

Chapter 6

NAFTA and the trade flows of nonmember countries

First version: November 22, 2002

This version: March 5, 2003

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6.1 Introduction

Has Mexico benefited from NAFTA at the expense of other countries? The potential welfare-reducing effect of NAFTA through trade diversion has long been a major concern for nonmember countries, and particularly for Central America and the Caribbean, whose geographical location and pattern of specialization are relatively similar to Mexico's. As a result, preventing the presumed damage from NAFTA has been a major driving force in the efforts of some neighboring countries to achieve "NAFTA parity".

Conceptually, in contrast with welfare-enhancing trade creation -- which reflects the removal of distortions in the relative price of goods between two members of a preferential trading arrangement -- trade diversion results from the introduction of distortions in the relative prices of goods between member and non-member countries.¹ Trade creation involves replacing high-cost suppliers in a member country with lower cost producers from another member country. Trade diversion instead replaces low-cost suppliers from nonmember countries with higher-cost producers from member countries.

Trade diversion can result from the formation of both customs unions and FTAs such as NAFTA. In the latter case, however, there is an additional reason why trade diversion is more likely to result from FTAs than customs unions.² Since external barriers generally differ among FTA members, rules of origin (ROOs) need to be imposed to prevent 'trade deflection' -- i.e., goods from nonmember countries being imported by the member with lowest external tariff for re-export to other members (see Chapter 3). In the case of NAFTA, ROOs provide incentives for producers in Mexico, say, to purchase higher-cost inputs from another partner country (e.g., the U.S.) despite the existence of lower-cost suppliers from nonmember countries, in order to satisfy ROO requirements allowing export of the final product to the U.S. free of duty. In this sense, ROOs export protection from one partner country to the rest, even if the external tariff structure of the FTA members remains unaltered. From a welfare perspective, the trade diversion induced by ROOs makes FTAs inferior to customs unions.

The purpose of this chapter is to assess if NAFTA has had significant trade-diverting effects on third countries, and especially the neighboring countries of Central America and the Caribbean.³ A number of recent studies have been similarly concerned with the trade creating and diverting effects of other FTAs. As preferential trading arrangements have proliferated across the world over the last decades, so have empirical analyses of their consequences. A considerable part of this literature has focused on the EEC / EU (see **Box 1**), but some studies have examined also the trade creation and diversion of various other PTAs, including EFTA, ASEAN, CUSFTA and Latin American PTAs other than NAFTA. Most studies find significant trade creation effects of these RIAs, although some also find trade diversion.⁴

¹ The concept of trade diversion dates back to Viner (1950).

² See Krueger (1995).

³ Concern with the potentially harmful effects of NAFTA on these countries has been expressed by a number of observers. See for example Jorge and Salazar-Carrillo (1997).

⁴ See for example Bayoumi and Eichengreen (1997), Frenkel (1997), Frenkel and Wei (1995) and Soloaga and Winters (2001).. The latter paper does find clear indication of trade diversion in EFTA and the EEC.

These studies have used various approaches to assessing trade diversion. The simplest one is based on the intuitive observation that if the FTA's trade flows with the rest of the world are no smaller than they were prior to FTA formation, then the rest of the world cannot have suffered a welfare loss, while FTA members must have experienced a gain.⁵ This condition may seem easy enough to check in a static world but, in a world of expanding trade, FTA imports and exports of most commodities will tend to rise along with overall trade, so that the condition will be automatically satisfied. Thus, it is common to restate the condition in terms of shares, and examine the extent to which increases in intra-FTA trade are achieved at the expense of the trade shares of nonmember countries.

However, there is no obvious reason to presume that in the absence of the FTA under consideration trade shares would have remained constant, and a more rigorous approach requires specifying carefully the counterfactual scenario to characterize what trade flows would have been had the FTA not been created. This amounts to identifying the determinants of members and nonmembers' trade flows, and then analyzing the extent to which flows were affected by the preferential trading arrangement, holding all other determinants constant. Such analysis typically looks for declines in member imports from nonmember countries – for given values of all non FTA-related trade determinants - - as evidence of trade diversion.⁶

Departing somewhat from this conventional emphasis on FTA imports, in the analysis below we examine the changes in trade between NAFTA members and nonmembers in both directions. The reason is that, in spite of its popularity, the focus on nonmembers' exports to FTA member countries may be misleading. Conceptually, the link between exports and welfare of nonmember countries is tenuous. Instead, under certain conditions it can be shown that the latter's welfare is more closely related to their *imports* from member countries. The intuitive reason is that welfare should be more tightly linked to what the country in question purchases, and consumes – provided it does so within its intertemporal budget constraint -- than to what it sells in the post-FTA environment.⁷

Some earlier assessments of the impact of NAFTA on third countries have identified in particular the textile and apparel sector as prime suspect for trade diversion.

⁵ This is the so-called Kemp -Wan theorem (Kemp and Wan 1976). In the context of a customs union, the underlying notion is that there exists an ideal 'compensating common tariff' that leaves nonmembers' trade with members exactly at the pre-union levels, thus offsetting the trade diversion loss and leaving union members with the trade creation gain.

⁶ Empirical implementations of this approach have been most commonly, although not exclusively, based on the econometric estimation of gravity models of international trade. However, computable general equilibrium models have also been popular for this kind of exercise. See Baldwin and Venables (1996) for some examples.

⁷ See Winters (1997) for the detailed argument. Another problematic issue concerns the price effects derived from the formation or expansion of an FTA. Under plausible conditions, if the FTA is not 'small' vis -à-vis nonmember countries, these are likely to suffer a terms -of-trade loss in addition to the possible loss of export markets, which would necessarily have adverse effects on their welfare. However, proper analysis of price effects requires disaggregated price data that are seldom available, and for this reason the issue is almost invariably ignored in studies of the effects of FTAs. A recent exception is Winters and Chang (2002). They find large terms of trade losses for third countries in the case of MERCOSUR.

Because industry-specific effects may be masked in the aggregate analysis, and such sector is particularly important for several Central American and Caribbean countries as a source of exports, we examine it in some detail to complement the aggregate analysis.

Trade diversion is not the only channel through which preferential trading arrangements may harm excluded countries. Trade preferences can distort also the international allocation of investment in favor of member countries, especially when the preferences are accompanied by ROOs. They encourage suppliers located outside the FTA to relocate to a member country in order to benefit from the preference and meet ROO requirements. These potential FDI diversion effects of NAFTA will be explored in the next chapter.

6.2 Trends in trade flows before and after NAFTA⁸

Assessing the trade effects of NAFTA is no easy matter because many other factors relevant for the trade flows of member and nonmember countries were also changing around the time of NAFTA's inception. First, total world trade grew considerably over the 1980s and 1990s. Second, many countries undertook significant trade liberalization measures, including Mexico in the late 1980s, so that trade flows in the 1990s partly reflected the continuing effects of those reforms. Likewise, the phasing out of tariffs under NAFTA extends over a 15 year period initiated in 1994, so its effects on trade flows should appear gradually rather than abruptly. Finally, Mexico's real exchange rate experienced a large appreciation over 1987-94, followed by a big depreciation at the end of 1994.

In this section we review the main trends in trade flows between 1980 and 2000. To place NAFTA in a broader perspective, the analysis includes also eight other RIAs – the Andean Group, the Central American Common Market (CACM), CARICOM, MERCOSUR (all in LAC); EFTA, EU, ASEAN and the Gulf Cooperation Council (GCC). Table A1 in the Appendix provides summary information on the origins and membership of each of these blocs.

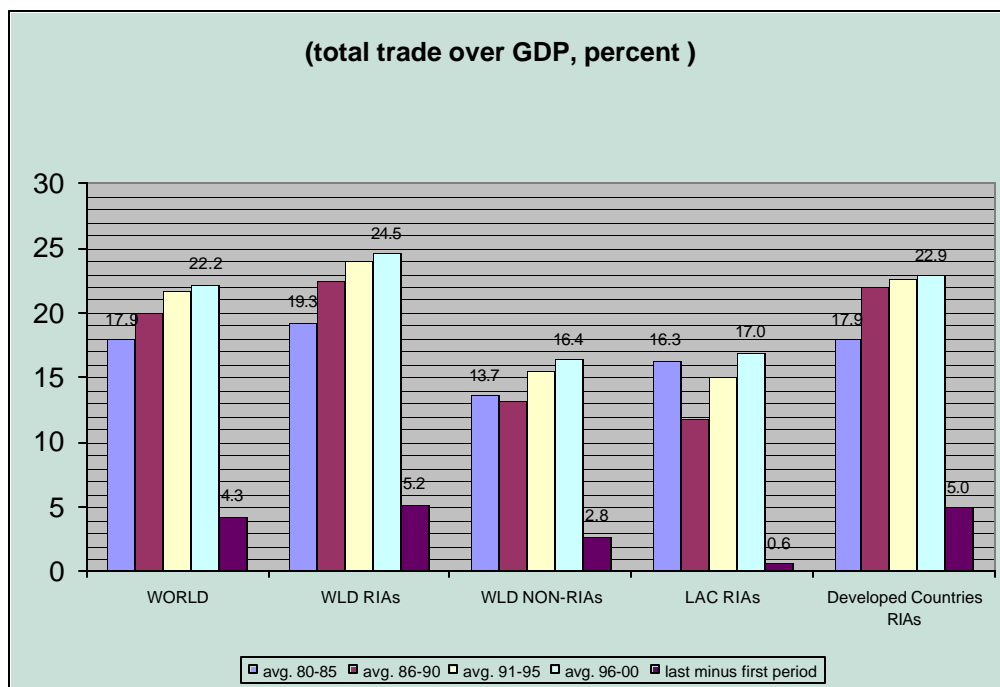
Figure 1 documents the upward trend in world openness to trade (measured by non-fuel exports plus imports divided by GDP). It also shows the comparative trends in total trade for countries that belong to a RIA and those that do not, and for LAC countries belonging to RIAs (Andean Group, CACM, CARICOM, and MERCOSUR) as well as RIAs integrated only by industrial countries. It is apparent from the figure that total world non-fuel trade has grown faster than world GDP: after rising steadily over the last two decades, world openness was 4.3 percentage points higher in 1996-2000 than in 1980-85.⁹ For countries included in the nine RIAs considered, openness also increased since the late eighties, by 5.2 percentage points of GDP by the end of the sample period. In turn, countries not included in these nine RIAs also increased their openness over the same time period, but to a lesser extent (2.8 percentage points). Looking separately at RIA countries in LAC and the industrial world, it can be seen that the latter increased their openness considerably more than the former (5 percent vs. 0.6 percent) between the

⁸ This section and the next summarize results in the background paper by Montenegro and Soloaga (2002).

⁹ Comparing the first and last periods in the figure, total trade grew by 108% in real terms, while total GDP grew by 68%.

early 1980s and the late 1990s.

Figure 1 Openness in RIA and non-RIA countries



Over the same period, and particularly since the late 1980s, trade barriers declined in most developing countries. For a sample of 129 developing countries, the mean unweighted tariff declined from an average of 27.2 percent in 1985 to 11.3 percent in 1999. For Mexico, the decline was very similar: the mean tariff fell from 25.2 percent to 10.1 percent over the same period.¹⁰ In addition, non-tariff barriers were also lowered in most countries, although the extent of their decline is difficult to quantify.

Against this background of trade expansion and liberalization, Figure 2 shows the trends in NAFTA members' imports (measured in 1995 US dollars) over the last two decades. Total bloc imports from all sources more than doubled, while intra-bloc imports were 2.5 times higher in 1996-2000 than in 1981-85. In contrast, NAFTA imports from LAC RIAs increased only 1.4 times, while imports from the rest of the world (i.e., excluding LAC RIA countries) doubled over the same period. As a result of these trends, in 1996-2000, the share of intra-bloc imports in NAFTA members' total imports had risen to 40%, over 5 percentage points above the level at the beginning of the 1980s. In contrast, the share of LAC RIAs in NAFTA markets declined to 4.6% --from 7.1% in the early 1980s-- while the share of other countries decreased by almost 4 percentage points (from 58.8 to 54.8). Thus, over the period there was a substantial intensification in intra-bloc trade within NAFTA, and a loss of market share by nonmember countries.

¹⁰ See Appendix Table A2 for detailed data on average tariff levels across countries over the last two decades.

Figure 2 NAFTA: Total Imports by Source

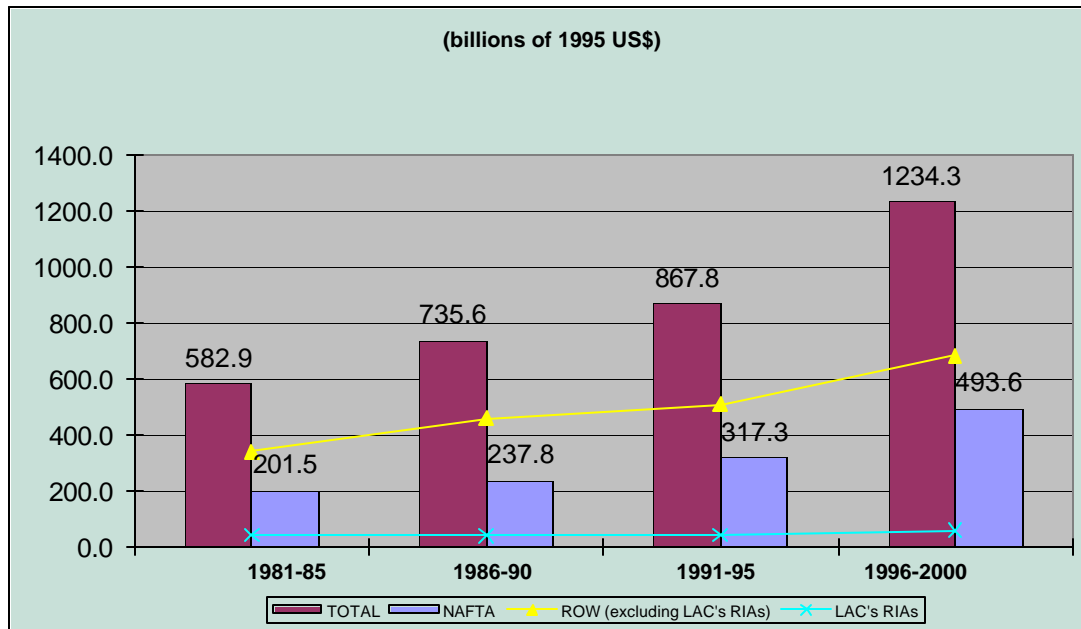


Figure 3 Total Trade in LAC RIAs

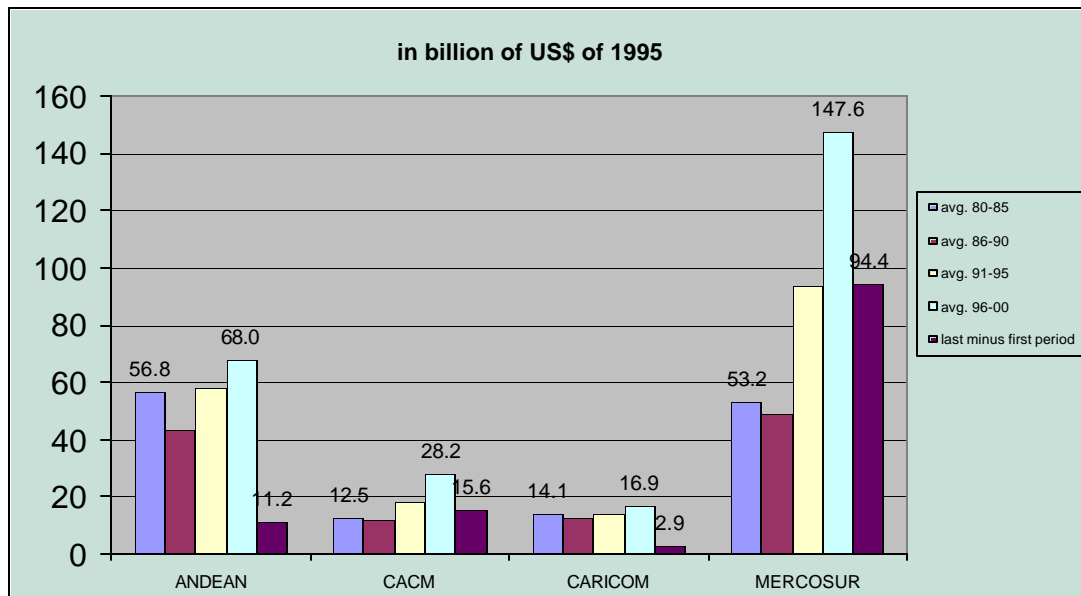


Figure 3 shows the evolution of total trade (imports + exports) in real terms for countries belonging to LAC RIAs. Aggregate trade rose in all cases over the period of analysis, but to very different degrees. MERCOSUR countries increased their total trade by 177% between the first and last five-year period of our sample, while CACM countries' total trade increased by 125%. Countries belonging to CARICOM and the

Andean group showed considerably less dynamism. Their overall non-fuel trade rose by only 20% over the same period.¹¹

Table 1 offers a comparative perspective on intra-bloc trade across LAC RIAs since the early 1980s. Two main facts emerge. First, intra-bloc trade is particularly significant for NAFTA countries – it accounts for a higher fraction of total bloc trade than in any of the other blocs shown. Second, all RIAs in LAC have exhibited an upward trend in the share of intra-bloc imports, although to varying degrees. The increase was most pronounced in MERCOSUR, and least for CACM and CARICOM countries.

Table 1 Intra bloc imports (as % of total imports)

Period	Andean Group	CACM	CARICOM	MERCOSUR	NAFTA
1981	5.8	16.5	8.4	7.0	34.2
1982-83	5.5	17.3	8.2	7.7	34.7
1984-85	5.8	5.9	7.9	11.1	34.0
1986-87	4.4	11.7	7.7	12.2	31.4
1988-89	5.1	10.8	6.9	15.3	33.2
1990-91	7.9	11.0	8.3	16.0	34.4
1992-93	9.4	12.2	8.8	20.2	37.1
1994-95	13.0	13.5	10.4	19.6	38.1
1996-97	14.4	13.7	9.9	20.9	40.2
1998-2000	13.1	14.3	11.1	20.7	40.7
Averages					
1981-89 (a)	5.3	12.4	7.8	10.7	33.5
1990-95 (b)	10.1	12.2	9.2	18.6	36.5
1996-2000 (c)	13.7	14.0	10.5	20.8	40.5

Table 2 shows that the increasing trend in the share of intra-bloc imports in total NAFTA imports affected almost all industries at the 1-digit SITC level. When comparing the average shares of 1996-2000 with those of 1981-1985 (column "e" in the table), the share of intra-bloc imports shows a decrease only in two sectors (Chemicals--SITC 6, and Paper-- SITC 64). For all the other aggregates the shares have gone up, and in some cases by a substantial amount: over 10 percentage points in Food (SITC 1), Animal Fats (SITC 5), and in most of the Manufactured Goods subsectors (SITC 6 components). The last columns of the table show that most of the gains in the share of intra-bloc trade happened in the late eighties and early nineties, prior to the passage of NAFTA. Share increases over the late 1990s were in general more modest (even negative in some cases), although still significant for sectors such as Leather and Textiles.

In contrast with the increasing share of intra-bloc imports in NAFTA trade, the shares of other LAC RIAs in total NAFTA imports experienced a decline. The only

¹¹ Of course, the figures are considerably bigger if we instead compare average levels for 1996-2000 with those for 1986-90. The resulting change was 203% for MERCOSUR, 137% for CACM, 57% for the Andean group and 33% for CARICOM countries.

exception was CACM, whose share rose from 0.4 percent in the 1980s to 0.7 percent in the late 1990s. In turn, the biggest loss in market share was that of MERCOSUR, whose share of NAFTA imports fell from 2.3 percent in the 1980s to 1.4 percent in the late 1990s. CARICOM and Andean Group countries also lost market share, but to a lesser extent than CACM countries (Table 3). It is also important to note that Mexico's market share started rising in the late 1980s, around the time of its unilateral trade liberalization.

Table 2 NAFTA: Changes in import shares

Product group	Share of product group in total NAFTA imports from all sources, 1995-2000	Imports from NAFTA Members as % of total NAFTA imports						
		1981-1985 (a)	1986-1990 (b)	1991-1995 (c)	1996-2000 (d)	(e)=(d)-(a)	(f)=(d)-(b)	(g)=(d)-(c)
Food	0.040	30.90	34.67	42.90	45.35	14.45	10.68	2.45
Beb.& Tobacco	0.008	16.20	17.87	22.85	22.70	6.50	4.83	-0.15
Crude Materials	0.027	58.23	61.27	62.85	61.70	3.47	0.43	-1.15
Fuels	0.079	26.17	25.70	30.95	33.20	7.03	7.50	2.25
Anim.& Veg. Fats	0.002	19.03	27.07	37.40	40.40	21.37	13.33	3.00
Chemicals	0.067	43.00	37.03	39.35	37.85	-5.15	0.82	-1.50
Manufactures	0.130	32.33	35.53	42.40	45.10	12.77	9.57	2.70
--Leather	0.002	16.70	14.30	23.20	32.80	16.10	18.50	9.60
--Rubber	0.009	34.30	35.23	44.95	51.65	17.35	16.42	6.70
--Cork	0.005	39.10	40.57	49.30	57.20	18.10	16.63	7.90
--Paper	0.016	82.30	74.73	76.80	75.95	-6.35	1.22	-0.85
--Textiles	0.017	20.93	20.33	31.65	39.90	18.97	19.57	8.25
--Non-Metalic	0.020	16.93	18.60	21.85	22.55	5.62	3.95	0.70
--Iron & Steel	0.021	18.10	24.77	32.75	33.50	15.40	8.73	0.75
--Non-Ferrous	0.017	39.57	48.97	53.35	50.05	10.48	1.08	-3.30
--Other Metals	0.025	33.67	32.90	42.85	49.25	15.58	16.35	6.40
Mach&Transport	0.484	42.23	35.80	39.15	42.75	0.52	6.95	3.60
Misc.Manufactures	0.164	17.83	14.67	20.75	26.10	8.27	11.43	5.35

Source: Author's calculations with data from WITS

Table 3 NAFTA: sources of imports

(as % of total NAFTA imports)								
Period	From ANDEAN	From CACM	From CARICOM	From MERCOSUR	From NAFTA			From ROW
					TOTAL	From Mexico	From USA	
1981	2.98	0.48	1.46	2.02	34.23	3.75	16.94	58.83
1982-83	2.83	0.51	1.33	2.22	34.68	4.84	14.39	58.43
1984-85	2.69	0.43	1.00	2.56	33.96	4.26	13.80	59.35
1986-87	2.07	0.43	0.70	2.19	31.35	3.83	12.92	63.27
1988-89	1.89	0.39	0.68	2.31	33.18	4.28	14.11	61.56
1990-91	2.31	0.47	0.71	1.85	34.35	4.79	14.77	60.32
1992-93	1.90	0.56	0.69	1.64	37.08	5.08	17.39	58.14
1994-95	1.81	0.58	0.64	1.58	38.09	5.98	16.85	57.29
1996-97	2.05	0.68	0.62	1.42	40.20	7.17	17.85	55.02
1998-2000	1.76	0.74	0.55	1.37	40.74	7.94	18.21	54.84
Averages								
1981-89 (a)	2.5	0.4	1.0	2.3	33.5	4.2	14.4	60.3
1990-95 (b)	2.0	0.5	0.7	1.7	36.5	5.3	16.3	58.6
1996-2000 (c)	1.9	0.7	0.6	1.4	40.5	7.6	18.0	54.9

Source: Author's calculations with data from WITS

Figure 4 Share of Mexico's non-fuel exports in NAFTA and non-NAFTA markets (percent)

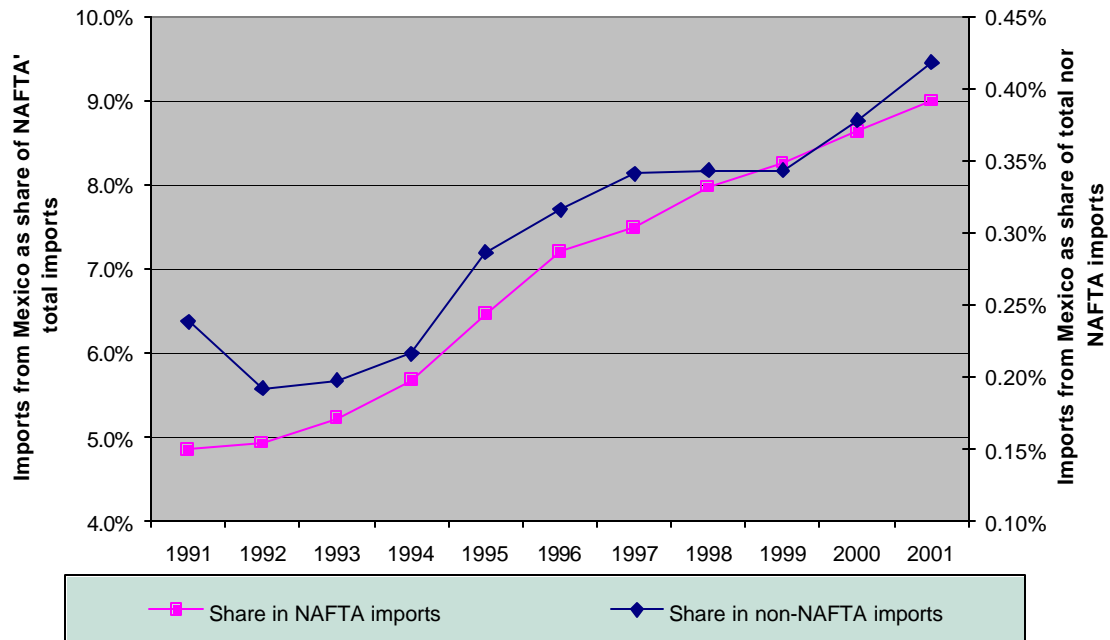
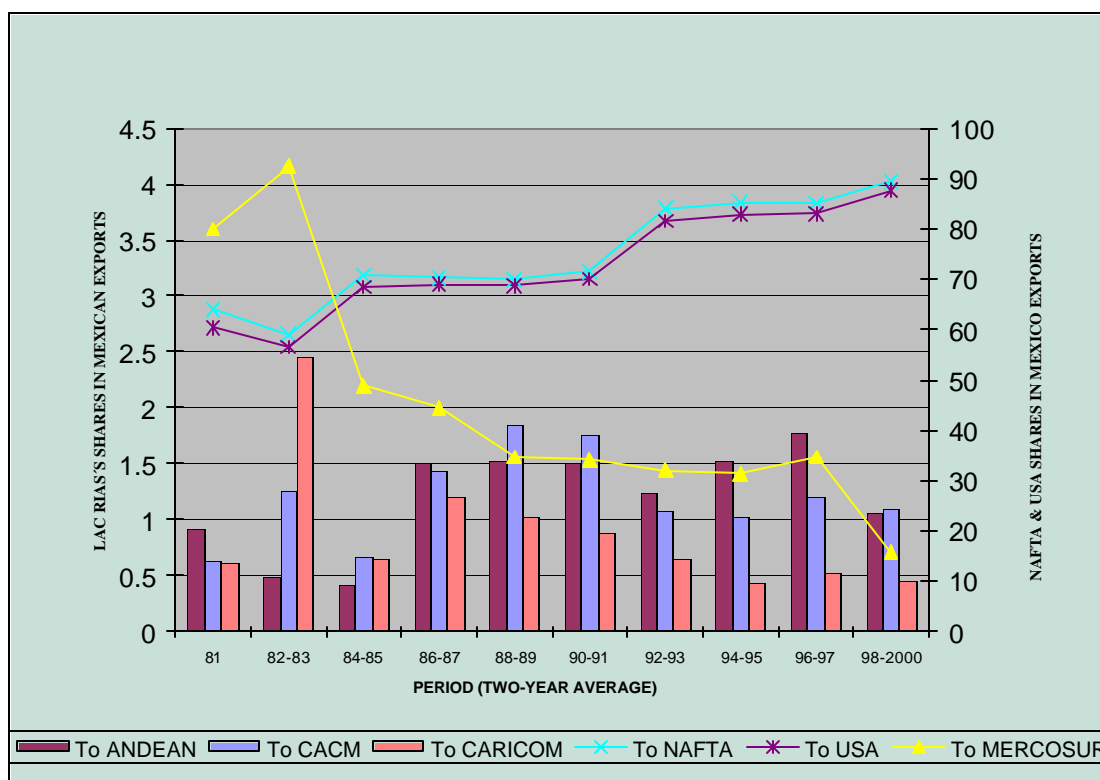


Figure 5 Destination of Mexico's exports

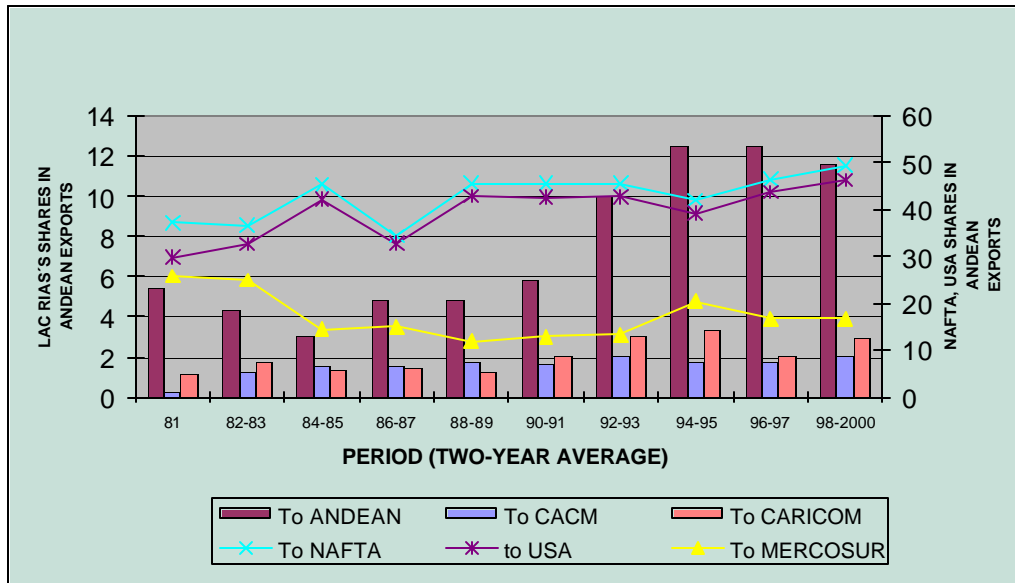


Figures 4 and 5 depict the main trends in Mexico’s exports. Figure 4 tracks Mexico’s market share of overall NAFTA and non-NAFTA non-oil imports. The sharp increase in Mexico’s presence in NAFTA markets is apparent from the figure. However, Mexico has also gained share in non-NAFTA markets, where it enjoys no preferential treatment. Its share of world imports (excluding NAFTA countries) more than doubled in the post-NAFTA years, rising from 0.20 percent in 1993-94 to 0.40 percent in 2000-01.

In turn, Figure 5 clearly shows that NAFTA, and the U.S. in particular, have become increasingly important for Mexico’s exports since the early 1990s. By the end of the decade, close to 90% of Mexico’s exports were directed to the U.S.. In contrast, none of the other LAC RIAs considered accounted for much more than 1% of Mexico’s total exports.

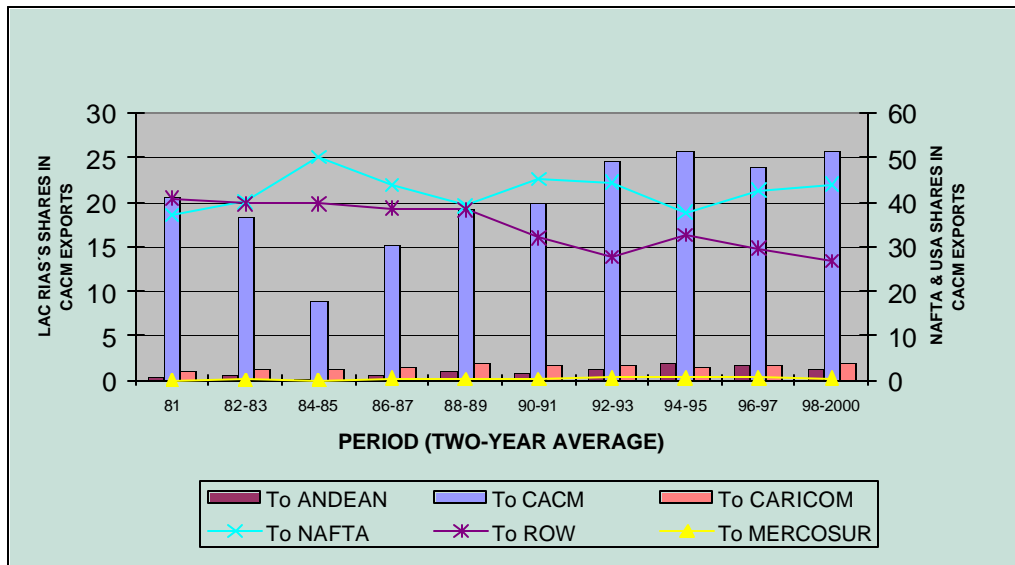
What happened to exports from other LAC RIAs? Figures 6 to 9 highlight their destination. Figure 6 shows that NAFTA is the main destination of Andean Group exports, and increasingly so since the mid 1990s. The figure also shows that the increasing intra-bloc trade within the Andean Group in the 1990 came along with a modest increase in exports to other LAC RIAs and a decline in the share of exports to the rest of the world (defined here as those countries not included in NAFTA or the other LAC RIAs under analysis).

Figure 6 Destination of ANDEAN exports



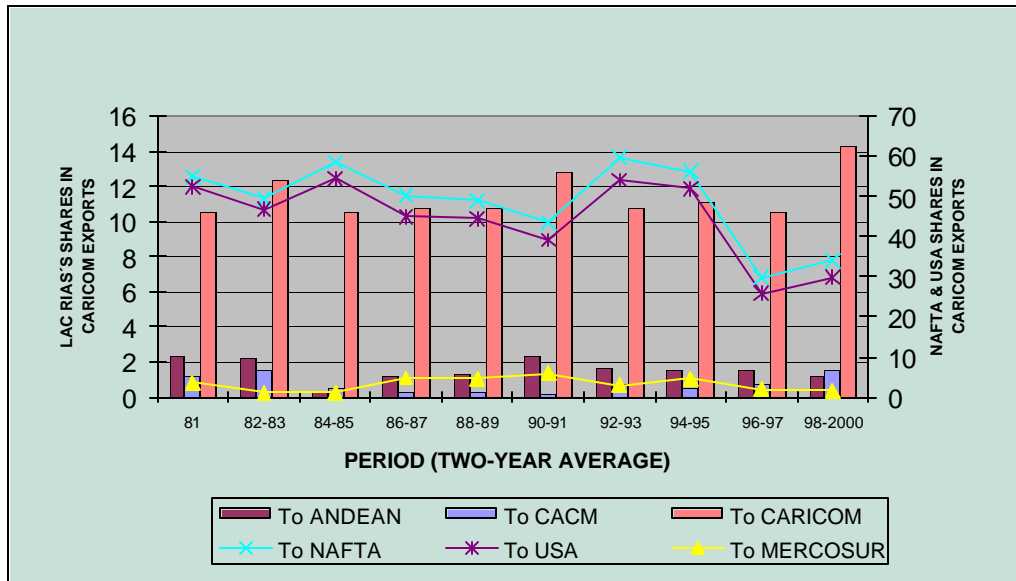
Likewise, Figure 7 shows that for CACM countries NAFTA is also the main export destination, accounting for over 40% of total bloc exports. In this case, however, the share of NAFTA does not show any clear trend in recent years. Trade among bloc members has been on the rise, to account for about a quarter of total bloc exports by the end of the nineties.

Figure 7 Destination of CACM exports



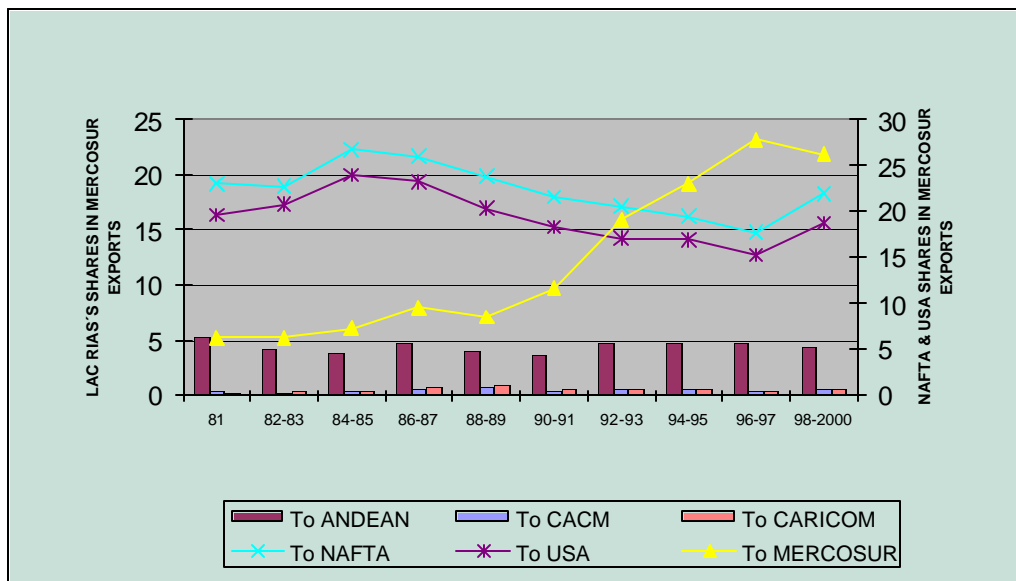
In the case of CARICOM countries (Figure 8), the pattern is rather different. The share of NAFTA in total bloc exports decreased sharply in the late nineties, from over 50% in the 1980s and mid 1990s to around 30% in 1998-2000. In addition, the intra-bloc trade share does not display any clear trend. As already noted, total exports of these countries did not expand at the same pace as those of the rest of the blocs analyzed here.

Figure 8 Destination of CARICOM Exports



Finally, Figure 9 shows the sharp increase in MERCOSUR intra-bloc trade since the mid 1980s, along with a slight decrease in the share of NAFTA countries in the bloc's exports. By 1999-2000, MERCOSUR's trade with non-NAFTA, non-LAC RIA countries represented about 50% of its total trade, a drop of 14 percentage points from the 64% average share in 1981-90.

Figure 9 Destination of MERCOSUR Exports



In summary, the share of intra-bloc trade has been on the rise in all LAC RIAs, perhaps with the exception of CARICOM countries. Furthermore, NAFTA has become a more important export destination for most of the other RIAs, again with CARICOM – and, to a lesser extent, MERCOSUR -- as the main exception.

Table 4 U.S. imports: shares by country, and ranking by shares

RIA & Country	Average 1981- 1985	Average 1986- 1990	Average 1991- 1995	Average 1996- 1998	Average 1999- 2000	99-2000 minus 81-85	99-2000 minus 86-90	99-2000 minus 91-95	99-2000 minus 96-98	Ran- king follo- wing	Ran- king follo- wing	Ran- king follo- wing
	(a)	(b)	(c)	(d)	(e)	(f)=(e)-(a)	(g)=(e)-(b)	(h)=(e)-(c)	(l)=(e)-(d)	col. (f)	col. (g)	col. (h)
ROW	67.06	70.44	68.08	65.21	64.69	-2.37	-5.75	-3.39	-0.51	1	1	1
CHILE	0.278	0.281	0.292	0.302	0.300	0.022	0.020	0.009	-0.001	25	23	23
PANAMA	0.122	0.074	0.050	0.042	0.031	-0.090	-0.043	-0.019	-0.011	10	8	8
MERCOSUR	2.59	2.29	1.65	1.44	1.43	-1.16	-0.85	-0.21	0.00	2	2	2
ARGENTINA	0.375	0.300	0.249	0.274	0.264	-0.112	-0.037	0.015	-0.010	7	9	24
BRAZIL	2.072	1.906	1.351	1.131	1.144	-0.929	-0.762	-0.207	0.012	1	1	1
PARAGUAY	0.013	0.009	0.009	0.005	0.004	-0.009	-0.005	-0.005	-0.001	17	13	11
URUGUAY	0.129	0.072	0.037	0.027	0.023	-0.106	-0.049	-0.014	-0.004	8	6	10
CARICOM	1.63	0.87	0.86	0.79	0.70	-0.92	-0.17	-0.16	-0.09	4	4	3
ANTIGUA	0.000	0.001	0.001	0.001	0.000	0.000	-0.001	-0.001	0.000	19	18	16
BAHAMAS	0.406	0.103	0.060	0.019	0.021	-0.385	-0.082	-0.039	0.002	3	4	7
BELIZE	0.014	0.011	0.009	0.008	0.008	-0.006	-0.003	-0.001	-0.001	18	14	15
BARBADOS	0.056	0.014	0.006	0.005	0.004	-0.052	-0.009	-0.001	0.000	12	12	14
DOMINICA	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	21	21	18
DOMINICAN R.	0.307	0.322	0.447	0.476	0.383	0.076	0.061	-0.064	-0.093	27	26	5
GRENADA	0.000	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	22	22	19
GUYANA	0.028	0.014	0.019	0.016	0.014	-0.015	-0.001	-0.005	-0.002	16	20	12
HAITI	0.118	0.086	0.025	0.024	0.027	-0.091	-0.059	0.002	0.003	9	5	21
JAMAICA	0.117	0.104	0.119	0.093	0.061	-0.056	-0.044	-0.058	-0.032	11	7	6
ST.LUCIA	0.000	0.003	0.005	0.003	0.002	0.002	-0.001	-0.003	-0.001	23	17	13
SURINAM	0.035	0.014	0.010	0.012	0.012	-0.023	-0.002	0.002	0.000	15	15	20
TRINIDAD TOBAGO	0.544	0.192	0.160	0.128	0.165	-0.379	-0.027	0.005	0.037	4	10	22
ST. VINCENT	0.000	0.002	0.001	0.001	0.001	0.001	-0.001	0.000	0.000	20	19	17
ANDEAN	3.31	2.59	2.45	2.45	2.35	-0.96	-0.24	-0.10	-0.10	3	3	4
BOLIVIA	0.049	0.030	0.036	0.028	0.018	-0.031	-0.012	-0.017	-0.010	14	11	9
COLOMBIA	0.368	0.566	0.535	0.545	0.603	0.235	0.037	0.067	0.058	31	24	28
ECUADOR	0.506	0.333	0.277	0.241	0.195	-0.311	-0.138	-0.083	-0.046	5	2	3
PERU	0.415	0.181	0.141	0.197	0.179	-0.236	-0.002	0.038	-0.019	6	16	27
VENEZUELA	1.975	1.480	1.461	1.439	1.358	-0.617	-0.122	-0.103	-0.081	2	3	2
CACM	0.60	0.52	0.74	0.97	1.03	0.43	0.51	0.29	0.06	5	5	5
COSTA RICA	0.161	0.196	0.264	0.283	0.343	0.182	0.147	0.079	0.060	30	30	30
GUATEMALA	0.139	0.140	0.207	0.229	0.223	0.084	0.083	0.016	-0.006	28	27	25
HONDURAS	0.150	0.117	0.164	0.263	0.259	0.109	0.142	0.095	-0.003	29	29	31
NICARAGUA	0.033	0.001	0.022	0.049	0.048	0.016	0.048	0.026	0.000	24	25	26
EL SALVADOR	0.119	0.067	0.086	0.149	0.157	0.038	0.090	0.070	0.008	26	28	29
NAFTA	24.41	22.94	25.88	28.80	29.46	5.05	6.52	3.58	0.66	6	6	6
CANADA	18.779	17.718	18.818	19.137	18.738	-0.041	1.020	-0.081	-0.400	13	31	4
MEXICO	5.628	5.224	7.059	9.666	10.721	5.093	5.496	3.662	1.055	32	32	32
Memo: Total US Imports (in 1995 U.S. dollars)	457160	581836	657202	843224	1041176	584015	459339	383973	197952			

Which Latin American and Caribbean countries have been the winners and losers in U.S. markets ? Table 4 shows the evolution of the shares in U.S. imports of most countries in the region. The last four columns rank them in terms of the share loss over

different periods (i.e., a “1” denotes the country or RIA with the biggest loss in US import market, “2” for the second biggest loss, and so on). Columns (g) and (h) would most closely identify the post-NAFTA changes in market shares.

Mexico emerges as the clear winner. However, Colombia, Chile and Central American countries (excluding Panama) also fared well. At the other end, Brazil appears as the biggest loser among LAC countries, along with Ecuador and Venezuela. In terms of LAC blocs, MERCOSUR and CARICOM were the biggest losers. In both cases, however, the erosion in market share began well ahead of the creation of NAFTA. For MERCOSUR, the decline is mainly due to Brazil. For CARICOM, the losses are concentrated in Bahamas and Trinidad and Tobago. Table A3 in the Appendix shows that CARICOM’s declining share in NAFTA’s import markets extends to a variety of export sectors, and not just to one or two export industries.

To summarize this section, the information reviewed so far does not point to any definite conclusions regarding the effects of NAFTA on trade with non-member LAC countries. CARICOM countries perhaps provide the exception, although in this case their declining participation in NAFTA imports is associated with an overall underperformance in export growth relative to other countries. But on the whole we do not observe any obvious turning points in trade trends around the time NAFTA was signed.

From the demand side (i.e., NAFTA imports), it is clear that total imports from bloc members increased more than imports from non-member LAC countries. However, imports from the latter rose as well. Furthermore, Table 4 above shows that CACM countries--clear candidates for trade diversion--either maintained or increased market shares in NAFTA’s import markets. From the supply side (i.e., LAC RIA exports), intra-bloc trade increased markedly, and the share of total RIA exports to NAFTA countries behaved differently for the various LAC RIAs: it increased for CACM and Andean Group countries, and decreased for MERCOSUR and CARICOM.

6.3 Assessing the impact of NAFTA on aggregate trade flows

In a world of increasing global trade and with trade reforms taking place simultaneously in a number of countries and regional blocs, it is not obvious how, if at all, the trends just reviewed relate to NAFTA. Analyzing such link is the objective of this section.

6.3.1 Background

The trade effects of NAFTA have been analyzed by a number of recent empirical studies. The majority of them have focused on aggregate imports and exports of member and nonmember countries, but there are also some studies focusing on disaggregated trade data. A comparative summary is given in Table 5.

Table 5 Some econometric studies of trade diversion under NAFTA

Study	Trade disaggregation	Framework	Evidence of diversion
Gould (1998)	Aggregate	Gravity model	No
Krueger (1999, 2000)	Aggregate	Gravity model	No
Soloaga and Winters (2001)	Aggregate	Gravity model	No
Garcés-Díaz (2002)	Aggregate	Export equations	No
USITC (1997)	68 sectors	Import and export equations	In textiles and apparel
Romalis (2001)	5,000 commodities	Commodity demand equations	Yes
Fukao, Okubo and Stern (2002)	2-digit level manufacturing	Share (in U.S. market) equations	In textiles and apparel

Studies focusing on aggregate trade flows most often adopt a gravity approach. Among them, Krueger (1999, 2000), which uses data up to 1997, finds that events other than NAFTA, such as Mexico's real exchange rate and its trade liberalization process, appear to have dominated whatever effects NAFTA may have had on trade patterns. According to this analysis, Mexico's unilateral trade liberalization since the late 1980s was the main factor behind the observed increase in its trade/GDP ratio. In this context, the increase in Mexico's trade with the U.S. is unsurprising given that prior to liberalization the U.S. already accounted for two-thirds of Mexican trade.

Gould (1998) also adopts the gravity framework to analyze the impact of NAFTA on North American trade. Using aggregate quarterly data, he concludes that NAFTA may have stimulated U.S. exports to, but not imports from, Mexico. He finds no evidence of trade diversion. In another gravity-based study using a multi-RIA perspective, Soloaga and Winters (2001) find no discernible impact of NAFTA on the intra or extra-bloc trade of NAFTA members.

The study of Mexican exports by Garcés-Díaz (2002) underscores income effects. His time-series estimates of export supply equations show that the U.S. economic expansion is the main reason for the outstanding performance of Mexican exports in the 1990s. Income effects, rather than NAFTA, account for 96% of the expansion in Mexican exports since 1994. These results, which agree with those reported by Gould, hold at both aggregate and disaggregated levels.

Gravity models typically focus on aggregate trade flows, and therefore their findings regarding the effects of NAFTA on third countries apply to total trade. However, it is conceivable that NAFTA (or any similar RIA) could cause sharp variations in patterns of trade *at the commodity level*. Gravity models cannot capture these effects if the share in total exports of those sectors adversely affected is small, or, even if it is large,

if changes in those sectors are compensated by changes of opposite sign in exports of other commodities.

Disaggregated analyses attempt to capture these composition effects. Among such studies, the sector-by-sector study of NAFTA developed by USITC (1997) found evidence of trade diversion in one sector (apparel products) out of 68 sectors analyzed. In apparel, the study finds that US imports from NAFTA partners rose at the expense of Asian and Caribbean Basin countries.¹²

Using a highly disaggregated approach based on the estimation of import share equations, Romalis (2002) finds that NAFTA and CUSFTA had a substantial impact on North American trade. His study identifies the impact of NAFTA by exploiting the variation across commodities and time in the U.S. tariff preference given to goods produced in Canada and Mexico. The paper finds that the recent rapid growth in Mexico's share of US trade would have been much slower without NAFTA: about 25 to 50% of the rise in Mexican exports to US since 1993 is due to Mexico's preferential treatment, implying substantial trade diversion.¹³ However, rather than (or in addition to) effects from NAFTA, these findings could partly reflect different (higher) income elasticities for some of the commodities with larger increases in tariff preferences.

Finally, Fukao, Okubo and Stern (2002) examine the behavior of Mexico's share in the U.S. import market by estimating import share equations at the 2-digit level. Out of the 60 sectors examined, they find evidence of trade diversion in the textile and apparel sector, where Mexican exports would have replaced lower-cost Asian exports. This is in agreement with the results of the USITC study mentioned earlier.

On the whole, therefore, existing studies find no evidence of trade diversion from NAFTA at the aggregate level. However, there are indications that trade diversion may have occurred in the textile and apparel sectors. We next examine both issues in more detail, exploring in particular the possible impact on neighboring countries in Central America and the Caribbean.

6.3.2 Methodological approach

To examine the effects of NAFTA on aggregate trade flows, we adopt a gravity approach. The empirical robustness of the gravity model has made it the workhorse for

¹² The study also finds that in 59 out of the 68 sectors NAFTA had a negligible effect on US trade, due in part to the low level of pre-NAFTA trade-weighted duties. Imports from Mexico already received preferences under the GSP (also available for other countries) and from duty-free treatment for U.S. inputs; those from Canada were substantially liberalized by the previously agreed (1988) USA-Canada FTA. The remaining 8 sectors experienced a "significant" effect from NAFTA, but no trade diversion (USITC, 1997, p 5-12).

¹³ Romalis finds that Mexico's share of US imports has increased most rapidly in commodities for which NAFTA gave the greatest increase in tariff preferences. For those commodities with at least a 10 percentage point increase in tariff preference for Mexican goods, the simple average of Mexico's share in US imports has risen by 224% since 1993. This is an order of magnitude higher than the more modest 23% rise in the rest of the goods (i.e., those without increase in tariff preferences for Mexican goods).

investigations of the geographical patterns of trade.¹⁴ In this framework, trade between two countries depends on their economic and physical size (GDP, population, land area) and on transaction costs (distance, adjacency, cultural similarities). To these standard determinants, the empirical model used here allows countries' membership in RIAs to affect their trade flows. The approach used previous analyses by allowing RIAs to affect both members' imports from, and exports to, nonmember countries. Furthermore, we allow for both 'anticipation effects' (e.g., the level of trade between RIA members rising above 'normal' levels *before* the RIA is formally commenced¹⁵) and for the effects of non-RIA relationships on trade flows between RIA members, reflecting the fact that RIAs are not usually formed between randomly selected countries but between countries with long-standing economic ties.

To characterize country i 's imports from country j , we use the following specification:

$$\begin{aligned} \ln X_{ij} = & \mathbf{a} + \mathbf{b1} \ln Y_i + \mathbf{b2} \ln N_i + \mathbf{b3} \ln Y_j + \mathbf{b4} \ln N_j + \mathbf{b5} \ln \bar{D}_i + \mathbf{b6} \ln D_{ij} \\ & + \mathbf{b7} \ln T_i + \mathbf{b8} \ln T_j + \mathbf{b9} C_{ij} + \mathbf{b10} I_i + \mathbf{b11} I_j + \mathbf{b12} L_{ij} \\ & + \sum_k b_k P_{ki} P_{kj} + \sum_k m_k P_{ki} + \sum_k n_k P_{kj} + e_{ij} \end{aligned} \quad (1)$$

where:

X_{ij} is the value of imports of country i from country j (i.e. exports from j to i),

Y_i, Y_j is the Gross Domestic Product of country i (or j),

N_i, N_j is the population of country i (or j),

\bar{D}_i is the average distance of country i to exporter partners, weighted by exporters' GDP share in world GDP ("remoteness" of country i),

D_{ij} is the distance between the economic center of gravity of the respective countries,

T_i, T_j , is the land area of country i (or j),

C_{ij} is a dummy that takes value 1 if countries i and j share a land border and 0 otherwise,

I_i, I_j is a dummy that takes value 1 when country i (or j) is an island, and 0 otherwise,

L_{ij} is a dummy for cultural affinities, proxied by the use of the same language in countries i and j ,

P_{km} is a dummy taking value 1 if m is a member of bloc k and zero otherwise,

e_{ij} is a white noise error term.

¹⁴ Tinbergen (1962), Pöyhönen (1963) and Linneman (1966) provided initial specifications and estimates of the determinants of trade flows, and Aitken (1973) applied the gravity model to RIA. More recently, Anderson (1979), Bergstrand (1985), Deardorff (1998) and Anderson and Mercouiller (1999) have provided partial theoretical foundations for the gravity equation, although none of the models generate exactly the equation generally used in empirical work.

¹⁵ See Freund and McLaren (1998).

The first two lines of equation (1) characterize exports from j to i if neither is a member of a RIA. Thus they represent the volume of trade that would be considered “normal” between two countries in the absence of any RIAs.

The third line of equation (1) captures the effects of regional arrangements on members’ trade flows. Here b_k is a coefficient measuring the extent to which trade is higher than normal if both i and j are members of the bloc (intra-bloc trade), m_k is a coefficient measuring the extent to which members’ imports from all countries are higher than expected, and n_k is a coefficient measuring the extent to which members’ exports to all countries are higher than expected. In other words, flow ij is raised by m_k if i is in a given RIA, whether j is also a member or not; by n_k if j is in a given RIA, whether i is a member or not, and by $(m_k+n_k+b_k)$ if both are members of the same RIA.

For many of our blocs, regionalism was accompanied by a strong non-discriminatory (most-favored-nation) trade liberalization. We take m_k and n_k as combining the effects of the general liberalization and trade diversion, while b_k captures the increase in intra-bloc trade over and above the general effect. In this context, the traditional estimate of so-called (gross) intra-trade effects is equal to $(m_k+n_k+b_k)$.

A negative coefficient on the dummy for a given RIA’s imports from non-members (m_k) indicates that, *ceteris paribus*, the RIA has traditional import diversion effects. In turn, a negative coefficient on the dummy for a given RIA’s exports to non-members (n_k) – which, for want of a better term, we label ‘export diversion’ – may be taken to mean that the RIA hurts the welfare of non-member countries, along the lines of the argument mentioned above.

We estimate the gravity model over the largest available set of countries and a long time period to describe ‘non-RIA’ years adequately. Hence, we use data on non-fuel visible imports for 130 countries over 1980-2000 from WITS (World Bank trade database). This set of countries represents around 95% of total world imports in the period covered. The distance variable is the great circle distance between economic centers and was based on distances calculated by the authors. All the other variables are from the World Bank’s Economic and Social Data (BESD).

To place NAFTA in perspective, we consider the same nine RIAs as before: NAFTA, CACM, CARICOM, MERCOSUR, Andean Pact, EEC/EU, EFTA, ASEAN and GCC. Since our focus is on the impact of regionalism in the Americas, and in particular NAFTA, the inclusion of non-LAC RIAs in our analysis is mainly to control for their effects on the trade of LAC countries. The last column in Table A1 in the Appendix and identifies specific dates in which major developments in the nine RIA analyzed could be expected to have impact on trade patterns.

We define the trade bloc dummies (P_{km}) by bloc membership in 1996. In this setting, it is important to note that ‘abnormal’ levels of trade captured by the bloc-related dummy variables could reflect both RIA effects or the action of unobservable characteristics of country members that affect their levels of trade. However, here we are interested in whether RIAs *change* the intensity with which particular countries trade with each other. Thus, we allow the coefficients on the bloc dummies to change over time, and measure the effects of trade blocs not by the values of the dummy coefficients

per se, but by their movements over time. The rationale is that pairs of countries may have ‘abnormal’ trade relationships for a variety of reasons other than RIA membership, but if those reasons do not change significantly over time the coefficients on the RIA dummies should not change either. This approach also allows us to assess both ‘anticipation effects’ mentioned earlier.

Because trade values are bounded from below by zero, the appropriate estimation procedure is that of a Tobit model.¹⁶ We computed three different sets of Tobit estimates.¹⁷ The first is a set of 21 separate regressions—one for each year—for the annual data 1980-2000. From these we seek to identify not only the ‘level’ effect on trade of RIA but also the variation of this effect through time, in particular around the years marked in the last column of Table A1, to assess whether any observed ‘abnormalities’ in trade are directly associated with preference effects.

Second, we averaged the data over non-overlapping three-year periods (to smooth out transitory shocks and cyclical changes) and estimated a single pooled regression with time dummies allowing all coefficients to change across periods. We used these estimates to test for significant differences in coefficients across periods.¹⁸

Finally, in the third approach we extended the basic equation with ad hoc dummies to track the evolution of trade of CACM and CARICOM countries with Mexico and the U.S. In this way, we tailor the gravity model to test the impact of NAFTA on trade among this subset of countries.

6.3.3 Results

The detailed results are described in Montenegro and Soloaga (2002); here we just summarize the main findings. In the estimations, the gravity variables – GDP, area, absolute distance – generally had the expected sign and were highly significant: trade increases slightly more than proportionately with the GDP of the importer and exporter countries and decreases with size and distance. The coefficients reflecting population effects (of importer and exporter) were negative and not always significant. The degree of ‘remoteness’ of the importer country from its suppliers had the expected positive sign although in the annual estimation it was not always significant, while the estimated parameters for common land borders was always positive and significant. The coefficients for the exporter being an island were positive and significant, while those for the importer were imprecise in the annual estimates and significantly negative in the pooled estimates. The proxy for ‘cultural similarities’ (common language) was always statistically significant, with the expected sign (positive). Further, most of these effects were stable over time.

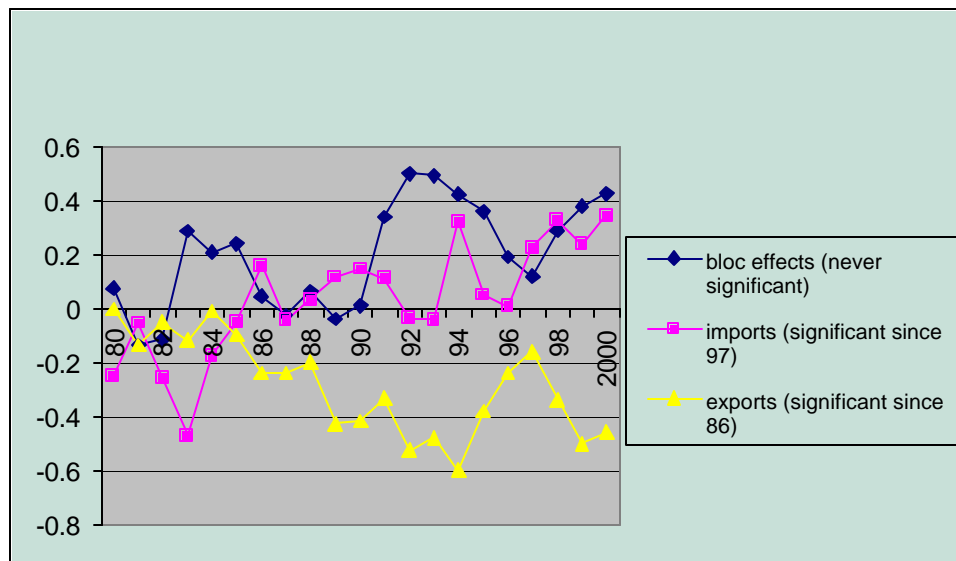
¹⁶ In truth, however, this refinement does not add much relative to standard OLS estimation, because with the logarithmic transform the truncation occurs at the logarithm of the minimum recorded value of trade (\$0.001million), and only about 2% of observations are recorded at that level.

¹⁷ The first two basically update the analysis in Soloaga and Winters (2001).

¹⁸ Other experiments used four-, five-, and seven-year periods. Qualitative results were similar to those reported in the text.

The estimates of the RIA dummies are of more direct interest here. The detailed annual estimates for LAC RIAs are reported in Table A4 in the Appendix.¹⁹ They are quite heterogeneous across RIAs. Regarding the intra-bloc trade coefficients, they are positive for all LAC RIAs in all periods, but in the case of NAFTA they were not significant. Thus, Latin American countries in LAC-only RIAs -- CACM, CARICOM, Andean Group, and MERCOSUR – trade significantly more heavily with each other than predicted by standard trade determinants. For non-LAC RIAs, positive but insignificant bloc-trading effects were also found for ASEAN and EFTA, while a negative and significant effect is found for the EU.

Figure 10 NAFTA: Annual estimates of bloc dummy coefficients



In turn, the coefficients for NAFTA’s overall block imports appear to have become significantly positive in the late 1990s. Earlier estimates are generally imprecise. For the other LAC RIAs, the estimates are in general negative and significant, although for CARICOM and CACM many of the estimates are rather imprecise. Among the non-LAC RIAs, the estimates are also negative for EFTA, and positive in the other cases (EU, ASEAN and GCCI).

As for block exports, the coefficient estimates for NAFTA are negative and generally significant since the late 1980s. Results for the other RIAs were fairly heterogeneous: negative and significant for the Andean Group and CARICOM, positive and significant for CACM (outside LAC, the same result was found for the EU and ASEAN) and insignificant for Mercosur (as well as EFTA).

Figure 10 depicts graphically the annual estimation results for NAFTA: positive but insignificant bloc effect dummies, and increasing openness to imports since 1997 coupled with a decrease in total bloc propensity to exports since 1998.

¹⁹ To save space we do not report the detailed results for non-LAC RIAs. These can be found in Montenegro and Soloaga (2002).

Table 6 NAFTA dummy estimates with pooled date

(Dependent variable: log imports)

Dummy	Period	coefficient (gravity estimates)	stat. signifi- cance	Test of equality of coefficients: periods in rows vs. periods in columns (a)						
				83-85	86-88	89-91	92-94	95-97	98-00	
Bloc trade	80-82	-0.074								
Bloc trade	83-85	0.221								
Bloc trade	86-88	0.018								
Bloc trade	89-91	0.102								
Bloc trade	92-94	0.478								
Bloc trade	95-97	0.222								
Bloc trade	98-00	0.391								
Imports	80-82	-0.249	***		***	***	***	***	***	***
Imports	83-85	-0.285	***		***	***	***	***	***	***
Imports	86-88	0.060								***
Imports	89-91	0.150	**							**
Imports	92-94	0.122	#							***
Imports	95-97	0.120	#							***
Imports	98-00	0.397	***							
Exports	80-82	-0.132	*		*	***	***			***
Exports	83-85	-0.205	***			***	***			***
Exports	86-88	-0.338	***				**			
Exports	89-91	-0.479	***					**		
Exports	92-94	-0.564	***					***		
Exports	95-97	-0.267	***							**
Exports	98-00	-0.486	***							

Notes: "****" indicates significance at the 1% level; "***" at 5%; "**" at 10%; "#" at 15%.
(a) F test of equality of coefficients. For instance, for the period 1980-82 the coefficient of -0.249 for NAFTA imports is not statistically different from the coefficient for 1983-85 (-.285), but is statistically different from those corresponding to 1986-88 (0.060), 1989-91 (0.150), 1992-94 (0.122), 1995-97 (0.120), and 98-2000 (0.397). The latter result is indicated with *** in columns 5th to 10th.

To draw inferences on the impact of NAFTA we need to look for significant *changes* in the coefficients of the RIA's intra-bloc, import and/or export dummies around the date of creation of NAFTA. For this we turn to the pooled estimates on three-year averages.²⁰ The results for NAFTA are summarized in Table 6, and are fairly consistent with those from the annual estimation. The coefficients of intra-bloc trade dummies show a positive trend, but are not statistically significant. It appears that the observed changes in intra-bloc trade are not significantly associated with events such as CUSFTA in 1988 and NAFTA itself, once we take into account the 'normal' variation in trade levels dictated by the gravity variables. In turn, overall bloc imports display a positive trend, while the bloc coefficient for exports remains roughly constant in the last part of the sample, although it declines from the levels of the early 1980s.

²⁰ Given the amount of information involved, the detailed results are confined to Table A5 in the Appendix.

For other LAC RIAs, when we control for the impact of the gravity variables the revamping (Andean Group, CACM and CARICOM) or launching (MERCOSUR) of RIAs in Latin America does not seem to have been accompanied by a larger-than-expected increase in intra-bloc trade propensities. The positive trend in the estimated coefficients for bloc members' imports, significant in the cases of CACM, CARICOM and MERCOSUR, presumably reflects the drive to unilateral trade liberalization that swept Latin America in the late 1980s and early 1990s.

So far we have found no clear evidence of any effects of NAFTA on third countries. This might be due to the fact that we are lumping all nonmember countries together and not considering separately the neighboring countries of Central America and the Caribbean, which on *a priori* grounds should be expected to have been most affected by Mexico's preferential access to the U.S. market. Thus, in the final experiment we expand the gravity framework to try to capture any particular effects of NAFTA on those countries.

To perform this experiment, the empirical model was left unchanged for all the RIAs except NAFTA, CACM and CARICOM. For these blocs, we amended the model as follows: (i) we replaced the dummy for NAFTA and separately modeled trade between the U.S. and Canada, between the U.S. and Mexico, and between Canada and Mexico. The purpose is to isolate the evolution of U.S. imports from (exports to) Mexico; (ii) we did the same for CACM and CARICOM countries with two dummies per RIA capturing imports from the U.S. and exports to the U.S.; and (iii) we also created dummies for trade between Mexico and CACM, and Mexico and CARICOM to capture changes in the patterns of trade that could statistically be associated to NAFTA (i.e., a 'stopover effect').

Like with the preceding exercise, the estimation was performed using pooled data averaged over subperiods allowing all coefficients to change over time and then testing for parameter constancy. Various experiments with different period lengths were performed, but the qualitative results were similar in all cases.

Table 7 reports the resulting coefficient estimates on the variables of interest and the F-tests of equality of coefficients across periods. Rows 1 to 14 show results for Mexico's overall openness to exports (rows 1 to 7) and imports (rows 8 to 14). There is a clear positive trend in both since 1986-88.²¹ As before, these trends seem to reflect Mexico's unilateral trade liberalization since the late 1980s. For both variables, however, levels in 1995-97 and 1998-2000 are statistically higher than in all the previous periods in the sample.

²¹ Note that the dummies for exports and imports reported here *exclude* trade between Mexico and the U.S.. Thus, these dummies capture all of Mexico's non-U.S. trade. Trade between Mexico and the U.S. is captured by another specific dummy.

**Table 7 Expanded gravity model
Impact of NAFTA on trade flows from CACM, CARICOM and Mexico**

					Test for the equality of coefficients: periods in rows vs. periods in columns (1)					
Row	Dummy	Period	coefficient (gravity estimates)	Stat. Significance	83-85	86-88	89-91	92-94	95-97	98-00
1	Mexico overall <i>exports</i>	80-82	-2.114	***	#	***	***	***	***	***
2	Mexico overall <i>exports</i>	83-85	-1.847	***		***	***	***	***	***
3	Mexico overall <i>exports</i>	86-88	-1.194	***				ns	***	***
4	Mexico overall <i>exports</i>	89-91	-1.245	***				ns	***	***
5	Mexico overall <i>exports</i>	92-94	-1.305	***					***	***
6	Mexico overall <i>exports</i>	95-97	-0.447	***						ns
7	Mexico overall <i>exports</i>	98-00	-0.564	***						
8	Mexico overall <i>imports</i>	80-82	-1.362	***	*	ns	***	***	***	***
9	Mexico overall <i>imports</i>	83-85	-1.706	***		**	***	***	***	***
10	Mexico overall <i>imports</i>	86-88	-1.342	***				***	***	***
11	Mexico overall <i>imports</i>	89-91	-0.678	***				ns	***	***
12	Mexico overall <i>imports</i>	92-94	-0.540	***					*	***
13	Mexico overall <i>imports</i>	95-97	-0.247	**						*
14	Mexico overall <i>imports</i>	98-00	0.071							
15	USA exports to Mexico	80-82	-0.056		ns	ns	ns	ns	ns	ns
16	USA exports to Mexico	83-85	-0.264			ns	ns	ns	ns	ns
17	USA exports to Mexico	86-88	-0.386					ns	ns	ns
18	USA exports to Mexico	89-91	-0.020					ns	ns	ns
19	USA exports to Mexico	92-94	0.775						ns	ns
20	USA exports to Mexico	95-97	0.902							ns
21	USA exports to Mexico	98-00	1.250							
22	USA imports from Mexico	80-82	1.141		ns	ns	ns	ns	ns	ns
23	USA imports from Mexico	83-85	1.323			ns	ns	ns	ns	ns
24	USA imports from Mexico	86-88	1.819					ns	ns	ns
25	USA imports from Mexico	89-91	1.478					ns	ns	ns
26	USA imports from Mexico	92-94	1.467						ns	ns
27	USA imports from Mexico	95-97	2.130	#						ns
28	USA imports from Mexico	98-00	2.304	#						
29	USA exports to CACM	80-82	0.552		ns	ns	ns	ns	ns	ns
30	USA exports to CACM	83-85	0.423			ns	ns	ns	ns	ns
31	USA exports to CACM	86-88	-0.173					ns	ns	#
32	USA exports to CACM	89-91	0.222					ns	ns	ns
33	USA exports to CACM	92-94	0.670						ns	ns
34	USA exports to CACM	95-97	0.813	#						ns
35	USA exports to CACM	98-00	0.985	*						
36	USA imports from CACM	80-82	2.084	***	ns	ns	ns	ns	ns	ns
37	USA imports from CACM	83-85	2.133	***		ns	ns	ns	ns	ns
38	USA imports from CACM	86-88	1.201	**				ns	*	**
39	USA imports from CACM	89-91	1.346	**				ns	*	**
40	USA imports from CACM	92-94	2.290	***					ns	ns
41	USA imports from CACM	95-97	2.628	***						ns
42	USA imports from CACM	98-00	2.897	***						

**Table 7 (continued): Expanded gravity model
Impact of NAFTA on trade flows from CACM, CARICOM and Mexico**

					Test for the equality of coefficients: periods in rows vs. periods in columns (1)					
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
43	USA exports to CARICOM	80-82	0.373		ns	ns	ns	ns	ns	ns
44	USA exports to CARICOM	83-85	0.596	#		ns	ns	ns	ns	ns
45	USA exports to CARICOM	86-88	0.190					ns	ns	ns
46	USA exports to CARICOM	89-91	0.221					ns	ns	ns
47	USA exports to CARICOM	92-94	0.183						ns	ns
48	USA exports to CARICOM	95-97	0.285							ns
49	USA exports to CARICOM	98-00	0.266							
50	USA imports from CARICOM	80-82	0.767	*	ns	ns	ns	ns	ns	ns
51	USA imports from CARICOM	83-85	1.263	***		ns	ns	ns	ns	ns
52	USA imports from CARICOM	86-88	1.031	***				ns	ns	ns
53	USA imports from CARICOM	89-91	0.883	**				ns	ns	ns
54	USA imports from CARICOM	92-94	0.777	**					ns	ns
55	USA imports from CARICOM	95-97	0.669	*						ns
56	USA imports from CARICOM	98-00	0.798	**						
57	Mexico exports to CARICOM	80-82	-0.928	**	ns	ns	ns	ns	**	***
58	Mexico exports to CARICOM	83-85	-0.402			ns	ns	ns	ns	**
59	Mexico exports to CARICOM	86-88	-0.624	#				ns	#	***
60	Mexico exports to CARICOM	89-91	-0.711	*				ns	#	***
61	Mexico exports to CARICOM	92-94	-0.573	#					ns	***
62	Mexico exports to CARICOM	95-97	0.153							ns
63	Mexico exports to CARICOM	98-00	0.782	**						
64	Mexico imports from CARICOM	80-82	-1.415	***	ns	ns	ns	**	ns	ns
65	Mexico imports from CARICOM	83-85	-2.071	***		ns	*	***	#	***
66	Mexico imports from CARICOM	86-88	-1.895	***				***	ns	**
67	Mexico imports from CARICOM	89-91	-0.983	***				*	ns	ns
68	Mexico imports from CARICOM	92-94	0.077						**	ns
69	Mexico imports from CARICOM	95-97	-1.143	***						ns
70	Mexico imports from CARICOM	98-00	-0.613	#						
71	Mexico exports to CACM	80-82	-0.454		ns	ns	ns	ns	ns	*
72	Mexico exports to CACM	83-85	-0.213			ns	ns	ns	ns	ns
73	Mexico exports to CACM	86-88	-0.109					ns	ns	ns
74	Mexico exports to CACM	89-91	-0.286					ns	ns	#
75	Mexico exports to CACM	92-94	0.024						ns	ns
76	Mexico exports to CACM	95-97	0.648							ns
77	Mexico exports to CACM	98-00	0.900	#						
78	Mexico imports from CACM	80-82	-1.440	***	ns	ns	ns	ns	ns	*
79	Mexico imports from CACM	83-85	-2.143	***		ns	*	**	**	***
80	Mexico imports from CACM	86-88	-1.707	***				#	#	**
81	Mexico imports from CACM	89-91	-0.689					ns	ns	ns
82	Mexico imports from CACM	92-94	-0.525						ns	ns

(1) F test of equality of coefficients. For instance, the first cell shows results from comparing Mexico's overall export coefficient for 1980-82 (row 1=2.114) to that of 1982-84 (row 2=1.847). They were different at the 15% significance level, indicated by "#". "****" indicates that parameter estimates are statistically different at the 1% level significance level; "***" at 5%; "**" at 10%; "#" at 15%; "ns" means parameters are not significantly different from each other.

Rows 15 to 28 show results for Mexico's imports from the U.S. (rows 15 to 21) and exports to the U.S. (rows 22 to 28). Although a positive trend is apparent for both variables (since 1989-91 in the case of imports), indicating an increasing level of trade above what could be expected for similar countries in the sample, neither the coefficients nor their changes are statistically different from zero at conventional levels. Only the coefficients for exports to the U.S. in 1995-97 and 1998-2000 approach significance, but their values are not very different from that obtained in 1986-88. Recall that we are controlling for overall trends in exports and imports, so the conclusion is that once those trends are taken into account there is little left for the Mexico-U.S. dummy to capture.

Were there significant changes in trade between the U.S. and CACM or CARICOM? The next two blocks in the table address this question. Trade between CACM countries and the U.S. has been consistently above what could be considered 'normal' between countries of similar size and distance (save for CACM imports in 1986-88). While the coefficient for 'abnormal' CACM imports from the U.S. became significant only in the last period of our sample, the coefficient for 'abnormal' exports from CACM to the U.S. was always statistically significant. These parameters show a positive trend since 1989-91, and the F-tests show that the coefficients for 1995-97 and 1998-2000 are statistically higher than those for 1986-88 and 1989-1991. This points against any negative impact of NAFTA on CACM exports.

In the case of CARICOM-U.S. trade, only the coefficients for CARICOM exports were statistically significant. They are positive and show a negative trend from 1986-1988 up to 1995-97. Statistically, however, there was no difference in coefficients across periods.

As for the stopover effect, results from the expanded gravity model show that CARICOM exports to Mexico generally remained below 'normal' levels throughout the sample, but the estimated coefficients display large swings. It is hard to conclude much from this pattern, but in any case a positive trend with changes that could be associated to NAFTA is certainly not evident. Finally, regarding exports from CACM to Mexico, since 1989-91 they were not different from what could be expected from countries of similar sizes, distances and other gravity variables. If anything, we find a positive, and marginally significant, change between the late 1980s and present levels.

On the whole, therefore, the main conclusion from this empirical investigation is the lack of evidence of any significant adverse effect of NAFTA on the aggregate trade flows of third countries. This result does not change when we take a closer look at the trade of CACM and CARICOM countries.

6.4 Trade diversion at the sector level in Central America and the Caribbean

The conclusion that NAFTA has not affected significantly the aggregate trade flows of the excluded neighboring countries in Central America and the Caribbean is in agreement with the majority of previous research. However, it stands in contrast with the findings from the more disaggregated studies cited earlier that suggest trade diversion in the textile and apparel sector specifically.

6.4.1 Trade preferences and the performance of apparel exports

There are two facts that make this contrast puzzling. First, apparel products account for a considerable fraction of NAFTA's imports from Central American and Caribbean countries. Second, apparel is the sector in which NAFTA introduced the largest gap in U.S. trade preferences between those countries and Mexico.

The first of these facts is documented by Table 8, which highlights the importance of apparel in overall NAFTA imports from Central American and Caribbean countries, as well as Mexico.²² It is clear from the table that apparel plays a major role in the region's trade with NAFTA, and increasingly so for most countries in the table, with the only exception of Costa Rica in the late 1990s.

Table 8 Apparel exports to NAFTA

	(as % of total exports to NAFTA)	
	1991-94	1995-01
Mexico	2.98%	5.77%
Costa Rica	35.95%	27.39%
Guatemala	37.72%	47.79%
Honduras	45.59%	71.43%
Nicaragua	6.69%	45.18%
El Salvador	43.85%	76.04%
Central America	38.52%	51.51%
Dominican Republic	47.86%	50.97%
Jamaica	41.71%	42.23%
CARICOM	31.24%	34.78%

Source: UN-COMTRADE, Apparel HS 61, 62

Access by Central America and the Caribbean to the U.S. market has been governed since 1983 by the Caribbean Basin Initiative (CBI), which granted free access – with no tariffs or quotas—to most goods produced by those countries, but with a number of major exceptions, of which the most relevant is the textile and apparel sector. Imports from the excluded sectors received no preferential treatment and were subject to maximum tariffs (those applicable to third countries).

Prior to NAFTA, Mexican apparel exports to the U.S. were subject to the same tariff treatment as those from CBI countries. But the passage of NAFTA created a bias in favor of Mexican goods: in the post-NAFTA years, effective tariffs barely declined for CBI countries (they hovered in the 15-18 % range), while they basically vanished for Mexico. More recently, enhancements to the original CBI terms have brought them closer to “NAFTA parity” in terms of preferences in the textile and apparel sector, although the

²² Apparel is defined here as chapters 61 and 62 of the Harmonic System.

bias was not completely eliminated until the passage of a new U.S. law in 2000, and even after that some differences remain (see **Box 2**).

Table 9 Shares in NAFTA's total apparel imports

	1991-94	1995-2001
Mexico	3.74%	10.76%
Costa Rica	1.79%	1.50%
Guatemala	1.48%	2.04%
Honduras	1.27%	3.28%
Nicaragua	0.03%	0.41%
El Salvador	0.67%	2.06%
Central America	5.24%	9.29%
Dominican Republic	3.76%	3.91%
Jamaica	1.05%	0.77%
CARICOM	5.00%	4.78%
Bangladesh	2.21%	2.88%
China	15.44%	11.71%
Hong Kong	14.54%	8.82%
Indonesia	2.82%	3.31%
India	3.24%	3.29%
Korea	6.67%	3.81%
Thailand	2.48%	2.82%
Taiwan	7.48%	3.84%
Asia	54.89%	40.47%

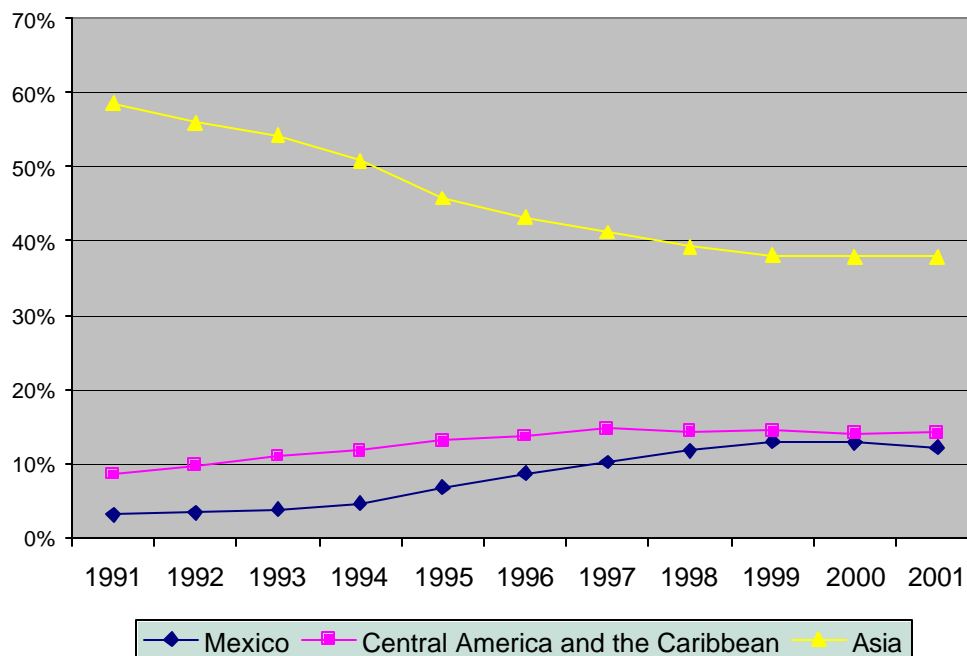
Source: UN-COMTRADE, Apparel HS 61, 62

The change against CBI countries in relative preferences in the textile and apparel sector imposed by NAFTA had long been regarded as one of its major threats for the neighboring countries (e.g., Leamer et. al. 1995; Jorge and Salazar-Carrillo 1997). Has it been borne out by the facts? Table 9 shows the shares of CBI countries and Mexico in NAFTA's total apparel imports. It is clear that Mexico has experienced a spectacular increase in market share in the post-NAFTA years.²³ By 1999, Mexico had caught up with CBI exporters as a group (Figure 11). But CBI countries did not lose market share. Instead, they expanded considerably their combined presence in the NAFTA market, although at a slower pace than Mexico. Of the region's countries shown in the table, only Costa Rica and Jamaica – two higher-wage countries -- saw their market share decline in the post-NAFTA period. As the table shows, these gains were achieved at the expense of Asian exporters (China, Hong-Kong, Korea, Taiwan), whose combined share of the NAFTA market was drastically cut over the last decade.

²³ Mexico's share of the non-NAFTA apparel market also rose in the post-NAFTA period, from 0.03 percent in 1991-94 to 0.07 percent in 1995-2001.

In principle, the fact that most CBI countries (and the group as a whole) gained market share in the post-NAFTA period seems to provide evidence that they were not affected by trade diversion. Since the entire region faced the same relative preferences vis-à-vis Mexico, the contrast between the shrinking market shares of some individual countries and the rising shares of others should instead reflect country-specific factors – such as the relocation of exporters across countries within the region in view of their relative production cost (Chacón 2000). Regarding Asian exporters, Figure 11 suggests they might have been affected by trade diversion. However, the decline in their market share had already started well ahead of NAFTA

Figure 11 Shares in NAFTA's total apparel imports

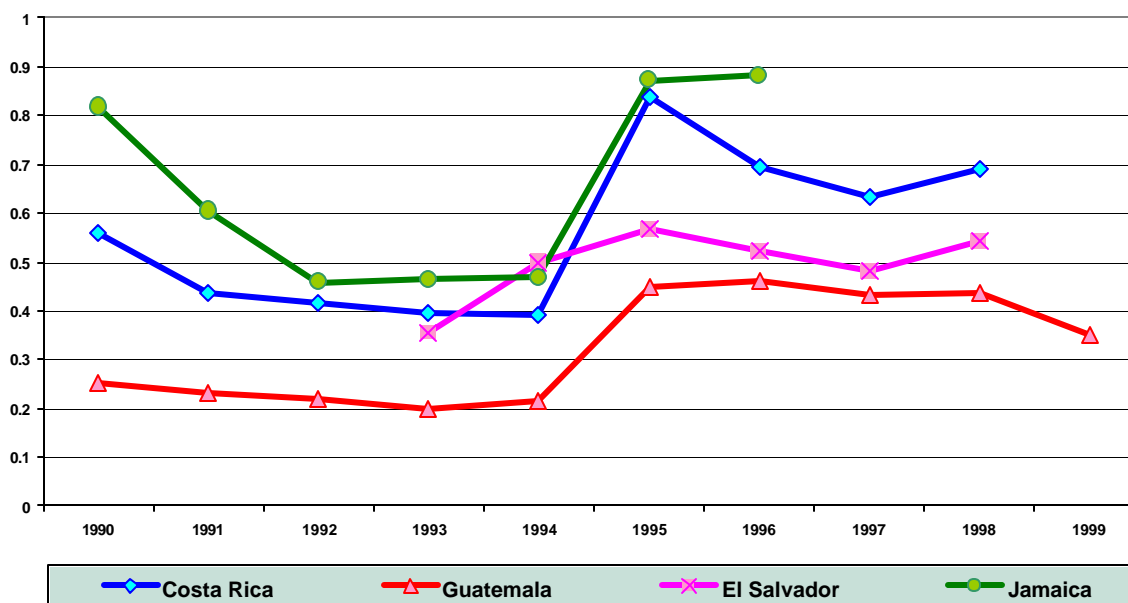


Of course, these before-and-after comparisons are only suggestive. The proper experiment should instead compare the observed export pattern with the one that would have prevailed in the absence of NAFTA. In this regard, it is important to recall that the changing export patterns also reflect the influence of other factors as important as NAFTA or even more, most notably the Mexican devaluation of 1994, which resulted in a huge increase in the wages of neighboring countries relative to those in Mexico. Over 1994-1999, the change in relative wages was two or three times larger than the change in relative tariff preferences granted by NAFTA, and this is particularly relevant for textile and apparel plants in the region and elsewhere given that wages reportedly account for a large share of total production cost.²⁴ Information on wage levels comparable across countries is unfortunately scarce, but for those economies with available data Figure 12

²⁴ Gitli and Arce (2000).

shows that between 1994 and 1998 U.S. dollar wages almost doubled relative to Mexico's, with El Salvador as the exception.

Figure 12 U.S. dollar wages relative to Mexico



6.4.2 The role of Export Processing Zones

Trade-promoting actions in Central American and Caribbean countries were probably instrumental to prevent their NAFTA market shares – both in apparel and more generally -- from declining in the post-NAFTA years. Most of the countries in the area are very open to trade, having pursued since the late 1980s active trade liberalization policies on several fronts – unilateral, multilateral, bilateral and regional -- which by the end of the 1990s had led to fairly low levels of tariff and non-tariff barriers.²⁵

In most countries in the region the process of trade liberalization has been accompanied by significant export-oriented incentives, which in most cases are articulated around Export Processing Zones (EPZs). These have grown substantially in recent years, and in several countries account at present for half or more of total exports. (Table 10).

²⁵ The process of liberalization is documented in detail in CIEN (2002). Tariffs declined more markedly in Central American than in Caribbean countries, however. See Table A2 and Perry, Lederman and Suescún (2002).

Table 10 Exports from EPZs

(Gross Exports of EPZs/Total Gross Exports)

	1990	1995	2001
Costa Rica	6.5	12.5	47.5
Dominican Republic	81.2	77.4	83.3
El Salvador	12.2	39.1	57.7
Honduras	1.7	11.8	29.3
Mexico	42.1	38.5	46.8
Nicaragua	0.9**	22.6	54.3

**1992.

Sources: Larrain (2001) except for Mexico and Dominican Republic

Data for Mexico and Dominican Republic from National Central Banks

EPZ incentives are relatively homogeneous across the region. All countries offer similar exemptions from taxes on intermediate inputs, taxes on exports and remittances of goods and profits (see Robles-Cordero and Rodriguez-Clare 2003). The bulk of firms and jobs in Central America's EPZs are found in the textile and apparel industry, especially in the cases of Honduras, Nicaragua and El Salvador. In these countries, the textile and apparel sector accounts for over 90 percent of EPZ employment.²⁶ While the limited data available on EPZs does not allow a formal analysis, they likely played an important role in the continued expansion of apparel exports from CBI countries to the NAFTA bloc in spite of Mexico's preference advantage.

In summary, while we cannot rule out the possibility that some degree of trade diversion against neighboring countries in the apparel sector may in fact have occurred as a result of NAFTA, the impact of the trade agreement in this regard is likely dwarfed by the effects of the Mexican devaluation on relative wages across the region. In addition, the rising trend in apparel exports from Central American and Caribbean countries to the NAFTA area runs against the possibility of significant trade diversion. To be sure, diversion could also be masked in the trade flow data because of the offsetting incentives offered by EPZs in the affected countries.²⁷ Yet the fact that most of the EPZ legislation in the region was in place before the passage of NAFTA – so that no major new concessions followed the treaty -- suggests that the extent of the hypothetical NAFTA-induced trade diversion cannot have been large.

6.5 The road ahead

The above discussion suggests that NAFTA's neighbors did not lose out significantly from Mexico's acquisition of preferential status in the U.S. and Canada. This likely reflected their continuing efforts at trade liberalization, the generous export

²⁶ This is shown by the data reported in Robles-Cordero and Rodriguez-Clare (2003).

²⁷ Trade diversion masked by those incentives would still be reflected in a loss of fiscal revenues and welfare costs from other distortions, hard to quantify, imposed by the EPZs to sustain trade flows.

incentives granted by the EPZs, and the (limited) preferential access to the U.S. market offered by CBI and related provisions.

Looking to the future, in the apparel sector the upcoming elimination (by 2005) of import quotas derived from the Multi-fiber Agreement will cast the issue of U.S. and NAFTA preferences in a new light. Increased competition from low-cost Asian exporters is likely to follow. More generally, the levels of U.S. protection are likely to continue declining over the medium term as the economic (and political) dimension of the sector gradually shrinks. Thus, the magnitude and relevance of apparel tariff preferences is likely to decline in the future.

From a broader perspective, however, Central American and Caribbean countries still stand to gain from joining an FTAA, for two main reasons. First, EPZs do not represent a final stage on the road to trade integration. In most countries in the area EPZs have specialized heavily in relatively low-skill production processes and remain largely de-linked from their respective local economies, which have drawn correspondingly little benefit in terms of technological advancement (Robles-Cordero and Rodriguez-Clare 2003). Even more important, EPZs incentives are typically granted on the basis of export performance, and therefore conflict with WTO rules outlawing export subsidies, which were scheduled to come in to action in 2003 – although an extension of the deadline looks likely.²⁸ This means that over the medium term those countries in Central America and the Caribbean whose trade promotion and FDI attraction efforts have been primarily based on EPZs will need to develop a new framework. The FTAA offers an opportunity to do so.

Secondly, in spite of the progress made towards NAFTA-like tariff preferences after the CBTPA, and the fact that a major fraction of Central American and Caribbean exports to the U.S. already enjoy preferences comparable to NAFTA, these unilateral U.S. concessions do not amount to “NAFTA parity”, in two fundamental respects.²⁹ On the one hand, unilateral concessions do not offer a firm guarantee of U.S. market access. Unlike NAFTA, such preferences are often granted on a temporary basis³⁰ and subject to unilateral revocation by the U.S. at any time. Furthermore, the resolution of trade disputes is likewise left to the discretion of U.S. authorities. Importantly, these considerations apply not only to Central America and Caribbean countries, but more broadly to all Latin American economies except Mexico and, more recently, Chile.

On the other hand, an FTA with the U.S. and Canada can also help “lock-in” the progress made on unilateral trade liberalization, making it immune to potential protectionist pressures that might arise in the future. This would offer investors, domestic and foreign, a more predictable framework without the possibility of backtracking in the rules governing international trade, and perhaps in the reforms on other fronts as well. As Chapter 7 argues, this positive impact on credibility would likely encourage investment in the new FTAA member countries.

²⁸ Among the countries considered here, El Salvador is the only one where EPZ tax concessions are not related to export performance.

²⁹ Bake and Spross (2003) outline the key differences between the current situation and an FTAA.

³⁰ In the case of CBTPA, they run until 2008.

The importance of this his lock-in effect, however, may vary considerably across FTAA prospective members. It is likely to be most important for countries at an early stage of trade opening whose reforms still suffer from poor credibility. In contrast, a number of Central American and Caribbean economies already possess low barriers to trade and a strong constituency in favor of trade openness. For such countries, the credibility dividend will largely depend on the extent to which FTAA accession prompts improvement and strengthening of policies and institutions.

An FTAA also entails costs, however. Some of these are explicit, like in the case of negotiation costs, which for small economies may be substantial. Even more important from the macroeconomic perspective is the cost of elimination of tariffs against other FTA members, which for some countries will imply a fiscal shock, particularly significant for countries whose public revenues are highly dependent on tariff collection and whose imports are largely originated in the NAFTA area. Within Central America, the fiscal loss from removal of tariffs against NAFTA members could exceed 8 percent of total current revenues in Honduras, and would be almost as large in El Salvador and Guatemala.³¹ This underscores the need for fiscal reform in preparation for the FTAA.

Others costs are less-directly visible, but no less significant, like in the case of the distortions imposed by ROOs under NAFTA (see Chapter 3). If not properly tackled in the negotiation process, they can detract substantially from FTAA benefits by generating more trade and investment diversion than creation.

More broadly, the prospect of an FTAA makes it all the more important for prospective members to take the necessary policy steps to ensure that the potential benefits of the agreement can be reaped. Such steps will vary across countries depending on their respective initial conditions and policy and institutional frameworks. But some are likely to apply to a broad range of countries. For example, in addition to the fiscal strengthening already mentioned, Chapter 2 argued that macroeconomic and, especially, real exchange rate stability are important preconditions for the expansion of trade and investment flows which will allow FTAA benefits to materialize.

Regarding trade policies, the anticipated gains from an FTAA do not reduce the need for continued progress in unilateral trade reforms and multilateral negotiations under the WTO. Major trade issues, such as those surrounding agricultural trade, are unlikely to be resolved in the context of an FTAA and will require multilateral action. For some countries, especially in South America, the Doha Trade round are likely to as important for market access, or even more, than the proposed FTAA. Success of the WTO round in providing incentives for all countries to de-link their subsidies from production decisions -- as previously attempted by the European Union, and implemented by the U.S. and Mexico -- would be a significant improvement over the current situation for these countries, as Chapter 3 noted.

The FTAA should not preclude simultaneous pursuit of other free trade agreements. Indeed, for some countries in LAC (notably those in MERCOSUR) trade with the EU is quantitatively more significant than trade with the U.S., and thus the gains from an FTA with the EU could be even larger than those stemming from the FTAA.

³¹ Perry, Lederman and Suescún (2002).

Furthermore, even for other countries, complementing the FTAA with trade agreements with other partners (such as the EU, as done for example by Chile) might help reduce the scope for trade diversion.

Finally, the above analysis suggests that much of the gain in export market share achieved by Mexico in recent years reflects its unilateral trade liberalization since the late 1980s. The implication for other LAC countries is that trade-friendly policies, even if unilateral, can yield large dividends in terms of market expansion.

6.6 Concluding remarks

The assessment of the effects of NAFTA on the trade flows of nonmember countries faces a number of difficulties. First, too little time has elapsed since the passage of NAFTA for its full effects to unfold, especially given the gradual tariff reduction envisaged by the treaty. Second, other major trade determinants have not remained constant. Among these, the overvaluation of the Mexican peso up to 1994 and its subsequent collapse, the global trend towards trade liberalization, and the emergence or revamping of other trading blocs, must all have had major effects on the trade flows of NAFTA members as well as nonmembers. This means that the conclusions from any empirical evaluation of NAFTA's impact on trade have to be taken with considerable caution.

With this major caveat, the results in this chapter are in broad agreement with the majority of previous studies. On the whole, both casual inspection of the data and econometric estimates yield little evidence of any adverse impact of NAFTA on the aggregate trade flows of nonmember countries.

Inspection of trends in trade flows reveals that Mexico has expanded substantially its share in U.S. overall imports. However, Mexico has also raised its export share in the non-NAFTA market,³² and thus the fact that it emerges as the top winner in the U.S. market does not constitute evidence of trade diversion. Furthermore, Central American countries, which would have been prime candidates for trade diversion, have actually increased their presence in U.S. markets. From the perspective of U.S. imports, the big losers appear to be instead Brazil, Venezuela and Ecuador, which on *a priori* grounds should have been less affected by NAFTA than the neighboring countries of Central America and the Caribbean.

Econometric analysis of aggregate trade flows using a gravity approach likewise fails to find any significant trade diversion effects from NAFTA. In fact, there is no clear evidence as to whether NAFTA members' propensity to trade among themselves has risen, once conventional trade determinants are taken into account. Much of the increase in trade among members, and especially the substantial increase in Mexico's exports to the U.S., may reflect factors other than NAFTA, such as the unilateral liberalization of Mexico's trade.³³ A more detailed analysis of the trade flows of Central American and Caribbean countries with NAFTA does not change these conclusions.

³² This holds not only at the aggregate level, but also for most of the sectors in which Mexico's share of U.S. imports has risen. See Krueger (1999, 2000).

³³ This is also in agreement with the results found by Krueger.

It is possible that aggregate flows could conceal significant trade diversion at the microeconomic level, and some studies have pointed to the textile and apparel sector as a likely candidate. This is particularly relevant for Central America and the Caribbean, since apparel accounts for the bulk of the region's exports to the NAFTA bloc, and given the fact that after 1994 Mexico has enjoyed a significant preference advantage vis-à-vis the other countries – although the preference has recently been almost completely eliminated.

A thorough evaluation of the impact of NAFTA on the patterns of apparel trade between member and nonmember countries is still lacking, but the available information does not show strong evidence that neighboring countries lost market share from apparel trade diversion caused by NAFTA preferences. On the one hand, observed changes in trade patterns across the region – most notably, the rapid increase in Mexico's share of the U.S. market -- likely reflect the effects of the Mexican devaluation as much as (or even more than) those of NAFTA. On the other hand, while all countries in Central America and the Caribbean faced the same change in U.S. preferences relative to those enjoyed by Mexico, their post-NAFTA performances showed considerable diversity. Most Central American countries managed to raise their export share in NAFTA markets, while Caribbean economies fared less well. This suggests that factors other than NAFTA preferences are responsible for much of this diverse post-NAFTA performance.

Among such factors, export incentives granted by a number of countries in the context of EPZs may have played an important role. It is thus possible – although hard to verify -- that the upward trend in the region's apparel export shares might have been achieved at significant costs derived from EPZ concessions, such as foregone fiscal revenues and other potential distortions. However, the data suggest that such costs are unlikely to be large. In any case, WTO rules imply that EPZs incentives in their current form will have to be phased out over the medium term, so that a new export- and investment-friendly framework will have to be developed.

While NAFTA's neighboring countries have fared relatively well, they would still derive benefits from an FTAA. Even aside of tariff preferences, the FTAA would provide a guarantee of market access and a locking-in effect of unilateral reforms, boosting credibility and investor confidence in those countries where they are still low. However, an FTAA also entails potentially significant costs and raises new policy challenges, including the need for fiscal reform in countries that stand to lose badly needed tariff revenues, and the achievement of macroeconomic and real exchange rate stability for the FTA benefits to materialize.

Finally, while most Latin American and Caribbean countries are likely to derive significant benefits from an FTAA, the latter does not detract from the need for continued progress in unilateral and multilateral trade reform. Major trade issues, such as those surrounding agricultural trade, are unlikely to be resolved in the context of an FTAA, and will continue to depend on the progress of multilateral negotiations. Regarding unilateral liberalization, the analysis in this chapter suggests that much of the gain in export market share achieved by Mexico in recent years reflects its unilateral trade liberalization since the late 1980s. The implication for third countries is that trade-friendly policies, even if unilateral, can yield large dividends in terms of export market expansion.

Box 1: Trade Creation and Diversion in the process of enlargement of the EU

Right after the Treaty of Rome, trade within the EU started rising more rapidly than with non-EU countries. Imports from EFTA6 countries remained somewhat stable over the period while those from other regions fell noticeably. Later accession by new members further increased intra-EEC trade. With the accession of Greece, Portugal and Spain, intra -EU trade increased by over 20 percent.

The overwhelming part of this growth has been identified as trade creation, and available estimates vary between \$ 8 and 17 bn. On the other hand, trade diversion over this period is usually found to be small (less than \$ 2 bn) relative to trade creation (see Ohly 1993).

Bayoumi and Eichengreen (1995) conclude from a gravity-based analysis that some trade diversion did occur between the initial period of the EU (EEC) and the late 1960s, but less so thereafter. Their figures indicate that around half of the increase in the intra-EEC trade that was observed over the 1956-1970 period was matched by a decrease in trade with other partners, largely developing countries. Later on, accession by the UK, Ireland, Denmark (all in 1972) also generated some trade diversion. Between 60 and 90 percent of their new trade with the EEC corresponded to trade creation. As to Greece's entry (1981), between 65 and 75 percent was trade creation. In contrast, no evidence of trade diversion was found after the accession of Spain and Portugal.

Sapir (1998) also finds that EU -EFTA trade was penalized by EEC formation and enlargement, although in later years he finds no significant evidence of trade diversion. In turn, Soloaga and Winters (2001), using a larger country and RIA sample, conclude that the EU's trade with non-member countries declined significantly with the RIA's Southern enlargement

Box 2: The Caribbean Basin Initiative

The 1983 Caribbean Basin Economic Recovery Act (CBERA), commonly referred to as the Caribbean Basin Initiative or CBI, is a unilateral, non-reciprocal, grant of duty-free or reduced duty access for certain exports to the U.S. market. Most textiles and apparel, certain footwear, canned tuna, petroleum and its derivatives, and certain watches are not eligible for any preferential treatment. The CBERA was amended by Caribbean Basin Economic Recovery Act of 1990, which made the trade benefits permanent

Currently, 24 Caribbean, and Central and South American countries enjoy these trade preferences.³⁴ Benefits under CBI are dependent on various mandatory and discretionary conditions, including intellectual property rights protection, investment protection, improved market access for U.S. exports, and workers' rights. Over the late 1990s, about one-fifth of overall U.S. imports from CBERA countries entered the U.S. under CBERA preferential provisions.

Ever since NAFTA was proposed in the early 1990s, Caribbean Basin countries expressed concern that Mexico's more preferential trading status would erode their own preferential access to the U.S. market. This led to demands for modifying the CBI to achieve "NAFTA parity", to prevent a diversion of exports and investment, particularly in the textile and apparel sectors, from the CBERA region.

In May 2000 the U.S. enacted the Caribbean Basin Trade Partnership Act (CBTPA), which focuses primarily on the preferential treatment of textile and apparel products and adds several eligibility criteria. Articles accorded duty-free and quota-free treatment include apparel assembled in a beneficiary country from fabric wholly formed and cut in the United States from U.S. made yarn, or from a fabric made in the United States from U.S. made yarn, cut in a beneficiary country and sewn together there with U.S. made yarn. Duty-free access for apparel knit in the region is subject to an annual cap, with separate limits for knit apparel and t-shirts. The Trade Act of 2002 expanded further the benefits under CBERA through a substantial increase in the quota ceilings for knit -to-shape apparel and exclusion of the cost of trimmings and findings from the cost of U.S. fabric components.

CBTPA requirements for duty-free import of textiles and apparel remain more stringent than those imposed by NAFTA, in that the latter allows the use of yarn from any NAFTA member country, not only the U.S. Nevertheless, the available information shows that since enactment of CBTPA a considerable fraction of the region's apparel exports have entered the U.S. under the new preferential regime, approaching the utilization rate of NAFTA by Mexican exporters (Box Table 1).

Box table 1

**Apparel exports to the U.S.
under CBI/CBTPA and NAFTA preferences
(percent of apparel exports to the U.S.)**

	1990	1995	2000	2001	2002a
Caribbean Basin Countries	0%	0%	2%	54%	65%
Mexico	0%	30%	61%	69%	74%

Source: U.S. International Trade Commission
a/ January - November

Source: Ahearn (2002) and Gitli and Arce (2000).

³⁴ The following 20 countries were designated on January 1, 1984: Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Panama, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago. The Bahamas was designated on March 14, 1985. On April 11, 1986, Aruba was designated retroactive to January 1, 1986, upon becoming independent of the Netherlands Antilles. Guyana was designated effective November 24, 1988, and Nicaragua was designated effective November 13, 1990.

Appendix

Table A1 PTA Membership and key developments

PTA and creation dates	Country members	Recent key developments	Year of expected change in trade patterns (on or around)
PTA's in the AMERICAS ANDEAN PACT Signed: 1969 (Changed name to ANDEAN Community since 1996)	Bolivia Chile (left in 1976) Colombia Ecuador Peru (left in 1992) Venezuela (joined in 1973)	<ul style="list-style-type: none"> • Summit in Cartagena in 1989 sought to perfect the Custom Union. • Act of La Paz in Nov.1990 (FTA for Bolivia, Colombia, and Venezuela) and Act of Barahona in Dec. 1991 (Ecuador and Peru joined the FTA) renewed the PTA.. • Unilateral trade liberalization in the region since 1989-90. • Act of Trujillo in March 1996 revitalized political commitment for integration. 	1990-91
CACM 1960	Costa Rica El Salvador Guatemala Honduras Nicaragua	<ul style="list-style-type: none"> • Declarations of Antigua and of Puntarenas in 1990, and Declations of San Salvador and of Tegucigalpa in 1991, renewed the PTA. • New scheduled for convergence to CET by 2000 was set in 1996. • Unilateral trade liberalization in the region since 1987-89. 	1990-91
LAIA 1980 (Formerly LAFTA , signed in 1960)	Argentina Bolivia Brazil Chile Colombia Ecuador Mexico Paraguay Peru Uruguay Venezuela	<ul style="list-style-type: none"> • All members have double membership (to LAIA and to sub-groups within LAIA). It is generally thought that LAIA had limited effect once the impact of the smaller blocs is taken into account. 	
MERCOSUR Signed: March 1991 Internal trade liberalization: 1991-95. Schedule for convergence to CET and to Free Trade started in 1995	Argentina Brazil Paraguay Uruguay	<ul style="list-style-type: none"> • Argentina-Brazil protocols 1986-1989. • Unilateral trade liberalization started during 1988-90 in Argentina, Brazil and Uruguay. • Treaty of Asuncion - March 1991. • Agreement of Ouro Preto - Dec.1994 (CET for 85% of tariff lines). • Bolivia and Chile joined MERCOSUR as associated members in 1996. 	1991
NAFTA Signed: December 1992 Effective: January 1994	Canada Mexico US	<ul style="list-style-type: none"> • Mexico's unilateral trade liberalization started in 1985. • Canada-US-FTA started in 1988. • NAFTA negotiations started in 1990. 	1994
PTA in ASIA: ASEAN FTA 1992 (Formerly ASEAN, signed in 1967)	Indonesia Malaysia Singapore Thailand Philippines	<ul style="list-style-type: none"> • Changed from 'Economic Cooperation' to FTA in 1977. Very little intra-bloc liberalization • AFTA created in Jan-1992. • Unilateral trade liberalization in some countries: tariffs levels in 1994 were 1/2 of the average level in 1986-90 in Thailand; 2/3 in Philippines, Indonesia and Malaysia. 	1992

Table A1 (Continued)

PTA and creation dates	Country members	Recent key developments	Year of expected change in trade patterns (on or around)
<i>PTA in MIDDLE EAST:</i> GULF COOPERATION COUNCIL - Signed in May 1981	Bahrain Kuwait Oman Qatar Saudi-Arabia United Arab Emirates (UAE)	• Virtual elimination of customs tariffs by 1982 and liberalization of trade and services by 1983.	1982-83
<i>PTA's in EUROPE</i>			
EFTA 1960	Austria (left in 1995) Denmark (left in 1972) Norway Portugal (left in 1985) Sweden (left in 1995) Switzerland United Kingdom (left in 1972) Iceland (joined in 1970) Finland (associated in 1961, full membership in 1986, left in 1995) Liechtenstein (joined in 1991)	• Lost many members to the EC. •The European Economic Area, in effect since 1994, created a FTA between remaining EFTA members (with the exception of Switzerland) and EU. (An agreement of free trade in manufactures between EEC and EFTA was in place since 1974).	1985-86 (impact of the Single European Act), 1994
EU (since 1993) (Originally EEC, signed in 1957) EU (Cont)	France Germany Belgium Italy Luxembourg Netherlands United Kingdom (joined in 1973) Denmark (joined in 1973) Ireland (joined in 1973) Greece (joined in 1981) Spain (joined in 1986) Portugal (joined in 1986) Austria (joined in 1995) Finland (joined in 1995) Sweden (joined in 1995)	• Single European Act (1986-87) set the goal of a single European market for goods, labor and capital in Europe in 1992 (to be known as "1992"). • Maastricht Treaty, (Dec. 1991). Countries agreed on a formal plan to create a closer economic and political union. The economic component of the treaty mainly involves the adoption of a single currency by 1999. • Enactment of the Maastricht Treaty (Nov. 1993)	1985-86, 1992-93

Table A2 Trends in Tariff Rates for Developing and Industrial Countries, 1980-99
(Unweighted averages, %)

Country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
CARIBBEAN COUNTRIES																					
Antigua & Barbuda							12.0		15.0							12.0			9.0		
Bahamas	29.8							32.3									32.0				
Barbados							17.3				22.0					17.0			9.7	13.6	
Belize							17.3				20.0					17.0	9.8		9.2		
Dominica								31.9			28.0					15.0			9.0		
Dominican Rep														17.8	17.8			14.5			
Grenada								27.2			25.0								9.3		
Guyana							17.4			20.0						17.0			10.4		
Haiti			27.7					11.6								10.0					
Jamaica			16.0			17.0	17.3	19.3		20.0		20.3		19.3	19.3				10.9	9.6	8.7
St. Kitts & Nevis								12.9											9.2		
St. Lucia								12.0											9.7		
St. Vincent								17.3											9.2		
Suriname						40.0										30.0			9.5		
Trinidad & Tobago									17.3	17.0		18.6	18.7			18.7		9.1	9.2		
CENTRAL AMERICAN COUNTRIES																					
Costa Rica						21.1	21.1	16.4				15.0	11.7	11.2	11.2			9.9	8.0	7.2	
El Salvador							23.0	21.1		16.0			13.1	10.1	10.2		9.2	8.0	5.7		
Guatemala								22.8		16.0				10.8	12.0		11.4	11.4	8.4	7.6	
Honduras															9.7					8.1	
Nicaragua								22.1				8.0		17.4	10.7		9.5	6.9	5.9	10.9	
Panama																	10.0	12.8	9.2		
MEXICO			27.0	24.0	23.0	25.2	22.6	11.3	11.3	13.1	11.1	13.1	13.4		13.5	13.1	12.6	12.6	13.3	10.1	
SOUTH AMERICAN COUNTRIES																					
Argentina			28.0			35.0	23.3	27.0	27.0	25.0	20.5	12.2	11.8	10.9		10.5	11.2	11.3	13.5	11.0	
Bolivia						12.1	20.0	20.0	19.0	17.0	16.0	10.0	10.0	9.8	9.8	9.7	9.7	9.7	9.7	9.0	
Brazil	44.0	49.0	48.0	48.0	49.0	51.0	51.0	51.0	41.0	35.0	32.2	25.3	21.2	14.2	11.9	11.1		11.8	14.6	13.6	

Country	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Chile				35.0	20.0	20.0	20.0	15.0	15.0	15.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	10.0
Colombia				61.0			33.6	29.4	27.3	27.3	27.0	21.1	11.8	11.5	11.5	13.3	11.7	11.7	11.6	11.8
Ecuador							37.7	28.0		37.1				9.3	11.9	12.3	11.3	11.3	11.3	11.6
Paraguay	11.2				10.9				10.9			15.9	15.4		8.0	9.3	9.3	9.2	11.2	9.0
Peru	19.0	17.0	21.0	31.0	42.0	46.0	46.0	45.0	46.0	42.0	26.0	17.0	18.0	17.6	16.3			13.3	13.2	13.0
Uruguay		47.0				38.0	40.0	29.1	27.5		23.0	21.5	18.2	17.0	14.7	9.3	9.5	10.0	12.2	4.6
Venezuela				28.0	28.0			32.9	32.9	30.6	19.0	16.0	16.4	15.7	11.8	13.4		11.9	12.0	12.6
DEVELOPED COUNTRIES																				
Canada									9.1	8.8				8.7	8.6		6.4	5.8	4.8	4.6
United States								6.6	6.3	6.3		6.3	6.3	6.4		5.9	5.8	6.6	5.2	4.8
AVERAGES																				
Average LDCs (129 countries)	27.6	23.1	30.0	30.5	29.7	27.2	26.6	24.7	23.4	23.8	23.2	24.3	21.5	19.4	18.7	16.1	14.9	13.7	13.1	11.3
Average INDs (23 countries)	9.8		11.0		8.5		6.0		7.1	8.2	7.9	8.5	7.9	6.8	7.2	6.3	5.3	5.0	4.4	4.0

Source: World Bank data

Table A3: Shares in total NAFTA imports, by product (SITC rev. 2) and by main partner

Product	Period	Total imports (period average, millions of current US\$)	% SHARES IN TOTAL NAFTA IMPORTS								
			From ANDEAN	From CACM	From CARICOM	From MER COSUR	From NAFTA	From Ca nada	From Mexico	From USA	From Other countries
Food	81-85	23055	6.67	6.53	2.90	11.43	30.90	8.93	6.67	15.33	41.60
Food	86-90	30422	7.20	5.60	1.77	8.43	34.67	11.27	8.00	15.33	42.33
Food	90-95	38156	6.20	5.50	1.45	5.25	42.90	14.15	8.40	20.25	38.75
Food	96-2000	50069	5.75	5.30	1.30	4.70	45.35	16.45	9.00	19.90	37.50
Beb.& Tobacco	81-85	4100	0.17	0.90	1.87	3.53	16.20	11.40	3.07	1.70	77.37
Beb.& Tobacco	86-90	5258	0.20	0.53	1.40	3.30	17.87	10.77	5.10	1.97	76.73
Beb.& Tobacco	90-95	6639	0.25	0.65	1.50	4.00	22.85	13.20	5.60	4.05	70.80
Beb.& Tobacco	96-2000	9502	0.25	1.10	3.25	3.70	22.70	9.25	9.70	3.85	68.95
Crude Materials	81-85	15624	3.00	0.50	3.67	2.67	58.23	35.87	2.60	19.77	31.97
Crude Materials	86-90	19626	3.07	0.43	2.23	3.03	61.27	37.23	3.43	20.60	30.00
Crude Materials	90-95	25797	3.35	0.55	2.00	3.15	62.85	38.25	3.50	21.10	28.15
Crude Materials	96-2000	33442	3.40	0.60	1.65	4.25	61.70	37.40	3.10	21.20	28.45
Fuels	81-85	75535	11.10	0.03	3.57	1.23	26.17	11.57	11.60	3.03	57.87
Fuels	86-90	58275	14.70	0.03	1.60	1.43	25.70	14.10	7.67	3.90	56.57
Fuels	90-95	67357	15.45	0.00	1.00	0.90	30.95	19.00	8.05	3.85	51.65
Fuels	96-2000	98391	17.15	0.10	0.75	1.20	33.20	20.10	8.65	4.55	47.60
Anim.& Veg Fats	81-85	772	0.10	0.00	0.30	7.83	19.03	1.63	0.30	17.07	72.70
Anim.& Veg Fats	86-90	1153	0.40	0.10	0.10	10.83	27.07	6.33	1.07	19.70	61.47
Anim.& Veg Fats	90-95	1885	0.80	0.40	0.10	6.55	37.40	14.15	1.75	21.55	54.75
Anim.& Veg Fats	96-2000	2398	1.25	1.85	0.00	4.05	40.40	16.45	1.70	22.25	52.40
Chemicals	81-85	17176	0.47	0.03	1.03	2.50	43.00	17.10	2.00	23.87	52.97
Chemicals	86-90	29484	0.37	0.10	1.43	1.67	37.03	12.73	1.93	22.40	59.40
Chemicals	90-95	50286	0.70	0.10	1.10	1.20	39.35	12.85	2.05	24.45	57.55
Chemicals	96-2000	83545	0.70	0.10	0.75	1.00	37.85	11.95	1.95	23.95	59.55
Manufac.Goods	81-85	51803	1.47	0.10	0.30	2.70	32.33	18.20	2.07	12.10	63.07
Manufac.Goods	86-90	76890	1.10	0.13	0.37	3.17	35.53	19.60	3.17	12.80	59.60
Manufac.Goods	90-95	108028	1.20	0.20	0.45	2.80	42.40	19.15	3.55	19.70	52.95
Manufac.Goods	96-2000	163242	1.25	0.20	0.35	2.35	45.10	18.60	4.80	21.70	50.75
Leather	81-85	844	0.93	0.20	4.93	24.97	16.70	5.17	2.77	8.80	52.30
Leather	86-90	1516	1.60	0.23	7.27	22.40	14.30	3.37	4.70	6.23	54.20
Leather	90-95	2115	0.85	0.55	10.25	16.90	23.20	2.70	6.85	13.70	48.25
Leather	96-2000	2784	0.65	0.80	7.35	17.85	32.80	2.50	7.00	23.30	40.60
Rubber	81-85	2605	0.00	0.10	0.00	1.77	34.30	17.23	0.60	16.50	63.87
Rubber	86-90	4642	0.07	0.13	0.00	2.90	35.23	16.17	1.37	17.70	61.63
Rubber	90-95	7075	0.15	0.35	0.00	2.60	44.95	18.50	1.70	24.80	51.90
Rubber	96-2000	10733	0.35	0.40	0.05	2.05	51.65	17.80	3.20	30.60	45.50
Cork	81-85	1717	0.47	0.80	0.10	2.17	39.10	24.27	4.80	10.00	57.43
Cork	86-90	2618	0.53	0.87	0.10	3.10	40.57	25.27	4.27	11.00	54.77
Cork	90-95	4157	0.60	0.85	0.30	4.70	49.30	32.05	3.10	14.15	44.30
Cork	96-2000	6833	0.75	0.70	0.35	3.40	57.20	42.85	3.40	10.95	37.60

Product	Period	Total imports (period average, millions of current US\$)	% SHARES IN TOTAL NAFTA IMPORTS								
			From ANDEAN	From CACM	From CARICOM	From MER COSUR	From NAFTA	From Ca nada	From Mexico	From USA	From Other countries
Paper	81-85	5744	0.03	0.00	0.20	1.00	82.30	65.60	2.10	14.70	16.43
Paper	86-90	10032	0.30	0.13	0.13	1.03	74.73	58.53	2.73	13.43	23.77
Paper	90-95	14057	0.25	0.15	0.00	0.85	76.80	51.30	1.45	24.10	21.90
Paper	96-2000	19703	0.30	0.10	0.00	0.65	75.95	47.10	2.15	26.75	22.90
Textiles	81-85	5240	1.63	0.27	0.33	3.27	20.93	2.37	1.53	17.00	73.53
Textiles	86-90	9084	1.07	0.57	0.37	3.17	20.33	4.07	2.67	13.57	74.60
Textiles	90-95	14003	0.65	0.55	0.25	2.15	31.65	6.00	3.80	21.90	64.75
Textiles	96-2000	20660	0.45	0.40	0.25	1.15	39.90	7.85	6.15	25.90	57.80
Non-metalic	81-85	6969	1.17	0.03	0.10	1.30	16.93	6.03	2.27	8.67	80.47
Non-metalic	86-90	11924	1.37	0.03	0.10	1.47	18.60	6.17	3.73	8.73	78.43
Non-metalic	90-95	15650	1.45	0.00	0.10	1.35	21.85	6.30	4.10	11.45	75.15
Non-metalic	96-2000	24749	1.30	0.00	0.20	1.15	22.55	6.70	4.85	10.95	74.70
Iron & Steel	81-85	13256	0.67	0.00	0.40	4.43	18.10	9.23	1.03	7.83	76.37
Iron & Steel	86-90	13703	1.03	0.00	0.67	6.47	24.77	11.77	2.17	10.80	67.07
Iron & Steel	90-95	17998	1.60	0.00	0.80	6.40	32.75	14.10	3.30	15.35	58.45
Iron & Steel	96-2000	25921	1.75	0.00	0.80	6.85	33.50	11.60	5.55	16.40	57.05
Non-Ferrous	81-85	8065	5.87	0.03	0.23	2.00	39.57	26.47	4.30	8.77	52.33
Non-Ferrous	86-90	11064	3.30	0.03	0.10	2.90	48.97	32.97	4.63	11.40	44.63
Non-Ferrous	90-95	13939	3.90	0.00	0.15	2.10	53.35	33.25	4.00	16.10	40.45
Non-Ferrous	96-2000	21095	4.30	0.05	0.05	1.40	50.05	29.95	4.05	16.00	44.20
Other metal	81-85	7363	0.13	0.00	0.07	1.07	33.67	11.50	1.60	20.63	65.07
Other metal	86-90	12308	0.40	0.03	0.10	1.10	32.90	11.20	3.33	18.37	65.43
Other metal	90-95	19034	0.30	0.05	0.10	1.05	42.85	9.70	4.70	28.50	55.60
Other metal	96-2000	30764	0.25	0.10	0.10	0.55	49.25	11.40	6.00	31.80	49.75
Mach & Transp	81-85	137622	0.00	0.10	0.17	0.80	42.23	15.07	2.73	24.43	56.67
Mach & Transp	86-90	262559	0.00	0.00	0.10	0.90	35.80	13.83	4.53	17.40	63.13
Mach & Transp	90-95	396871	0.00	0.00	0.10	0.65	39.15	13.70	6.80	18.70	60.05
Mach & Transp	96-2000	605694	0.00	0.15	0.10	0.60	42.75	13.35	9.75	19.70	56.40
Misc. Manufac	81-85	43085	0.27	0.30	1.00	2.07	17.83	4.80	2.53	10.50	78.57
Misc. Manufac	86-90	88892	0.43	0.70	1.43	1.93	14.67	4.07	2.73	7.83	80.83
Misc. Manufac	90-95	139683	0.60	1.80	1.85	1.50	20.75	4.40	4.60	11.80	73.45
Misc. Manufac	96-2000	205501	0.50	2.70	1.80	0.90	26.10	5.80	7.45	12.85	67.95

Table A4 Gravity Model: Annual Estimates

Dependent variable: ln(import)										
	NAFTA	NAFTA-Imports	NAFTA-Exports		CACM		CACM-Imports		CACM-Exports	
Year	Additional effect on intra-bloc trade	Overall Bloc Imports	Overall Bloc Exports		Additional effect on intra-bloc trade		Overall Bloc Imports		Overall Bloc Exports	
80	0.075	-0.248	-0.002		2.325***		-0.723***		0.296**	
81	-0.136	-0.054	-0.135		2.142***		-0.697***		0.577***	
82	-0.116	-0.255*	-0.052		2.464***		-0.810***		0.533***	
83	0.286	-0.469***	-0.118		2.324***		-0.480***		0.451***	
84	0.208	-0.173	-0.009		2.025***		-0.206		0.525***	
85	0.240	-0.051	-0.099		1.843***		-0.455***		0.589***	
86	0.045	0.159	-0.238*		1.621***		-0.526***		0.602***	
87	-0.026	-0.043	-0.238*		1.549***		-0.393***		0.258**	
88	0.064	0.033	-0.199		1.221**		-0.155		0.459***	
89	-0.039	0.117	-0.426***		1.765***		-0.335***		0.138	
90	0.010	0.146	-0.418***		1.922***		-0.558***		0.173	
91	0.339	0.112	-0.332***		2.076***		-0.500***		0.194*	
92	0.498	-0.036	-0.524***		2.354***		-0.397***		0.257**	
93	0.491	-0.042	-0.478***		1.989***		-0.148		0.205*	
94	0.422	0.321***	-0.600***		1.994***		-0.178		0.164	
95	0.359	0.049	-0.379***		2.033***		-0.056		0.181*	
96	0.191	0.008	-0.240*		2.244***		-0.322***		0.198*	
97	0.119	0.224*	-0.160		2.137***		-0.276***		0.356***	
98	0.289	0.325***	-0.338***		2.016***		-0.070		0.438***	
99	0.377	0.236*	-0.500***		2.093***		-0.092		0.286***	
2000	0.425	0.344***	-0.459***		2.296***		-0.166		0.286***	

TABLE A4 GRAVITY MODEL: ANNUAL DATA. Dependent variable: ln(imports) (Concluded)

Year	Preferential Trade Agreements										
	CARICOM	CARICOM-Imports	CARICOM-Exports	ANDEAN	ANDEAN-Imports	ANDEAN-Exports	MERCOSUR	MERCOSUR-Imports	MERCOSUR-Exports		
	Additional effect on intra-bloc trade	Overall Bloc Imports	Overall Bloc Exports	Additional effect on intra-bloc trade	Overall Bloc Imports	Overall Bloc Exports	Additional effect on intra-bloc trade	Overall Bloc Imports	Overall Bloc Exports		
80	3.710***	-0.137	-0.939***	1.657***	-0.650***	-0.704***	1.297*	-0.777***	0.011		
81	3.762***	-0.098	-0.653***	1.771***	-0.921***	-0.829***	1.221*	-0.970***	0.014		
82	3.797***	0.026	-0.734***	1.511***	-0.720***	-0.725***	1.195*	-1.357***	0.260**		
83	3.939***	-0.029	-0.768***	1.583***	-0.928***	-0.797***	1.289*	-1.503***	0.288**		
84	3.312***	-0.102	-0.672***	1.309**	-0.676***	-0.827***	1.644**	-1.678***	0.290**		
85	3.390***	-0.112	-0.653***	1.230**	-0.863***	-0.581***	1.229*	-1.438***	0.464***		
86	3.183***	-0.121	-0.782***	1.430***	-0.586***	-0.960***	1.366**	-1.128***	0.108		
87	3.352***	-0.201*	-0.896***	1.054**	-0.599***	-0.785***	1.057	-1.133***	0.035		
88	3.146***	-0.121	-0.788***	1.476***	-0.833***	-0.875***	1.221*	-1.337***	0.277**		
89	3.032***	-0.002	-0.690***	1.401***	-0.972***	-0.815***	1.061	-1.277***	0.250**		
90	3.493***	-0.154	-0.534***	1.451***	-1.044***	-0.418***	1.007	-1.138***	0.228*		
91	3.412***	-0.166*	-0.681***	1.429***	-0.648***	-0.522***	0.973	-0.981***	0.268**		
92	3.224***	-0.108	-0.531***	1.621***	-0.698***	-0.584***	1.179*	-0.947***	0.163		
93	3.068***	-0.096	-0.357***	1.496***	-0.490***	-0.605***	1.124*	-0.667***	-0.028		
94	3.486***	-0.283***	-0.274***	1.765***	-0.583***	-0.541***	1.229**	-0.617***	-0.039		
95	3.142***	-0.254***	-0.123	2.008***	-0.571***	-0.515***	1.139*	-0.632***	0.048		
96	3.034***	-0.302***	-0.079	1.962***	-0.672***	-0.552***	1.217**	-0.619***	0.052		
97	3.258***	-0.206**	-0.187**	2.137***	-0.809***	-0.540***	1.515**	-0.742***	-0.037		
98	2.772***	-0.014	0.030	2.213***	-0.366***	-0.651***	1.597***	-0.555***	-0.146		
99	2.876***	-0.077	-0.115	2.252***	-0.668***	-0.511***	1.314**	-0.793***	-0.058		
2000	2.879***	0.161*	-0.168*	2.325***	-0.624***	-0.441***	1.521***	-0.795***	-0.068		

Table A5 Gravity model: pooled data. Dependent variable is ln (imports)

Variable	Coefficient	stat. significance
constant	-34.101	***
dummy year 81	-0.19	***
dummy year 82	-0.28	***
dummy year 83	-0.69	
dummy year 84	-0.73	
dummy year 85	-0.81	#
dummy year 86	-1.36	***
dummy year 87	-1.32	**
dummy year 88	-1.28	**
dummy year 89	-1.56	***
dummy year 90	-1.61	***
dummy year 91	-1.64	***
dummy year 92	-3.06	***
dummy year 93	-3.14	***
dummy year 94	-3.11	***
dummy year 95	-3.75	***
dummy year 96	-3.84	***
dummy year 97	-3.89	***
dummy year 98	-2.92	***
dummy year 99	-3.05	***
dummy year 2000	-3.10	***
GDP importer (gdpi)	0.92	***
Population importtr (popi)	0.21	***
GDP exporter (gdpe)	1.49	***
Population exporttr (popj)	0.11	***
average distance	0.41	***
absolute distance	-1.13	***
Area importer (areai)	-0.34	***
Area exporter (areaj)	-0.51	***
Common borders	0.74	***
Importer is an island (islii)	-0.14	***
Exporter is an island (islij)	0.26	***
Common language (clang)	0.78	***
Importer is landlocked (lalocki)	-0.34	***
Exporter is landlocked (lalockj)	0.15	***

Table A5 (cont). Gravity model: pooled data. Dependent variable is ln(imports)

		Test for the equality of coefficients: periods in rows vs. periods in columns (2)								
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
1	gdpi1	80-82	0.037	*						
2	gdpi2	83-85	0.053	***			**			
3	gdpi3	86-88	0.048	***			*			
4	gdpi4	89-91	0.019					#	**	*
5	gdpi5	92-94	0.043	**						
6	gdpi6	95-97	0.052	***						
7	gdpi7	98-00	0.046	**						
8	gdpj1	80-82	-0.336	***	***	***	***	***	***	***
9	gdpj2	83-85	-0.291	***		*	**	***	***	***
10	gdpj3	86-88	-0.265	***						**
11	gdpj4	89-91	-0.255	***						
12	gdpj5	92-94	-0.245	***						
13	gdpj6	95-97	-0.252	***						
14	gdpj7	98-00	-0.235	***						
15	popi1	80-82	-0.206	***			***	***	***	#
16	popi2	83-85	-0.202	***			**	***	***	
17	popi3	86-88	-0.209	***			***	***	***	*
18	popi4	89-91	-0.149	***						
19	popi5	92-94	-0.135	***						*
20	popi6	95-97	-0.136	***						*
21	popi7	98-00	-0.172	***						
22	popj1	80-82	-0.093	***	***	**	*			
23	popj2	83-85	-0.155	***				**	**	**
24	popj3	86-88	-0.137	***						#
25	popj4	89-91	-0.131	***						
26	popj5	92-94	-0.112	***						
27	popj6	95-97	-0.106	***						
28	popj7	98-00	-0.103	***						
29	dist11	80-82	-0.055	#						
30	dist12	83-85	-0.122	***					*	
31	dist13	86-88	-0.107	***					#	
32	dist14	89-91	-0.105	***					#	
33	dist15	92-94	-0.075	**						
34	dist16	95-97	-0.041							#
35	dist17	98-00	-0.103	***						
36	dist1	80-82	-0.038	*				#		***
37	dist2	83-85	-0.019				#	**	**	***
38	dist3	86-88	-0.031					*	#	***
39	dist4	89-91	-0.058	***						***
40	dist5	92-94	-0.077	***						***
41	dist6	95-97	-0.067	***						***
42	dist7	98-00	-0.145	***						***
43	areai1	80-82	0.282	***			***	***	***	**

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
44	areai2	83-85	0.280	***			***	***	***	**
45	areai3	86-88	0.269	***			*	***	***	
46	areai4	89-91	0.248	***				*		
47	areai5	92-94	0.229	***						**
48	areai6	95-97	0.236	***						*
49	areai7	98-00	0.256	***						
50	areaj1	80-82	0.397	***	#			***	***	***
51	areaj2	83-85	0.416	***					*	***
52	areaj3	86-88	0.406	***				*	***	***
53	areaj4	89-91	0.411	***				#	**	***
54	areaj5	92-94	0.428	***						*
55	areaj6	95-97	0.436	***						
56	areaj7	98-00	0.450	***						
57	border2	83-85	-0.121							
58	border3	86-88	-0.103							
59	border4	89-91	0.016							*
60	border5	92-94	-0.154							
61	border6	95-97	-0.001							*
62	border7	98-00	-0.221	*						
63	islii2	83-85	0.042			***	***	**	**	**
64	islii3	86-88	0.201	***						
65	islii4	89-91	0.263	***				**	**	**
66	islii5	92-94	0.148	***						
67	islii6	95-97	0.155	***						
68	islii7	98-00	0.154	***						
69	islij2	83-85	-0.020							**
70	islij3	86-88	-0.031							**
71	islij4	89-91	-0.078	#				**	*	***
72	islij5	92-94	0.022							
73	islij6	95-97	0.014							
74	islij7	98-00	0.079	#						
75	clang2	83-85	-0.032				**			
76	clang3	86-88	0.002							
77	clang4	89-91	0.046					**	#	
78	clang5	92-94	0.079	#						
79	clang6	95-97	0.136	***						
80	clang7	98-00	0.116	**						
81	lalocki2	83-85	0.014				*	***	***	***
82	lalocki3	86-88	0.088					**	***	***
83	lalocki4	89-91	0.139	**				*	***	***
84	lalocki5	92-94	0.014							
85	lalocki6	95-97	0.053							
86	lalocki7	98-00	0.084							
87	lalockj2	83-85	0.049					**	***	***

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. signifi- cance	83-85	86-88	89-91	92-94	95-97	98-00
88	lalockj3	86-88	-0.044						***	**
89	lalockj4	89-91	-0.073						*	
90	lalockj5	92-94	-0.187	***						
91	lalockj6	95-97	-0.222	***						
92	lalockj7	98-00	-0.263	***						
93	eu1	80-82	-1.497	***		*	**	***	***	***
94	eu2	83-85	-1.385	***			#	*	***	***
95	eu3	86-88	-1.248	***					#	*
96	eu4	89-91	-1.156	***						
97	eu5	92-94	-1.102	***						
98	eu6	95-97	-1.016	***						
99	eu7	98-00	-0.963	***						
100	eum1	80-82	0.521	***	#	*	***			
101	eum2	83-85	0.420	***		***	***	**	**	
102	eum3	86-88	0.644	***						**
103	eum4	89-91	0.733	***				***	***	***
104	eum5	92-94	0.575	***						
105	eum6	95-97	0.575	***						
106	eum7	98-00	0.506	***						
107	eux1	80-82	0.388	***		**	***	***	***	***
108	eux2	83-85	0.346	***			**	**	**	***
109	eux3	86-88	0.257	***						***
110	eux4	89-91	0.200	***						*
111	eux5	92-94	0.208	***						*
112	eux6	95-97	0.204	***						*
113	eux7	98-00	0.091	**						
114	efta1	80-82	0.358	#						
115	efta2	83-85	0.372	#						
116	efta3	86-88	0.344	#						
117	efta4	89-91	0.249							
118	efta5	92-94	0.370	#						
119	efta6	95-97	0.455	*						
120	efta7	98-00	0.406	*						
121	eftam1	80-82	-0.207	***						**
122	eftam2	83-85	-0.329	***		**	**			
123	eftam3	86-88	-0.144	**				*	***	***
124	eftam4	89-91	-0.120	**				**	***	***
125	eftam5	92-94	-0.234	***						*
126	eftam6	95-97	-0.307	***						
127	eftam7	98-00	-0.373	***						
128	eftax1	80-82	-0.029							
129	eftax2	83-85	-0.079							
130	eftax3	86-88	-0.073							
131	eftax4	89-91	-0.019							

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
132	eftax5	92-94	0.030							
133	eftax6	95-97	0.005							
134	eftax7	98-00	-0.011							
135	asean1	80-82	0.312							
136	asean2	83-85	0.363	#						
137	asean3	86-88	0.252							
138	asean4	89-91	-0.445	*						
139	asean5	92-94	-0.301							
140	asean6	95-97	-0.314							
141	asean7	98-00	-0.311							
142	aseanm1	80-82	-0.007		*		*	*	***	***
143	aseanm2	83-85	0.070			*	***	***	***	***
144	aseanm3	86-88	0.106	*			#		**	**
145	aseanm4	89-91	0.431	***						
146	aseanm5	92-94	0.542	***						
147	aseanm6	95-97	0.766	***						
148	aseanm7	98-00	0.495	***						
149	aseanx1	80-82	0.260	***	***	***	***	***	***	***
150	aseanx2	83-85	0.333	***		***	***	***	***	***
151	aseanx3	86-88	0.409	***					***	***
152	aseanx4	89-91	0.510	***					**	***
153	aseanx5	92-94	0.642	***					**	***
154	aseanx6	95-97	0.744	***						***
155	aseanx7	98-00	0.932	***						
156	gcc1	80-82	1.449	***			**	*	*	*
157	gcc2	83-85	1.205	***			**	**	**	**
158	gcc3	86-88	1.374	***			**	#	*	*
159	gcc4	89-91	1.115	***						
160	gcc5	92-94	1.460	***						
161	gcc6	95-97	1.670	***						
162	gcc7	98-00	1.264	***						
163	gccm1	80-82	0.338	***			***	***	***	***
164	gccm2	83-85	0.500	***			***	***	***	***
165	gccm3	86-88	0.310	***			***	***	***	***
166	gccm4	89-91	0.149	**					***	
167	gccm5	92-94	0.172	***					***	
168	gccm6	95-97	0.080							***
169	gccm7	98-00	0.074							
170	gccx1	80-82	-2.776	***		*	***	***	***	***
171	gccx2	83-85	-2.212	***			**	***	***	***
172	gccx3	86-88	-1.584	***				***	***	***
173	gccx4	89-91	-1.497	***				*	***	***
174	gccx5	92-94	-1.527	***						***
175	gccx6	95-97	-1.303	***						**

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
176	gccx7	98-00	-0.812	***						
177	nafta1	80-82	-0.074							
178	nafta2	83-85	0.221							
179	nafta3	86-88	0.018							
180	nafta4	89-91	0.102							
181	nafta5	92-94	0.478							
182	nafta6	95-97	0.222							
183	nafta7	98-00	0.391							
184	naftam1	80-82	-0.249	***		***	***	***	***	***
185	naftam2	83-85	-0.285	***		***	***	***	***	***
186	naftam3	86-88	0.060							***
187	naftam4	89-91	0.150	**						**
188	naftam5	92-94	0.122	#						***
189	naftam6	95-97	0.120	#						***
190	naftam7	98-00	0.397	***						
191	naftax1	80-82	-0.132	*		*	***	***		***
192	naftax2	83-85	-0.205	***			***	***		***
193	naftax3	86-88	-0.338	***				**		
194	naftax4	89-91	-0.479	***					**	
195	naftax5	92-94	-0.564	***					***	
196	naftax6	95-97	-0.267	***						**
197	naftax7	98-00	-0.486	***						
198	cacm1	80-82	2.257	***		*				
199	cacm2	83-85	2.065	***						
200	cacm3	86-88	1.470	***				#	#	#
201	cacm4	89-91	1.929	***						
202	cacm5	92-94	2.130	***						
203	cacm6	95-97	2.117	***						
204	cacm7	98-00	2.142	***						
205	cacmm1	80-82	-0.662	***	***	***	***	***	***	***
206	cacmm2	83-85	-0.274	***				#	#	***
207	cacmm3	86-88	-0.246	***						***
208	cacmm4	89-91	-0.352	***				**	**	***
209	cacmm5	92-94	-0.126	*						
210	cacmm6	95-97	-0.124	*						
211	cacmm7	98-00	-0.003							
212	cacmx1	80-82	0.543	***			***	#		
213	cacmx2	83-85	0.612	***			***	**	*	
214	cacmx3	86-88	0.537	***			***	#		
215	cacmx4	89-91	0.261	***					*	***
216	cacmx5	92-94	0.396	***						
217	cacmx6	95-97	0.441	***						
218	cacmx7	98-00	0.522	***						
219	car1	80-82	3.746	***		**	*	*	***	***

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. significance	83-85	86-88	89-91	92-94	95-97	98-00
220	car2	83-85	3.624	***		#			**	***
221	car3	86-88	3.269	***						*
222	car4	89-91	3.343	***						**
223	car5	92-94	3.344	***						**
224	car6	95-97	3.182	***						
225	car7	98-00	2.910	***						
226	carm1	80-82	-0.072					#	***	
227	carm2	83-85	-0.125	**					**	#
228	carm3	86-88	-0.192	***						**
229	carm4	89-91	-0.150	***					*	*
230	carm5	92-94	-0.199	***						***
231	carm6	95-97	-0.287	***						***
232	carm7	98-00	-0.005							
233	carx1	80-82	-0.931	***			***	***	***	***
234	carx2	83-85	-0.829	***			**	***	***	***
235	carx3	86-88	-0.854	***			**	***	***	***
236	carx4	89-91	-0.639	***				***	***	***
237	carx5	92-94	-0.412	***					***	***
238	carx6	95-97	-0.160	***						
239	carx7	98-00	-0.155	***						
240	and1	80-82	1.634	***						#
241	and2	83-85	1.379	***					#	**
242	and3	86-88	1.331	***					*	**
243	and4	89-91	1.407	***					#	**
244	and5	92-94	1.615	***						#
245	and6	95-97	2.014	***						
246	and7	98-00	2.232	***						
247	andm1	80-82	-0.766	***		#		***		***
248	andm2	83-85	-0.810	***		**		***	*	***
249	andm3	86-88	-0.616	***			*			#
250	andm4	89-91	-0.802	***				***	*	***
251	andm5	92-94	-0.519	***						
252	andm6	95-97	-0.641	***						**
253	andm7	98-00	-0.466	***						
254	andx1	80-82	-0.741	***			***	***	***	***
255	andx2	83-85	-0.732	***			**	***	***	***
256	andx3	86-88	-0.850	***			***	***	***	***
257	andx4	89-91	-0.509	***						
258	andx5	92-94	-0.465	***						
259	andx6	95-97	-0.439	***						
260	andx7	98-00	-0.433	***						
261	mer1	80-82	1.160	***						
262	mer2	83-85	1.339	***						
263	mer3	86-88	1.180	***						

Test for the equality of coefficients: periods in rows vs. periods in columns (2)										
Row	Dummy	Period	coefficient (gravity estimates)	stat. signifi- cance	83-85	86-88	89-91	92-94	95-97	98-00
264	mer4	89-91	0.978	***						
265	mer5	92-94	1.141	***						
266	mer6	95-97	1.240	***						
267	mer7	98-00	1.448	***						
268	merm1	80-82	-1.087	***	***			***	***	***
269	merm2	83-85	-1.565	***		***	***	***	***	***
270	merm3	86-88	-1.210	***				***	***	***
271	merm4	89-91	-1.052	***				***	***	***
272	merm5	92-94	-0.645	***						
273	merm6	95-97	-0.608	***						
274	merm7	98-00	-0.640	***						
275	merx1	80-82	0.149	**	***	#	**			
276	merx2	83-85	0.405	***				**	***	***
277	merx3	86-88	0.294	***					#	***
278	merx4	89-91	0.362	***				*	**	***
279	merx5	92-94	0.176	***						#
280	merx6	95-97	0.147	**						
281	merx7	98-00	0.031							

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