Chapter 3

NAFTA's Remaining Trade Barriers

First version:
This version: March 4, 2003

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3.1 Introduction

When the North American Free Trade Agreement (NAFTA) was being negotiated in the early 1990s it created controversy due to the expected liberalization of commerce among its member countries. To some extent, the positive effects that NAFTA has had on the Mexican economy, which are discussed in chapters 1-3 of this report, are due to the substantial liberalization of trade. In fact, the extent of liberalization probably helped Mexico catch up with the level of income and wages observed in the United States by increasing the efficiency of the allocation of factors of production across and within industries.

Although the previous chapters and the following chapter five stress the national and international policy agenda needed to complement and deepen NAFTA so that Mexico (and its partners) can prosper at an accelerated pace is substantial, an important liberalization agenda still remains. The removal of the remaining barriers can improve the efficiency of resource allocation within the Mexican economy, improve the efficiency of its innovation system (see chapter five), and thus raise aggregate productivity. This liberalization agenda is the subject of this chapter.

More specifically, the following sections cover market access issues that might require further negotiations among the NAFTA partners and selected complementary policies to support additional adjustments of certain sectors. In the case of manufactures, one of the key issues that was raised in the early 1990s when NAFTA was negotiated is the impact of rules of origin (ROOs), which determine the criteria for exporting Mexican products to the U.S. under the preferential NAFTA treatment. This topic is analyzed in Section II. We conclude that ROOs have been particularly burdensome in the textile and apparel sectors, which has inhibited Mexican exports from taking full advantage of the NAFTA preferences. However, these preferences will become less important over time due to the phasing out of the Multi-Fiber Arrangement under the rules negotiated in the Uruguay Round of global trade negotiations in 1995. Hence the challenge for Mexico in the future will be not so much to re-negotiate less restrictive ROOs for its apparel exports, but to develop innovation capacity in order to allow its firms to compete in the U.S. market based on upgrading of its technological capacity. Thus, besides focusing on ROOs, the policy discussions in the relevant chapter on innovation are important as well.

Section III deals with the impact of NAFTA on Mexico's agricultural sector and examines the extent to which this sector has been liberalized since the early 1990s. The main findings are that liberalization of agricultural trade has been notable in spite of the fact that there are remaining barriers that have not yet been phased out and in spite of the substantial subsidies offered to farmers in all three NAFTA countries. In terms of economic performance of the sector, Mexican crop agriculture has not been devastated by this liberalization, as was expected prior to NAFTA implementation. This positive sectoral result was probably due to a combination of factors, including the growth of the U.S. and Mexican economies during 1996-2000, the productivity improvements in Mexican agriculture based on irrigated land, and possibly due to the existing income support subsidies under PROCAMPO and the Alianza para el Campo programs.

Moreover, the poorest farmers have not been negatively affected by NAFTA primarily because these small farmers produce maize and other crops for subsistence and thus do not sell their products in the market. In fact, they might have benefited from falling prices of food staples, since these poor farmers are net consumers of food.

Section IV analyses how the NAFTA affected the use of anti-dumping (AD) and counter-vailing duties (CVD) by the United States against its NAFTA partners. The statistical evidence discussed herein is somewhat pessimistic. It shows that NAFTA's panel review mechanism has had an insignificant effect in terms of shielding Mexico from U.S. AD and CVD activity. Yet there is some evidence that Canada has been a bit more successful, partly because they have a longer history in terms of reviewing U.S. AC/CVD decisions under the previously negotiated US-Canada Free Trade Agreement of 1988 (CFTA). However, this is an area that remains a concern for Mexico and for any other country wishing to implement free trade agreements with the U.S. In the future, the only real solution to this problem is to harmonize competition policies across the NAFTA countries and allowing competition policy to regulate anti-competitive behavior by firms. If this is not a viable short-term solution, then Mexican negotiators should first evaluate why the panel review mechanism under NAFTA is functioning particularly slow for Mexican cases. On the other hand, Mexico itself seems to have used AD/CVD investigations in a highly discretionary fashion. Thus a negotiated solution to this problem of barriers imposed by these administrative mechanisms is one that should aim to restrict its use by all three NAFTA members.

3.2 Trade Barriers and Rules of Origin in NAFTA

3.2.1 Basic economics of rules of origin

Even prior to the formal implementation of the NAFTA, Krueger (1993) had already noted that ROOs play an important role in FTAs, which is not present in Customs Unions. Under FTAs each partner is allowed to maintain its own import restrictions affecting the rest of the world, and thus ROOs are criteria for identifying products that are eligible for preferential treatment within the member countries. The main objective of these ROOs is to prevent trade "delfection" through which imports from non-member countries could be introduced into the FTA region through the country with the lowest import barriers, and in turn these imports could be re-exported to the country with the highest levels of import protection.

An economic challenge posed by these ROOs is that they can become a vehicle for the exportation of protectionism from the most protectionist FTA member to the more open members. For example, if tariffs and non-tariff barriers to the importation of textiles are more restrictive in the U.S. than in Mexico, then the NAFTA rule of origin for apparel and clothing can indirectly impose U.S. textile barriers on Mexican producers of clothing who wish to export apparel to the U.S. market.

The protectionist effects of rules of origin have been widely studied in the scientific literature (see, among others, Rodríguez 2001; Ju and Krishna 1998; Krueger

1997; Krishna and Krueger 1995; Krueger 1993) and are not disputed. To illustrate how ROOs can transfer the protectionist structure from the U.S. to Mexico, Box 1 presents Krueger's (1993) arithmetic of how profits of a Mexican firm that wishes to export clothing to the U.S. market are affected by U.S. trade policies. The basic set-up presented in Box 1 indicates that if the U.S. is NAFTA's low-cost producer of textiles, the main input in the apparel manufacturing, then the hypothetical Mexican apparel firm will decide whether to export to the U.S. based on the yarn-forward ROO specified in the NAFTA text, and the only relevant variables will be the tariffs on imports of apparel and textiles in the U.S.

The framework in Box 1 can also be used to assess the extent to which a reduction of import tariffs for textiles in the U.S. or a relaxation of the ROOs will affect Mexican incentives to export apparel to the U.S. market. Elementary calculations show that apparel firms in Mexico would be indifferent between a unilateral move by the U.S. to eliminate its import restrictions (tariffs) on textiles by driving t_T^{US} to zero or re-negotiating the ROOs so that Mexico can use textiles from the rest of the world for the production of apparel for export to the U.S. But this framework can be used to understand why certain Mexican exports to the U.S. have not made full use of the NAFTA preferences offered by the agreement. This is the topic of the next section.

3.2.2 Nafta preferences, utilization rates, and rules of origin[1]

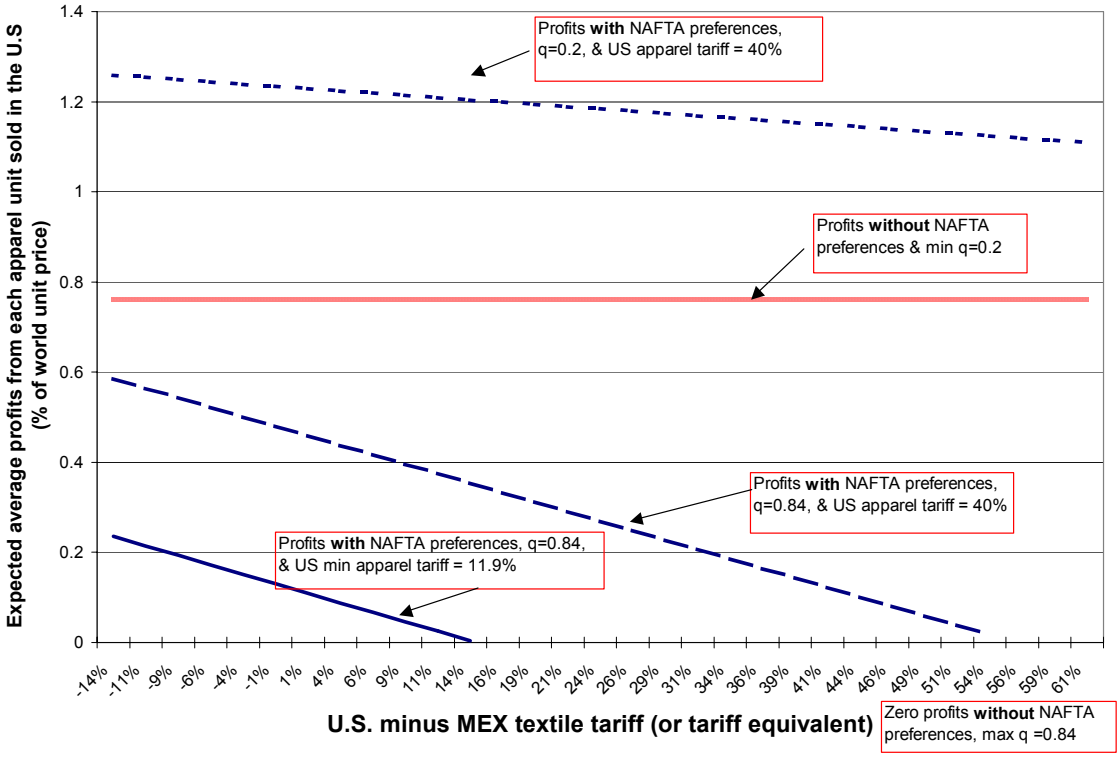
Box 1 showed that there are some specific conditions under which Mexican exporters will voluntarily decide to export to the U.S. without utilizing the NAFTA preferences. This occurs when the profits from exporting without preferences are greater than those from using them. More specifically, this is more common in industries where tariff preference is smaller than the cost differential from exporting to the U.S. by satisfying the rule of origin minus the costs from importing inputs of production from other sources. This is stated in equation (6) in Box 1 for the case of apparel exports.

To illustrate how ROOs and the structure of protection in FTA members can affect the extent to which exporters use the FTA preferences, Figure 1 shows profit schedules for firms wishing to use FTA preferences. We continue to use the example of textile and apparel goods. The downward sloping lines corresponds to the expected profit schedules for three different hypothetical apparel products. The expected profits of exporting to the U.S. under FTA preferences decline with the textile tariff differential (or tariff equivalent rate of protection). The graph shows three different products: the top dotted line shows the expected profits for a firm that produces apparel with a rather low share of textile inputs (q=0.2) and facing an MFN (non-preferential tariff) of 40%. The corresponding expected profits from not using the preference is portrayed by the horizontal line, which simply shows that the profits for non-preferential exports do not depend on differences between U.S. and Mexican textile tariffs, and thus it is flat or horizontal. Exporters facing these conditions would probably choose to make full use of the FTA preferences, since for a reasonable range of textile tariff differentials, the FTA

[1] This section borrows heavily from Cadot et al. (2002).

profit line is above the non-preferential profits. In contrast, the two other downward sloping profit lines cross their corresponding non-preferential profit line, which we set equal to zero, at different points of the horizontal axis (or at two different levels of textile tariffs in the U.S. relative to the Mexican tariff of 18.9% as of 2001).[2] This implies that for products where the U.S. apparel tariff is close to 12% (the U.S. MFN average tariff without considering the impact of quotas) and a maximum textile cost share of 84% (q=0.84) using NAFTA preferences becomes unprofitable at low levels of U.S. textile tariffs. In fact, this would occur when the U.S. textile tariff is about 14 percentage points higher than Mexico's 19% tariff. This break-even point occurs a higher levels of the U.S. textile tariff when the U.S. apparel tariff is 40%, which makes selling that apparel product in the U.S. market more profitable. Thus it is clear that the decision to take advantage of NAFTA preferences will vary across firms and products, depending on some key parameter, namely U.S. apparel and textile tariffs and the cost share of textile inputs in the production of apparel goods. This statement is generally applicable to any product and ROO.

Figure 1. How NAFTA Utilization Rates Vary with Tariff Structure: The Case of the Yarn-Forward Rule for Apparel Exports



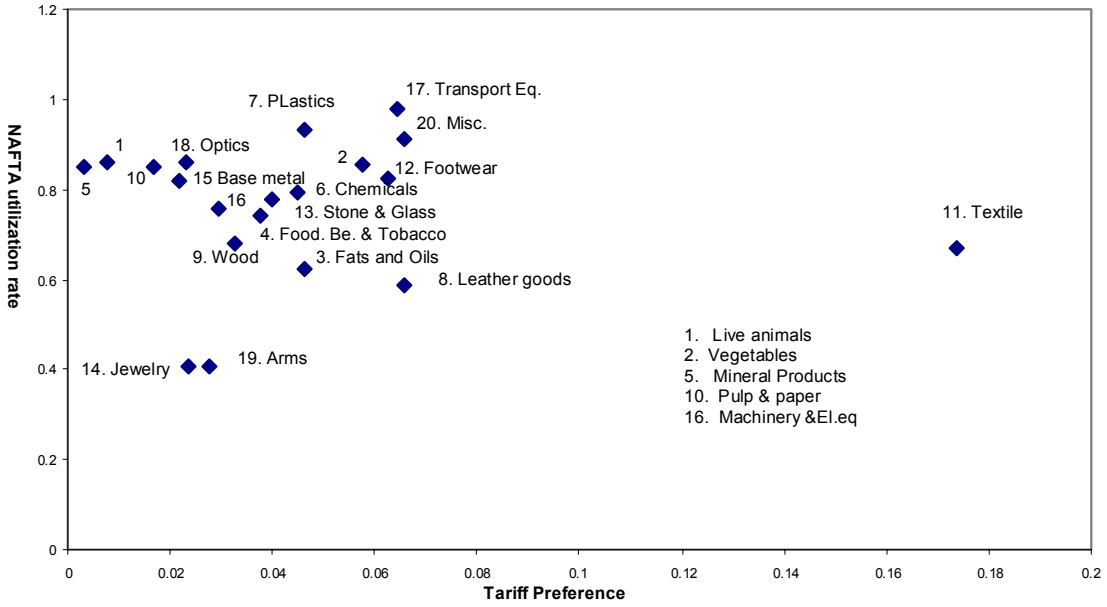
Source: Authors' calculations – see Box 1 and text for details.

An important empirical question is what Mexican exports are utilizing NAFTA preferences and which ones are not. Figure 2, provided by Cadot et al. (2002), shows the

[2] This zero-profit condition can be readily calculated from equation (5) in Box 1, by setting Mexico's MFN textile tariff equal to their actual reported tariff of 18.84% and setting the cost share of textile inputs at the maximum possible ratio so that profits equal zero. This is the tariff reported by the FTAA Hemishperic Database maintained by the Tripartite Commission composed by the IDB, OAS, and ECLAC.

relationship between NAFTA utilization rates in various sectors (measured along the vertical axis) and the tariff preferential margin offered by the agreement (measured along the horizontal axis). The textile and apparel sector is a clear outlier: it enjoys the highest preferential treatment, yet the utilization rate was quite low in 2000. The evidence indicates that only about 62% of Mexican exports of textile and apparel enters under the NAFTA preferences. Hence it seems that there is something peculiar about this sector in terms of how the rules of origin affect decisions by Mexican firms. We now turn to a more detailed empirical analysis of the impact of tariff preferences and ROOs on Mexican exports to the U.S.

Figure 2. The Empirical Relationship between NAFTA Preferences Utilization Rates versus Tariff Preferences, 2000: Textile and Apparel – The Obvious Outlier



Source: Cadot et al. (2002) based on data from the U.S. ITC.

Given that there is substantial variation in NAFTA's tariff preference across industries, in the absence of offsetting administrative or ROO costs one would expect Mexico's trade flows to be affected by NAFTA's rate of preference. As discussed in Box 1 and illustrated in Figure 1, items with larger preferential treatment under NAFTA (e.g., higher U.S. MFN tariffs) should be associated with a higher percentage of Mexican firms choosing to export to the U.S. under NAFTA preferences. Hence higher tariff preferences should be positively correlated with higher utilization rates (the % of exports entering the U.S. market with NAFTA preferential treatment). However, if the cost of complying with NAFTA's ROO and other administrative hassles offset the benefit of the preferences, one would expect the composition of Mexico's trade flows to be less affected by NAFTA preferences. That is, under the latter hypothesis and provided that the pattern of US MFN tariffs does not differ too strongly from the pattern of MFN tariffs applied by Mexico's other trading partners, one should not be able to trace large differences between the pattern of Mexican exports to the US relative to the rest of the world. Thus, comparing

Mexico's exports to the US and to the world provides a further check on the hypothesis that NAFTA involved a switch of protection instrument from tariffs or quotas to ROOs rather than an overall reduction in the level of protection.

Cadot et al. (2002) explored this question by estimating the following model using WLS with Mexican exports as weights at the six-digit level of industry disaggregation in the Harmonized Tariff Schedule (HTS) for the year 2000:

$$(1)\ XUS_i = \alpha_0 + \alpha_1 * XROW_i + \alpha_2 * \ln PREF_i + \alpha_3 * \ln ROO_i + \sum_k \alpha_k * D_{ki} .$$

XUS_i stands for Mexico's exports to the US in tariff line i, $XROW_i$ is Mexico's exports to the rest of the world, $PREF_i$ stands for the rate of tariff preference under NAFTA, ROO_i is Estevadeordal's (1999) ROO-restriction index, and D_{ki} is a vector of dummy variables by HTS chapters.

Cadot et al. (2002) estimated a variant of (1) in which Estevadeordal's (1999) ROO-restriction index was replaced by a vector of dummies for specific types of ROOs used in the NAFTA. More specifically these analysts used the following set of dummy variables to identify products subject to the following types of ROOs:

CHAP = 1 when the ROO requires a change in tariff chapter (as in the case of apparel)
HEAD = 1 when the ROO requires a change in tariff heading
SUBHEAD = 1 when it requires a change in tariff sub-heading
ITEM = 1 when it requires a change in tariff item
EXC = 1 when there is one or more exceptions
RVC = 1 when the ROO specifies a minimum regional value content.

In addition, the analysis included an interaction between the *CHAP* variable and the dummies identifying food and textiles (where most ROOs take the form of a change of chapter). The estimated equation was:

$$(2)\ XUS_i = \alpha_0 + \alpha_1 * XROW_i + \alpha_2 * PREF_i + \alpha_3 * R_i + \alpha_4 * CHAP * FOOD + \alpha_5 * CHAP * TEXTILE + \sum_k \alpha_k * D_{ki}$$

where α_2 is the vector of coefficients on the various types of ROOs mentioned above.

As explained by Cadot et al. (2002) there two potential technical complications in estimating models (1) and (2) that merit some attention. First, if *PREF* and *ROO* are substitutes, there may be collinearity (in a weak sense) between the two. However regressing *ROO* on *PREF* gives a positive and significant parameter estimate (consistent with substitutability) but an R^2 of only 10%, suggesting that the association is not sufficiently close as to be a problem in the estimation of (1). Second, it can be argued that *ROO* and *PREF* are endogenous to Mexican exports if tariff and ROO protection are used to restrict Mexican access to the US market. However ROOs determined in the course of negotiations held in the early 1990s and finalized in 1992 can hardly be endogenous to

Mexico's 2000 export pattern.[3] As for *PREF*, GATT Article XXIV implies that intra-bloc tariffs have to go to zero, so steady-state tariff preferences are equal to MFN tariffs which are also predetermined (see footnote 2 supra). Estimation results are shown in Table 1.

Table 1. Regression Results for (1) and (2) Dependent variable: *XUS*

	(1)		(2)	
	Estimate	t-stat	Estimate	t-stat
Constant	1882.19	3.01	785.43	1.42
XROW	3.99	103.70	3.63	97.60
Ln PREF	25.04	15.01	26.09	15.31
Ln ROO	-628.48	-12.34		
ITEM			-2197.41	-3.04
SUBHEAD			-308.36	-2.18
HEAD			-658.84	-6.00
CHAP * FOOD			-387.68	-1.05
CHAP * TEXTILE			-533.09	-1.02
EXC			230.67	3.84
RVC			-985.41	-19.70
R^2 adjusted	0.94		0.95	
Number of observations	3616		3389	

Source: Cadot et al. (2002, Table 3).

The results from (1) are as expected. The relationship between exports to the US and exports to the rest of the world is proportional with a factor between three and four, but tariff preferences have a positive influence on Mexico's exports to the US. ROOs have the opposite effect, and both are highly significant.

The results of (2), in which Estevadeordal's (1999) ROO-restriction index is decomposed into dummy variables for various types of ROOs, are also interesting. Changes of tariff classification have negative and significant effects, whereas exceptions have positive effects. This suggest that the bulk of exceptions to ROOs make them *less* constraining rather than more, unlike the oft-cited restriction on tomato paste according to which ketchup is deemed originating if it results from a transformation of ingredients satisfying a change-of-chapter rule, but not if it results from the transformation of tomato paste (see Krueger 1999). Regional value content rules appear particularly significant and have large marginal effects.

In order to estimate the quantitative effects of each instrument on the direction of Mexican trade flows, Cadot et al. (2002) performed the following exercise. On the basis of the parameter estimates in (1) and (2), they compared the predicted values of Mexican

[3] Technically, the ROO variable can be considered as predetermined to the dependent variable, which implies that there is no correlation between the regressors and the equation's error term, hence that OLS and WLS estimates are unbiased. An equation determining ROOs on the basis of contemporaneous variables can be found in Estevadeordal (1999), but simultaneous estimation of these two in a recursive system would not alter the point estimates of (1).

exports to the US in three cases: (i) with actual values of the PREF and ROO variables (NAFTA as it is, i.e. the benchmark case); (ii) with no tariff preferences and no rules of origin,[4] which we interpret as "no NAFTA"; and (iii) with NAFTA tariff preferences but no ROOs (a hypothetical NAFTA without rules of origin). The difference between case (i) and case (ii) gives an estimate of the direct effect of NAFTA's package (tariff preference and ROOs) on Mexican trade flows. Results are presented as percentage deviations from the relevant baseline predicted value for Mexico's exports to the US, namely $152.3 billion using the results for (1) and $133.4 billion with (2). The results are shown in Table 2.

Table 2. Simulation Results for (1) and (2): Effects of ROO relaxation, simulated (% deviation from baseline)

Constrained ROO values	No NAFTA	NAFTA without ROO
Using Estevadeordal's index (equation 1)		
ROO=1	-3.1	76.6
ROO=2	-11.7	35.3
ROO=3	-22.6	17.8
Using dummies (equation 2)		
RVC=0		15.8
ITEM=0		1.5
SUBHEAD=0		9.0
HEAD=0		63.2
CHAP=0		35.3
RVC=0 AND EXC=0		4.5
RVC=0, ITEM=0 AND EXC=0		5.3
RVC=0,ITEM=0,SUBHEAD=0,EXC=0		11.3
RVC=0,ITEM=0,SUBHEAD=0,HEAD=0,EXC=0		85.0
All dummies at zero (no ROO)	-9.0	108.3

Source: Cadot et al. (2002, Table 4).

Consider the first part of Table 2, based on (1). If "No NAFTA" is interpreted as setting ROOs at their lowest level, then the combined effect of tariff preferences and ROOs (NAFTA's package) raises Mexican exports, on average, by only 3.1%. As "No NAFTA" is interpreted as elimination of tariff preference but ROOs set at higher levels, NAFTA's effect appears more favorable. With this caveat in mind, it is fair to say that the

[4] The exercise we perform is as follows. In case (i), we use actual values of the PREF and ROO variables to predict the value of Mexico's exports to the US. In case (ii), we set PREF equal to 10E-13 across the board and ROO to a 'low' value across the board. The first part of Table 4 reports results for three values of ROO: 1, 2 or 3. The reason for not setting the ROO variable to zero is that, under NAFTA, there is no tariff line with ROO equal to zero, so that predicting the value of XUS (the dependent variable) so far out of the sample with non-linear forms gives unreasonable results. Results based on setting ROO equal to higher values are more conservative but arguably less prone to prediction errors. If anything, the bias that this introduces reinforces the point we are making, since setting ROOs at a lower level would generate larger negative effects.

marginal effects of tariff preferences and ROOs as they are in NAFTA's present form seem to produce limited positive net effects (+11.7% with ROO=2 taken as the "No NAFTA" value). The second column shows that if tariff preferences were maintained but ROOs eliminated the positive effects on Mexico's exports would be considerable (+35.3% if ROOs were set across the board at a level corresponding to ROO=2). This finding has important policy implications, since they show that loosening NAFTA ROOs could bring substantial gains in terms of Mexico's ability to take advantage of the preferences offered by NAFTA.

The second part of the table provides some guidance about which ROOs in particular could have the biggest impacts if they were to be relaxed. Regarding required changes of tariff classification, the most common type of ROOs, note that relaxing ITEM (changes of tariff item), which has the largest marginal effects in (1), produces only a minor effect on trade flows as this type of ROO affects only low-volume tariff lines. Conversely, relaxing CHAP which has a low and imprecisely-estimated marginal effect produces a large change on textile and food exports. Relaxing HEAD (change of tariff heading) also produces a dramatic effect on Mexican trade flows.

Several caveats are in point. First, the exercise cannot measure non-trade effects of NAFTA (e.g. on the credibility of reforms) and should therefore be taken as a lower bound on NAFTA's real-world effect. Second, these results are based on effects measured on a cross-sectional data set and cannot give a full picture of NAFTA's effects since effects that cut across all sectors effects are subsumed in the constant. Thus, at least one important question remains unanswered: namely, whether the recent expansion of Mexico's exports to the US is indeed attributable to NAFTA but to effects that are only indirectly related to tariff preferences, or whether it is attributable instead to exchange-rate or macroeconomic and credibility effects discussed elsewhere in this report.

With these caveats in mind, the provisional conclusion here is that, at least at first sight, Mexico's export pattern seems to have been affected positively but in a quantitatively small way by the combined effect of NAFTA's tariff preferences and ROOs, because the negative effect of the latter partly offset the positive effect of the former. This has two policy implications. First, it supports the view that the gains from tariff liberalization under FTAs can be offset by non-tariff compliance costs related with ROOs. In this case FTAs involve a substitution of instruments rather than the simple elimination of one of them. Second, the extent of the substitutability between tariff and ROO protection varied across industries, depending on the type of ROO. Although the point estimates of the impact of the chapter-change ROO requirement, such as the rules that apply to textile and apparel trade under NAFTA, were imprecise, the magnitude of the negative effect are economically large. The imprecision is probably due to the fact that the same rule literally applies to textiles and apparel, although we suspect that in Mexico's case the yarn-forward rule has hampered mainly the profitability of Mexican apparel exports, since this country is a net importer of textile from the U.S. The following section takes a closer look at these and other issues related to the apparel industry.

3.2.3 NAFTA and textile and apparel trade in North America

As shown in Figure 2, textile and apparel trade under NAFTA is characterized by two features: very high preferential treatment for Mexican exporters relative to the MFN tariffs and a rather low level of utilization of these preferences by Mexican exporters. We have already explained and demonstrated that relaxing the relevant ROOs might have economically important consequences for Mexican exporters of apparel. However, here we aim to consider additional factors affecting this sector: NAFTA preferences for Mexico have been diluted by unilateral actions taken by the U.S. First, the Caribbean Basin Economic Recovery Act allowed in 2000 exports of apparel from Caribbean and Central American countries to enter duty-free into the U.S. market as long as the yarn used for these manufactures originates in the U.S. As of late 2002, this is also true for apparel exports from Colombia and other Andean countries, because the U.S Congress approved the Andean Trade Preferences Act in September 2002, which offered preferential treatment to apparel made with U.S. yarns and textiles. Hence to some extent the NAFTA preferential margin in apparel became less important.[5] Furthermore, the initiation of negotiations between Central America and the U.S. towards a NAFTA-type FTA will probably level the playing field in terms of the ROOs affecting apparel exports from these countries relative to Mexico.

We can use these facts to compare the CBI and NAFTA utilization rates to better understand how the textile-apparel ROOs affect different types of countries. In principle, the move from the CBI ROO to a NAFTA ROO (which allows apparel to enter the U.S. with preferential treatment even when the yarn is produced domestically, rather than exclusively in the U.S.) should be more beneficial for countries that have a domestic internationally competitive textile industry.

To assess the extent to which various CBI and NAFTA countries have a comparative advantage in textiles, the main input for producing apparel, we look at the pattern of net exports per worker relative to the U.S. for CBI countries and relative to NAFTA for Mexico, and relative to the rest of the world for both sets of countries. In addition, we also examine the latest data concerning the CBI and NAFTA utilization rates in apparel.

Figures 3a-f show the net exports of textiles for Mexico and the five Central American countries, both relative to the U.S. (US plus Canada for Mexico). Only El Salvador seems to have a comparative advantage in textiles, since it is the only country that has systematically had postive net exports of textiles to the whole world since the early 1980s. Hence this country is likely to benefit substantially from shifting from the CBERA apparel ROOs to the NAFTA-type ROOs. Mexico on the other hand has become a large net importer of textiles, most of them coming from its NAFTA partners. This finding is consistent with our previous discussion that the NAFTA ROOs have resulted in the export of U.S. protectionism to Mexico in this sectors. That is, the large decline in the

[5] The Africa Growth and Opportunity Act (AGOA) also offered preferential treatment in the U.S. for textile and apparel imports from African countries. This is another reason why NAFTA textile and apparel preferences have been diluted.

net exports of textiles in Mexico has been related to rising imports of textiles from the U.S., which are required for its apparel producers to export to the U.S. under NAFTA preferences. This fact also explains why the econometric estimates of the impact of the ROOs affecting textiles and apparel is imprecise; it is because the same rule affects textiles where Mexico is not the low-cost producer of North America (the U.S. is) and apparel, where Mexico is the NAFTA low-cost producer.[6]

[Figures 3a-f appear at the end of this chapter]

Table 3 shows the latest available data concerning the CBI and NAFTA utilization rates in 2001 and 2002. El Salvador and Mexico have similar utilization rates. We interpret this as evidence that El Salvador has not benefited as much as other CBI beneficiaries in this sector partly because the U.S. is not its low-cost source of textile and yarn inputs used for apparel manufacturing. This is also the case for Mexico. The difference, however, is that El Salvador's own textile industry might be the potential source of textile inputs (since it has a revealed comparative advantage for textiles relative to the whole world), and thus for this country NAFTA-type ROOs might be more beneficial than they were for Mexico or could be for Costa Rica, for example, under a NAFTA-type agreement. Although we have not shown the corresponding graphs for Colombia, a country that is also beginning to consider and FTA with the U.S., this is another country similar to El Salvador in that it does have a significant domestic textile industry, and thus could benefit more than Mexico from NAFTA-type ROOs.[7]

Table 3. NAFTA and CBI Apparel Preferences Utilization Rates, Selected Countries

	2001	Jan-Nov 2002
Mexico (NAFTA)	68%	74%
Costa Rica (CBI)	53%	65%
El Salvador (CBI)	57%	63%
Honduras (CBI)	62%	73%
Nicaragua (CBI)	21%	29%
Jamaica (CBI)	59%	88%
Dominican Rep (CBI)	68%	83%

Source: Authors' calculations based on data from the U.S. ITC.

From Mexico's viewpoint, we have already suggested that an important policy implication of this analysis is that it could benefit from negotiating a relaxation of the ROOs, especially those affecting apparel exports. However, there is one additional important consideration for the future. In January 2005, the U.S. will eliminate its textile and apparel quotas as a result of its commitments under the Uruguay Round agreement

[6] It should be noted that the U.S. is a net exporter of textiles within NAFTA but not for the rest of the world.

[7] Historically, Colombia has been a net exporter of textiles to the world. This situation changed slightly in the mid-1990s, but it was not a significant net importer of textiles by the late 1990s. In other words, Colombia is on the fringe between a net exporter and net importer of textiles. Shifting from ATPA to NAFTA-type ROOs in this sector might thus make this economy recover its relative position in textile and apparel exports.

signed in 1995. Consequently, the NAFTA preferential margins will be further diluted at that time. Whereas it is unlikely that the U.S. will fully liberalize its import tariffs on textile and apparel imports from the rest of the world, it is likely that the resulting preferential margins will be lower after 2005. This has two important policy implications. First, the renegotiation of the ROOs should be done very soon so that the new rules can be implemented prior to 2005. Second, in the medium to long run, the profitability of Mexico's apparel industry will depend less on NAFTA preferences and more on its capacity to innovate and take advantage of Mexico's enviable geographic location. To accomplish this successfully, domestic complementary policies are required. The innovation issues are discussed in chapter five of this report, whereas the other policies concern domestic and border infrastructure and customs procedures.

3.3 Agriculture[8]

The impact of NAFTA on Mexican agriculture received a lot of rather pessimistic attention prior to the implementation of the agreement (Levy and van Wijnbergen 1994, Burshifer et al. 1992, Baffes 1998). It has also become the subject of political controversy in recent months as a consequence of the liberalization of certain sensitive products for Mexico, which was implemented in January 2003. In part, this attention is due to the perception that poor farmers dedicated to traditional crops, such as maize, have been hurt by the liberalization agricultural trade mandated by NAFTA. This section examines the economic trends of Mexico's crop agriculture before and after NAFTA and analyzes the extent of liberalization that has actually taken place.

Our main conclusion is that liberalization of agricultural trade under NAFTA has already been substantial. However, this liberalization has not had the devastating effects on Mexican agriculture as a whole and has not had the negative effects on poor subsistence farmers in particular. The challenging questions are, first, why did NAFTA not have a negative effect on Mexican farms, and second, what are the main policy challenges for the Mexican government in medium term? These questions are addressed in the subsequent paragraphs. Given the sensitive nature of the subject matter, we pay detailed attention to both the policies pursued by Mexico before and after NAFTA as well as the economic effects of these policies. We begin with a brief historical review of Mexico's agricultural policies.

3.3.1 Agricultural policy reforms in Mexico before or without NAFTA

Government intervention in agriculture was a major component of Mexico's development policies from the mid 1930s until the beginning of the eighties. In the sixties, 1970s and up the end of the oil boom and the debt crisis of 1982/3, state intervention in agriculture included: crop price supports to staple producers; subsidies to agricultural inputs (credit and insurance); and government participation in the processing of grains, oils and powder milk. The Mexican state had also retail shops to sell basic foods to the rural and urban poor; was involved in the production of fertilizer and improved seeds and in granting consumption food subsidies to the poor.

[8] This section borrows heavily from Yuñez-Naude (2002).

After the macroeconomic crisis of 1982, the de la Madrid administration (1983-1988) began to adopt policy reforms. During the eighties, producer price supports of five out of the twelve traditional crops were eliminated (copra, cotton, suflower, sunflower and sesame seeds), and CONASUPO (the National Company of Popular Subsistence, Mexico's major state enterprise involved in agriculture, in charge of price supports) was subject to an administrative reorganization in order to reduce its administrative costs (see CONASUPO 1986, 1988 and 1989). During its first two years of government, the Salinas administration (1989-1994) reduced CONASUPO's participation in the oilseeds markets, eliminated the generalized consumer subsidies for wheat bread and changed the subsidies given to maize "tortillas" (Yañez-Zazueta 1997). In addition, all State enterprises began to be privatized or eliminated.

In sum, whereas Mexico became a full member of the General Agreement on Tariffs and Trade (GATT) in 1986, the Mexican government undertook no major changes in the structure of protection of agricultural products until 1990. Up to that time, all products in whose markets CONASUPO intervened through producers' price supports were also subject to import licenses. It was until the beginning of the 1990s when domestic reforms and trade liberalization began to include the most important crops of Mexican agriculture. Between 1990 and 1991 import controls and government direct price supports to the producer of nine of the eleven traditional crops were abolished,[9] and subsidies granted to agricultural inputs, credit and insurance were drastically reduced

It is widely recognized that the most important domestic agricultural policy reform was the elimination of price supports to the producers of traditional crops and the elimination of CONASUPO. This company was a major player in government intervention in agriculture until the eighties. Up to 1989 the company bought a considerable part of the domestic production of eleven crops at support or guaranteed prices (maize, beans, wheat, barley, rice, sorghum, soybeans, suflower, copra, sunflower and sesame).[10] During 1990, CONASUPO reduced its market interventions to maize and beans, and producers' price supports were abolished for all of the remaining basic crops.

In 1991 the Agricultural Marketing Board (ASERCA) was created to substitute the traditional direct interventions that the government did through CONASUPO for sorghum and wheat.[11] Since its creation, ASERCA has followed a scheme of "indifference prices" for these two crops. It is regional-specific and consists in fixing a "concentrated price" for the crop in question before the cropping season, taking as a

[9] Copra, cotton seed, grain barley, rice, soy, sorghum, suflower, sunflower and wheat (sesame seed guaranteed prices were eliminated before). The exceptions were maize and beans.

[10] The contribution of these crops to the value of domestic agricultural gross domestic production has been over 30% since the seventies. Amongst these crops, maize is by far the most important one: its weight on the value of domestic production of the eleven traditional crops has been greater than 50% (details in Yuñez-Naude and Barceinas 2000).

[11] However, cotton, rice, and soy producers of selected regions have been included in ASERCA's programs during some years, and from 1997 to 2000 marketing support for maize producers was added to the subsidy mix. For example, notwithstanding that the price of rice was fully liberalized in 1990, supports for rice producers were granted in 1996 because of a drop in its real price (ASERCA 1996).

reference the international prices, together with transport costs. The producers sell their crop to the processors at the international price, and the government transfers to the farmers the difference between it and the concentrated price.[12]

Up to 1994, the Agricultural Council fixed the guaranteed price of maize and beans, which were administered by CONASUPO. In 1995 the peso devaluation allowed the government to transform CONASUPO to be just a "last instance buyer" of these two crops, eliminating domestic price supports for them. During that year CONASUPO did not import maize and, from purchasing in 1994 45 per cent of the domestic production of the grain, in 1995 just bought 20 per cent. However, and due to the decrease of the international price of maize, in 1996 Mexico followed an intermediate scheme of price fixation, by which the domestic price was settled regionally and between the guaranteed price and the international price. The price was called “base price” (ASERCA: May, 1997, pp. 10 and 13-14). During the winter season of 1996-1997, the scheme of price supports for maize changed again. Maize, together with beans, was bought by CONASUPO at “indifference prices” in the production zone. The prices were region-specific and determined by the average of the international price according to the Chicago Commodity Exchange plus the international bases of arrival to Mexican port(s) and the operation costs of storage, transport, financial costs, etc. (SAGAR: July, 97, p. 22). Under this scheme, and until it was abolished in late 1999, CONASUPO became a “last instance” buyer of white maize for human consumption in the sense that it allowed sales to those maize growers that could get a price from the private sector higher than the indifference price.

The evidence on the weight of CONASUPO's purchases on domestic production of maize (mainly white) and beans show that, during the last years of its existence, the Company decreased its participation in the domestic markets of these two crops. During 1993 and 1994 CONASUPO bought around 45 per cent of the domestic supply of maize, whereas its purchases were reduced to 20.3 per cent during 1995, and to 8.8 per cent during 1996, to 19 per cent during 1997 and to 12.5 per cent during 1998. As for maize, CONASUPO's weight on domestic purchases of beans have been reduced: from 30.5 per cent during 1993 to 24.8 per cent in 1994, to 18.3 per cent in 1995, and to around 8 per cent in the following two years (SAGAR data base).

During the last years of CONASUPO, the Company’s sales of maize were to tortilla producers or “nixtamaleros” (they ground the maize and elaborate tortillas). In order to support the subsidy to tortilla consumers, CONASUPO provided the maize to them and sold it at a price that allows “nixtamaleros” a "reasonable" profit for their tortilla sales at a subsidized price. The other processors that received a subsidy were the maize millers. They received a cash subsidy for the maize bought directly in the domestic market (“at prices linked with the international prices”, Zedillo 1997) that allowed them a "reasonable" profit so as to support the consumers' tortilla subsidy program.

[12] To the scheme of indifference prices, a program of price coverage in the international markets for these crops, plus cotton and maize, was added. For example, during 1996, coverage for 91,920 mts. of wheat and 1.7 millions of maize were placed in the Commodity Exchanges of Chicago and New York (Zedillo 1996).

Direct income transfers: PROCAMPO

Three years after the creation of ASERCA, a major transitional program called PROCAMPO was initiated in the winter season of 1993-94, a few months before the beginning of NAFTA. PROCAMPO is a decoupled program that substituted previous direct price supports. It consists of income transfers to farmers producing barley, beans, maize, cotton, rice, sorghum, soy, sunflower and wheat. The main purposes of PROCAMPO are to support domestic producers of basic staples to face competition from U.S.A. and Canadian farmers granted by NAFTA, and to help Mexican producers to switch to more competitive crops under a liberalized context. PROCAMPO is planned to last until 2008, when full trade liberalization under NAFTA will be attained, and its beneficiaries have been those producers that cultivated (or continue to cultivate) the above-mentioned crops during the three years before its implementation. The transferred amount is per hectare and the same to all farmers, independently of productivity and granted even if the beneficiaries switch to produce other crops. Box 2 reviews recent evidence concerning the income effects of PROCAMPO on its beneficiaries.

Alliance for the Countryside

In addition to the ASERCA and PROCAMPO the government created Alliance for the Countryside (*Alianza para el Campo*) in 1993. The program's main objective is to increase agricultural productivity and to capitalize farmers by contributing funds for investment and sanitary projects leading to integrate farmers into the commercial food processing industry. A major purpose of Alliance is to promote farming efficiency through crop substitution (mainly from traditional crops to fruits and vegetables) for farmers who have a potential comparative advantage in producing such crops in the context of an open economy. Other important features of Alliance include its decentralized character with state-level control of its programs and contribution to the funding by participating farmers. (www.sagarpa.gob).

Alliance for the Countryside includes PROCAMPO, as well as other programs. The most important amongst these is PRODUCE, which focuses on three main activities: the use of irrigation canals to deliver liquid fertilizer, mechanization, and the improvement of pasture quality for livestock producers. Alliance also includes a phytosanitary program.

Other reforms[13]

Less government intervention in agriculture was accompanied by the abolition of State enterprises involved in the sector. As well as the disappearance of CONASUPO, government companies producing fertilizers, seeds and other inputs, and those involved in the marketing of coffee, sugar and tobacco were eliminated or privatized.

[13] We are grateful to Susana Sánchez for providing helpful comments on this section.

Credit subsidies and official credit coverage for working capital given to farmers by public financial institutions for rural development (the most important being BANRURAL) declined sharply during the nineties.[14] There are several reasons explaining the reduction of government participation in rural credits, ranging from public budget restrictions to a very high default rate among borrowers.[15] The gap caused by the decline in governmental rural credit was expected to be filled by private commercial banking, which has remained stagnant since the mid 1990s. Private banks still provided about 60% of total agricultural credit as of December 2001.[16] The current government passed the Ley de Capitalización del Campo, which simplified and improved the system for granting credit subsidies through FIRA, in this case, for potentially profitable agricultural activities for the beneficiaries of PROCAMPO.[17] This instrument clearly aims to help the productive transformation of traditional agriculture (a PROCAMPO criteria) in favor of other activities.

Another major reform was the amendment of the Constitution in 1991 that liberalized property rights in the *ejidal* sector. Up to that year, peasants that benefited from land distribution (a result of the Mexican Revolution, and called *ejidatarios*) were, by law, not allowed to associate, rent or sell their land. With the reform this mandate disappeared and land redistribution ended. The ejidal reform was expected to help develop the land market, and to capitalize agricultural activities by allowing farmers to participate in the private credit market and by promoting direct private investment.

The Salinas administration created the Ministry of Social Development, and with it, a social program designed specifically to assist the rural poor (called *Progresa* during the Zedillo government). The concern with the development of poor rural areas has been maintained by the current government under its comprehensive Plan for Rural Development.

3.3.2 Liberalization under NAFTA

Under NAFTA, the structure of border protection for Mexico's agricultural sector was transformed and Mexico gained market access to the Canadian and the U.S. markets, which had not been achieved through its previous liberalization efforts. Two separate agreements between Mexico and Canada and between Mexico and the U.S. were actually negotiated.[18]

Market access granted by Mexico under NAFTA

[14] On December 13, 2002, the government closed BANRURAL and created a rural financing company.
[15] In September 2002 BANRURAL reported a 50% share of non-performing loans.
[16] During 1996-2000, the annual average was 75% private.
[17] All lenders can take advantage of this law, but FIRA launched a new program to target its lending instruments (which carry subsidies) to PROCAMPO beneficiaries.
[18] The following discussion emphasizes the agricultural agreement between Mexico and the U.S., because, in the short and medium runs, major impacts of NAFTA have been concentrated in Mexico-U.S. trade.

Some traditional crops were liberalized immediately after the implementation of NAFTA. From January 1994 onwards, sorghum, sesame seeds, and sunflower from Canada and the U.S. entered duty-free. Free trade also applies to seeds for barley, beans, maize, cotton, soy, and sunflower, and since January of 1998 all types of soy also enter duty free to Mexico from its other two North American partners.

NAFTA became the first free trade agreement using tariff rate quotas (TRQs) as a transition mechanism to eliminate quantitative restrictions and to move towards free trade. TRQs were applied to those products that the governments of the three North American countries considered very sensitive. Under NAFTA, no tariffs for those agricultural products that are under in-quota imports are charged. A phase-out period of fifteen years of above-quota tariff reductions and quota increases was defined for the imports of maize and dry beans.[19] TRQs were also established for grain and malt barley, for which free trade was reached in 2003.

Quota levels were established using trade flows between Mexico and its two North American partners from 1989 to 1991. In 1994 the quota for maize was set to 2,500,000 metric tons (mts) for the U.S. and to 1,000 mts for Canada, and the above-quota base or consolidated tariff for both countries was fixed to 215 per cent (or 206.4 U.S.$/mts). In January of 1994, the quota for beans was 50,000 mts for the U.S. and 1,500 for Canada, and the above quota tariff was 139 per cent (480 U.S. $/mts). For both, grain and malt barley, the quota was set in 1994 to 120,000 mts for imports from the U.S. and 30,000 mts for imports from Canada, and the above-quota ad-valorem tariff for grain barley was 128%, and 175% for malt barley.

Beginning in 1995, the quotas for barley, beans and maize grew each year and their above quota tariffs were subjected to a yearly process of reductions. This liberalization was designed under NAFTA for beans and maize to reach duty-free treatment by Mexico on December 2007. Full liberalization for barley was achieved in January 2003.

Until the end of 2000, quota assignments were settled by a committee formed by the Ministries of Commerce (SECOFI) and Agriculture (SAGAR), and by representatives of the private sector. The Mexican government has followed four allocation mechanisms for TRQs: direct assignment, auctions, government monopoly and "first come-first served". Maize and barley have been subject to direct allocations, and dry beans to auctions.

Up to 1999, CONASUPO participated indirectly in the allocations of maize quotas since it defined jointly with the Ministry of Agriculture the amount of the crop to be allocated to accomplish what were the company's reduced functions (mainly stock pilling and sales to tortilla producers to sustain the tortilla subsidy program). The rest of the maize quota has been allocated to private cattle feeders (see Shagam and Plunkett 1997).

[19] In the agreement between Mexico and the U.S., powdered milk was also included by Mexico under this scheme.

In practice, however, from the beginning of NAFTA implementation up to 2000, Mexico did not charge above quota tariffs to any of the crops subject to TRQs. This was the result of either quotas that went unfulfilled (the quotas were not binding) or unilateral actions taken by the Mexican government to increase quotaa. Mexico's imports of beans have been lower than the quota, whereas above-quota maize imports were allowed without applying the high over-quota tariff. [20]

In January 1995, Mexico re-structured its protection measures for WTO members following the Uruguay Round Accord. The main differences between Mexico's commitments under NAFTA and under the WTO are twofold: 1) Greater quota access and lower off-quota tariffs for Canada and the U.S.A. than the rest of the world, and 2) by the year 2003 or 2008, and depending on the commodity, Mexico will abolish all border protection of imports from Canada and the U.S.A., whereas Mexico will maintain the 1995 quota levels and off-quota tariffs for other WTO members and reduced MFN tariffs by an average of 24 percent between 1995 and 2000.

Mexico included a safeguard clause in NAFTA for several agricultural products. Under the agreement, it can be used as a "countervailing mechanism" when an increase of imports represent a "considerable menace" or a "serious damage" to the sector in question. In this case, the measures to be taken are either to suspend the tariff reduction process or to use (to "snap back" to) the base tariff settled in 1994. In the WTO, the Mexican government is allowed to set additional import taxes when "imports rise due to low import prices". Recently, Mexico used this clause to limit imports of poultry parts in January 2003, after their import tariffs of 45% were eliminated and in response to social pressures from farmers' organizations.

Market access for Mexican exports granted by the U.S. under NAFTA

NAFTA enhanced access for Mexico's competitive crops -- mainly fruits and vegetables – to the U.S. markets. However, trade liberalization was not immediate for those products considered sensitive by the U.S. For these commodities, the process of negotiations with Mexico to phase out trade restrictions was based on the complementary or substitutive character of Mexican exports, meaning that the agreed liberalization of these products was based in the productive annual cycles of vegetables and fruits in both countries. Thus, trade restrictions of some products exported by Mexico to the U.S. were eliminated in 1994 (grapes, mangoes and pineapples), and for most vegetables and fruits tariffs are charged for some periods of the year until its elimination in 2003 or in 2008. For some of these commodities TRQs are also applied.[21]

[20] Imports of beans are low because Mexico has been self-sufficient in the type of beans preferred by its population. This crop was included in the TRQ scheme mainly because the farmers that produce beans have marketing problems and because it is a major component of the Mexican diet.

[21] An example is fresh tomatoes. From January 1994 to December 1998, fresh tomatoes had a tariff of 3.3 U.S. cents per kilogram entering the U.S. between July 15 and Sept. 14. (This tariff was eliminated in January 1999.) The tariff charged by the U.S. on Mexican tomato imports during March 1 - July 14 and Sept 15 - end February will be eliminated on December 2003. In addition, Mexico's exports of tomatoes to the U.S. have a TRQ of 172.3 thousand mts during November 15 -February 28 or 29, and of 165.5

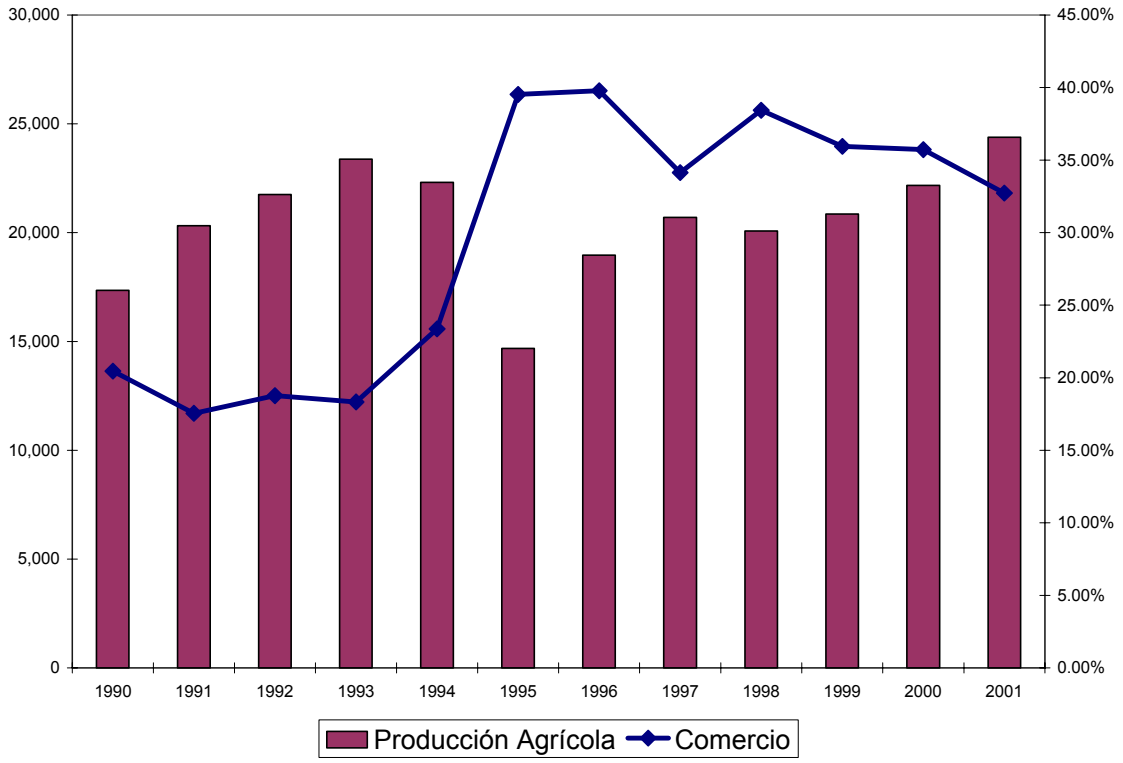
3.3.3 Trade and production outcomes

The above discussion indicated that in terms agricultural trade within NAFTA, and more importantly for the ongoing, trade between the U.S. and Mexico was substantially liberalized, at least in paper. We now focus on the evolution of trade and production outcomes for Mexico.

Figure 4 shows total agricultural production in Mexico as well as the ratio of imports plus exports over the value of domestic production during 1990-2001. The dip in production in 1995 as well as the rise of the importance of trade in that year was due to the Tequila crisis, which was generally associated with rising exports, less than proportional declines in imports (and thus the trade to GDP ratio rose), and declining domestic value added (see Lederman et al. 2002 and 2003). Yet after the recovery from the crisis, domestic agricultural production rose quickly while trade was maintained at higher levels than prior to the implementation of NAFTA. Thus it is difficult to argue that NAFTA had a devastating effect on Mexican agriculture, in spite of the fact that trade increased as a consequence of the liberalization scheme implemented under the agreement.

Figure 4. Agricultural Production and Trade in Mexico, 1990-2001: No Apparent Devastating Effects from NAFTA

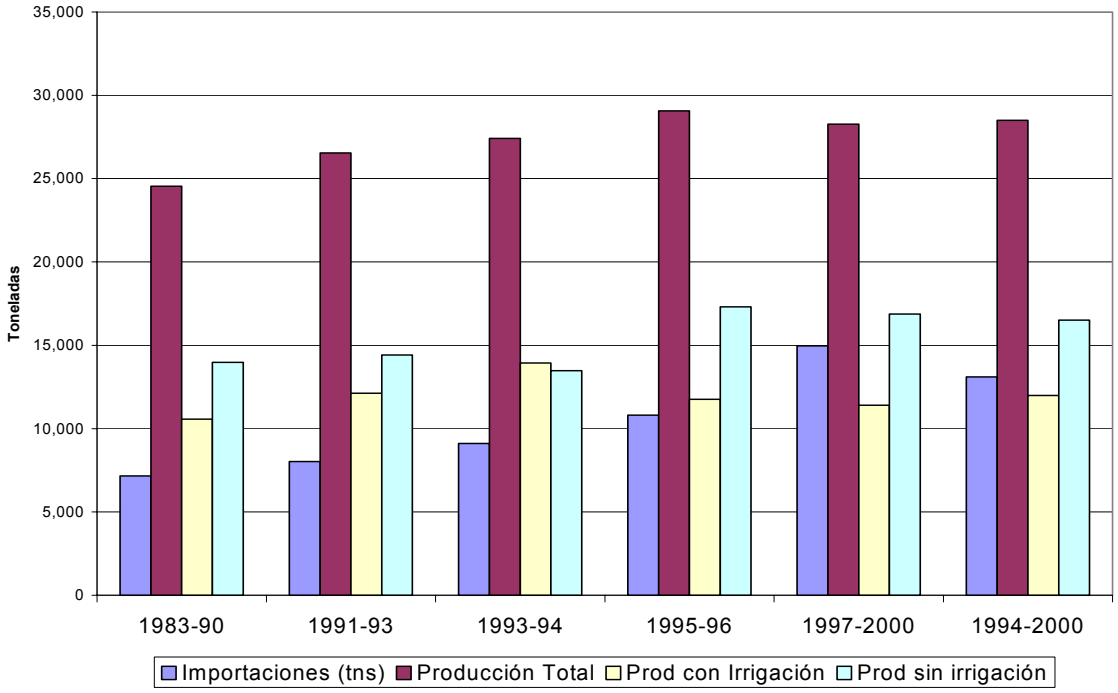
thousand mts during March 1 - June 14. Over-quota imports in the U.S. are charged the lower of the MFN tariff in effect before NAFTA and the MNF rate in effect at the time of the over-quota trade. Details are in ERS (August 1999; March 2000) and SECOFI (1994). Mexico's exports of avocados to the U.S.A. are a special case, since they are subject to phytosanitary restrictions. Partial easing of avocado imports to some regions of the U.S. was implemented in 1997 and amplified in 2001 (Orden 2002).



Source: Yuñez-Naude (2002)

Regarding the sensitive products from traditional agricultural activities such as maize, beans and other sensitive commodities, Figure 5 shows total production, production by irrigated and non-irrigated lands. The distinction between irrigated and non-irrigated land is interesting because non-irrigated land encompasses the small *ejidatario* farmers that are thought to be poor subsistence farmers, since there is no other systematic data covering this particular sector. The evidence indicates that in spite of the rise in imports, the years after NAFTA (1994-2000), total production was significantly higher than before (1983-1993). This is especially true for non-irrigated farming. In fact, the irrigated traditional agriculture had a comparatively lackluster performance when compared to non-irrigated farms. However, this data is due to the fact that irrigation farming was more dynamic in non-traditional agriculture as many farmers managed to substitute non-traditional crops, such as fruits, for the traditional ones. These conclusions seems to be robust to comparisons across various sub-periods, as shown in Figure 5.

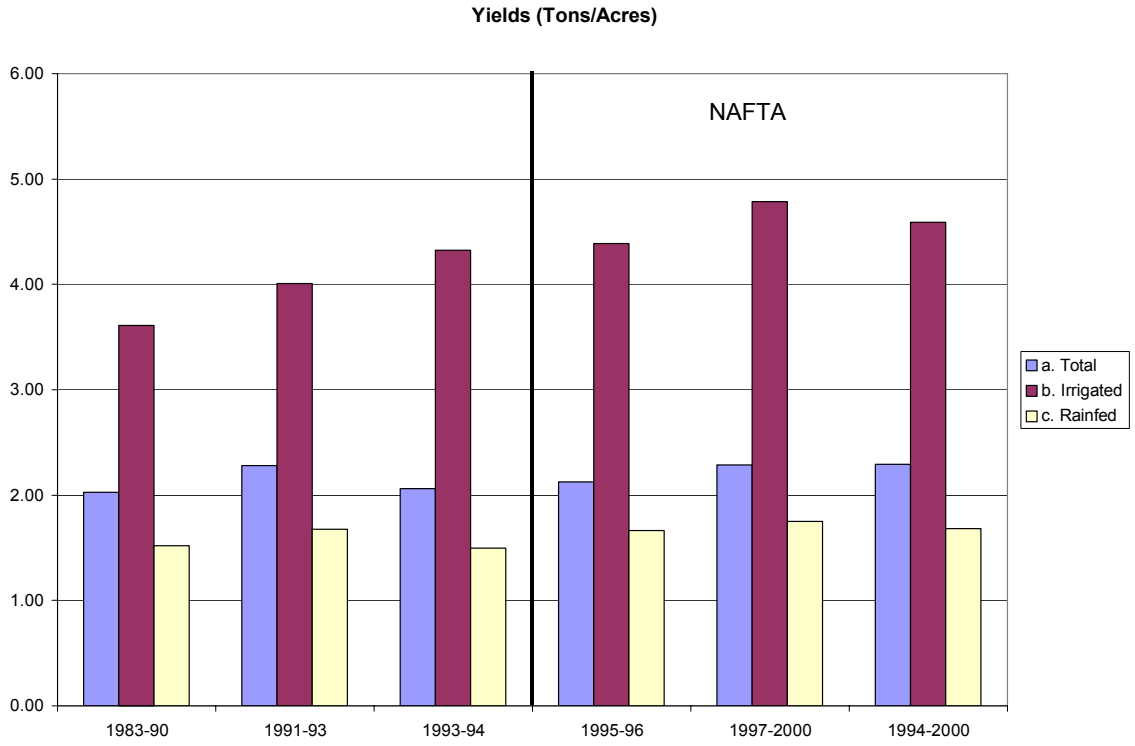
Figure 5. Imports and Production of Traditional Crops before and after NAFTA: Irrigated versus Non-Irrigated Production



Source: Yuñez-Naude (2002)

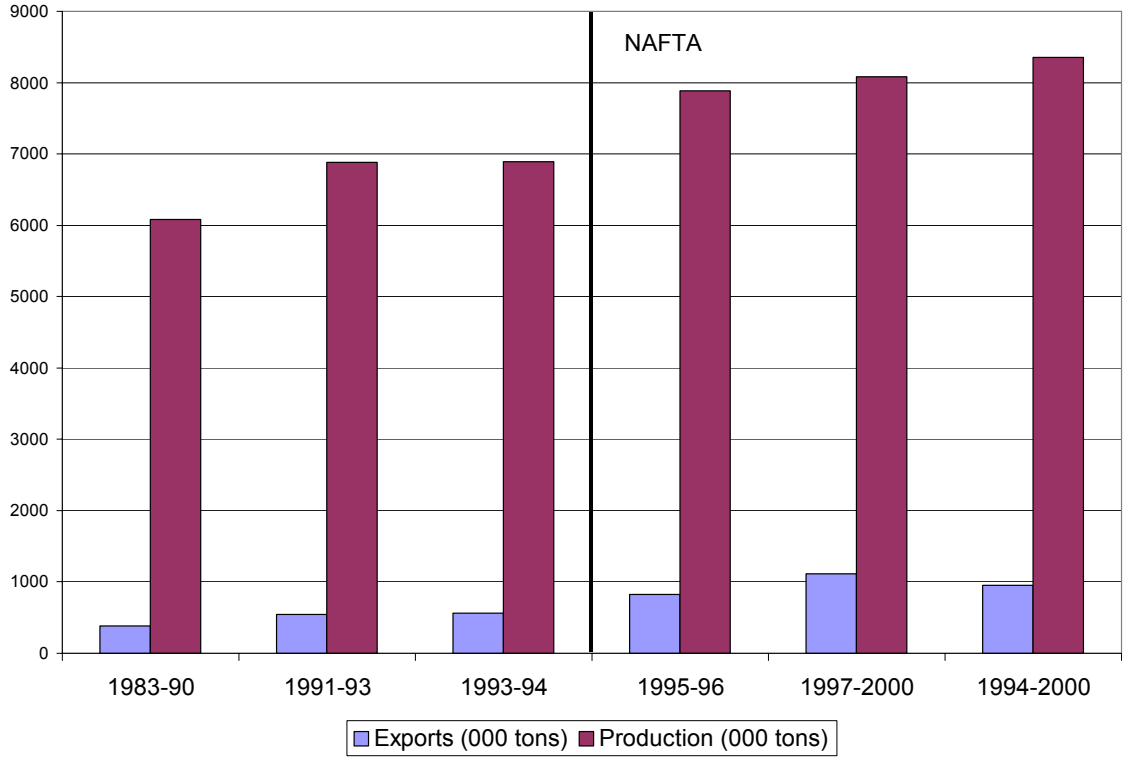
Figure 6 shows the evolution of land productivity for the whole of irrigated and non-irrigated agriculture. The main conclusion is that irrigated agriculture experienced a substantial productivity improvement after NAFTA, whereas productivity of non-irrigated agriculture stagnated.

Figure 6. Land Productivity: Irrigated and Rainfed Yields, 1983-2000



Finally, Figure 7 shows trends in exports and production of fruits, as an example of non-traditional agricultural performance. In the post-NAFTA years, both exports and production surged relative to the earlier years. This surge was in part due to the transformation of irrigated traditional agriculture into non-traditional production as well as the aforementioned improvements in land yields. Given the high profile of the state of agriculture in Mexico at this time, it is worth discussing potential explanations of why NAFTA did not result in the expected devastation of traditional and non-traditional agriculture.

Figure 7. Mexico: Exports and Production of Fruits before and after NAFTA



3.3.4 Three plausible explanations for the resilience of Mexican agriculture

The growth of demand in the late 1990s in both Mexico and the U.S. are well known facts (see Lederman et al. 2002, 2003). It is quite possible that Mexican agriculture performed remarkably well during the late 1990s precisely because these economies were growing and thus Mexican production could rise in spite of the increase in imports of traditional agricultural products. Productivity gains concentrated in the irrigated farm sector also contributed to this resilience, as demonstrated above. Last but not least, the income support and subsidy programs maintained by the Mexico after 1994 might have also helped sustain agricultural dynamism during this period.

The domestic support policies merit further attention. As described earlier, agriculture in Mexico had historically enjoyed ample public support, although the programs were quite inefficient in economic terms. With the advent of the agricultural reforms, the quantity and quality of the support programs changed. Figure 8 shows the evolution of the total support for traditional agriculture and its corresponding components relative to gross farm receipts, as reported by the OECD (2000). On the one hand, it is clear that total support was not higher after NAFTA than on the average year prior to the implementation of the agreement. Hence the resilience of the traditional sector was not due to an increase in total support. On the other hand, the composition of this support was changed with the advent of PROCAMPO. Beginning in 1994, about 50% of total support was administered through PROCAMPO, which as explained earlier, the income subsidies

provided by this program are de-linked from current and future production decisions. This contrasts notably with the situation prior to 1994, when most domestic support was concentrated in so-called "Market-Price Supports" (MPS) which compensate farmers for low commodity prices, and thus tend to distort production decisions.

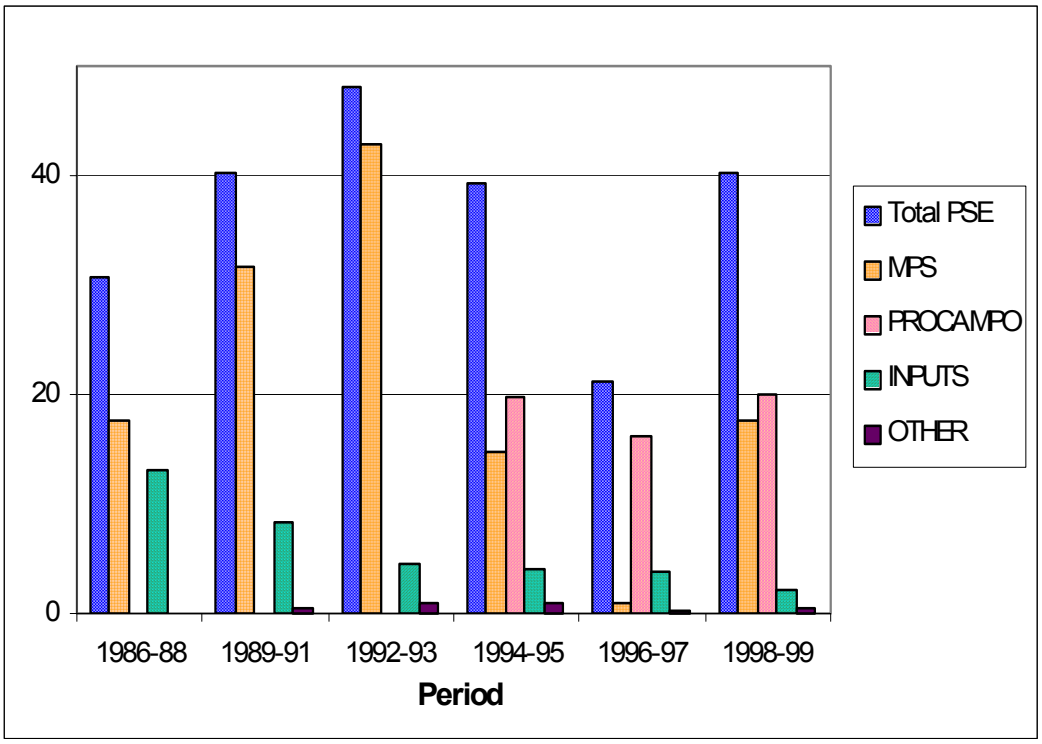
Upon comparing the annual averages of total producer support estimates as a whole during 1999-2001 in the U.S. (23%), Canada (18%) and Mexico (18%), we find that Mexico has converged to the levels of its NAFTA partners. These shares are still smaller than those benefiting the traditional crops, which reached 40% of production in the late 1990s. The OECD Agricultural database also reports similar shares of the total PSE that are assigned on the basis of historical entitlements (20%). Canada's historical entitlements share is only 9%, which is still higher than the OECD average of 5%. This high share of historical entitlements represent an advantage in the sense that it reflects assistance that might be less likely to affect production decisions. However, in the case of the United States, it is worrisome that Farm Bill of 2002 allowed for updating of the historical criteria (i.e., planted acreage in the past). This type of updating should not be imitated since it raises expectations that future support will rise if planted areas rise before the next "update". A more detailed discussion of issues related to the design of de-linked agricultural support programs in the U.S. and Mexico is presented in Box 3.

Table 4. Characteristics of Agricultural Support Programs in Mexico and the United States

Characteristic	*Mexico:PROCAMPO 1994*	U.S.: FAIR implemented 1996
Objective	To compensate producers for the elimination of guarantee prices on support crops	To compensate producers for the elimination of deficiency payments
Payment basis	Average acreage in support crops during 1991-93	Acreage for which deficiency payments were received in any of the past 5 years. Base years were updated in 2002 extension.
Supported products	Wheat, maize, sorghum, barley, rice, cotton, beans, soybean, safflower	Wheat, maize, sorghum, barley, rice, cotton, oats
Time profile	Total of 15 years: first 10 years fixed in real terms; declining in final 5 years	Program lapsed after 7 years but was extended in 2002.
Payment limits	$6,700 per farm	$40,000 per farm
Restrictions on the use of support-crop land	Land should be allocated to support crops but since 1996 land can be allocated to other agricultural uses	Land should be kept in agricultural uses(excluding fruits and vegetables);use must be in compliance with existing conservation plans
Other features	"Negotiated" prices in effect for the first 2 transition years of the program; floor prices are retained for maize and beans	Nonrecourse government guaranteed commodity loans are retained in modified form

Note: The upper limit for PROCAMPO payments is 100 hectares and the per hectare payment is currently 484 Mexican pesos, or approximately US$6,700 (at 7.2 pesos/US$). Following the 1994 devaluation, PROCAMPO payments were not fully adjusted to inflation.
Source: USDA(1996); SARH (no date).

Figure 8. México: Production Support Equivalent as a Share of Production: Totals and Components for Traditional Crops*



Source: OECD (2000). * Cebada, maíz, arroz, sorgo, soya y trigo

In sum, the resilience of Mexican agriculture was due in part to the efficiency improvement achieved through its unilateral agricultural reforms. However, there are significant challenges ahead for Mexican agricultural development.

3.3.5 The challenges ahead: Towards the productive transformation of Mexican agriculture

We have already noted that PROCAMPO entailed a substantial improvement over the pre-NAFTA agricultural support policies. The main reason behind this conclusion is that the subsidies are now de-linked from current and future production decisions and thus it does not necessarily provide incentives for farmers to continue producing traditional agricultural products. In addition, this program is supposed to end in 2008. Hence the challenge is what can be done to aid the productive transformation of Mexican agriculture towards non-traditional crops. The recently implemented agrarian capitalization program mentioned earlier is a step in the right direction, for it offers credit subsidies to PROCAMPO-eligible farmers that present potentially profitable investment projects. The program, administered by FIRA, also demands cost-sharing on the part of the farmer, so that their proposal need to be efficient and carefully thought out. Yet this might not be enough.

There is an important role for macro stability. Yuñez-Naude (2002) shows for the case of Mexico that a substantial share of the variations of real domestic agricultural prices during 1980-1999 was due to exchange-rate fluctuations. This was generally the case for most Latin American countries during this period, as reported by Foster and Valdés (2001). Consequently macroeconomic stability should be a key ingredient in any economic program aimed to support long-term investments necessary for the productive transformation of Mexican agriculture.

In the recent social upheaval associated with the next to last phase of agricultural trade liberalization under NAFTA, the government has reacted in part by seeking temporary safeguards for the imports of poultry. This is also a recommendable action in face of the political economy considerations that need to be addressed in the short run. The government also responded by providing further subsidies for agricultural inputs, such as electricity and diesel fuel. Again, these actions are undoubtedly short-term solutions to a mainly political situation. Yet in the medium and long run these are not solutions for the competitiveness of Mexican agriculture. The long run profitability of Mexican producers depends crucially on the their capacity to plant new crops and/or produce processed foods. To support these efforts, the government can take a closer look at its agricultural research and extension support services, which are related to the its national innovation system discussed in chapter 5 of this report. In addition, the public sector needs to evaluate the current infrastructure needs of the agricultural sector, including its roads, ports and irrigation infrastructure. All of these are and should be an integral part of the country's rural development strategy in the context of an open North American economy that supplies one of the most competitive and dynamic agricultural production and consumption centers in the world – the U.S. economy. This does mean that regional (encompassing the U.S., Canada and Mexico) cooperative efforts to support agricultural research and extension services supported by the public sector, as well as infrastructure investments, could be an integral part of Mexico's rural development agenda in the next five years, prior to the disappearance of PROCAMPO. The hope is that by that time, PROCAMPO could be substituted by an even more efficient regional system of agricultural transformation policies, where temporary protection plays only a very limited role.

3.4 NAFTA's Anti-dumping and Counter-vailing Duties[22]

With the success of GATT/WTO rounds in reducing traditional forms of trade protection, such as tariffs and quotas, recent focus by economists and policymakers has been on the use of antidumping (AD) and countervailing duty (CVD) laws by WTO-member countries. There is concern that the growing adoption and use of these laws by countries may threaten to roll back the free trade gains negotiated in GATT/WTO rounds since the end of World War II.[23,24] In recent WTO meetings it has become apparent that

[22] This section draws heavily from Blonigen (2002).

[23] See Prusa (2001) for analysis of the recent spread of AD/CD laws and their use across WTO member countries. Blonigen and Prusa (forthcoming) provides an extensive survey of the academic literature on the economics of AD activity.

traditional users of AD/CVD laws, particularly the United States, have been extremely reluctant to even allow these practices to be subject to future WTO negotiations. (See below, under the section concerning Mexico's AD/CVD system before and after NAFTA for a review of technical criteria used for deciding whether to impose AD/CVD duties. These are quite similar across countries.)

Likewise, treatment of AD/CVD practices has been a contentious issue for recent preferential trading arrangements (PTAs) negotiated by the United States. In negotiations for the Canada-U.S. Free Trade Agreement (CUSFTA) implemented in 1989, Canada originally proposed exemptions for both countries from each other's AD/CVD actions. Given strong U.S. objections to this, a compromise was eventually reached to establish binational panels to review AD/CVD actions between the two countries when requested by an involved party (Gantz 1998).[25] This compromise was codified in Chapter 19 of the CUSFTA. The role of these binational panels is limited to determining whether a country appropriately follows its own national AD/CVD laws in making a particular determination. Thus, national AD/CVD laws were not changed and cannot be questioned by the review panels, which was a crucial issue for the U.S. On the other hand, the process provides an alternative to having national courts handle appeals of AD/CVD decisions, thus providing the possibility for greater impartiality of the review.[26]

An almost identical Chapter 19 was ultimately adopted in the subsequent NAFTA agreement as well, but not before the U.S. rejected calls by Canada for the NAFTA countries to exempt each other from their AD/CVD actions. In addition, there was substantial concern from both the U.S. and Canada over Mexico's AD/CVD laws and their application, which led to agreements by Mexico to make major procedural changes in their AD/CVD laws before implementation of NAFTA.[27] Likewise, treatment of AD/CVD laws is a major concern in negotiations for a Free Trade Area of the Americas, with the U.S. unlikely to accept any concessions that would restrict their ability to apply U.S. AD/CVD laws.[28]

The role of AD/CVD laws is already an important issue for future trade negotiations over PTAs and in the multilateral arena under the aegis of the WTO. Studying the impact of the change in the appeals process afforded through Chapter 19 of CUSFTA and NAFTA holds to answering a key policy question: Did this change alter incentives sufficiently to impact AD/CVD activity. To date, there has been very little

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[24] While AD/CVD activity often involves narrowly-specified import products, the high duties often imposed and other features of the administration of these programs can lead to quite significant welfare impacts. Gallaway, Blonigen and Flynn (1999) estimate that U.S. AD/CVD programs cost the U.S. $4 billion annually using 1993 data. This placed AD/CVD programs as second only to the Multi-Fiber Arrangement in terms of welfare costs to the U.S.

[25] This Chapter 19 review process of AD/CVD actions by binational panels was separate from a more general dispute settlement mechanism for all NAFTA-related issues stipulated in Chapter 20 of CUSFTA and NAFTA.

[26] The national courts of appeals for unfair trade cases are the U.S. Court of International Trade, the Federal Court of Canada, and the Federal Fiscal Tribunal for the U.S., Canada and Mexico, respectively.

[27] See Geisze (1994) for more details on the historical evolution of Mexican AD/CVD laws.

[28] For example, a January 31, 2001, front-page article by *Gazeta Mercantil* reported that AD issues led to a negotiation impasse between Brazil and the U.S. in FTAA negotiations.

literature examining these issues.[29] The main exception is Jones (2000), which points out that the creation of Chapter 19 binational review panels has the potential to create many more successful appeals by parties becoming subject to AD/CVD duties. This, in turn, would limit the success of domestic groups that file such actions and could lead to diminished AD/CVD activity toward other NAFTA countries. Importantly, the level of activity in the NAFTA dispute settlement process for AD/CVD cases has been substantial, with approximately 75 reviews since CUSFTA began in 1989.

On the other hand, PTAs obviously reduce trade barriers in general and lead to increased trade flows. AD/CVD decisions are supposedly based on whether imports are injuring domestic industries, so that increased import activity from a region may make this injury determination more likely, leading to a greater probability of affirmative decisions. This in turn gives domestic industries greater incentives to file AD/CVD cases, raising the level of AD/CVD filing activity. In summary, the effect of CUSFTA and NAFTA on U.S. AD/CVD activity against NAFTA countries is an open question because of these opposing effects of increased trade and a new binational dispute settlement process.

The following sections empirically examine U.S. AD/CVD actions from 1980 through 2000 to determine the effects, if any, of the CUSFTA and NAFTA on U.S. AD/CVD activity with respect to Canada and Mexico, and Mexican cases against the other two countries.[30] Jones (2000), the only paper to empirically examine this issue, finds that both U.S. AD filings against Canada and Canada's AD filings against the U.S. significantly drop after the CUSFTA agreement. This is attributed by Jones to the new binational dispute settlement process put into place by CUSFTA and NAFTA. However, this is true for all regions of the world as shown in Table 5. Hence understanding the impact of NAFTA's Chapter 19 on Mexico's and Canada's vulnerability to U.S. AD/CVD activity requires more careful analysis presented in the following section. We examine the geographic and other trends of Mexican AC/CVD activity later in this chapter.

Table 5. Average Annual U.S. Antidumping and Countervailing Duty Filings by Named Country/Region and by Select Time Periods.

	Pre-CUSFTA Pre-NAFTA **1980-1988**	Post-CUSFTA Pre-NAFTA **1989-1993**	Post-CUSFTA Post-NAFTA 1994-2000
NAFTA-partners **Canada**	**3.9**	**4.3**	**1.6**

[29] A small set of law journal articles and U.S. Government Accounting Office (GAO) reports have observed a number of developments with respect to the operation of the binational review panels stipulated under Chapter 19. Gantz (1998), Pippin (1999), U.S. General Accounting Office (1997), and Vega-Canovas (1997) provide descriptive assessments of how well the binational panel system of Chapter 19 reviews have worked in fulfilling their stipulated goals. These issues will be discussed more below.

[30] The primary focus on U.S. AD/CVD activity is due to data accessibility issues, as well as the fact that the U.S. is the largest market in NAFTA and user of AD/CVD laws.

Mexico	**1.1**	**3.8**	**1.7**
Other countries/regions **Japan**	7.6	**6.3**	**3.3**
European Union	**32.7**	**20.3**	**8.3**
Latin America	**10.8**	**11.3**	**4.0**
Asia	**13.8**	**22.3**	**14.6**
Rest of the World	**14.1**	**11.5**	**9.1**

Sources: U.S. Antidumping Database available from the National Bureau of Economic Research webpage: http://www.nber.org/antidump/, and official sources of the U.S. Department of Commerce and U.S. International Trade Commission.

3.4.1 U.S. AD/CVD activity towards NAFTA partners: Did Chapter 19 help?

As mentioned, U.S. and Mexico's AD/CVD activity is likely to be affected not only by NAFTA but also by macro (Feinberg 1989; Knetter and Prusa 2000), industrial, and microeconomic conditions (Finger et al. 1982; Feinberg and Hirsch 1989; Blonigen and Prusa 2002) that are known to explain AD/CVD activity in various countries. To examine the impact of NAFTA's Chapter 19 Blonigen (2002) estimated various econometric models of such activity in the U.S. where NAFTA case fillings are only part of the explanation. The results are presented in Table 6. The most notable finding is that neither Canadian nor Mexican Chapter 19 filings against U.S. decisions are significant determinants of U.S. AD/CVD activity. Blonigen (2002) conducts further exercises to test for the robustness of these results. In one set of econometric experiments, Blonigen tests the importance of other aspects of the NAFTA review mechanism. He finds that, in the case of Mexico, the number of remands per year (i.e., the number of cases determined to be wrongfully assessed against Mexico by the NAFTA experts panel), the number of accumulated remands, and the accumulated number of filings by Mexico are all not significant determinants of U.S. AC/CVD activity. In contrast, Canadian cumulative filings and cumulative remands do seem to reduce this country's vulnerability to U.S. AD/CVD investigations. The aforementioned results were unchanged when Blonigen examined only steel-related cases filed by the U.S. (Table 7 contains a statistical summary of CUSFTA and NAFTA filings against U.S. AD/CVD cases.)

Table 6. Negative Binomial Maximum Likelihood Estimates of the Determinants of the Number of U.S. AD and CVD Activity: The Effects of NAFTA Dispute Settlement Filings

	Total Filings		Affirmative Decisions Only	
Explanatory variables	AD and CVD	AD Only	AD and CVD	AD Only
NAFTA Variables				
Canadian NAFTA Dispute Settlement Filings	- 0.073 (-1.29)	- 0.081 (-0.97)	- 0.163 (-1.23)	- 0.154 (-1.18)
Mexican NAFTA Dispute Settlement Filings	0.140 (1.26)	0.195* (1.73)	0.018 (0.10)	0.087 (0.54)

Control Variables				
Import Penetration	4.165 (0.24)	0.160 (0.01)	19.809 (0.77)	- 2.925 (-0.12)
Exchange Rate	0.198 (0.42)	0.860** (2.14)	0.341 (0.71)	0.789 (1.64)
Real GDP Growth	0.045 (1.26)	0.038 (1.08)	0.026 (0.61)	0.004 (0.08)
Unemployment Rate	0.073 (1.26)	- 0.024 (-0.45)	- 0.031 (-0.44)	- 0.130* (-1.69)
Corporate Profitability	- 0.114 (-1.60)	- 0.198*** (-3.21)	- 0.158** (-2.19)	- 0.179*** (-2.82)
Regional Fixed Effects				
Canada	- 1.175*** (-5.17)	- 1.311*** (-5.14)	- 1.269*** (-3.20)	- 1.325*** (-3.47)
México	- 1.939*** (-5.53)	- 1.921*** (-5.81)	- 1.946*** (-4.46)	- 2.018*** (-4.77)
European Union	0.639* (1.90)	0.435 (1.50)	0.109 (0.34)	0.239 (0.76)
Japan	- 0.700*** (-3.57)	- 0.373* (-1.82)	- 0.255 (-0.99)	0.160 (0.62)
Asia	0.286 (1.29)	0.455* (1.83)	0.561* (1.65)	0.914*** (2.59)
Latin America	- 0.345 (-1.37)	- 0.524** (-2.12)	- 0.167 (-0.62)	- 0.469 (-1.62)
Observations	147	147	147	147
Pseudo - R^2	0.11	0.12	0.12	0.15

NOTES: Regressor set also includes a constant term (not reported). Omitted regional fixed effect is "Rest of the World" to avoid perfect multicollinearity with the constant. t-statistics are in parentheses with ***, ** and * denoting statistical significance (two-tailed test) at the 1, 5 and 10 percent levels, respectively. Source: Blonigen (2002).

Table 7. CUSFTA and NAFTA Dispute Settlement Petitions and Determinations Against U.S. AD/CVD Actions, 1989-2000.

	Canadian Filings Against U.S.				Mexican Filings Against U.S.			
Year	Filings	Affirm	Remand	Term.	Filings	Affirm	Remand	Term.
1989	11	6	4	1	n.a.	n.a.	n.a.	n.a.
1990	3	0	1	2	n.a.	n.a.	n.a.	n.a.
1991	5	0	2	3	n.a.	n.a.	n.a.	n.a.
1992	6	1	5	0	n.a.	n.a.	n.a.	n.a.
1993	5	2	1	2	n.a.	n.a.	n.a.	n.a.
1994	1	0	1	0	1	1	0	0
1995	1	1	0	0	4	2	2	0

1996	0	0	0	0	1	0	0	1
1997	3	0	1	2	5	1	1	2
1998	2	1	1	0	3	0	0	0
1999	5	0	0	5	2	0	0	0
2000	6	0	0	3	4	0	0	0

Notes: The nine Mexican filings from 1998-2000 and three Canadian filings in 2000 are still active investigations. Source: Blonigen (2002) based on data from NAFTA Secretariat webpage: **http://www.nafta-sec-alena.org/english/**index.htm?decisions/decisions.htm

3.4.2 Mexico's A/CVD system before and after NAFTA[31]

Having reviewed the performance of the CUSFTA and NAFTA review mechanism with respect to U.S. AD/CVD activity, we now turn to Mexico's AD/CVD system. We start with a brief historical description of the relevant institutions.

Mexico's trade liberalization resulted in a surge in imports. Considering the latter fact, along with the "right thing to do" derived from the political economy of trade integration, the creation of a system that protected the domestic industry through AD/CVD duties was thought to be necessary.[32] In 1985 and 1986 two preliminary laws were created[33], but it was not until 1987 that the system was fully operational, by means of the approval of the GATT's Antidumping Code. In that same year, Mexico's first AD/CVD case was issued. Between 1987 and 1990, the average of AD/CVD investigations was 12 cases per year. However, the import surge that followed between 1991 and 1994 tripled this average, up to 36 cases per year.

In 1993, Mexico's AD/CVD legislation had yet another change, through the approval of the Foreign Trade Law (Ley de Comercio Exterior, LCE in Spanish). Among the law's objectives, the LCE proposed a more specific framework for AD/CVD procedures. Finally, in 1994 the Antidumping Code changed as a result of the Uruguay Round and it embodied the WTO criteria.[34] The key organizational innovation of this law was the creation of the International Trade Practices Unit ("Unidad de Practicas Comerciales Internacionales, or UPCI in Spanish).

[31] This section borrows heavily from Esquivel and Solis (2002).

[32] It is important to remark that the alternatives were limited – or perhaps nonexistent. The use of tariffs and quotas is regulated by the WTO, while other alternatives such as escape clauses represent a high cost in terms of lobbying and political power involved.

[33] The "Ley Reglamentaria del Artículo 131 de la Constitución Política de los Estados Unidos Mexicanos en Materia de Comercio Exterior", and the "Reglamento contra Prácticas Desleales de Comercio Internacional", respectively.

[34] It should be noted that each country establishes their own AD/CVD policies according to general GATT/WTO principles. Such guidelines, however, are generally vague, thus leaving each country's legislation to interpret them. However, a key criteria is that AD/CVD laws should allow some legal appeals or review mechanism.

The UPCI is the government agency accountable for the filing and investigation of AD/CVD practices in Mexico. The UPCI is responsible for the following activities:

- Advise the Minister of Economy about the application and size of AD/CVD duties;
- Serve as the general advisor of the federal government on AD/CVD and escape clause issues;
- Provide assistance on the formulation of LCE reforms, regarding AD/CVD and escape clause issues;
- Explain and defend the Ministry's AD/CVD resolutions in international agencies (local authorities), and
- Offer technical and legal assistance to Mexican firms involved in AD/CVD investigations from other countries.

In order to understand further the types of technical responsibilities held by the UPCI, we must first review the legal definitions of "dumping" and other relevant terms, for they explain to a significant extent why AD/CVD duties in Mexico, the U.S. and around the world can easily become sources for the reversal of trade reforms through these so-called administrative procedures. Indeed, given the lax criteria used for identifying dumping and foreign subsidies of private firms, some analysts have concluded that, at least in the case of the U.S., the real puzzle is not why AD/CVD actions are so popular among private firms and governments, but why they are not used more often (Prusa 1992).

Dumping

The case for dumping or price discrimination is called whenever a firm that exports a particular good does it at a price that is less than the prevailing one at the exporter's market. An important remark is the fact that dumping per se is not forbidden by law; unfair competition holds when the imports cause material damage (or potential damage) to the importing country's industry. There are two key elements on the analysis of an AD investigation. The first is the export price of the good. The second is the price of a similar good on the exporting country's market. The comparison between both prices leads to the dumping margin. Some of the potential motivations for firms to engage in dumping activities are:

- It wishes to improve its competitive position through an increased market share (generally on countries where it has a low participation ratio);
- Seeks to sell excess production;
- As a part of its benefit maximization process (price discrimination on the basis of demand elasticities), and
- Market predation, through the elimination of rival firms.

CVD duties

The exporting firm may not always be directly responsible for the low prices. In some cases, the government of the exporting firm's country provides subsidies to its companies, therefore reducing the effective export price. In a CVD analysis, there are three basic elements. First, the amount of the subsidy; second, the export price – considering the subsidy; and, third, the export price that would have prevailed had been no subsidy. The comparison between both prices results in the CVD margin. Similar to

the AD case, the granting of subsidies is a necessary but not sufficient condition for an affirmative duty resolution. CVD duties can only be applied when the subsidies are responsible for damage (or potential damage) to the domestic industry.[35]

Damage assessment criteria

Mexico's legislation does not allow duty imposition under the sole excuse of dumping or government subsidies; these conditions are a necessary but not sufficient condition. In addition to these conditions, it is required to prove that these actions have caused material damage (or are a potential threat) to the domestic industry, as well as a cause–effect relationship between the AD/CVD activities and the industry's injury. The same is true in the U.S. and Canada.

The methodology designed to test for injury to a domestic industry is composed of five steps: First, the authorities have to ensure that the domestic product under investigation is identical (or similar) to the imported one. The latter obeys the fact that AD/CVD duties can only be applied when both products have similar characteristics, serve the same purposes and functions, and can be commercially interchanged. The second step requires an assessment of the size of the filing firm, relative to the industry. Since the firm can be either a major participant or a small fraction of the entire market, the fact that a firm is being affected by imports does not necessarily mean that the industry as a whole is also being damaged. This analysis allows authorities to determine if the investigation must be done (considering the injuries done to the industry), and to identify which firms must be excluded from the process, either because they are importers of the good, or because they are linked to importers or exporters. The third step requires the study and evaluation of the importing country's market, both on national consumers as well as the distribution channels (on the filing country) of the merchandise, given the fact that the structure and channels of the product's distribution are an important part of the injury analysis.

The fourth requirement, the causality test, is probably the most important step on the determination of injury against a certain industry. First, it is necessary to determine if the surge on imports has caused the national (as well as foreign competitor's) good to be displaced from the market. Also, it must be verified that the imports were sold on the same distribution channels and market niches, as well as the same clients. Second, the authorities need to analyze if the imported goods affected domestic prices, and if the market share of these imports is related to their price level. Third, a cause–effect relationship must be discovered, relating imports and the main variables of the affected industry. And finally, the effect of exogenous variables over the performance of the industry must be isolated, thus giving a clear picture of the causality between imports and

[35] International legislation classifies such subsidies into three groups. Non-actionable (subsidies that have no effect on international trade, such as health or education transfers – no duty is applied); actionable (subsidies that are specific and either [a] injur the domestic industry of another member [defined the same way as with antidumping duties]; [b] nullify or impair benefits under GATT, or [c] cause serious prejudice to the interests of another member – a duty may be applied), and prohibited (direct transfers granted to increase exports – duties applied).

industry behavior. While these criteria (and the previous ones concerning the margin of dumping and subsidies) seem reasonable, they can easily satisfied when trading partners experience macroeconomic fluctuations such as exchange-rate changes.

Generally, the size of the AD/CVD duty is equivalent to the dumping or CVD margin, but this is not always the case. The UPCI can impose a lesser duty,[36] so as to minimize the impact of this action over related productive chains that can be affected because of the price increase. That is, the UPCI can consider the potential impact of such duties on consuming industries. Mexican, as well as U.S. and Canadian laws, do not consider the impact of these duties on non-corporate consumers, which might result in rather large welfare losses (Gallaway, Blonigen and Flyn 1999).

As in the U.S., AD/CVD duties imposed by a final resolution in Mexico are not necessarily permanent; they can be reviewed, in order to determine if the conditions that originally led to their imposition have changed, therefore allowing the duty to be reduced, revoked or confirmed. The LCE states that the revisions can be requested on the monthly anniversary of the resolution; however, the UPCI can start an official revision at any time if it considers that the general circumstances that originated the duties have changed. The new duties will be considered final, and therefore will be subject to new revisions on further years. In Mexico, if the duties have not been reviewed in the past 5 years, they will automatically expire, which is different from the laws in the U.S. where AD/CVD duties do not automatically expire.

In order to clarify particular situations that may arise from the interpretation of both the LCE and UPCI's rulings, special procedures have been designed:[37]

- Product reach: duties are imposed over tariff lines. However, the same tariff line can include products that are not related to the AD/CVD investigation; in these cases, a special procedure is called upon, in order to exempt (or confirm) duties for the specific good (generally at 4 or 5-digit Standard Industry Classification [SIC]).
- Benefit extension: Mexican legislation states that UPCI's rulings are always extensive to other firms, given that the interested part demands the special procedure and proves that it has the same legal situation as the original firm.
- Isolated market determination: in the cases where AD/CVD injury is determined, it may not be the case that the damage is nationwide. For some special industries, the injured firms can be located in a defined area (for example, in a particular state or region). Using this special procedure, duties are only paid for the imported products that are destined to that specific area.

The mechanisms designed to appeal AD/CVD decisions made by the UPCI and the equivalent authorities worldwide are diverse. Broadly speaking, disputes about the final resolutions dictated by the unit can be solved using a variety of channels (considering that the specific procedure will depend upon the conditions of the FTA

[36] This practice is known as *lesser duty rule*.
[37] The following is not an exhaustive listing. For more details, see Unidad de Prácticas Comerciales Internacionales (1997).

between Mexico and the affected country; if no FTA exists, higher authorities must be consulted, like the WTO). Of particular importance to the analysis is the Mexican review system, as well as the aforementioned NAFTA Chapter 19 bilateral panels, both designed to provide an alternative review procedure to the national appeals processes.[38]

According to the LCE, interested parties can request a review of the UPCI's decision, through administrative and judicial procedures. The administrative review process requires that the interested party presents the case to the UPCI within 45 day of the (original) final resolution. The LCE states that the UPCI is required to present a new resolution within 4 months. This new resolution can revoke, modify or confirm the original decision. Once the UPCI states its new resolution, if the interested party is not satisfied with the result, a judicial review process can be requested. In this case, the decision corresponds to the Federal Fiscal Tribunal (Tribunal Fiscal de la Federación, TFF in spanish). The TFF can dictate five possible resolutions: (a) take the UPCI's decision as valid; (b) nullify (total or partially) the UPCI's decision; (c) send back the decisions to the UPCI, stating the specific terms for compliance; (d) order the UPCI to renew the administrative review, or (e) reject and discard the review. As a last (and extraordinary) review process, a *juicio de amparo* can be requested. In this judicial procedure – used often in Mexican law – the interested parties can ask for an amendment of the TFF's resolutions. Under the *juicio de amparo*, two types of violations can be presented: procedure errors, and legal errors in the procedure. It is noteworthy that the reviewing authority is limited to an examination of legal topics, determining if the TFF did apply the adequate legislation.

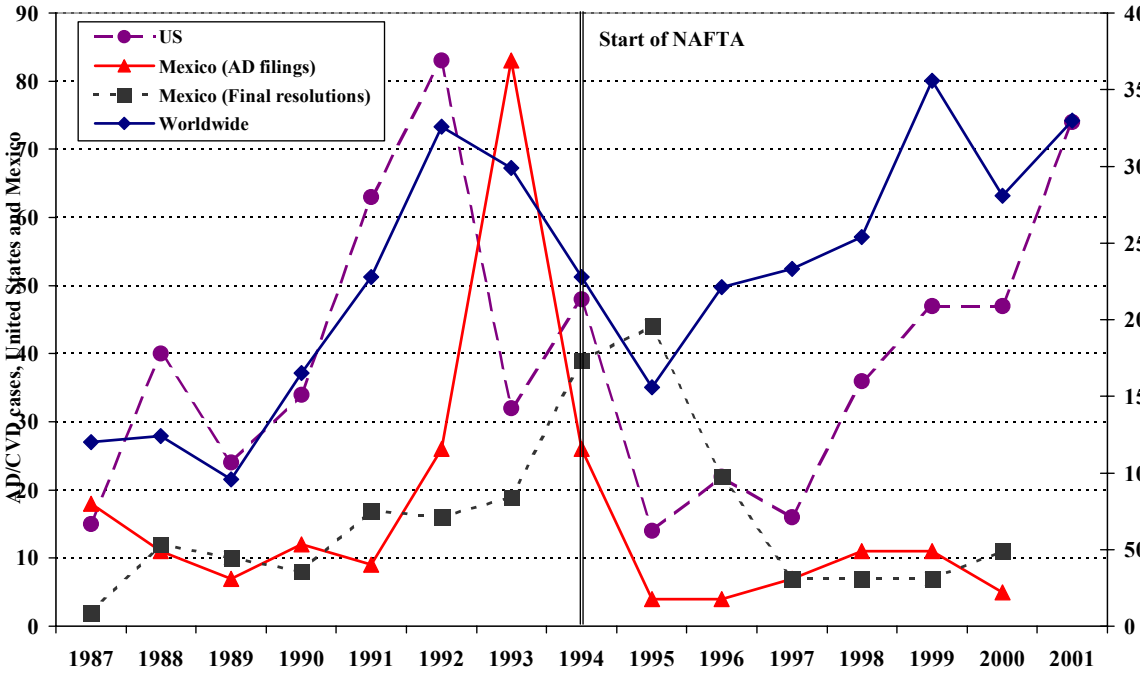
3.4.3 Mexico's AD/CVD activity and NAFTA

We have already reviewed the evidence concerning U.S. AD/CVD activity and concluded that Mexico has not yet benefited from NAFTA's Chapter 19 review mechanism. We have also reviewed Mexico's AD/CVD institutions, which share many features with its NAFTA partners. However, given that the scientific literature accepts the finding that AD/CVD duties are often imposed for political reasons related to macro and microeconomic circumstances that are not necessarily related to firm or government economic practices, it is an empirical question whether Mexico's AD/CVD activity was affected by NAFTA. Esquivel and Solis (2002) provide an empirical exploration of the determinants of Mexico's AD/CVD activity, which is methodologically similar to the exercises presented above and in Blonigen (2002) for the U.S. case.

The evolution of Mexican AD activity is shown in Figure 9. Mexico's filings followed a similar pattern as U.S. AD filings (shown in Figure 9 for comparative purposes). Between 1987 and 1994 investigations in Mexico increased from 18 to 83, and fell back to 5 by 2000. The final resolutions from Mexican authorities follow the total filings trend with a one year lag. From the graph it is clear that both U.S. and Mexico filings fell after NAFTA, while the world total follows an increasing trend after 1995.[39]

[38] For a more detailed description, see Leycegui (1997).
[39] While not included in the graph, Canada's filings also decreased after their peak in 1992.

Figure 9. Mexico AD Activity, 1987-201



Source: Esquivel and Solis (2002) based on data from Prusa (2001) and UPCI (2001).

A great deal of information can be obtained with an analysis of the composition of AD/CVD actions by target country. Table 6 shows that – considering all 234 investigations – 60 percent is concentrated on the top 5 (United States, China, Brazil, Venezuela, and South Korea), 55 percent on the top 3, and that the United States is solely responsible for nearly 30 percent of the AD/CVD petitions. Nevertheless, the latter can only be accounted for 19 per cent of the duties imposed. In contrast, China, having 17 percent of the AD/CVD requests, accounts for almost 36 percent of the total duties imposed. The United States and Brazil come in second and third places, respectively. Also, the last column on Table 8 calculates the "success rate" (defined as the percentage of filings where a duty is imposed) cases for AD/CVD investigations. In this case, China is the most punished country, having a ratio of 87.2 percent (that is, for every 10 AD/CVD filings, almost 9 end up with a duty). Considering only those countries with more than 5 claims, China is followed by Venezuela (70 percent), Russia (66.7 percent), Taiwan (60 percent), and Brazil (52.2 percent). The average success ratio is 41%.

Table 8. Composition of AD/CVD filings by target country, 1987 – 2000.

COUNTRY	INVESTIGATIONS	PERCENTAGE OF INVESTIGATIONS	DUTIES (STILL ON OPERATION)	PERCENTAGE OF DUTIES	SUCCESS RATE
USA	66	28.20	18	18.95	27.3
China	39	16.66	34	35.79	87.2
Brazil	23	9.82	12	11.58	52.2

Venezuela	10	4.27	7	7.37	70.0
South Korea	9	3.84	1	1.05	11.1
Germany	7	3.00	1	1.05	14.3
Russia	6	2.66	4	4.21	66.7
Spain	6	2.66	3	3.16	50.0
Taiwan	5	2.14	3	3.16	60.0
Ukraine	5	2.14	...	...	0.0
Canada	5	2.14	1	1.05	20.0
European Union	4	1.70	2	2.11	50.0
Japan	3	1.29	2	2.11	66.7
Colombia	3	1.29	...	...	0.0
Netherlands	2	0.85	2	2.11	100.0
Hong Kong	2	0.85	1	1.05	50.0
Kazakhstan	2	0.85	1	1.05	50.0
India	2	0.85	1	1.05	50.0
Denmark	2	0.85	1	1.05	50.0
Belarus	2	0.85	...	...	0.0
Uzbekistan	2	0.85	...	...	0.0
Tajikistan	2	0.85	...	...	0.0
Lithuania	2	0.85	...	...	0.0
Chile	2	0.85	...	...	0.0
Estonia	2	0.85	...	...	0.0
Greece	2	0.85	...	...	0.0
Belgium	2	0.85	...	...	0.0
Others[40]	17	7.26	2	2.11	11.8
Total	234	100	96	100	31.7

Source: Esquivel and Solis (2002) based on data from UPCI (2001).

The main econometric results from Esquivel and Solis (2002) about the macro and micro determinants of Mexican AD filings are presented in Table 9.[41] The basic model considered various explanatory variables as determinants of AD filings by Mexico that might lead private firms to petition the UPCI for AD protection or that might affect the decisions of this organization due to the political consequences of industry-specific economic conditions. The chosen variables were the relevant bilateral real exchange rates and imports over GDP or import penetration (lagged one year), which might lead domestic firms to file AD petitions with UPCI and might lead the UPCI to find AD margins. Second, the authors considered variables that might have had additional direct

[40] Includes France*, Bulgaria*, Malaysia, Pakistan, Australia, South Africa, Indonesia, Armenia, Azerbaijan, Moldova, Turkmenistan, Kyrgyzstan, Lethonia, Georgia, Argentina, Peru and Turkey . * indicates duty imposed.

[41] Esquivel and Solis (2002) focus on Mexico's AD activity because AD cases completely predominate over CVD and even safeguards cases in Mexico. AD cases accounted for over 90% of total cases during the period under study.

effects on the UPCI decisions due to their political effects. Among these, the authors included the unemployment rate, value added or GDP performance at the industry level, and other unobserved country effects. Among the latter the analysis included dummies for the U.S. and Canada, as well as effects affecting these two countries on or after 1994.

Table 9. Negative Binomial Maximum Likelihood Estimates of the Determinants of the Number of Mexican AD Cases and AD Duties, 1990-2001

	1	2	3	4	5	6
Dependent Variable:	Number of AD Filings			Number of AD Duties Imposed		
RER	0.0061015 (0.020)	0.0047688 (0.048)	0.0053335 (0.038)	0.0116214 (0.000)	0.0101621 (0.000)	0.018514 (0.000)
Unempl.	0.2242873 (0.144)	0.272863 (0.062)	0.2862045 (0.074)	-0.1273622 (0.555)	-0.0717797 (0.735)	-0.0470322 (0.833)
GDP	-0.0590344 (0.274)	-0.0602689 (0.234)	-0.0580375 (0.288)	-0.1445165 (0.041)	-0.1352548 (0.051)	-0.1321254 (0.067)
Import Penetration	68.1348 (0.011)	-74.99109 (0.249)	79.57851 (0.103)	72.37415 (0.026)	-50.77837 (0.545)	97.42099 (0.107)
Canada		-1.895202 (0.001)			-2.51075 (0.023)	
US		2.041655 (0.041)			1.70415 (0.180)	
Canada94			-1.518103 (0.025)			-2.015274 (0.087)
US94			-0.40218 (0.641)			-0.734402 (0.509)
Log likelihood	-152.54127	-144.81949	-149.80907	-111.20824	-106.23789	-108.99635
Pseudo R^2	0.0578	0.1055	0.0746	0.0826	0.1236	0.1009

Note: The table reports the coefficients from the regression. P-values in parenthesis.
Source: Esquivel and Solis (2002).

The results in Table 9 imply that the real exchange rate and import penetration are important determinants of both the number of filings and of the number of positive findings by the UPCI, as shown across the six columns of Table 7. In contrast, GDP performance and the unemployment rate alternate in significance, depending on the variable under analysis. In the case of AD filings, the relevant variable is the unemployment rate, and GDP is never significant. For the case of AD duties, GDP performance is the key variable. In any case, the inclusion of dummy variables in the model shows a differentiated effect for the United States and Canada, depending on the period under analysis. Canada's effect is negative, while the United States' is positive for the entire period (1990 – 2000) but zero considering the NAFTA years (1994 – 2000). We interpret these results as suggesting that NAFTA had a notable effect in reducing the U.S. vulnerability to Mexican AD actions, although the U.S. tends to be more vulnerable than other countries to such actions. As mentioned earlier, this is true only for the number of AD filings, but for the number of positive findings, where countries such as China are significantly more vulnerable.

These results are interestingly different from those concerning Mexico's vulnerability with respect to U.S. action, which showed (see above) that NAFTA had not had a significant impact on Mexico's vulnerability, although Mexico has always been less vulnerable than other countries. Thus these are exactly the opposite of the results concerning the U.S. vulnerability to Mexican AD actions.

3.4.4 Policy implications regarding AD/CVD activity under NAFTA

The findings discussed in the previous sections have important implications not only for Mexico but also for other countries from Latin America and the Caribbean who are in line to implement (Chile) or negotiate FTAs with the U.S. (Central America). The results have implications for future FTA and WTO round negotiations, as the Chapter 19 dispute settlement process was likely intended to reign in abuse of these laws by the U.S. In both the CUSFTA and NAFTA, the U.S. clearly tried to thwart any attempt by the partner countries to affect their application of AD/CVD laws. These intentions are now explicitly stated in the 2002 Trade Promotion Authority granted by the U.S. Congress to the Executive branch. The compromise solution of Chapter 19 binational dispute settlement procedures for AD/CVD cases had the potential to affect AD/CVD activity because it allowed for timely dispute settlements by panels representing both countries involved in the case to supercede appeals to national courts. A critical holdover, however, was limiting the Chapter 19 panels (as with the national appeals courts) to only rule on whether a country has appropriately applied its own AD/CVD laws and practices. Given sufficiently ambiguous laws about the practice of determining dumping, subsidization and injury, a whole range of practices can be ruled consistent.

In addition, the panels have no ability to enforce judgments. While government agencies from all three countries have mainly complied with remands from the panel, this process did not resolve the largest trade dispute it has faced, the softwood lumber case with Canada, which led to direct governmental negotiations. Some remands connected with U.S. cases against Canada have led to significant changes in judgments in a handful of cases, which may by why there is some evidence of the effect of cumulative remands with respect to Canada. There are no such "successful" remands concerning initial U.S. AD/CVD cases against Mexico to date. In fact, a worry with the Mexican experience is the long delays in the dispute settlement process, which makes it very unlikely it will affect U.S. behavior in the near future. Thus, while it may make government agencies more vigilant in maintaining consistency in how they apply their laws, Chapter 19 has little power to affect real change in AD/CVD laws and practices. This realization led Chilean negotiators not to accept language similar to NAFTA's Chapter 19 in its recent FTA negotiations with the U.S.

This begs the question of possible avenues that current and future partner countries may have to persuade the U.S. to reform or eliminate its AD/CVD laws. One option is more aggressive retaliatory AD/CVD activity against the U.S. Both Canada and Mexico have substantial enough trade volumes to be able to create effective retaliation. There are a number of reasons why this is not a good strategy. First, estimates reported by Blonigen (2002) showed that U.S. AD/CVD actions do not seem to be affected by

AD/CVD activity in the Canada and Mexico against the U.S. Second, such strategies could just as easily lead to a trade war, rather than an agreement to "disarm."

A second option is to make efforts to harmonize competition policies and push for folding antidumping policies into a common competition policy. Were AD/CVD practices subject to the same strong criterion for action as current competition policy (at least in the U.S.), we would likely see almost the complete elimination of successful AD/CVD cases. However, this is exactly the problem. AD/CVD laws are explicitly devised to benefit only domestic producers, even at the expense of competitive markets and the welfare of consumers, which is in direct contradiction with competition policy. Thus, limiting AD/CVD use through harmonization with competition policy is likely a very long and difficult road.

A final alternative may be negotiate a new safeguards agreement with the U.S. and Canada and to agree to use safeguard actions rather than AD/CVD laws. Safeguard protection allows for governments to impose temporary protection for a domestic industry, provided that imports are a significant cause of injury to the domestic industry. The explicit condition that safeguard actions are temporary is a definite improvement over AD/CVD cases, as the U.S. currently still assesses AD/CVD duties from cases as far back as the 1970s. In Mexico, the only applicable "sunset" clause is the one that states the AD/CVD duties can be removed after five years if there have not been any reviews of the cases during that time span. In addition, the injury test for safeguard actions requires a more stringent test that imports are a significant cause of injury, not just a nontrivial one. There is no required finding of dumping or subsidization for safeguard actions, but this criterion is virtually always passed anyway in AD/CVD cases. No calculation of dumping/subsidization also makes it more transparent that the action is political, rather than falling under the guise of promoting "fair trade practices," despite having no economic basis. Finally, since safeguard actions must necessarily involve presidential action, it ensures that only nontrivial trade actions take place. This feature also forces leaders to consider the overall political implications of imposing taxes that hurt voters and other interested parties.

Box 1. Rules of Origin and the Export of Protection among NAFTA Partners: The Basic Analytical Framework

This note aims to clarify how rules of origin (ROOs) can act as protectionist devices whereby the structure of production of one of the NAFTA partners determines the profitability of exporting firms. The framework was provided by Krueger (1993).

Consider a Mexican firm deciding whether to export apparel products to the U.S. under the NAFTA preferences. Its expected profits can be formally written as follows:

(1) $\pi_A^{Mex} = P_A^{US} - P_T^{US} \bullet \alpha \bullet q - P_T^W (1-\alpha) \bullet q$,

where pi represents the expected profits for this firm. If it sells the product in the U.S. market, it will receive revenues per unit of apparel equal to the U.S. price (P_A^{US}) for that article. On the cost side, the firm will have to pay the U.S. price for the necessary textile inputs. This cost has three components: the unit price of textiles in the U.S. (P_T^{US}) if the firm decides to use U.S. components (which is likely due to the low cost source within NAFTA for textiles); the resulting unit cost is the product of this price times the cost share of U.S. textile inputs (α) times the textile cost share relative to the value of apparel that is determined by the production technology (*q*); minus the cost of using textile inputs from other sources that might be cheaper than U.S. parts ($P_T^W (1-\alpha) \bullet q$).

The relevant U.S. prices, world prices, and the technological parameter can be defined as follows:

(2)

$$P_A^{US} = (1 + t_A^{US}) P_A^W$$

$$P_T^{US} = (1 + t_T^{US}) P_T^W ,$$

$$q < 1$$

where t_A^{US} is the ad-valorem U.S. import tariff (equivalent) on apparel and t_T^{US} is the corresponding U.S. tax on textile imports. To simplify, let world prices of apparel and textile inputs be equal to unity:

(3) $P_T^W = 1; P_A^W = 1$

Then,

(3) $\pi_A^{Mex} = (1 + t_A^{US}) - q\left[(1 + t_T^{US})\alpha + (1-\alpha)\right]$

The ROO determines α, which is the share of textile inputs that must come from regional sources in order for the export of apparel to be eligible for NAFTA preferential treatment. In the specific case of textile and apparel products, the NAFTA ROO implies α = 1 due to the yarn-forward rule, which says that apparel must be made from yarn originating in NAFTA countries. Thus, the profits for Mexican firms wishing to penetrate the U.S. market under the NAFTA preferences can be re-written as follows:

(4) $\pi_A^{Mex} = (1 + t_A^{US}) - q \bullet (1 + t_T^{US})$.

This formula shows that for exports under NAFTA preferences, Mexican firms' profits will be determined exclusively by U.S. tariffs on apparel and textiles and the technological parameter, which we can safely assume is constant in this case because it is unlikely that technological change in the apparel industry can reduce the amount of cloth used per unit of apparel. The fact that Mexican apparel profits are determined by U.S. tariff structure is the key result from Krueger (1993).

Alternatively, firms can choose not to use the NAFTA preferences. In this case, firms face the following profit condition:

(5) $\pi_A^{Mex} = 1 - q \bullet (1 + t_T^{Mex})$.

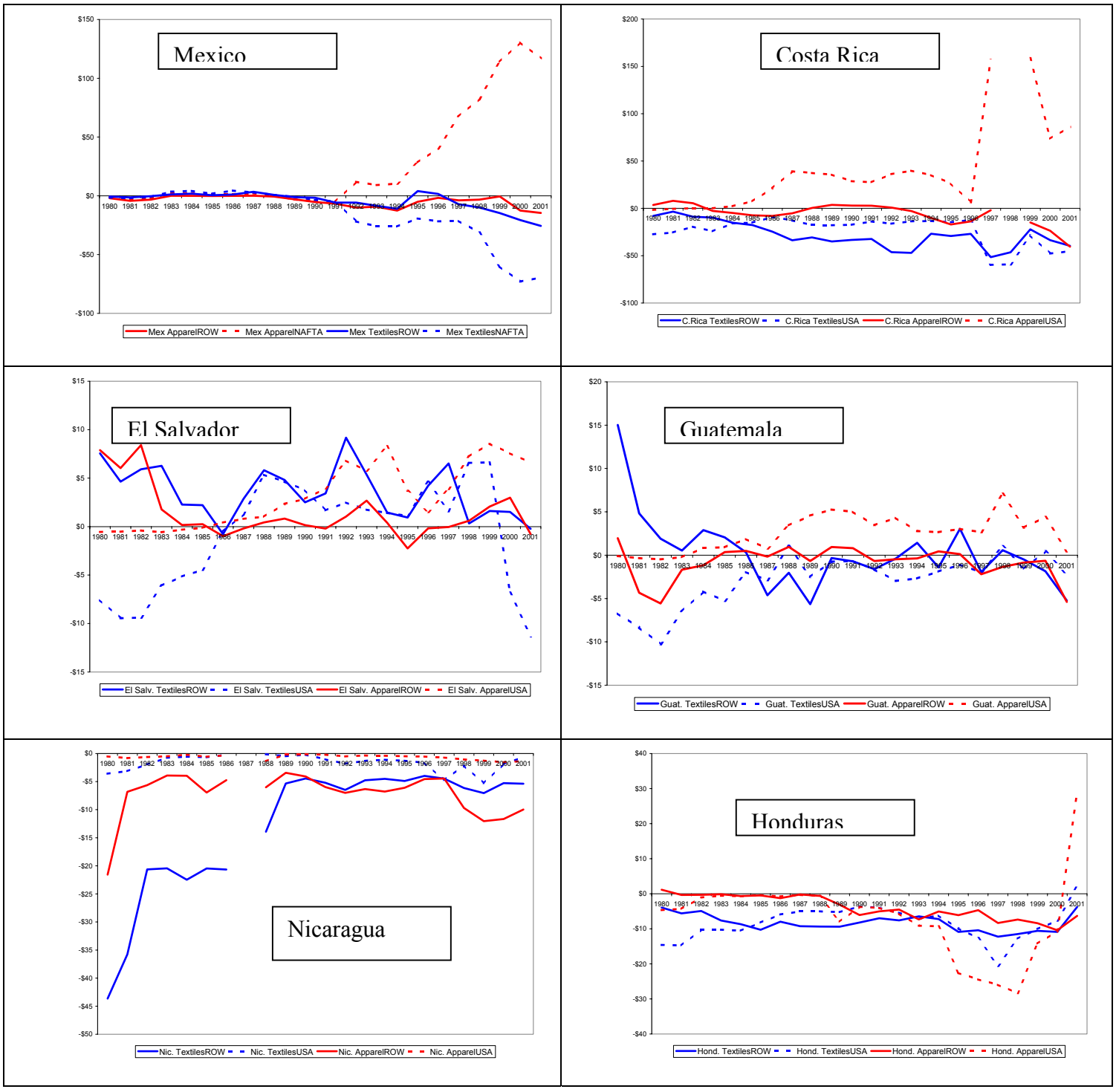
In words, the firm that decides not to use the NAFTA preferences for apparel exports will receive the world price minus the costs of textile inputs, which in this case depend solely on Mexico's textile import tariffs (and implicitly on the world price of textiles, which we have set equal to zero). Hence the decision to actually use the NAFTA preferences will depend on whether profits from using the preferences as defined in (4) are greater or at least equal to the profits from not relying on the preferences as defined in (5).

Thus it is easy to show that the apparel preferential margin, which equals the U.S. tariff when all intra-NAFTA trade enters duty free, needs to be greater or equal to the product of the textile cost share in production times the difference between the U.S. and Mexican textile tariffs:

(6) $t_A^{US} >= q \bullet (t_T^{US} + t_T^{Mex})$.

The analysis presented in the main text of this chapter discusses possible explanations of why the utilization of the NAFTA preferences in apparel exports from Mexico to the U.S. is relatively low given that the extent of the preferential treatment under NAFTA has been quite high. The framework presented here indicates that there are three key parameters, which are those in equation (6).

Figures 3a-f. Net Exports per Worker of Apparel and Textiles: Mexico and Central America, 1980-2001



Box 2. The Multiplier Effects of PROCAMPO – Evidence of Effectiveness

Source: Sadoulet, de Janvry, and Davis (2001).

Evaluations of income support programs, such as PROCAMPO, should consider, among other factors, how such transfers affect total incomes of the beneficiaries. Effective programs should in principle create additional income from other sources so that each dollar spent by the public sector results in more than one dollar of additional income. The study by Sadoulet, de Janvry, and Davis (2001) found that PROCAMPO created large indirect effects. The multiplier for all households is in the range of 1.5 to 2.6. Multipliers are higher for households with medium and large farms, low numbers of adults in the household, nonindigenous backgrounds, and located in the Center and Gulf regions. Large multipliers reflect uncaptured marginal income opportunities due to liquidity constraints that are relaxed by the transfers. Liquidity constraints can be caused by incomplete property rights in the *ejido* sector and by the disarray of financial institutions servicing agriculture following the scaling down of the agricultural development bank. Large multipliers thus reflect sizable gaps between opportunities and constraints. Households with migrants sending remittances and with higher levels of education may thus have lower multipliers because they were able to work around the liquidity constraints more effectively than other households. Households with little land and with ethnic backgrounds may have lower access to liquidity, but also have lower opportunities to invest additional cash received, again resulting in lower multipliers.

Box 3. The Mexican and U.S. Experiences with De-linked Agricultural Income Subsidies
Source: Baffes and Meerman (1998).

Mexico: The 1994 PROCAMPO Program

In 1994 Mexico introduced a new farm program, PROCAMPO (Programa Nacional de Modernizacion del Campo), to provide income support to grain and oilseed producers—about 90 percent of all Mexican farmers. Under this regime prices of the nine crops in the program have become market-driven or autonomous. Thus production and trade is less distorted. Moreover, PROCAMPO is distributionally more attractive than the earlier guaranteed price support because poor subsistence farmers are eligible for payments and there is a ceiling of 100 hectares on the amount of land that any single farmer can claim to justify payments (see Table xx).

The United States: The 1996 FAIR Act

On April 4, 1996, the Federal Agricultural Improvement and Reform Act (FAIR) became law, after the longest debate on a farm bill in U.S. congressional history (USDA 1996). FAIR removed the link between income support payments and farm prices by providing "production flexibility contract payments" for several crops. Participant producers receive these payments as a function of the amount of land registered for government support payments in earlier years. The payments are independent of current production, and farmers therefore have a more flexible incentive structure regarding planting decisions. The payments are fixed annually at a declining rate but were renovated by the U.S. Farm Bill of 2002 (see Table xx).

Room for Improvement: Efficiency, Equity, and Risk

These programs are less than ideal in that the use of land is not de-linked from them. This requirement probably reflects political considerations, as the payments must be seen to be going to "true" farmers. PROCAMPO holds land in agricultural production but permits a variety of crops to be cultivated. FAIR requires that land be kept in general agricultural use, but **cannot** be switched to fruits and vegetables.

These programs may promote equity when there is a correlation between poverty and subsistence production. Poor subsistence farmers with land are better off because they can consume the previously subsidized commodities and receive cash payments. In Mexico, farmers who owned less than two hectares of land received more than 8 percent of PROCAMPO payments, although they have historically marketed very little and therefore received little support under the old program because the price guarantees applied only to the traded commodities.

By replacing stable support prices or guaranteed prices with direct income transfers exposes producers to the risk of price volatility. Short-term volatility can be alleviated with devices that mitigate market-based risk, either through private initiative or with public assistance. Forward and futures markets are effective tools that can offer both price discovery and hedging not only to producers, but also to merchants or other concerned parties. Government-assisted risk-mitigation devices are another option. In 1997 the U.S. introduced revenue insurance against both crop failure and falling prices. Similarly, Mexico offers a guaranteed minimum price to cotton farmers for a predetermined fee through a government organization, ASERCA. Generally speaking, there are many ways to reduce risk in addition to formal measures. Farmers can grow a variety of crops with different market and climatic risks, but this requires that the income support program be completely decoupled from cropping decisions.

Ideally programs should not restrict land uses, should not cost more than the subsidization programs they replace, and should be transitory. To realize the full benefits of an income support system, the programs should include all crops and substitute for **all** existing price support programs so that farmers do not face production incentives driven by the relative benefits from the various programs. Other supporting factors, such as government credibility, favorable macroeconomic conditions, and property rights are key. Credibility was a problem in Mexico, where the amount of land in crops was first under-reported in many areas (due to fear of government taxation), and then over-reported. Clearly the macroeconomic environment, and particularly the exchange rate, should be adequate and stable to maintain domestic price stability. In some cases eliminating currency overvaluation may make it possible to eliminate protection without fiscal compensation. Another set of problems stems from uncertain land tenure rights since it becomes difficult to allocate subsidies.

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