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Nondiscrimination and the WTO Agreement on Safeguards

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Abstract: Most-favored-nation treatment, i.e., nondiscrimination among trading partners, is a fundamental principle of the GATT/WTO system. The WTO Agreement on Safeguards has thus been seen as encouraging use of a preferred form of contingent protection relative to antidumping and other inherently discriminatory measures. In practice, however, safeguard protection may also incorporate discriminatory elements. This paper focuses on three ways that policies conforming to the Agreement on Safeguards may nonetheless discriminate explicitly or implicitly among trading partners. First, the form of the safeguard policy matters: quantitative restrictions discriminate among foreign suppliers by preserving historical market shares more than a safeguard implemented as a tariff. Second, safeguard measures discriminate against faster-growing exporters and new entrants in import markets. Third, formal exemptions for partners in preferential trade agreements and for small developing-country suppliers allow these countries to gain market share at the expense of non-exempted exporters. We provide evidence of these discriminatory effects in actual cases of safeguard protection.

1. Introduction

In a 'second-best' world in which policy makers are compelled to use trade remedies to protect domestic industries, safeguards (SG) are often regarded as preferable to antidumping or other measures that restrain competing imports.[1] Economists justify this preference in at least two ways. First, antidumping

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1 See Jackson (1997, Chapter 7) and Trebilcock and Howse (1999, Chapter 9) on the legal aspects of safeguard protection in the GATT/WTO system and Hoekman and Kostecki (2001) on alternative

measures necessarily entail allegations of 'unfair trade' and pricing at 'less than fair value', whose legal definition and interpretation have little grounding in economics; safeguard measures do not require such allegations as their justification rests on injury due to unforeseen surges of fairly traded imports. A second important consideration is that safeguards are designed to protect a domestic industry from all imports, irrespective of their source. Safeguards are therefore presumed to be nondiscriminatory[2] in nature, while antidumping measures are inherently country-specific.[3] Because country-specific forms of import protection discriminate among exporters, economists are concerned that such protection may lead to welfare losses from trade diversion, i.e., from switching the source of imports from a lower-cost supplier to a higher-cost supplier. Another problem is the potential use of selective trade restrictions to achieve unrelated foreign-policy goals (Baldwin, 1983: 128).

But while the safeguards procedures outlined in Article XIX of the GATT may have been based on the most-favored-nation (MFN) principle, discrimination in the actual application of safeguard protection has been a longstanding concern.[4] At a 1982 conference on trade issues held at the Institute for International Economics in Washington, '[n]o subject stirred more heated debate…than the issue of whether there should be a new safeguards code permitting "selective" application of protection against individual countries' (Cline, 1983: 29). A move to allow selective safeguards would have provided a basis within the GATT for the already noticeable shift in practice toward negotiation of measures like orderly market agreements and voluntary export restraints rather than application of nondiscriminatory remedies under Article XIX. Tokyo Round negotiators had failed to achieve agreement on the issue of selectivity in application of safeguards, and Jackson (1993: 227) identifies 'the controversy about discriminatory application of safeguards measures' as a key topic in the Uruguay Round discussions on reform of the safeguards provisions.

economic motives for inclusion of an 'escape clause' in trade agreements. Bown and Crowley (forthcoming) survey economic research on safeguards in the GATT/WTO.

2 The GATT/WTO system proscribes two types of discrimination among members. The most-favored-nation (MFN) principle concerns discrimination among a member's trading partners, while national treatment concerns discrimination between foreign and domestic suppliers. This paper deals only with possible discrimination among trading partners in the application of safeguards, and thus we use nondiscrimination and MFN as synonyms.

3 In a paper critical of the broad use of antidumping, Leidy (1995: 29) cites the GATT safeguards provision (Article XIX) as a preferred means of defusing protectionist opposition to trade liberalization through 'temporary protection on a most-favored-nation basis in sectors experiencing serious injury'. Likewise, Jones (1994: 175) labels 'the explicit requirement subjecting all safeguard measures to MFN treatment' as 'the most significant part' of the Uruguay Round Agreement on Safeguards.

4 Prior to the Uruguay Round, the language of Article XIX left the question of whether safeguards must be applied on an MFN basis open to legal debate (Jackson 1997: 195–198). But, rather than debating the legality of selective safeguards under Article XIX, countries wishing to limit imports selectively usually did so outside of the GATT framework through 'gray-area' measures such as voluntary export restraints and orderly marketing agreements.

How well does the resulting WTO Agreement on Safeguards (AS) deal with this problem? The AS does explicitly endorse the principle of nondiscrimination in the application of safeguards and also eliminates certain types of discriminatory treatment of exporters common during the GATT period.[5] Nevertheless, some provisions of the Agreement, as well as the specific ways in which countries implement safeguards in practice, may result in substantial explicit or implicit discrimination across exporters.[6] In this paper we distinguish between two types of discrimination in the application of safeguards. The first type concerns explicit departures from MFN treatment, primarily the exemption of certain countries from the importing country's SG action. The second type concerns trade *outcomes* under SG policies. Even when all exporters are subject to the same SG procedures, the policies may nonetheless discriminate implicitly in their impact on the trade of different types of exporters, thus resulting in systematic advantages or disadvantages to a particular type of exporting country.

This paper begins by highlighting three areas in the AS where exceptions to the nondiscrimination principle are at least potentially present. The first concerns the safeguard-imposing country's choice of import-protecting instrument and method for allocating import market shares under the safeguard. We show that the type of policy used to implement the safeguard can implicitly favor certain foreign suppliers over others even when all exporters are subject to the same rules (i.e., no explicit discrimination). Second, the WTO safeguard provisions explicitly allow an importing country to place a larger share of the safeguard burden on any exporter whose share in the affected market has recently shown a 'disproportionate' increase. Third, the AS also explicitly requires safeguard-imposing countries to discriminate *in favor of* developing-country exporters with small shares in the affected market by exempting them from safeguard measures, thus providing 'special and differential treatment' consistent with what developing countries receive elsewhere in the GATT/WTO system, such as the Generalized System of Preferences (GSP).[7] Other suppliers,

5 Specifically, Article 11:1(b) of the Agreement on Safeguards states that 'a Member shall not seek, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or import side'.

6 Implicit or *de facto* discrimination has been a pervasive issue in trade law, and the precise definition of illegal *de facto* discrimination remains a topic of intense debate (Ehring, 2002: 922). In contrast to the discrimination discussed in this paper, most such disputes concern national regulations with no explicit reference to country of origin. Even when origin-neutral in their provisions, regulations may nonetheless weigh more heavily on exporters relative to competing domestic suppliers or on some exporters relative to others. For example, a 1993 European Union complaint to the GATT (*United States – Taxes on Automobiles*) concerned the allegedly discriminatory impact on EU auto exporters of three US measures intended to raise auto fuel economy. This potential source of discriminatory outcomes is exacerbated when a safeguard restricts imports of certain products while exempting others that are close substitutes.

7 On the other hand, developing countries are more likely to be among those exporters whose market shares have recently been growing and thus may be subject to adverse discrimination on that account. Thus, the net effect for an individual developing country or developing countries as a group is

especially partners in a preferential trading arrangement (PTA), may also be exempted.[8]

After highlighting the relevant provisions of the AS, we examine data on individual safeguard actions to determine whether these cases provide evidence of discriminatory outcomes arising in the actual application of SG measures. Specifically, we use data on WTO safeguard actions initiated between 1995 and 2000 to investigate whether these three exceptions to the nondiscrimination principle have a discriminatory impact on import market shares in practice. We find evidence that safeguards do discriminate across exporters in systematic ways.[9]

This rest of this paper proceeds as follows. Section 2 summarizes the legal provisions of the WTO Agreement on Safeguards that entail either explicit or implicit departures from the MFN principle. Section 3 describes our data from 14 safeguard actions implemented between 1995 and 2000 and outlines how evidence of the three exceptions contained in the Agreement on Safeguard would be revealed in the trade data. Section 4 focuses on whether the choice of policy instrument leads to discrimination in terms of trade outcomes following imposition of a safeguard, Section 5 addresses evidence of discrimination against surging exporters, and Section 6 investigates evidence of discrimination via country exemptions. Section 7 concludes.

2. The WTO Agreement on Safeguards

The purpose of this paper is to analyze how the trade outcomes of safeguard actions may differ systematically across exporters. In this section we review the key areas of the AS that may give rise to differential impacts across exporters.

2.1 Nondiscrimination in the Agreement on Safeguards

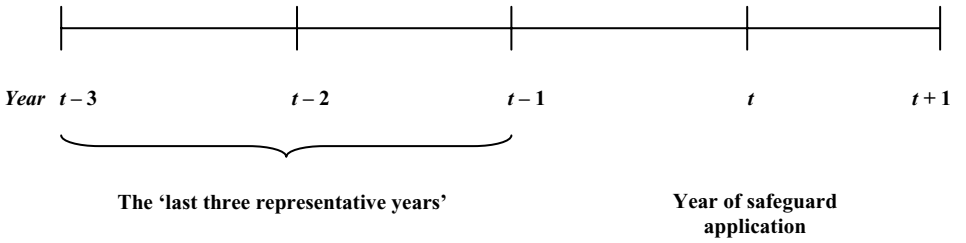
Article 2.2 acknowledges the general principle of nondiscrimination in the Agreement, specifying that '[s]afeguards measures shall be applied to a product

ambiguous. In GATT negotiations, developing countries have been vocal opponents of selective safeguards (Baldwin, 1983: 428).

8 The Agreement on Safeguards makes no mention of exemptions for partners in a PTA. Whether such exemptions are even permitted under Article XXIV of the GATT 1994 remains to be clarified. Given that safeguard protection is usually designed to achieve a specific reduction in total imports, exemptions for PTA partners would almost surely require more stringent restrictions on non-partners. This result could violate the stipulation in Article XXIV 5(b) that 'duties and other regulations of commerce maintained in each of the constituent territories and applicable at the formation of such free trade area … to the trade of contracting parties not included in such area … shall not be higher or more restrictive than the corresponding duties and other regulations of commerce existing in the same constituent territories prior to the formation of the free-trade are'.

9 Our empirical methodology does not allow us to identify discriminatory outcomes that result when safeguards are applied to some product categories while imports of close substitutes are not similarly restricted. Discrimination arises to the extent that exporting countries are relatively specialized in certain product categories. The product exclusions authorized by the US Trade Representative following imposition of the 2002 US safeguard on steel could represent this type of discrimination.

Figure 1. Timeline of interest in safeguard actions



being imported irrespective of its source'. Nevertheless, as we describe in the next section, the Agreement also contains three important provisions that allow or require a safeguard-imposing country to discriminate either implicitly or explicitly among exporting suppliers.

2.2 *Exceptions to nondiscrimination in the Agreement on Safeguards*

Departures from MFN based on the choice of trade-restricting measure

The Agreement on Safeguards permits countries to implement protection through the use of tariffs, quotas, or tariff-rate quotas (TRQs). However, the choice of a quota or a TRQ rather than a tariff to restrict imports allows for implicit discrimination among trading partners. Article 5.2(a) states:

> In cases in which a quota is allocated among supplying countries, the Member applying the restrictions may seek agreement with respect to the allocation of shares in the quota with all other Members having a substantial interest in supplying the product concerned. In cases in which this method is not reasonably practicable, the Member concerned shall allot to Members having a substantial interest in supplying the product shares based upon the proportions, supplied by such Members during a previous representative period, of the total quantity or value of imports of the product.

Although Article 5.2 does not define 'a previous representative period', Article 5.1 offers an implicit definition: 'the last three representative years for which statistics are available, unless clear justification is given'. Thus, if a quantitative restriction is used, and assuming no prior agreement has been reached among all interested parties concerning the allocation of market shares,[10] the AS specifies that market-share allocations during the safeguard period should be based on the average market shares in a previous representative period, usually the three years prior to the investigation of the safeguard (see Figure 1). Such an allocation implicitly

10 Given the large number of affected suppliers in most SG cases, agreement on allocation of shares in the quota would be difficult to achieve. Moreover, any agreement among numerous competing suppliers would likely require use of an 'objective' formula similar to the one specified in Article 5.2.

favors suppliers whose market shares have been slipping in recent years over suppliers whose market shares have been increasing.[11]

Consider two exporting countries, A and B, with opposite trends in market share for the good whose domestic suppliers are about to be protected by a safeguard. In the three years prior to the year the safeguard is imposed (year t), country A's market share has fallen from 15 per cent in year $t-3$ to 10 per cent in year $t-2$ to 5 per cent in year $t-1$. Under a safeguard quota, allocation of market shares based on the average of historical levels would reward A with a 10 per cent market share in year $t+1$, twice its actual share in the year before the safeguard was imposed. On the other hand, B's market share has risen from 5 per cent in $t-3$ to 10 per cent in $t-2$ to 15 per cent in $t-1$. Under a safeguard quota with allocation of market shares based on average historical levels, B's market share would drop to 10 per cent in $t+1$, one-third less than it achieved in the final year before the safeguard was imposed.

This type of implicit discrimination arises only if the SG is implemented as a quantitative restriction *and* market shares are allocated on the basis of historical performance. This discriminatory impact is not inherent in the use of SG protection applied as an MFN tariff, where import market shares are determined by market forces rather than allocated by the safeguard-imposing country according to a formula.[12]

Departures from MFN due to certain exports having increased in 'disproportionate percentage'

Whereas allocation of import market shares under a quantitative restriction allows for implicit discrimination among exporters even though all exporters are subject to the same treatment, Article 5.2 also allows for explicit discrimination against certain exporting countries whose trade has simply grown too quickly. Specifically, Article 5.2(b) states:

> A Member may depart from the provisions of subparagraph (a) [of Article 5.2] provided that … imports from certain Members have increased in disproportionate percentage in relation to the total increase in imports of the product concerned in the representative period … [and] … the conditions of such departure are equitable to all suppliers of the product concerned.

11 A possible justification for the discriminatory treatment is that traditional suppliers have 'paid' for their market access with their own earlier concessions, while newer entrants have not. In fact, newer entrants are often also new to the GATT/WTO system. For the 14 cases analyzed here, new entrants to the market often included transition economies in central Europe.

12 The discriminatory impact of a quantitative safeguard could be eliminated by auctioning the import licenses rather than distributing them according to historical shares (Jackson, 1997: 176). With a competitive auction, the outcome would approximate that of an MFN specific tariff equal to the sale price of a unit import license. In practice, governments rarely use an auction to allocate shares in a quota-protected market. Moreover, use of an auction would conflict with Article 5.2 of the AS unless all affected suppliers agreed to this method of allocating market shares.

Like quantitative restrictions with market shares based on the average shares in a prior period, this provision shifts the burden of safeguard protection toward faster-growing suppliers or recent entrants into the market.[13]

Departures from MFN due to country exemptions

Safeguard-imposing countries also depart explicitly from MFN treatment by exempting exports from two groups of countries: (1) the safeguard-imposing country's partners in a preferential trade agreement, and (2) developing countries with small shares in the relevant import market.

Countries imposing safeguard protection have frequently exempted their preferential trading partners from the measure. Examples include the US exemption of Canada and Mexico (NAFTA members), as well as Israel; and Argentina's exemption of MERCOSUR members from its safeguard actions on footwear.[14] Such exemptions by safeguard-imposing countries represent explicit discrimination in favor of PTA members and thus against non-PTA members.

The second avenue for country-specific exemptions arises because the Agreement on Safeguards explicitly requires safeguard-imposing countries to exempt developing-country WTO members from such actions if their individual and collective shares in the affected market are small. Specifically, Article 9.1 states:

> Safeguard measures shall not be applied against a product originating in a developing country Member as long as its share of imports of the product concerned in the importing Member does not exceed 3 per cent, provided that developing country Members with less than 3 per cent import share collectively account for not more than 9 per cent of total imports of the product concerned.

This exception thus discriminates in favor of developing countries that are new entrants or at least small suppliers to an import market still dominated by exporters in developed countries or larger developing countries.

3. The safeguards data and investigation

Given that the AS endorses the MFN principle and yet also includes rules that allow or require members to discriminate explicitly or implicitly across exporters

13 The underlying notion is that only a few countries have 'caused' the recent surge in imports. The counter-argument is that safeguards are designed to provide temporary relief from fair imports. Countries whose exports have been increasing most rapidly 'are doing exactly what they are supposed to do under … the GATT. They have become more efficient; they are producing better and less expensive goods … To penalize those countries is to target the very industries that have been achieving the results that international trade policy is designed to achieve' (Jackson, 1993: 211).

14 As noted above, the WTO consistency of exemptions for PTA members remains to be clarified. Questions have also arisen about the way countries have exempted PTA members from SG actions in practice. For example, the legal issue of how to treat imports from a PTA member in a SG has been brought up in trade disputes such as *Argentina – Safeguard on Footwear* (WTO, 1999) and *US – Safeguard on Wheat Gluten* (WTO, 2000a), which discussed, *inter alia*, the issue of 'parallelism,' or the inclusion of the PTA member's exports in the injury determination but then its exclusion in the safeguard application.

in their application of SG protection, ultimately the question of whether safeguards are applied on a nondiscriminatory basis is an empirical one. In this section we discuss the way in which we intend to examine the trade data from cases of SG protection initiated under the AS to detect evidence of discriminatory treatment and impact.

To approach these issues empirically, we focus on the set of safeguard actions listed in Table 1. The list includes a number of SG measures that WTO members initiated between 1995 and 2000 under the Agreement on Safeguards. The data are compiled from country notifications made to the WTO Committee on Safeguards and published at the WTO's website (WTO, 2000b, 2001, 2002). As our primary empirical questions relate to the market shares of exporters affected by a safeguard action, our sample consists of all those SG cases for which we are able to match the products identified in the notifications with the most disaggregated trade data that is available systematically, at a sufficiently narrow level of aggregation, from an independent source. For this purpose we use the TRAINS 6-digit Harmonized System (HS) import data provided in UNCTAD (1995, 2001, 2002).[15]

For each case, define year t as the year the SG was imposed and country j as an exporter of the product that the SG-imposing country has chosen to protect. First consider exporting country j's share in the SG-imposing country's total imports of the product in year $t+1$. We focus on year $t+1$ because the SG may have been imposed at any time during year t; thus, trade data for year $t+1$ are more likely to show the full effect of the safeguard action. Figure 1 again captures the timeline of interest in our analysis.

Our empirical methodology requires five years of data around the year of the SG's implementation – the three years before the SG was enacted, in addition to the year of and the year after the SG application. After matching the products and generating the required time series for the trade data, we are left with the 14 different safeguard actions initiated between 1995 and 2000 presented in Table 1.[16] These 14 SG actions cover a total of 85 different 6-digit HS product categories. The mean number of 6-digit HS products per case is 6.0, while exactly half of all safeguards affected just one 6-digit product, as illustrated in Table 1.

15 The safeguard notifications are typically made at the 8- or 10-digit HS level, and there may be multiple 8- or 10-digit HS products named in a given SG action. Because we use 6-digit HS trade data, our results will be imprecise to the extent that variation in a given 6-digit product is driven by variation in 8- or 10-digit products that were not subject to the SG action.

16 For the purpose of our empirical analysis, we treat the second Argentine footwear safeguard as distinct from the initial footwear safeguard because (1) its form changed from a tariff to TRQ, (2) the HS products subject to the safeguard changed, and (3) the countries exempted from the measure changed. Nine SG actions also initiated during the same period are omitted from our analysis because the required import data were not available: Bulgaria (Ammonium Nitrate), Czech Republic (Cane/Beet Sugar), Ecuador (Matches), Egypt (Safety Matches; Common Fluorescent Lamps), India (Phenol; Acetone), Korea (Garlic), and Latvia (Swine Meat).

Table 1. WTO safeguard actions in the sample

No.	Country	Product (number of 6-digit HS codes in sample)	Year	Measure	Exempted countries
1.	Argentina	Footwear (21)	1997	tariff	Brazil, Paraguay, Uruguay and 19 other countries
2.	Argentina	Footwear* (4)	2000	TRQ	Brazil, Paraguay, Uruguay and 4 other countries
3.	Brazil	Toys (15)	1997	tariff	Paraguay, Uruguay, 18 other countries
4.	Chile	Wheat, wheat flour, cane/beet sugar, edible vegetable oils (27)	2000	tariff	None listed
5.	Chile	Socks of synthetic fibres (1)	2000	tariff	Canada, Mexico, Peru, developing countries satisfying the small supplier criterion
6.	India	Acetylene/Carbon black** (1)	1998	tariff	Developing countries satisfying the small supplier criterion except China, Philippines, Singapore and South Africa
7.	India	Slabstock polyol (1)	1998	tariff	Developing countries satisfying the small supplier criterion except Singapore
8.	India	Propylene glycol (1)	1998	tariff	Developing countries satisfying the small supplier criterion except Singapore
9.	Korea	Dairy products (3)	1997	quota	Developing countries satisfying the small supplier criterion
10.	US	Broom corn brooms (1)	1996	tariff	Canada, Israel, 147 other countries
11.	US	Wheat gluten (1)	1998	quota	Canada, Mexico, Israel, countries named in the Caribbean Basin Economic Recovery Act and Andean Trade Preference Act, 140 other countries
12.	US	Lamb meat (6)	1999	TRQ	Canada, Mexico, Israel, countries named in the Caribbean Basin Economic Recovery Act and Andean Trade Preference Act, 142 other countries
13.	US	Steel wire rod (2)	2000	TRQ	Canada, Mexico
14.	US	Circular welded pipe (1)	2000	tariff	Canada, Mexico

Notes:
* A subset of the footwear in the tariff SG of case number 1 was re-structured into a TRQ SG for case 2.
** The carbon black tariff SG was actually initiated in February 1999, but it has the same 6-digit HS code as acetylene black (imposed December 1998) so we have combined the two SGs into one.

Within each SG action, for each product we use the 6-digit HS import data to reveal the affected exporting countries. This gives us 899 country-product pairs affected by a SG action.

In terms of the specific form of the safeguard policies, nine were implemented through tariffs, three were implemented through tariff-rate quotas, and two were implemented through quotas. There was also variation in the way the TRQs were administered, though in most cases the quota element appears to have been binding, with a defined allocation of market shares among exporters.

In the next three sections we investigate whether the various provisions of the Agreement on Safeguards that allow for the discriminatory treatment and/or impact across exporters in theory actually resulted in discriminatory treatment and/or impact in practice.

4. Discrimination through policy choice? Quota, TRQ, or tariff?

Under the AS, countries can implement a safeguard and protect import-competing producers by using one of three basic policy instruments: a tariff, TRQ, or quota. As we described in Section 2.2, the use of quantitative restrictions – quotas or TRQs – can implicitly discriminate against suppliers whose market shares have grown recently as opposed to suppliers whose shares have fallen, as the AS specifies allocation of import-market shares based on average market shares in the three years prior to the safeguard investigation unless all interested parties are able to agree on an alternative allocation scheme.

Using the data on our safeguard cases, we will investigate two questions: First, are the market shares after the imposition of a SG implemented as a quantitative restriction in fact tightly linked to the average market shares of the prior representative period? This will provide evidence as to whether SG-imposing countries are following the statutory guideline for allocating market shares. Second, we will compare the tightness of the linkage between before-SG and post-SG market shares in the quantitative-measures cases to the linkage in cases where the SG was imposed as a tariff. Even if a safeguard imposed as a quantitative restriction leads to an outcome in which post-SG market shares are closely tied to historical averages, it is possible that market forces (which play a larger role in tariff cases because there is no externally mandated allocation of market shares) produce the same sort of outcome in terms of post-SG allocation of market shares.

Consider Figure 2, which plots each exporting country's post-SG share of total imports of a 6-digit HS product affected by the importing country's safeguard policy. Specifically, we plot each exporting country's market share in the year after the SG was imposed $(t+1)$ as a function of that country's average market share for the three calendar years prior to imposition of the SG. We use the 899 exporter-product-specific observations in the sample and break them

down by the three possible forms that a safeguard action can take: quota, TRQ, or tariff.[17]

First consider the graphical evidence of the plots in panels (a) and (b) for the policies that involve quantitative restrictions, i.e., the cases in which the safeguard was implemented through a quota or a TRQ. In these cases, there is a strong positive relationship between historical market shares and post-SG market shares. It also appears that there is a fairly tight relationship between the average market share in the prior three-year period and the market share in the year after the safeguard was applied. This can be seen from the closeness of the points to the 45-degree line (where a country's import market share in year $t+1$ is exactly equal to its historical market share). Panels (a) and (b) in Figure 2 thus provide evidence consistent with the hypothesis that when a safeguard is imposed through a quantitative restriction, the importing country does allocate import-market shares according to the formula provided in Article 5.2(a).

The follow-up question is whether an outcome determined by market forces would lead to the same pattern, i.e., market shares in $t+1$ closely related to the three-year historical average. To show that this is not likely to be the case, we turn our attention to the graphical evidence presented in panel (c) of Figure 2, which again illustrates the relationship between market shares in $t+1$ and average historical market shares, but now for the cases in which the safeguard was applied as a tariff. While there is still a strong positive relationship between historical market shares and the market shares that result after a SG is imposed, the data in the tariff cases are much more widely dispersed around the 45-degree line. This suggests that market shares in tariff cases fluctuate more over time, perhaps in response to market forces such as changes in comparative advantage due to positive or negative supply shocks in exporting countries, or simply because of unexplained randomness.[18]

We therefore conclude that the specific policy instrument a country uses to implement a safeguard has an important effect on the impact across exporters. A visual inspection of the data suggests that, when compared with safeguards applied through a tariff, safeguards applied through quantitative restrictions discriminate in favor of suppliers whose market shares have been falling and against suppliers whose market shares have been rising over the prior representative period. Thus, quota and TRQ safeguards used to protect domestic suppliers may also provide some relief to established trading partners whose positions in the relevant import market have been adversely affected by increased competition from other import sources.

17 In a related paper (Bown and McCulloch, forthcoming), we confirm the results discussed below through formal econometric analysis, which allows us to separate the effect of policy choice from other factors potentially influencing post-SG market shares.

18 Another possibility is that the products SG-imposing countries choose to protect with a TRQ or a quota are ones with market shares that are more stable over time than those for products protected with a tariff. We do not investigate this endogeneity argument here.

Figure 2. Historical market shares versus market share after the SG application

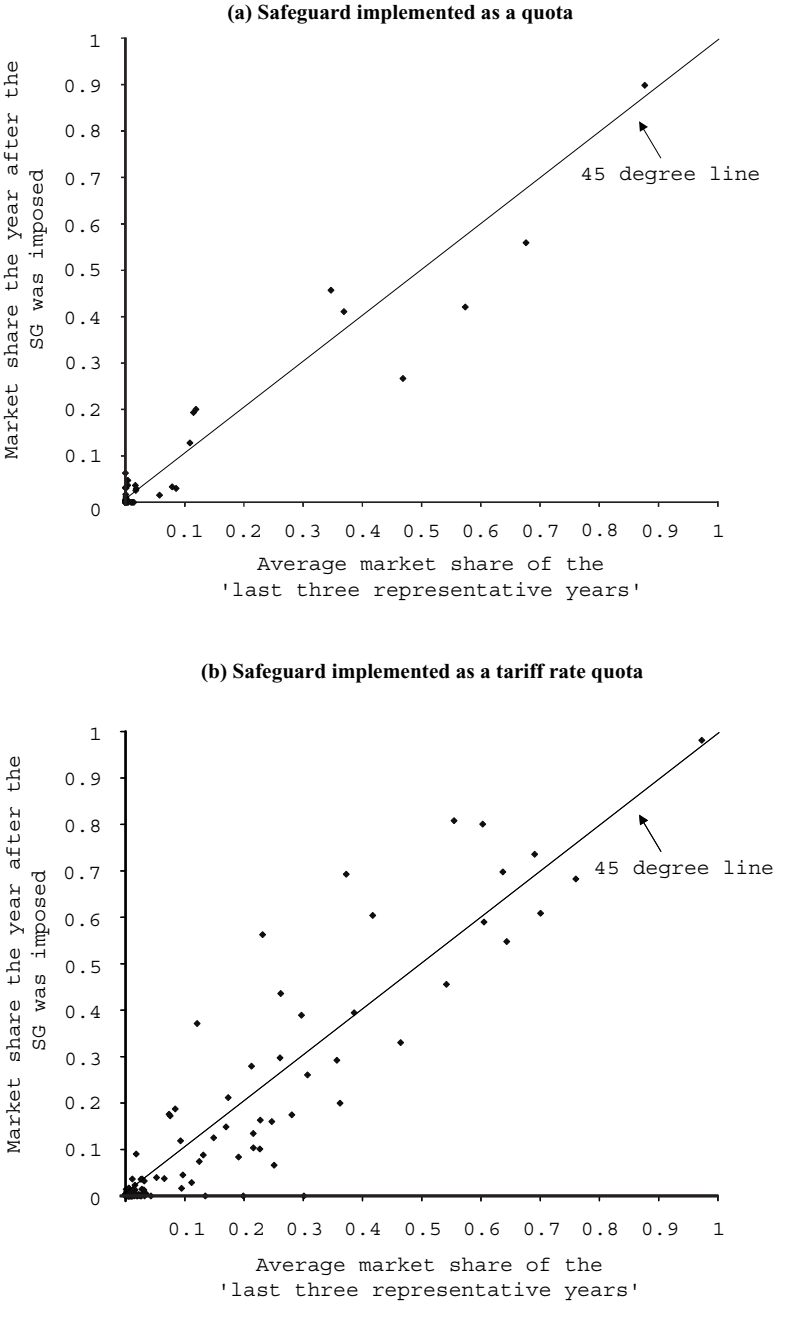
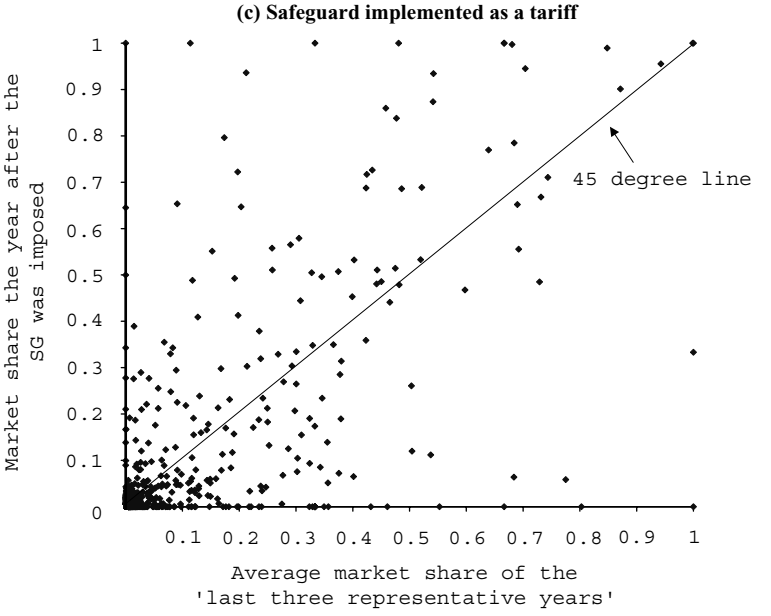


Figure 2. Continued



5. Discrimination against suppliers with disproportionate increases?

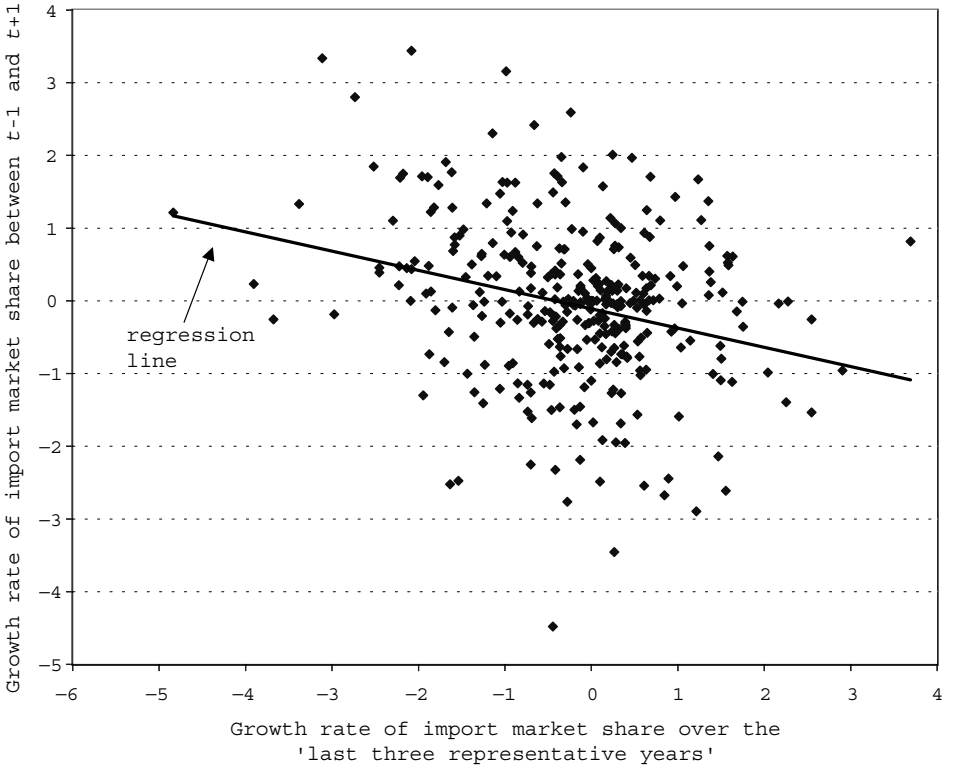
As we discussed in Section 2.2, the AS also permits safeguard-imposing countries to discriminate explicitly among trading partners if certain suppliers have been increasing their exports by a 'disproportionate percentage'. In this section we investigate two possible areas where evidence of this sort of discrimination might be revealed in the data. First, we analyze how market shares have been changing for fast-growing but historical suppliers, i.e., countries that are not new entrants to the relevant market. We then turn to the performance of 'new entrants', which we define as exporters that first supplied the (ultimately safeguarded) product to the safeguard-imposing country's import market in the year before the safeguard was applied.[19]

5.1 Discrimination against fast-growing established suppliers?

Is there evidence that safeguards discriminate against suppliers that increased their exports by a 'disproportionate' percentage in the prior period? First, note that if a country has increased its exports relative to other exporters of the same

19 Separating these two categories helps us to analyze the post-SG performance of suppliers whose exports were previously increasing by a 'disproportionate percentage'. For the historical suppliers, we can investigate this question simply by looking at the percentage change in their share of the safeguard-imposing country's import market over the three years prior to imposition of the SG. However, the corresponding pre-SG growth rate cannot be calculated for new entrants (i.e., it is not well defined mathematically), since their previous share (in year $t-2$) of the import market was zero.

Figure 3. The effect of a safeguard on surging exporters



Note: A scatterplot of the exporting country-specific growth rates of import market shares of the six-digit HS products affected by the imposition of a safeguard in the 14 safeguard actions in the sample; t is the year the safeguard was imposed.

6-digit HS product, this will be reflected by an increase in the 'surging' exporter's share of the SG-imposing country's import market. To investigate the question of discrimination against such exporters, we use Figure 3, which plots the percentage change in each exporter's market share between the year $t-1$ just prior to the SG imposition and the year $t+1$ just after, against the percentage change in the same exporter's market share over the period prior to the year the SG was imposed, i.e., between year $t-3$ and year $t-1$. As we would expect, there is a strong negative relationship – countries whose exports surged (a 'disproportionate' percentage *increase* in exports, i.e., growth in market share) immediately prior to the SG investigation saw the biggest decline in market share (a 'disproportionate' percentage *decrease*, i.e., decline in market share) immediately after the SG was imposed.[20]

20 Another possible explanation of a negative relationship is that a country's exports in any given year deviate randomly from their longer-term trend. A surge might then represent a one-time event that is subsequently reversed for reasons other than the safeguard. A formal investigation of this hypothesis

5.2 *Discrimination against new suppliers?*

Figure 3 plots data only for exporting countries that maintained a market presence throughout the three-year representative period prior to imposition of the safeguard. These are countries for which a 'disproportionate' increase in exports can be quantified in terms of a percentage increase in market share over that period. In this section we focus on the 'new entrants,' countries that only began to supply the relevant market in year $t-1$.

To investigate how these new entrants performed when confronted with a safeguard, we consider the evidence presented in Table 2, which provides data on their export activity. Of the 114 exporting countries in the data set that entered a SG-imposing country's import market in year $t-1$, 68 per cent exited the market in one of the two years immediately following imposition of the safeguard

Table 2. The exit response to a safeguard of new entrants and other exporters

	Number of exporting countries	Number of exporting countries that exit within the next 2 years (share of total)
New entrants in $t-1$	114	78 (68%)
In SG implemented as a quota	7	4 (57%)
In SG implemented as a TRQ	20	16 (80%)
In SG implemented as a tariff	87	58 (67%)
New entrants in $t-3$	127	63 (50%)
Small* historically present exporters in $t-1$	281	40 (14%)
In SG implemented as a quota	22	5 (23%)
In SG implemented as a TRQ	57	9 (16%)
In SG implemented as a tariff	202	26 (13%)
All historically present exporters in $t-1$	627	87 (14%)
In SG implemented as a quota	40	7 (18%)
In SG implemented as a TRQ	123	13 (11%)
In SG implemented as a tariff	464	67 (14%)

Notes:
* An 'historically present' exporter is defined as a country exporting the 6-digit HS product that was present in the import market (i.e., did not enter or exit) in both years $t-2$ and $t-1$ where year t is the year the SG measure went into effect. A 'small' historically present exporter is one whose share of the import market in $t-1$ was less than 0.56 per cent (the median share of the import market in $t-1$ of the 'new entrants' who first entered in $t-1$).

would require a comparison of these market share changes with those of a set of similar products that were not subject to a safeguard policy, a task that is beyond the scope of the analysis undertaken here.

(i.e., either t or $t+1$). On its own, however, this evidence is not sufficient to establish that imposition of a safeguard discriminates against new entrants.

First, this result could also be obtained if new entrants differ from other exporters in ways that make these suppliers more likely to exit than longer-established suppliers, ceteris paribus. To address this possibility, we compare this exit rate with the corresponding rate for other 'new entrant' exporters in the sample that entered the market earlier, i.e., exporting countries that entered in $t-3$, or three years before the SG was put in place. Of the 127 exporting countries that entered in $t-3$, only 50 per cent exited within the next two years (i.e., in $t-2$ or $t-1$). While high, this exit rate is still much lower than the exit rate of the countries that entered the market in the year immediately before the SG went into effect.

A second possibility is that these 'new entrants' in $t-1$ exited quickly because they were typically small suppliers, and small suppliers are more likely than large suppliers to exit after a SG is imposed, perhaps because of some fixed cost of maintaining a market presence that makes it unprofitable for them to remain in the market after the SG-imposing country has used an import restriction that contracts the size of the market. To address this potential explanation, we compare the exit response of the new entrants in $t-1$ to other similarly small exporters who were not new entrants in $t-1$, i.e., small exporters that had an 'historical presence' in the import market during both $t-2$ and $t-3$. We define a 'small' supplier as an exporter with a share of the import market below 0.56 per cent, which is the median import market share of the 'new entrants' in year $t-1$ reported in the top panel of Table 2.[21]

Perhaps surprisingly, the results of Table 2 suggest that 'historically present small exporters' were much less likely to exit the SG-imposing country's import market after the imposition of the SG than the new entrants. Overall, only 14 per cent of these small suppliers exited in year t or $t+1$, compared with the 68 per cent exit rate of the suppliers who entered in $t-1$, the year before the imposition of the SG. Finally, we note that the exit response to a SG of these 'historically present small suppliers' is actually quite similar to the exit response of the entire sample of historically present suppliers (the lowest panel of Table 2), which is again much lower than the exit response rate of the new entrants in $t-1$. This suggests that smaller suppliers (at least as measured by import market share) may not be any more likely to exit the market in response to imposition of a SG than are larger suppliers.

To summarize, this evidence is consistent with the hypothesis that safeguards have a discriminatory impact on the exit response of new entrants, when compared with the exit response rate of earlier 'new entrants' that were not faced with a safeguard and when compared with other small, but historically present, suppliers that were also faced with the imposition of a safeguard.

21 Thus, 50 per cent of the 'new entrant' observations have larger import market shares than any of the 'historically present small exporters' considered in Table 2.

6. Discrimination through country exemptions?

Safeguard-imposing countries frequently discriminate explicitly in favor of specific exporting countries that are partners in a preferential trading arrangement or developing countries satisfying the small-supplier exception described in Section 2.2. Table 1 highlights a number of the exempted countries for each of the 14 safeguard actions considered in our sample of data.

It is worth noting first that the *number* of country exemptions listed in a safeguard notification to the WTO has little economic significance. For example, the United States exempted more than 140 developing-country WTO members in the *US – Broom Corn Broom Safeguard*, *US – Wheat Gluten Safeguard*, and *US – Lamb Meat Safeguard*, even though dozens of the developing countries listed do not even competitively produce brooms, wheat gluten, or lamb meat, let alone export these products to the United States.

What is often more revealing in the list of country exemptions is which trading partners are notably omitted. For example, in the *US – Broom Corn Broom Safeguard*, the United States did not exempt Mexico, even though it did exempt its other NAFTA partner, Canada. Furthermore, while the United States did exempt more than 140 developing countries from the broom safeguard under the Article 9.1 exemption, it was one developing country not exempted (Colombia) that initiated a trade dispute against the United States at the WTO, questioning the WTO consistency of the US action. India's safeguard notifications have frequently stated that it plans to exempt all developing countries satisfying the small-supplier criterion (without naming them individually), but noting explicitly a number of developing countries that it will not exempt.

In the next two sections we address whether each type of country exemption has a discriminatory impact on market shares in practice. Note that we assess only the performance of exempted PTA members that were present as exporters to the relevant market in the period prior to imposition of the safeguard, as revealed by the trade data.[22]

6.1 Exemptions for PTA members

First consider the country exemptions that were granted to partners in a PTA, as indicated in the middle columns of Table 3. To assess whether these exemptions affected the performance of exporting countries, we use two statistical measures. Examine first the percentage change in import market share of the exempted PTA member countries. A positive value of this statistic for a particular safeguard

22 As suggested by Table 1 and our earlier discussion, there may be dozens of countries exempted from a safeguard action that have not actually exported the product in question to the safeguard-imposing country. We do not add these countries as observations in our analysis, which is confined to the performance of countries revealed as prior exporters of the 6-digit HS product by the TRAINS data set. However, it is possible that some exempted countries could become exporters to the SG-protected market due to their advantage over established exporters subject to the SG policy.

Table 3. The performance of countries exempted from a safeguard

			Exempted PTA members		Exempted non-PTA member developing countries	
No.	Country	Product (number of 6-digit HS codes in sample)	Mean growth rate of import market share	Percentage experiencing positive growth*	Mean growth rate of import market share	Percentage experiencing positive growth*
1.	Argentina	Footwear (21)	20.8%	51.6% (16/31)	12.1%	35.9% (28/78)
2.	Argentina	Footwear (4)	37.1%	66.7% (10/15)	15.4%	33.3% (5/15)
3.	Brazil	Toys (15)	−30.8%	15.4% (2/13)	19.1%	32.9% (23/70)
4.	Chile	Wheat, wheat flour, cane/beet sugar, edible vegetable oils (27)	n.a.	n.a.	n.a.	n.a.
5.	Chile	Socks of synthetic fibres (1)	Enter**	100%(1/1)	−45.0%	25.0% (3/12)
6.	India	Acetylene/Carbon black (1)	n.a.	n.a.	26.3%	50.0% (8/16)
7.	India	Slabstock polyol (1)	n.a.	n.a.	94.6%	55.5% (5/9)
8.	India	Propylene glycol (1)	n.a.	n.a.	36.1%	44.4% (4/9)
9.	Korea	Dairy products (3)	n.a.	n.a.	78.9%	53.8% (7/13)
10.	US	Broom corn brooms (1)	One Enter**, One 0.0%	50% (1/2)	−81.0%	17.6% (3/17)
11.	US	Wheat gluten (1)	49.3%	100% (1/1)	−16.6%	33.3% (3/9)
12.	US	Lamb meat (6)	18.7%	42.9% (3/7)	33.6%	33.3% (3/9)
13.	US	Steel wire rod (2)	3.4%	50% (2/4)	n.a.	n.a.
14.	US	Circular welded pipe (1)	68.6%	100% (2/2)	n.a.	n.a.
		Overall	20.1%	50.0% (38/76)	13.1%	35.8% (92/257)

Notes:
* Percentage of exporting exempted countries in the data set (i.e., named as an exempted country and also revealed by the data as exporting one of the 6-digit HS products to the safeguard-imposing country) whose share of the safeguard-imposing country's market increases.
** 'Enter' is a country that entered the market after the SG was imposed (and thus had a market share of zero in year $t-1$) and for which the growth rate of the import market share would thus be undefined.

action is evidence of discrimination in favor of the exempted countries, i.e., that the exemption has redistributed market shares toward the exempted countries in a given safeguarded product category.

Indeed, in all but one safeguard in which the SG-imposing country granted country exemptions to PTA members, the mean percentage change in import market share for those suppliers in the sample was positive. The one exception is Brazil's imposition of its Toy safeguard, where, interestingly, it did exempt MERCOSUR partners Uruguay and Paraguay from the measure, while failing to exempt its third (and much larger) MERCOSUR partner, Argentina.

The second statistic to consider for each case is the percentage of observations in which exempted PTA members experienced some growth of import market share. This statistic provides additional information as to the variation in the performance of PTA member exporters within a given safeguard action. Overall, exactly 50 per cent of the observations indicate an increase in market share for an exempted PTA member country in an HS category, though this percentage varies from a low of 15.4 per cent in the *Brazil – Toy Safeguard* to as high as 100 per cent in the *US – Wheat Gluten Safeguard* and *US – Circular Welded Pipe Safeguard*.

6.2 *Exemptions for small developing-country exporters*

Consider next the performance of developing countries with small import market shares, which are often exempted under Article 9.1 of the Agreement on Safeguards, and thus the remaining two columns of data in Table 3. Examine first the mean percentage change in import market share of the exempted countries. In eight of 11 cases in which the SG-imposing country granted exemptions to small suppliers in developing countries, the mean percentage increase in import market share for those exempted suppliers in the sample[23] was positive. Of all developing-country suppliers that were exempted from a safeguard, 35.8 per cent experienced some increase in import market share. This varies from a low of 17.6 per cent in the *US – Broom Corn Broom Safeguard* to as high as 55.5 per cent in the *India – Slabstock Polyol Safeguard*.

The first Argentine footwear safeguard (case 1 in Tables 1 and 3) provides an interesting example of the way developing-country exemptions can influence the impact of a safeguard policy. In 1998, Argentina applied a tariff safeguard on imports of footwear. Following the provisions of Article 9.1, Argentina exempted a number of small suppliers in developing countries. The result was a surge in exports from some of the exempted countries, notably Chile and Hong Kong, in a number of the 6-digit HS product categories protected under the safeguard.[24] Argentina claimed this surge required officials to restructure the safeguard in 2000 as a TRQ and to eliminate most of the developing-country exemptions from the initial safeguard, including those for Chile and Hong Kong.

6.3 *Comparing the export performances of exempted PTA partners and developing countries*

Explicit discrimination in the application of safeguards occurs through two types of country-specific exemptions, each of which potentially redistributes import

23 These are exempted countries that had previously exported the relevant product to the SG-protected market.

24 Exports to Argentina from Chile and Hong Kong (both exempted in the 1998 safeguard) in the 640219, 640291, 640299, 640399, and 640411 HS import categories increased, and in some categories increased dramatically.

market shares toward exempted countries. A follow-up question of interest is which effect is more prominent in the data. We compare the effects on a case-by-case basis (each numbered row of Table 3) and also in terms of the overall statistics that are averaged over all safeguard actions (bottom row of Table 3). These two comparisons provide evidence that when both PTA member exemptions and developing-country exemptions were granted, the PTA members as a group typically benefited more, i.e., experienced a larger increase in mean import market share than exempted developing countries that were not PTA members. However, it is also evident that not all exempted countries gained market share. Of the exempted PTA members, only half gained market share, even though the mean increase in market share for all cases was over 20 per cent. Likewise, although the mean increase in market share for exempted developing countries was more than 13 per cent, only about a third of those countries actually gained market share under the safeguard.[25]

7. Conclusions

This paper analyzes the impact of safeguard protection initiated under the WTO Agreement on Safeguards on the market shares of affected exporters. We begin by identifying three ways that the Agreement on Safeguards allows for explicit discrimination among export suppliers as well as implicit discrimination among export suppliers in terms of a safeguard's impact. Using trade data matched at the 6-digit HS product level, we then examine whether 14 safeguard actions undertaken by WTO members between 1995 and 2000 and affecting 85 products led to discriminatory outcomes in practice. For each of the three provisions in the Agreement on Safeguards that either implicitly or explicitly allow for the discriminatory treatment of exporters, we find evidence that safeguards resulted in the differential treatment of exporters and the pattern of discrimination that one would expect from each exception to nondiscrimination authorized or implied by the safeguard provisions.

First, our results indicate that the impact of a SG action on a given exporter depends on the specific form of the safeguard policy. A SG implemented through a quantitative restriction tends to preserve average historical market shares more than a SG implemented as a tariff, thus discriminating against exporting countries whose market share has recently been growing and in favor of countries whose market share has recently declined. Second, safeguards tend to cause bigger reductions in market shares for exporters whose supply to the market has recently

25 In our related econometric analysis (Bown and McCulloch, forthcoming), which controls for the influence of other factors that may also affect market shares, the country-exemption variable has a positive and statistically significant impact on the percent change in import market share. However, the size of estimated impact is not statistically different for PTA members versus developing countries.

grown more rapidly ('disproportionately') than other historical suppliers, and the exit rate of 'new entrant' suppliers to a safeguarded market is higher than for other similar exporters. Third, country exemptions for PTA members and small developing-country suppliers have a discriminatory impact of redistributing import market shares toward these suppliers, at least on average, at the expense of other exporting countries.

Our purpose in this paper is to identify evidence of discriminatory impacts, i.e., the extent to which the burden of safeguard protection is unevenly distributed across trading partners. For example, we show that the provision exempting certain developing-country exporters from safeguard protection does indeed tend to raise these exporters' market share. Such exemptions represent a departure from MFN treatment but one that was surely intended by the Uruguay Round negotiators. However, we also show that safeguards in the form of quotas or tariff-rate-quotas systematically depress the market shares of newer suppliers, a result that may undercut the intended favorable treatment of developing countries. This finding suggests that, despite the explicit MFN language of the AS, elements of selectivity were introduced through the provisions that allow safeguard-imposing countries to use quotas and tariff-rate quotas as well as tariffs, together with procedures calling for quota allocations based on historical market share. However, we do not attempt to evaluate the desirability of the selective impacts we have identified, nor do we take a stand on the economic or political merits of selective safeguards in general.

Finally, several caveats regarding our research methodology should be mentioned. While we have exploited all the data currently available to us, our empirical results are based on a relatively small number of safeguard actions. Moreover, the empirical results we have presented here neglect the effects of other factors that could also affect import market shares. However, as noted above, these results are generally supported by a complementary study (Bown and McCulloch, forthcoming) that uses formal econometric analysis to separate the effects of the discriminatory aspects of safeguards protection under the AS from other factors potentially influencing post-SG market shares.

In order to focus on the issues of discriminatory and nondiscriminatory treatment, we have limited our investigation to levels of and percentage changes in import market shares and the entry and exit decisions of certain exporting countries. As we do not analyze the amount of trade being affected, we are unable to comment on whether the discriminatory treatment of exporters that we find empirically to be associated with the use of safeguards is economically important. Moreover, we have not investigated what features of the data might help to explain decisions by safeguard-imposing countries that result in a discriminatory impact across foreign suppliers. For example, why does a country choose to impose a quantitative restriction instead of a tariff? Or, why does a country exempt some subset of PTA members or small developing-country suppliers, but not others? We leave these and other questions to future research.

References

Baldwin, Robert E. (1983), 'Comments on Chapters 10–12', in William R. Cline (ed.), *Trade Policy in the 1980s*, Washington, DC: Institute for International Economics.

Bown, Chad P. and Rachel McCulloch (forthcoming), 'The WTO Agreement on Safeguards: An Empirical Investigation of Discriminatory Impact', in Michael G. Plummer (ed.), *Empirical Methods in International Trade: Essays in Honor of Professor Mordechai Kreinin*, London: Edward Elgar.

Bown, Chad P. and Meredith, A. Crowley (forthcoming), 'Safeguards in the World Trade Organization', in A. Appleton, P. Macrory and M. Plummer (eds.), *The Kluwer Companion to the World Trade Organization*, Dordrecht: Kluwer.

Cline, William R. (1983), 'Introduction and Summary', in William R. Cline (ed.), *Trade Policy in the 1980s*, Washington, DC: Institute for International Economics.

Ehring, Lothar (2002), '*De Facto* Discrimination in World Trade: National and Most-Favoured-Nation Treatment – or Equal Treatment?', *Journal of World Trade*, **36**(5): 921–977.

Hoekman, Bernard M. and Michael M. Kostecki (2001), *The Political Economy of the World Trading System: The WTO and Beyond* (2nd edition), New York: Oxford University Press.

Jackson, John H. (1993), 'Safeguards and Adjustment Policies', in Robert M. Stern (ed.), *The Multilateral Trading System: Analysis and Options for Change*, Ann Arbor: University of Michigan Press.

—— (1997), *The World Trading System: Law and Policy of International Economic Relations* (2nd edition), Cambridge, MA: MIT Press.

Jones, Kent Albert (1994), *Export Restraint and the New Protectionism*, Ann Arbor: University of Michigan Press.

Leidy, Michael (1995), 'Antidumping: Unfair Trade or Unfair Remedy?', *Finance and Development*, March: 27–29.

Trebilcock, Michael and Robert, Howse (1999), *The Regulation of International Trade* (2nd edition), London: Routledge.

UNCTAD (various years), *Trade Analysis and Information System* (TRAINS), Geneva: UNCTAD.

WTO (1999), 'Argentina–Safeguard Measures on Imports of Footwear – Report of the Panel', on-line document at http://www.wto.org/ classified as WT/DS121/R, 25 June.

—— (2000a), 'United States – Definitive Safeguard Measures on Imports of Wheat Gluten from the European Communities – Report of the Panel', on-line document at http://www.wto.org/ classified as WT/DS166/R, 31 July.

—— (2000b), 'Report (2000) of the Committee on Safeguards', on-line document at http://www.wto.org/ classified as G/L/409, 23 November.

—— (2001), 'Report (2001) of the Committee on Safeguards to the Council for Trade in Goods', on-line document at http://www.wto.org/ classified as G/L/494, 31 October.

—— (2002), 'Report (2002) of the Committee on Safeguards to the Council for Trade in Goods', on-line document at http://www.wto.org/ classified as **G/L/583**, 4 November.