6%	-6.6%
	699	Manufactures of base metal, n.e.s.	1	6.7%	0.0%	248	Wood, simply worked, and railway sleepers	3	0.2%	-0.1%
	222	Oil seeds and oleaginous fruit, whole	1	0.6%	-3.3%	641	Paper and paperboard	2	0.1%	0.0%
PRC under Threat	846	Under garments, knitted or crocheted	19	-0.1%	0.2%	333	Petrol.oils, crude, & c.o. obtain.from	149	-1.0%	0.2%
	112	Alcoholic beverages	4	0.0%	0.0%	112	Alcoholic beverages	1	0.0%	0.0%
	655	Knitted or crocheted fabrics	1	-0.3%	0.1%	656	Tulle, lace, embroidery, ribbons	1	-0.3%	0.0%
	111	Non alcoholic beverages, n.e.s.	1	-0.4%	0.0%	781	Passenger motor cars, for transport	1	0.0%	0.0%
	541	Medicinal and pharmaceutical product	0	-0.4%	0.0%	655	Knitted or crocheted fabrics	0	-0.3%	0.0%
Mutual Withdrawal	658	Made-up articles, wholly/chiefly of	13	-3.1%	-0.3%	036	Crustaceans and molluscs, fresh	3	-9.4%	-0.3%
	036	Crustaceans and molluscs, fresh	9	-9.4%	-0.1%	541	Medicinal and pharmaceutical product	2	-0.4%	0.0%
	842	Outer garments, men's of textile fabrics	1	-0.1%	0.0%	551	Essential oils, perfume and flavour	0	-0.2%	-0.1%
	652	Cotton fabrics, woven	0	-3.2%	0.0%	658	Made-up articles, wholly/chiefly of	0	-3.1%	-0.1%
	781	Passenger motor cars, for transport	0	0.0%	0.0%	846	Under garments, knitted or crocheted	0	-0.1%	0.0%

(cont.)

	Honduras					Jamaica				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	248	Wood, simply worked, and railway sleepers	55	0.2%	0.1%	057	Fruit & nuts (not includ. oil nuts)	5	0.3%	0.1%
	635	Wood manufactures, n.e.s.	20	7.1%	0.0%	075	Spices	1	0.6%	0.2%
	634	Veneers, plywood, improved or reconst	15	1.3%	0.5%	893	Articles of materials	1	17.8%	0.0%
	058	Fruit, preserved, and fruit preparations	8	5.9%	0.0%	522	Inorganic chemical elements, oxides	1	3.3%	0.4%
	424	Other fixed vegetable oils, fluid	3	0.8%	0.6%	635	Wood manufactures, n.e.s.	1	7.1%	0.0%
No Threat	061	Sugar and honey	82	1.4%	7.9%	512	Alcohols, phenols, phenol-alcohols	35	0.0%	2.7%
	054	Vegetab., fresh, chilled, frozen/pres.	54	0.0%	0.9%	024	Cheese and curd	2	0.0%	0.2%
	288	Non-ferrous base metal waste	27	0.4%	0.5%		(only two items)	0		
	071	Coffee and coffee substitutes	26	0.0%	1.5%			0		
	246	Pulpwood (including chips and wood)	4	0.4%	3.8%			0		
Direct Threat	057	Fruit & nuts (not includ. oil nuts)	72	0.3%	-2.1%	334	Petroleum products, refined	21	0.3%	0.0%
	034	Fish, fresh (live or dead), chilled	4	7.4%	-0.1%	054	Vegetab., fresh, chilled, frozen/pres.	11	0.0%	-0.1%
	694	Nails, screws, nuts, bolts etc. of iron	2	3.5%	0.0%	098	Edible products and preparations	7	2.0%	-0.1%
	661	Lime, cement, and fabricated construct	2	6.0%	-0.1%	058	Fruit, preserved, and fruit preparations	6	5.9%	-0.1%
	121	Tobacco, unmanufactured; tobacco ref	2	1.7%	-0.9%	048	Cereal prepar. & preps. of flour	5	1.0%	-0.1%
PRC under Threat	112	Alcoholic beverages	2	0.0%	0.0%	287	Ores and concentrates of base metal	153	-3.3%	3.7%
	111	Non alcoholic beverages, n.e.s.	1	-0.4%	0.1%	846	Under garments, knitted or crocheted	7	-0.1%	0.2%
	656	Tulle, lace, embroidery, ribbons	0	-0.3%	0.0%	036	Crustaceans and molluscs, fresh	4	-9.4%	0.0%
	781	Passenger motor cars, for transport	0	0.0%	0.0%	111	Non alcoholic beverages, n.e.s.	2	-0.4%	0.1%
	081	Feed.stuff for animals	0	-0.5%	0.0%	211	Hides and skins (except furskins)	0	-0.3%	0.1%
Mutual Withdrawal	036	Crustaceans and molluscs, fresh	5	-9.4%	-1.4%	112	Alcoholic beverages	19	0.0%	-0.1%
	846	Under garments, knitted or crocheted	2	-0.1%	-0.1%	842	Outer garments, men's, of textile fabrics	4	-0.1%	-0.4%
	658	Made-up articles, wholly/chiefly of	0	-3.1%	0.0%	551	Essential oils, perfume and flavour	2	-0.2%	-0.2%
	842	Outer garments, men's, of textile fabrics	0	-0.1%	-0.1%	541	Medicinal and pharmaceutical product	0	-0.4%	0.0%
	541	Medicinal and pharmaceutical product	0	-0.4%	0.0%	081	Feed.stuff for animals	0	-0.5%	-0.1%

(cont.)

	Nicaragua					Panama				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	057	Fruit & nuts (not includ. oil nuts)	14	0.3%	0.1%	034	Fish, fresh (live or dead), chilled	177	7.4%	3.3%
	034	Fish, fresh (live or dead), chilled	13	7.4%	0.3%	037	Fish, crustaceans and molluscs	21	9.3%	0.1%
	061	Sugar and honey	9	1.4%	0.1%	057	Fruit & nuts (not includ. oil nuts)	14	0.3%	0.0%
	812	Sanitary, plumbing, heating, lighting	6	28.7%	0.0%	899	Other miscellaneous manufactured	8	24.9%	0.2%
	423	Fixed vegetable oils, soft, crude, ref	2	0.1%	0.0%	334	Petroleum products, refined	6	0.3%	0.1%
No Threat	011	Meat, edible meat offals, fresh	39	0.0%	0.6%	054	Vegetab., fresh, chilled, frozen/pres.	14	0.0%	0.2%
	071	Coffee and coffee substitutes	26	0.0%	2.5%	035	Fish, dried, salted or in brine	9	1.8%	6.9%
	971	Gold, non-monetary	14	0.0%	0.3%	288	Non-ferrous base metal waste	4	0.4%	0.5%
	122	Tobacco manufactured	5	0.9%	2.2%	122	Tobacco manufactured	0	0.9%	11.5%
	054	Vegetab., fresh, chilled, frozen/pres.	3	0.0%	0.1%	247	Other wood in the rough or roughly	0	0.0%	0.0%
Direct Threat	792	Aircraft & associated equipment	0	0.4%	0.0%	061	Sugar and honey	15	1.4%	-1.7%
	684	Aluminium	0	0.2%	0.0%	071	Coffee and coffee substitutes	7	0.0%	0.0%
	035	Fish, dried, salted or in brine	0	1.8%	0.0%	893	Articles of materials	2	17.8%	0.0%
	334	Petroleum products, refined	0	0.3%	0.0%	642	Paper and paperboard, cut to size	2	6.4%	-0.1%
	686	Zinc	0	4.7%	0.0%	843	Outer garments, women's	1	4.9%	0.0%
PRC under Threat	036	Crustaceans and molluscs, fresh	25	-9.4%	2.5%	846	Under garments, knitted or crocheted	2	-0.1%	0.0%
	681	Silver, platinum & oth. metals	5	-0.1%	0.0%	022	Milk and cream	0	0.0%	0.6%
	022	Milk and cream	1	0.0%	0.2%	681	Silver, platinum & oth. metals	0	-0.1%	0.0%
	541	Medicinal and pharmaceutical product	1	-0.4%	0.0%	001	Live animals chiefly for food	0	0.0%	0.0%
	112	Alcoholic beverages	0	0.0%	0.0%	658	Made-up articles, wholly/chiefly of	0	-3.1%	0.0%
Mutual Withdrawal	(no items)					036	Crustaceans and molluscs, fresh	62	-9.4%	-0.6%
						541	Medicinal and pharmaceutical product	1	-0.4%	-0.1%
						081	Feed.stuff for animals	1	-0.5%	-0.8%
						842	Outer garments, men's, of textile fabrics	1	-0.1%	-0.1%
						112	Alcoholic beverages	0	0.0%	0.0%

(cont.)

	Paraguay					Peru				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	061	Sugar and honey	6	1.4%	0.3%	845	Outer garments and other articles	122	4.8%	0.4%
	635	Wood manufactures, n.e.s.	4	7.1%	0.1%	686	Zinc	41	4.7%	3.1%
	122	Tobacco manufactured	4	0.9%	0.0%	661	Lime, cement, and fabricated construct	19	6.0%	0.2%
	248	Wood, simply worked, and railway sleepers	3	0.2%	0.0%	056	Vegetab., roots & tubers, prepared	16	1.3%	0.4%
	634	Veneers, plywood, improved	3	1.3%	0.2%	821	Furniture and parts thereof	10	11.4%	0.0%
No Threat		(no item)	0			682	Copper	457	0.9%	13.4%
			0			971	Gold, non-monetary	203	0.0%	6.1%
			0			054	Vegetab., fresh, chilled, frozen/pres.	96	0.0%	1.4%
			0			248	Wood, simply worked, and railway sleepers	56	0.2%	0.5%
			0			071	Coffee and coffee substitutes	56	0.0%	0.9%
Direct Threat	424	Other fixed vegetable oils, fluid	2	0.8%	-0.3%	334	Petroleum products, refined	159	0.3%	-1.8%
	831	Travel goods, handbags, briefcases	1	24.5%	0.0%	897	Jewellery, goldsmiths and other art.	50	5.8%	-1.5%
	843	Outer garments, women's, of textile fabrics	1	4.9%	0.0%	061	Sugar and honey	17	1.4%	-2.3%
	845	Outer garments and other articles	1	4.8%	0.0%	292	Crude vegetable materials, n.e.s.	10	0.5%	-0.3%
	512	Alcohols, phenols, phenol-alcohols	0	0.0%	-1.1%	843	Outer garments, women's	9	4.9%	0.0%
PRC under Threat	081	Feed.stuff for animals	5	-0.5%	0.1%	846	Under garments, knitted or crocheted	254	-0.1%	3.0%
	074	Tea and mate	0	-7.7%	0.0%	681	Silver, platinum & oth. metals	34	-0.1%	0.6%
		(only two items)	0			687	Tin	3	-2.7%	40.2%
			0			112	Alcoholic beverages	1	0.0%	0.0%
			0			896	Works of art, collectors pieces	1	-1.1%	0.0%
Mutual Withdrawal	551	Essential oils, perfume and flavour	1	-0.2%	-0.1%	333	Petrol. oils, crude, & c.o. obtain.from	81	-1.0%	0.0%
	611	Leather	1	-0.2%	-0.6%	287	Ores and concentrates of base metal	21	-3.3%	-6.9%
	846	Under garments, knitted or crocheted	0	-0.1%	0.0%	036	Crustaceans and molluscs, fresh	15	-9.4%	-0.6%
	842	Outer garments, men's of textile fabrics	0	-0.1%	-0.1%	842	Outer garments, men's of textile fabrics	6	-0.1%	-0.2%
	652	Cotton fabrics, woven	0	-3.2%	0.0%	081	Feed.stuff for animals	5	-0.5%	-5.1%

(cont.)

	Uruguay					Venezuela				
	SITC	Name of Items	Export (\$mil)	GC	GL	SITC	Name of Items	Export (\$mil)	GC	GL
Partial Threat	663	Mineral manufactures, n.e.s	6	1.6%	0.1%	784	Parts & accessories of 722--,781--,	147	0.9%	0.2%
	821	Furniture and parts thereof	6	11.4%	0.0%	672	Ingots and other primary forms	83	3.9%	0.7%
	248	Wood, simply worked, and railway sleepers	4	0.2%	0.0%	522	Inorganic chemical elements, oxides	28	3.3%	0.4%
	585	Other artificial resins and plastic	3	1.4%	1.0%	793	Ships, boats and floating structures	20	1.2%	0.0%
	792	Aircraft & associated equipment	2	0.4%	0.0%	335	Residual petroleum products, nes	12	7.3%	1.6%
No Threat	024	Cheese and curd	8	0.0%	0.5%	334	Petroleum products, refined	275	0.3%	22.3%
	011	Meat, edible meat offals, fresh	0	0.0%	1.3%	671	Pig iron, spiegeleisen, sponge iron	178	1.6%	4.7%
	247	Other wood in the rough or roughly	0	0.0%	0.0%	516	Other organic chemicals	145	3.1%	5.7%
	411	Animal oils and fats	0	0.1%	0.2%	322	Coal, lignite and peat	112	0.1%	1.4%
						512	Alcohols, phenols, phenol-alcohols		0.0%	3.9%
Direct Threat	061	Sugar and honey	12	1.4%	-0.2%	684	Aluminium	305	0.2%	-3.2%
	034	Fish, fresh (live or dead), chilled	10	7.4%	-0.1%	674	Universals, plates and sheets of iron	41	1.6%	-0.3%
	014	Meat & edib. offals, prep./pres., fish	9	0.7%	-1.9%	778	Electrical machinery and apparatus	34	5.5%	0.0%
	845	Outer garments and other articles	5	4.8%	-0.2%	661	Lime, cement, and fabricated construct	30	6.0%	-1.0%
	848	Art. of apparel & clothing accessory	3	34.0%	-0.9%	673	Iron and steel bars, rods, angles	24	2.2%	-0.2%
PRC under Threat	611	Leather	48	-0.2%	2.8%	036	Crustaceans and molluscs, fresh	76	-9.4%	1.8%
	541	Medicinal and pharmaceutical product	1	-0.4%	0.0%	111	Non alcoholic beverages, n.e.s.	3	-0.4%	0.3%
	036	Crustaceans and molluscs, fresh	1	-9.4%	0.0%	287	Ores and concentrates of base metal	1	-3.3%	1.1%
	112	Alcoholic beverages	0	0.0%	0.0%	761	Television receivers	0	-1.5%	0.0%
	551	Essential oils, perfume and flavour	0	-0.2%	0.0%	022	Milk and cream	0	0.0%	0.1%
Mutual Withdrawal	842	Outer garments, men's, of textile fabric	2	-0.1%	-0.3%	333	Petrol. oils, crude, & c.o.	11,245	-1.0%	-2.0%
	656	Tulle, lace, embroidery, ribbons & others	0	-0.3%	0.0%	658	Made-up articles, wholly	1	-3.1%	-0.1%
	781	Passenger motor cars, for transport	0	0.0%	0.0%	781	Passenger motor cars, for transport	0	0.0%	0.0%
	658	Made-up articles, wholly/chiefly of	0	-3.1%	-0.2%	656	Tulle, lace, embroidery, ribbons	0	-0.3%	-0.1%
	211	Hides and skins (except furskins)	0	-0.3%	-0.1%	541	Medicinal and pharmaceutical products	0	-0.4%	-0.1%

Note: GC is growth of PRC exports; GL is growth of LAC country exports.

Appendix Table 8. Technology Structure of Bilateral Trade of LAC Big 3 with PRC (\$US thousand)

	Argentina				Brazil				Mexico			
	Export to PRC		Import from PRC		Export to PRC		Import from PRC		Export to PRC		Import from PRC	
	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002
Primary	134,427	543,663	859	4,985	23,033	939,851	118,743	153,680	1,055	2,907	2,126	157,436
RB	53,849	270,014	9,609	111,567	181,249	1,001,915	36,471	346,204	8,642	25,688	15,839	328,437
LT	16,021	198,258	11,983	62,718	66,126	195,639	13,068	286,187	5,101	16,878	82,510	1,376,338
MT	36,340	79,161	5,772	102,147	110,316	308,296	22,710	341,622	49,920	87,738	85,075	1,937,464
HT	299	1,258	3,363	47,711	1,080	74,071	12,093	568,920	693	322,510	32,579	2,359,191
Total	240,935	1,092,353	31,586	329,128	381,804	2,519,771	203,085	1,696,612	65,410	455,722	218,129	6,158,865
(% of total)												
	Argentina				Brazil				Mexico			
	Export to PRC		Import from PRC		Export to PRC		Import from PRC		Export to PRC		Import from PRC	
	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002	1990	2002
Primary	55.8%	49.8%	2.7%	1.5%	6.0%	37.3%	58.5%	9.1%	1.6%	0.6%	1.0%	2.6%
RB	22.3%	24.7%	30.4%	33.9%	47.5%	39.8%	18.0%	20.4%	13.2%	5.6%	7.3%	5.3%
LT	6.6%	18.1%	37.9%	19.1%	17.3%	7.8%	6.4%	16.9%	7.8%	3.7%	37.8%	22.3%
MT	15.1%	7.2%	18.3%	31.0%	28.9%	12.2%	11.2%	20.1%	76.3%	19.3%	39.0%	31.5%
HT	0.1%	0.1%	10.6%	14.5%	0.3%	2.9%	6.0%	33.5%	1.1%	70.8%	14.9%	38.3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%