

Food Fight: Antidumping Activity in Agricultural Goods

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Antidumping (AD) trade protection activity, designed to counteract unfair pricing by foreign exporters, is increasing in the global economy across many dimensions. First, the number of worldwide AD cases is rising. Before the mid 1970s, there was relatively little AD activity. The 1980s saw over 1600 AD cases filed worldwide, while the 1990s saw 2200 cases -- about a 25% increase over 1980s activity (Miranda et al. 1998, Prusa 2001). Second, the number of countries adopting AD laws has been proliferating. Before 1990, AD activity was almost exclusively the domain of the five traditional users: Australia, Canada, the European Union (EU), New Zealand, and the United States (US). While traditional users' AD activity has continued at a high pace in the 1990s, the rise of AD cases by new users has increased to the point that new users now account for 50% or more of worldwide AD activity (Prusa 2001). The most active new users include Argentina, Brazil, Mexico, and South Africa, with China just beginning to ramp up its AD process. Finally, there is evidence that AD remedies and decisions are becoming more and more protectionist. For example, Blonigen (2003) finds that calculated dumping margins in the US have increased from 15% in 1980 to over 63% by 2000. During the same period, the probability that the US would rule affirmative for an AD case rose from 45% to over 60%.

A burgeoning economic literature on AD trade protection has accompanied the increase in worldwide AD activity. Economists have studied a wide range of issues connected with AD activity from welfare effects of these policies to the political economy behind AD decisions to the way in which the administration of these programs provides incentives for strategic behavior by affected firms affected. Blonigen and Prusa (forthcoming) provide a survey of the economics literature on AD protection to date.

While agriculture is a sector that obviously faces significant worldwide trade protection, agricultural AD activity has been a relatively unexplored issue. There have been two lines of research with respect to AD activity in agricultural sectors. The first has been case studies of specific AD cases involving particular agricultural products. These studies have examined the market conditions that led to AD trade protection for particular products and the resulting market impacts when AD duties are put into place.² The second line of research has been theoretical analysis of how unique characteristics of agricultural markets may lead to different treatment and outcomes in AD cases for agricultural products versus other products, mainly manufactured ones. Perishability, seasonal production, large numbers of producers and relatively homogeneous products

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² Examples of such case studies include an analysis of US AD cases against 1) flowers from Colombia (Mendez 1993), 2) frozen concentrated orange juice from Brazil (Braga et al. 1993, U.S. International Trade Commission 1995a), 3) lamb meat from New Zealand (U.S. International Trade Commission 1995b), and 4) crawfish from China (Roberts 2000).

are all characteristics that more often characterize agricultural products than manufactured ones. Palmetter (1989), Hartigan (2000), and National Food and Agricultural Policy Project (2000) provide analysis that shows that such characteristics may lead to quite different treatment in AD cases, particularly with respect to the dumping margin calculation.

Despite theoretical arguments, there has been no analysis to date whether the data reveal systematic differences in AD activity and outcomes for agricultural products from that of other products. This paper provides the first empirical examination (to my knowledge) of whether AD case filings, determinations and other outcomes differ systematically for agricultural products. In general, I find much less evidence of this than one may expect. AD case filings in agricultural products, both worldwide and for the US, follow overall activity fairly closely, and the percent of agricultural AD cases is somewhat lower than the share of agriculture in overall trade flows. Once investigated, there are no statistical differences in the likelihood of an affirmative decision, nor in the likelihood of a termination or suspension agreement.

Dumping margin determinations, however, differ in some respects for agricultural products, but not in ways that are consistent with theory. In particular, AD cases in the US do not yield larger dumping margins for agricultural products when the government uses cost data to determine dumping margins, as predicted by the previous literature. However, measures to punish firms for not cooperating with investigations seem to hit agricultural products in a disproportionately harsh manner. Agricultural products from China have also received much larger US dumping margins, controlling for other factors. Subsequent dumping margin recalculations after a US AD case see foreign firms in agricultural cases participating more in attempts to reduce the dumping margin, but not experiencing greater declines in the dumping margin.

In the end, the evidence suggests that agricultural products face similar challenges to other products subject to AD trade protection, which are quite daunting indeed for future WTO negotiations. Most economists studying AD trade protection argue that it has little economic basis and should be made consistent with countries' competition policies. Eliminating AD trade protection *in lieu* of a WTO competition policy is likely an unattainable goal in the coming round. Alternative intermediate steps could entail substantial reform of the WTO AD code, as proposed by Lindsay and Ikenson (2002b), or even eliminating it in favor of pure safeguard measures, as proposed by Blonigen (2003).

Before presenting the analysis, it is important to note the scope of this paper. First, the focus is purely with respect to AD activity. The other common form of "unfair" trade policy is countervailing duty (CVD) protection. CVD protection is applied to counteract imports that have been subsidized by foreign governments and are causing injury to a domestic industry. Analysis of this form of trade policy is more complicated due to the WTO Agreement on Agriculture provisions that allow government subsidies on various categories of products without member retaliation. Thus, while there is some worldwide CVD activity in agricultural products, it is likely not reflective of the large amount of domestic and export subsidies granted by countries to their agricultural

sectors. A second point about the scope of this paper is how I define agricultural products. I define agricultural products as those falling under the SITC classifications of 0 (Food and Live Animals), 1 (Beverages and Tobacco), 2 (Crude Materials: Inedible), and 4 (Animal & Vegetable Oils, Fats, Wax). This means that forestry and fisheries products are included. However, chemical products that serve as food (e.g., coumarin) or that provide inputs to agricultural production (e.g., fertilizers and pesticides) are not.

The Basics of AD Trade Protection

AD investigations are initiated when an interested domestic party files a petition contending that imports of a product from particular import source (or sources) are being sold at below “normal value.” The petition must be made by or on behalf of the domestic industry that competes with the subject imports, and must have sufficient support by the entire domestic industry to provide legal “standing” to the petition. Application of an AD remedy then requires that 1) dumping is found, 2) the domestic industry is being “materially injured” (or threatened with injury), and 3) the dumped imports are a substantial cause of the injury.³ If these criteria are satisfied, an AD duty is applied to the subject imports, which typically equals the dumping margin found in the investigation. Alternatively, the importing country may negotiate a voluntary settlement (or undertaking) with the foreign producers to raise prices of the imported product. These settlements are more common in the EU than other countries applying AD protection.

Once an AD duty is in place, it is subject to periodic review. For example, in the US, AD duties are potentially recalculated each year based on the most recent year’s import activity, provided either an interested domestic or foreign party requests such a review. In addition, since the Uruguay Round agreements, all countries are required to conduct “sunset” reviews within the first five years of the initial AD decision. AD duties are terminated unless the review investigation finds that removal of the AD duty would lead to renewed injury to the domestic producers.

While it is straightforward to outline the generalities of how AD investigations are conducted and remedies enforced, actual implementation by government agencies is much more complex and subject to discretion. Perhaps the most difficult issue is how one defines normal value and calculates a dumping margin. “Normal value” is a legal term that does not have a consistent economic basis. The primary definition of normal value is the price charged for the identical product in the exporting firm’s own country. Thus, by this definition, dumping occurs whenever the foreign firm price discriminates by charging a lower price for a product in its export market than in its own domestic market. However, in many cases the exporting firm may not have sales in its own domestic market. In these cases, two alternative methods are typical. First, prices to a third country by the exporter may be used. In this case, dumping is occurring when an

³ Establishing causality (the third criterion) is something that has received more explicit emphasis subsequent to the Uruguay Round agreements and is an issue that has been causing recent problems for the US in WTO dispute settlements.

exporting foreign firm price discriminates by charging a lower price to the importing country with the AD investigation than to another importing country. When third-country prices are not available, then government agencies may turn to what is called constructed value methodology for determining normal value. Constructed value methodology involves gathering cost data from the exporting firm and defining normal value as the unit cost of production plus profit-margin. Thus, under this definition, the firm is dumping whenever it sells its product for less than economic profit! Clearly, there is no consistent economic basis across these methodologies, and most economists would not see these pricing practices as necessarily anti-competitive or harmful to welfare.⁴ A procedure related to constructed value is the cost of production test. This is used when the USDOC is using the exporting firm's domestic prices or third country prices to determine normal value. If alleged by the petitioner, the USDOC will examine whether any of the prices used to determine normal value are below unit cost. Since the Uruguay Round agreements, if more than 20% of these prices are below cost, then these prices are excluded from determination of normal value.

Other important discretionary practices by the US Department of Commerce (USDOC) in calculating US dumping margins have been examined by Boltuck and Litan (1991), Lindsay (1999), Lindsay and Ikenson (2002a) and Blonigen (2003). I summarize these issues here as they will be important for the discussion and analysis below about how unique characteristics of agricultural products may lead to different treatment in AD cases than manufactured ones, particularly with respect to the dumping margin calculation. The first such issue is the US practice of "averaging and zeroing". "Averaging" involves the pre-1995 US practice of using the trade-weighted average of the exporter's own domestic market prices to derive a measure of normal value, and then calculating dumping margins by comparing individual export prices to this fixed normal value. This is opposed to comparing individual export prices to individual own domestic prices. Since the Uruguay Round agreements, WTO members must use either individual prices for both the export and own domestic price or the weighted average for both. The practice of "zeroing" involves defining any transaction comparison where the export price is above the normal value as have a "zero" dumping margin. This practice continues today and ensures that there will always be a non-negative dumping margin.

In order to get the comparison between export prices and own-market prices as exact as possible, the USDOC makes calculations to derive *ex factory* prices – the price of the products as they immediately leave the factory.⁵ To derive these inherently unobservable prices, the USDOC must take observable prices and net out freight,

⁴ AD investigations provide little to no consideration of consumer effects from AD protection. The notable exception is the EU, where AD duties are applied only up to the amount necessary to remedy injury to the domestic producer (not necessarily the full dumping margin) in recognition that higher duties harm downstream industries and consumers. Of course, standard economic analysis would suggest that application of any duty will lead to larger costs to consumers than the benefits to the domestic producers, aside from optimal tariff arguments.

⁵ Another issue is comparability of products made for the exporting firms own domestic market and its export market. Adjustments to get "like" products are made and can be a source of contention between the investigated firms, domestic petitioners and the USDOC.

insurance, and transportation costs and make exchange rate translations. Such calculations assume that exporting firms perfectly pass through costs and exchange rate movements in continuous time. With respect to constructed value, the US added a minimum of 8% profit margin and 10% selling and general administrative costs to the cost of production to calculate normal value prior to the Uruguay Round agreements. Since, these minimums no longer apply.

Finally, there are situations where calculation of normal value using price or cost data is clearly problematic. First, it is impossible to get credible data for non-market economies. As a result, the WTO Antidumping Agreement allows wide discretion for calculation of normal value in these cases. The US employs what is called a “factors of production” calculation, which involves using data by the exporting firm on the quantity of inputs used to produce the product and then valuing these input requirements using data on input prices from a third country. The second situation is when the USDOC finds that the exporting firm’s data are not verifiable or available. In these situations, the USDOC relies on “facts available” to determine dumping margins, which is invariably information supplied by the petitioners. If the foreign firm is deemed to be uncooperative or unresponsive, then the USDOC applies “adverse facts available” which involves using the highest dumping margin found by their calculations or alleged by the petition as a punitive measure.

Discretion is certainly applied by the U.S. International Trade Commission (USITC) in determining whether imports are causing material injury to the domestic industry, though their decision is a “Yes or No” decision after considering the evidence, rather than an involved calculation of the degree of dumping.⁶ The key concern in the injury determination is that agencies are not incorrectly attributing domestic industry woes to the investigated imports. As Durling and McCullough (2002) and Irwin (2002) detail, the USITC applies little quantitative rigor in determining this causation issue, and has thus been increasingly involved in WTO dispute settlements over its injury determinations, often losing these cases. The current state of the art at the USITC is to examine trends in the data and use Commissioner’s interpretation of those trends to decide whether to assign causation.

Clearly, administering AD laws is no easy matter and involves significant discretion on the part of the agencies in charge of implementation. With respect to the US experience, the evidence suggests that many of these discretionary practices are biased toward more protectionist outcomes (e.g., see Baldwin and Moore 1991 and Lindsay and Ikenson 2002a). Additionally, Blonigen (2003) finds that protectionist outcomes have been increasing substantially over time, with USDOC dumping margins increasing from an average of 15% in the early 1980s to over 60% by 2000. Affirmative injury determinations by the USITC rose over the same period from 45% to roughly 60%. The paper finds that virtually of this increase is due to evolving discretionary practices of these agencies toward more protectionist stances.

⁶ Some countries have separate agencies determining the dumping margin and injury determination as in the US, while other countries have all AD decisions conducted by one agency, such as in the EU.

From the discussion above, one can see that implementation of AD procedures can be significantly affected by product market characteristics. In the next section, we explore arguments that the unique characteristics of agricultural products and markets, may lead such products to receive different outcomes from that of other (mainly manufactured) products.

Why AD Treatment and Outcomes May Differ for Agricultural Products

A number of papers have theoretically analyzed the issue of whether unique characteristics of agricultural products and markets may significantly affect AD outcomes. The main concern is that AD laws and WTO treatment have been designed with manufacturing products in mind and do not appropriately consider important differences with agricultural products. Hartigan (2000: 635) lists the following traits that distinguish agricultural products:

- “1. a lack of control over timing and volume of output
2. a lack of control over the terms of sale
3. perishability
4. substantial price volatility
5. incomplete and unsophisticated financial records
6. a very large number of firms
7. a substantial volume of sales at prices below the cost of production
8. the use of contract and itinerant labor.”

Palmer (1989) and National Food and Agricultural Policy Project (2000) also suggest such differences and further point to two additional issues: 1) growers and processors are often closely connected in these markets, and 2) high fixed costs of production, a substantial portion of which is land.

Such issues could affect both the dumping margin calculation and the injury determination, but most of the focus has been with respect to how these characteristics may lead to substantially different dumping margin outcomes for agricultural products. First, agricultural products are likely to get higher dumping margins because of greater price volatility, especially ones where perishability is an issue. High perishability can lead to periods where the firm must sell the product at “distress” prices that, nonetheless, are market prices. Given the way in which dumping margin calculations are determined, particularly the method of “zeroing” the observations where the export price is above normal value, price volatility is always more likely to lead to higher dumping margins.⁷ The bias against price volatility caused by zeroing is further accentuated by agencies practice of comparing individual export prices to a constant normal value, rather than to

⁷ For example, suppose product A has the export price above the normal value by 20% half the time and below normal value by 20% half the time. This product would receive a 10% dumping margin for dumping at a 20% rate for half of the transactions. Suppose product B is priced above the normal value by 10% half the time and below normal value by 10% half the time; i.e., less price volatility. The dumping margin for product B would be calculated as 5%.

individual prices for the good in the foreign firm's own market. Such instances occur when the agencies use 1) a trade-weighted average of own foreign-market prices, 2) constructed value methodology, or 3) non-market economy methodology to determine normal value. Since the completion of the Uruguay Round, agencies are required to only compare averages to averages or individual prices to individual prices when using own foreign market prices to determine normal value. However, zeroing is still allowed and many cases rely on the constructed value or non-market economy methodology to determine normal value.

Besides daily price volatility, many agricultural products also experience seasonal variation in production. Hartigan (2000) builds a model to show why this will automatically lead to substantial dumping margins when agencies use cost data and constructed value methodology to determine normal value. In particular, many agricultural production processes use contract labor that is paid a fixed wage throughout the seasons. However, with seasonal harvests, this means that such labor is paid its average product of labor, not its marginal product of labor. Thus, sales below cost may be rational during certain parts of the year. But then this clearly means there will also be periods of dumping that are purely due to the seasonal nature of production.

Other issues unique to agricultural products may arise when agencies decide to use constructed value methodology to determine normal value. As mentioned earlier, constructed value methodology means using the foreign firm's cost data to derive a unit cost plus normal profit measure of normal value. For any industry, one of the more difficult issues with implementing this methodology is apportioning fixed costs into a unit cost measure. For many agricultural products, land is an important fixed asset used for production. However, land is different from most assets in that it is difficult to determine what, if any, depreciation occurs with a land asset. As Palmetter (1989: 56) points out, USDOC has decided land does not have any depreciation cost, though interest on mortgage payments should be apportioned to unit costs. In this regard, agricultural products may enjoy a downward bias in the dumping margin relative to manufactured products when constructed value methodology is used.

Perhaps the most interesting characteristics, applicable to many agricultural products when discussing AD activity, are those that imply producers are price takers. Homogeneous products and a large number of producers are the obvious requirements that lead to firms having little or no ability to set their own price. Of course, this seem completely at odds with a trade protection policy that is intended to counteract the effects of firms setting prices in their export markets at "unfairly" low prices! Certain trade lawyers could likely argue otherwise, but shouldn't market power be a pre-condition of being subject to an AD investigation? Currently, it is not. When agencies compare export prices to foreign own market prices (or some third-country) prices, we should not expect them to find differences if these are homogeneous commodities with common world prices. Agencies determining dumping margins either sidestep these issues or are unaware of such issues. More of a focus for them with such products is the extremely large number of foreign exporters for which a dumping margin determination must be made. In these cases, agencies often rely on sampling a subset of exporters and then

assigning the sample's dumping margin to all exporters. There does not seem to be any general rules on sampling techniques in the US, which has led to disputes over how representative is the chosen sample.

A final issue is less connected to the dumping margin calculation, but rather affects how products are defined in an AD investigation and who has standing to file a petition. As both Palmeto (1989) and National Food and Agricultural Policy Project (2000) discuss, the close connection between growers and processors has caused difficulties in a couple of high profile US AD cases. AD petitions need to be filed on behalf of a domestic industry that are comprised of producers of a "like" product in order to have "standing." However, orange growers were the original petitioners in the US AD case against Brazilian orange juice filed in 1986, and the issue of "standing" was only resolved after juice processors joined the petition (Palmeto 1989: 50).

In summary, there are a number of issues particular to agricultural sectors that may affect AD investigations, primarily dumping margin calculations. Given the way dumping margins are calculated, daily and seasonal fluctuations in production and prices may cause dumping margins as pure artifice. This may be particularly true when agencies define normal value in terms of a fixed value (such as with constructed value or non-market economy methods) to calculate dumping margins. Handling of fixed assets, particularly land, has been a tricky issue as well when agencies construct normal value using cost data. These hypothesized effects have never been empirically examined before however, and this is part of our focus below.

General Patterns of AD Activity in Agricultural Products

Before doing formal statistical analyses of whether agricultural products systematically receive different outcomes than other products, it is useful to examine the general trends in agricultural product AD cases vis-à-vis general trends in AD activity. There has been a significant amount of worldwide AD activity in agricultural products, though the share of agriculture AD cases in the total has not been as large as its share in world trade flows. Figure 1 shows annual worldwide AD cases in all products and in only agricultural products from 1987 through 1999.⁸ The left axis provides the scale of AD activity in all products, while the right axis scales the number of AD cases in agricultural products. AD cases in agricultural products average almost 12 cases a year over this time period which translates into almost a 6% share of total worldwide AD activity. However, this is lower than agriculture's share of world trade, which is approximately 10% over this same time period. In this sense, the agriculture sector is less a target of AD actions than the average tradeable sector. Figure 1 also shows roughly the same timing of AD activity in agricultural products as for all products.

⁸ These data were provided by Tom Prusa and were compiled from member countries' reports of their AD activity to the WTO. Before 1987, country reports were less detailed and did not include information on the products involved in their AD cases.

Figure 1: Worldwide AD Activity from 1987-1999: Total Cases Versus Agriculture Cases

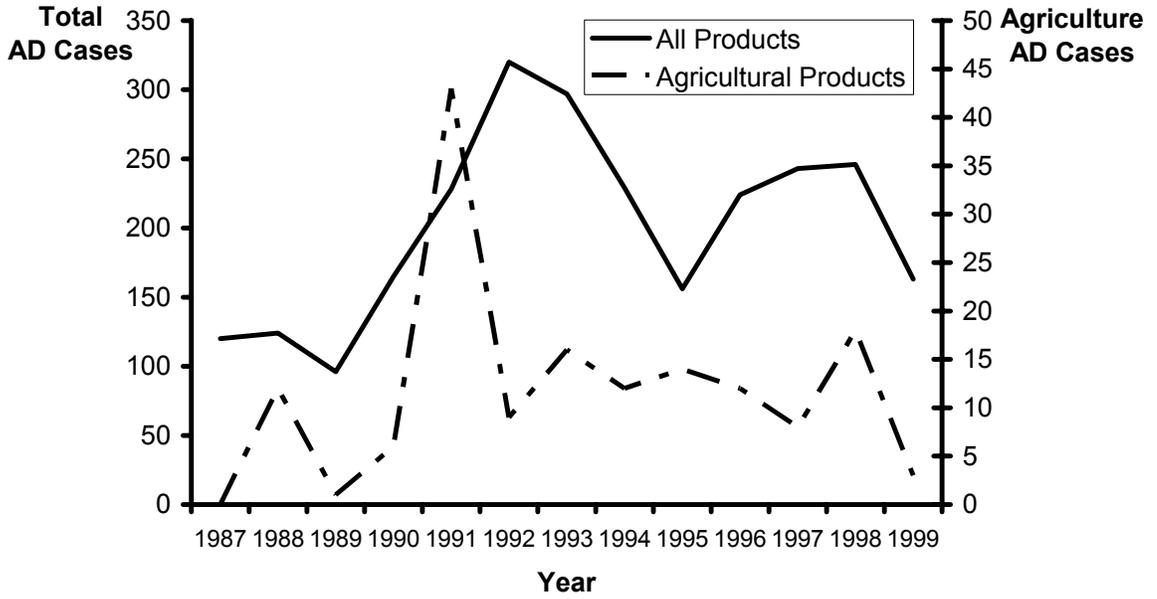


Figure 2: US AD Activity from 1980-2000: Total Cases Versus Agriculture Cases

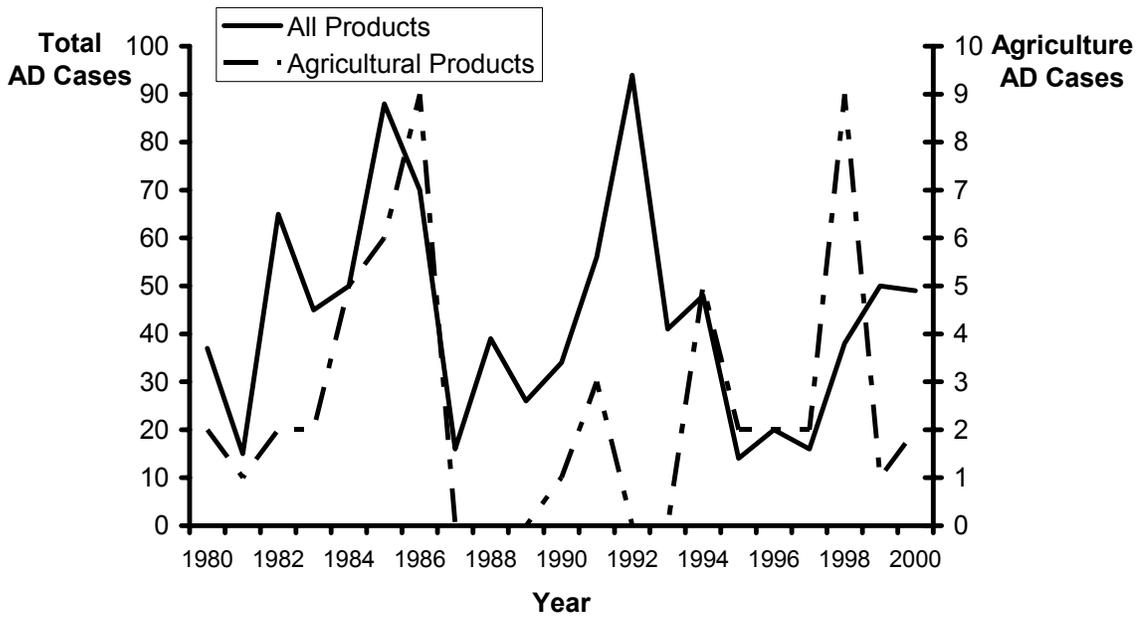


Figure 2 graphs similar data for US AD activity from 1980 through 2000. Once again, the left axis provides the scale of AD activity in all products, while the right axis scales the number of AD cases in agricultural products. The overall US patterns look very similar to worldwide AD patterns. Over this period there is an average of 2.6 US AD cases in agricultural products which, identical to the worldwide AD figures, represents 6% of total cases. Similarly, this is less than agriculture's share of total US imports which was roughly 9% during this period.⁹ Finally, there is little evidence that the timing of agriculture AD cases are different from other AD cases in the US.

Table 1 provides more detail on worldwide AD activity in agricultural products by listing the top AD filing countries and the top target countries of those AD cases. The most frequent filers in agricultural products correspond to the most frequent filers generally, with the curious exception of the EU. Since 1987, the EU has initiated only two agricultural AD cases, both against Atlantic salmon from Norway. Poland, a relatively new user, is second in the list with 24 cases. However, these 24 cases were all initiated in February 1991 and involved two cases against the twelve EU countries in beef meat and in animal and vegetable fats and oils. Thus, the absolute number of cases for Poland is more an artifice of how AD cases are defined in the data. Turning to the righthand column of Table 1, the countries targeted by agricultural AD activity are, not

TABLE 1: Worldwide Antidumping Activity in Agricultural Goods, 1987-1999: Most Frequent Filers and Targets by Country.

Most Frequent Filers		Most Frequent Targets	
Country	Number of Cases	Country	Number of Cases
Australia	30	United States	17
Poland	24	China	15
United States	21	Italy	10
Canada	17	Netherlands	9
Brazil	13	Denmark	7
New Zealand	12	Chile	6
Mexico	9	Greece	6
Argentina	4	Thailand	6
Peru	4	Germany	5
		Indonesia	5
		Malaysia	5
		Mexico	5
		Spain	5

Notes: Calculated from WTO data collected by Miranda et al. (1998) and Prusa (2001).

⁹ This figure comes from calculations based on 1990 numbers in United Nations Statistical Office (1991), where I define agricultural sectors as SITC 0, 1, 2, and 4.

surprisingly, countries which account for a sizeable portion of world agricultural exports. The US leads the list, followed by China and EU countries. A pattern that is not necessarily apparent in Table 1 is that the US and EU rarely target each other in AD cases. This is surprising, given the long and continuing history of trade disputes and negotiations between the US and EU regarding agricultural products. This is a puzzle worthy of future study.¹⁰

Another interesting dimension of the data is the incidence of AD activity across products. While most agricultural sectors have experienced at least some AD activity, a few have received substantial attention. The most active sectors are 1) fruit – fresh, canned or juices, 2) sugar and syrups, 3) pasta products, and 4) meat products. These four sectors were responsible for almost half of the worldwide AD cases from 1987 through 1999. Table 2 provides more detailed information on the particular cases for

TABLE 2: Worldwide Antidumping Activity in Agricultural Goods, 1987-1999: Most Frequently Targeted Products.

Product	Filing Country	Target Countries	Year
<u>Fruit: Fresh, Canned & Juices</u>			
Delicious Apples	Canada	United States	1988
Sour Cherries	Canada	United States	1988
Tart Cherry Juice	United States	Germany & Yugoslavia	1991
Frozen Orange Juice	Australia	Brazil	1991
Kiwifruit	United States	New Zealand	1991
Glacé Cherries	Australia	France & Italy	1991
Canned Peaches	Australia	China, Greece & Spain	1991
Canned Pears	Australia	China & Spain	1991
Peaches in Syrup	Brazil	Greece	1993
Pineapple	United States	Thailand	1994
Red & Golden Delicious Apples	Canada	United States	1994
Canned Apricots and Peaches	New Zealand	South Africa	1996
Peaches	Mexico	Greece	1997
Apples	Mexico	United States	1997
Canned Peaches	New Zealand	Greece	1997

¹⁰ One possible explanation is that with significant exports to each other, the threat of retaliation is high enough to prevent AD outbreaks between the EU and US. Blonigen and Bown (forthcoming) find that such retaliation threats have a significant dampening effect on AD petitions for manufacturing sectors.

<u>Sugars and Syrups</u>			
Refined Sugar	New Zealand	Belgium, Denmark, Germany, Malaysia, Netherlands, Papua New Guinea, & Thailand	1988
Maize Glucose	Colombia	Mexico	1992
Refined Sugar	Canada	Denmark, Germany, Korea, Netherlands, United Kingdom, & United States	1995
Glucose Starch Maize Syrup	Peru	Mexico	1996
Fructose	Mexico	United States	1997
Sugar	Panama	Colombia & Mexico	1998
<u>Pasta Products</u>			
Pasta	Australia	Italy	1989
Dry Pasta	Australia	Italy & Indonesia	1995
Semolina Noodles	Argentina	Chile	1995
Dry Pasta	Canada	Italy	1995
Pasta	Israel	Italy	1995
Certain Pasta	United States	Italy & Turkey	1995
Pasta	Peru	Chile	1998
Macaroni & Spaghetti	Trinidad	Costa Rica	1998
<u>Meat Products</u>			
Canned Ham	Australia	Netherlands	1988
Canned Ham	Australia	Denmark, Ireland, & Netherlands	1990
Beef Meat	Poland	European Union	1991
Frozen Pork	Australia	Canada	1992
Frozen Bovine Meat	Mexico	European Union	1993
Various Pork Products	Mexico	United States	1993
Bovine Meat	Mexico	United States	1994
Bovine Meat	Mexico	United States	1998
Live Cattle	United States	Canada & Mexico	1998
Swine for Slaughter	Mexico	United States	1998
Chickens, Ready-to-Cook	Argentina	Brazil	1999
Turkey, Fresh or Frozen	Yugoslavia/ Slovenia	Hungary	1999

Notes: Calculated from WTO data collected by Miranda et al. (1998) and Prusa (2001).

these sectors with high levels of AD activity. Each sector has its own unique pattern. For example, the pasta product cases mainly target Italy, with a number of cases filed by various countries in the mid-1990s. The meat products sector mainly sees Australia filing a number of AD cases against pork products in the early 1990s and then skirmishes between NAFTA countries over beef products in the mid-1990s. Future case study evidence with respect to worldwide AD activity in these particular sectors would be quite interesting.

Incidence of AD cases by products for the US does not substantially deviate from the worldwide patterns, as the US is involved in a number of the cases listed in Table 2. However, other sectors have received more attention by US AD activity. The most notable sector in this regard is flowers, where the US has filed numerous AD cases against various Latin American countries over the past two decades.¹¹

In summary, the basic trends in AD activity in agricultural products for the world and for the US are quite similar. For both, AD activity in agriculture generally follows the pattern of AD activity for all sectors, though the share of agricultural AD activity is lower than agriculture's share of trade flows. Countries that account for a large share of world trade in agriculture seem to be both more likely to file and to be targets of AD cases. A large part of this correlation is likely due to the fact that the traditional users of AD laws (Australia, Canada, the EU, and the US) are also economies with substantial agricultural sectors. Finally, there does seem to be clustering of AD activity in certain sectors and more research on the reason for this is warranted.

Exploring Differences in AD Outcomes for Agricultural Products

This section provides statistical analyses to examine whether agricultural products receive systematically different outcomes than other products, typically manufactured ones. Due to data availability, we confine our analysis to US data.

Initial Dumping Margins

Most of the hypothesized differences in treatment for agricultural products involve the dumping margin calculation. The most obvious prediction that comes from the review of the literature above is that agricultural products are likely to receive larger dumping margins than other products when normal value is constructed as a fixed value. This is primarily due to arguments that agricultural markets are subject to greater price volatility. The most obvious cases where this occurs are when the USDOC uses constructed value or non-market economy methodology.

¹¹ These AD cases include filings against 1) Colombian roses in the early 1980s, 2) flowers from Canada, Chile, Colombia, Costa Rica, Ecuador, Kenya, Mexico and Peru in 1986, and 3) roses from Colombia and Ecuador in 1994.

Blonigen (2003) uses a database of all firm-specific dumping margins calculated by the USDOC from 1980 through 2000. Of the 1590 dumping margins, 193 (12%) are for exporters of agricultural products. Table 3 presents various dumping margin statistics for these agricultural products and the remaining non-agricultural dumping margins. The average dumping margin for agricultural products during this time period was 64.1%, which is significantly higher than the 38.8% average for non-agricultural products. However, China was subject to a number of US agricultural AD cases in the 1990s that involved very high dumping margins. These cases included honey, mushrooms, garlic and crawfish, with dumping margins often exceeding 100%. China was also the target of a number of US cases in non-agricultural products as well during this period. Yet when we exclude all US cases against China from our sample, the average dumping margin for agricultural products is just 27.2%, and is now smaller than the average 35.3% margin for non-agricultural products (row 2 of Table 2). Thus, Chinese agricultural AD cases in the US seem to be receiving substantially different outcomes than other agricultural products.

Table 3 also shows the incidence of various discretionary practices used by the USDOC across agricultural products. The two practices which are used significantly more often for agricultural products are constructed value and non-market economy methodologies, both of which have been argued to potentially lead to higher dumping margins for agricultural products. Of course, the use of these particular practices is in large part determined by the type of case the USDOC encounters. For example, constructed value methodology is necessary if the foreign firm only produces and sells

TABLE 3: US Dumping Margin Comparisons Between Agricultural and Non-agricultural Products, 1980-2000.

	Agricultural Products	Non-Agricultural Products	Statistical Significance of Difference
Average Dumping Margin	64.1%	38.8%	***
Average Dumping Margin without China Cases	27.2%	35.3%	*
<u>Cases Using Following Discretionary Practices:</u>			
Constructed Value	37.3%	27.1%	***
Non-Market Economy	38.3%	19.3%	***
Facts Available	26.9%	31.2%	
Cost of Production Test	32.6%	27.6%	

Notes: Data come from US *Federal Register* notices and are described in Blonigen (2003). Number of dumping margins for agricultural and non-agricultural products are 197 and 1397, respectively, except for when China cases are excluded which reduces the numbers to 118 and 1204, respectively. Statistical significance at the 10% and 1% level are denoted by * and ***, respectively.

for export to the US. Thus, these statistics may indicate strategic targeting of petitions by US domestic industries.

I next explore more formally whether agricultural products are treated differently in the USDOC's dumping margin determinations. I begin with the data and empirical model specification from Blonigen (2003). The empirical model specifies USDOC dumping margins as a function of 1) dummy variables indicating whether certain discretionary practices are used by the USDOC, 2) country/region dummy variables, and 3) dummy variables indicating US legal changes to AD laws that occurred in 1984, 1988 and in 1995 after the Uruguay Round agreements. Column 1 of Table 4 replicates the results from the base model reported in Blonigen (2003). With the dependent variable defined as the dumping margin in percentage form, the coefficient estimates can be interpreted as the percentage point change in the dumping margin. As can be seen by the coefficient estimates, "facts available" (particularly "adverse facts available") and non-market-economy methodology are the USDOC practices the most impact the dumping margins. The use of "facts available" increases the dumping margin almost 31 percentage points above the baseline of 16.36%. If "adverse facts available" is used, then the dumping margin is over 63 percentage points higher (30.67 + 32.35).¹² Legal changes have smaller effects, with the Uruguay Round agreements leading to about a 7 percentage point decrease in the baseline dumping margin. Finally, the estimates suggest that Korea, Taiwan and the USSR/Russia receive statistically smaller than average dumping margins, while China receives dumping margins that average over 15 percentage points higher.

Given these baseline results, I next explore differential impacts of the USDOC practices on agricultural products by interacting a dummy variable indicating whether a dumping margin involves an agricultural product with the USDOC practices variables. These results are reported in column 2 of Table 4. The first interesting thing of note is that use of constructed value and cost of production tests do not lead to greater dumping margins for agricultural products than for non-agricultural products. In fact, for both variables the coefficient on the interaction term is negative and not statistically significant. Thus, contrary to hypotheses suggested in the literature, the US evidence suggests that agricultural products do not fare worse in cases using such methodologies to determine normal value.

Non-market economy methodologies are estimated to differentially affect agricultural products substantially – almost a 44 percentage point difference! This could support hypotheses presented in the literature to the extent that non-market economy methodology, like constructed value, leads to calculation of single fixed value for normal value. In the U.S. data, China is the sole non-market economy subject to US cases against agricultural products. Thus, it makes it difficult to identify if this significant positive coefficient is due to a non-market economy bias in general against agricultural

¹² This interpretation of the coefficients is due to the fact that "adverse facts available" is a subset of "facts available" cases.

TABLE 4: Effects of Discretionary Practices, Legal Changes, and Country Characteristics on Size of U.S. AD Margins.

Regressors	Base Model	Model with Agricultural Product Interactions
<u>Discretionary USDOC Practices</u>		
Facts Available	30.67*** (3.86)	31.86*** (4.10)
Adverse Facts Available	32.35*** (4.41)	37.15*** (4.56)
Constructed Value	- 1.09 (3.33)	- 1.15 (3.41)
Cost of Production Test	1.87 (3.38)	1.63 (3.41)
Third Country Prices	- 0.87 (4.28)	- 3.15 (4.46)
Non-Market Economy	24.54*** (7.73)	25.48*** (3.41)
Facts Available × Agricultural Product		22.92** (9.18)
Adverse Facts Available × Agricultural Product		31.89** (4.56)
Constructed Value × Agricultural Product		- 7.28 (9.43)
Cost of Production Test × Agricultural Product		- 3.75 (10.18)
Third Country Prices × Agricultural Product		6.96 (11.39)
Non-Market Economy × Agricultural Product		43.94*** (6.67)
<u>Legal Changes</u>		
1984 Trade Act	8.59** (3.46)	9.75*** (3.34)
1988 Trade Act	1.93 (3.33)	2.79 (3.23)
Uruguay Round	- 6.96** (3.04)	- 10.03*** (3.00)

Country/Region Effects

Canada	- 9.23 (6.81)	- 10.02 (6.60)
Mexico	1.40 (8.84)	2.77 (8.86)
Other Latin America	- 0.34 (5.81)	- 0.31 (5.65)
European Union	- 5.56 (5.33)	- 5.36 (5.17)
Japan	5.42 (5.36)	6.23 (5.21)
Korea	- 15.21*** (5.92)	- 14.94*** (5.77)
Taiwan	- 19.77*** (5.70)	- 18.44*** (5.53)
Other Asia	- 2.78 (6.27)	- 3.14 (6.09)
China	15.40** (6.84)	-0.93 (6.96)
USSR/Russia	- 25.08** (10.16)	- 26.84*** (9.80)
Constant	16.36*** (5.16)	17.28*** (4.99)
Adjusted R-squared	0.35	0.40
F-Statistic	45.98***	42.56***
Number of Observations	1590	1590

Notes: Data for regressions come from Blonigen (2003). Standard errors in paren-theses. ***, **, and *, denote significance at the 1%, 5%, and 10% levels respectively.

products, or only against Chinese agricultural products. Interestingly, the China country dummy becomes insignificant once the agricultural product interactions are included. This suggests that the positive coefficient for the China dummy in the base model is solely due to a positive bias against solely Chinese agricultural products, not manufactured products from China.

The other notable difference is that “facts available” and “adverse facts available” lead to even larger dumping margins for agricultural products than for manufactured

ones. The estimates suggest that whenever “facts available” are used for agricultural products, the dumping margin is over 54 percentage points higher. Use of “adverse facts available” leads to dumping margins that are almost 124 percentage points higher! Needless to say, these are very large effects. Previous literature has not provided a hypothesis for this systematic bias in the use of “facts available” against agricultural products, but this US evidence suggests that there should be future research to further explore this effect.

In summary, US dumping margin calculations differ for agricultural products, but not in the ways predicted by previous literature. Use of constructed cost methods does not seem to differentially impact agricultural products, while use of “facts available” does. China also appears to fare poorly in a systematic way when it comes to agricultural products.

Administrative Review of Dumping Margins

Each year at the anniversary of an affirmative AD case decision, US AD duties are potentially recalculated based on the foreign firm’s price and cost data since the last dumping margin calculation (either the initial case or the most recent review). These are called administrative reviews and are conducted at the request of an interested party either on the foreign or domestic side. In practice, the reviews are most often conducted at the request of a foreign firm and typically lead to lower dumping margins (Blonigen and Park, 2001). In short, it allows foreign firms to alter their pricing behavior in order to receive lower US AD duties. Blonigen and Haynes (2002) and Blonigen and Park (2003) show how this administrative process affects pricing behavior by foreign firms, both before and after the initial case. However, there has been no analysis examining whether agricultural products receive different treatment in administrative review of dumping margins, either theoretically or empirically.

As a first look, Table 5 provides statistics on US administrative reviews of dumping margins by agricultural and non-agricultural products for 1980 through 1995. The data come from various issues of the Federal Register and are described more in Blonigen and Park (2001). In this sample, 59 observations are agricultural products, while 545 are other products. The statistics are based on outcomes for the four years subsequent to the final determination in the initial AD case. This time period is long enough so that foreign firms that initiated administrative reviews had experienced at least one change in the AD duty since the time of the case.

The overall message from Table 5 is that foreign exporters of agricultural products clearly work toward reducing their dumping margins through administrative reviews, but are relatively unsuccessful. Over 86% of the agricultural products are reviewed within the first four years, with the majority of these reviews requested by the foreign petitioners. In contrast, less than half of non-agricultural products received

TABLE 5: Agricultural and Non-agricultural Products Outcomes from US Administrative Reviews, 1980-1995.

	Agricultural Products	Non-Agricultural Products	Statistical Significance of Difference
Products Reviewed Within Four Years After Case	86.4%	48.6%	***
Share of Reviewed Cases Requested by Foreign Firms	84.3%	75.1%	
Products That Experienced A Drop in Dumping Margin After Review	49.2%	39.1%	
Average Change in Duty (In Percentage Points)	- 3.7	- 9.6	

Notes: Data come from US *Federal Register* notices and are described in Blonigen and Park (2001). Number of dumping margins for agricultural and non-agricultural products are 59 and 545, respectively. Statistical significance at the 10% and 1% level are denoted by * and ***, respectively.

administrative reviews. Despite the greater review activity, the average change in the dumping margin is less than 4 percentage points for agricultural products from an average of about 28% antidumping duty. This is less than the typical 9.6 percentage point drop for non-agricultural goods.

Injury Determinations

This paper's main focus has been on dumping margin calculations, primarily because this is where existing literature has pointed out potential issues that may be biased against agricultural products. However, dumping margins do not become AD duties unless injury is found, and the injury test seems to be the real hurdle for a final affirmative decision. In the US, the USDOC finds a non-negligible dumping margin in over 95% of the cases¹³, whereas the injury determination by the USITC has historically been closer to 50%.

In general, the data show no general differences between agricultural products and

¹³ Recall that the USDOC always finds a non-negative dumping margin due to its "zeroing" methodology. However, if the dumping is small enough, it is considered negligible (or *de minimis*) and the firm is assigned no AD duty. Since the Uruguay Round agreements, this *de minimis* level is 2%.

non-agricultural products with respect to USITC decisions. About 48% of agricultural products received an affirmative decision by the USITC for cases from 1980 through 2000, while non-agricultural products received an affirmative decision 42% of the time. This difference is not statistically significant, however. Some cases are withdrawn by petitioners or terminated before final decisions are made by the USITC and USDOC. Again, agricultural products do not differ in the frequency of these occurrences either, with both agricultural and non-agricultural products seeing about 17% of filed cases being terminated before final decisions are made. Some of these terminated cases are due to suspension agreements made between the foreign and domestic producers, but agricultural products do not seem to get unusually larger or smaller numbers of such agreements in the US experience.

Conclusion

AD activity in agricultural products has been substantial, yet little evidence has been provided in the literature about the general trends in such activity and the extent to which treatment and outcomes for agricultural products differs from that of non-agricultural products, particularly manufactured goods. This issue is obviously important for ongoing negotiations of the WTO Doha Round, and can help target areas for reform. This paper provides a first empirical look at these issues for AD activity in agricultural products to hopefully provide a base for future research and policy decisions.

The main results are the following. First, while there is significant worldwide AD activity in agricultural products, its share in this activity has been less than that suggested by agriculture's share in world trade flows. The levels of other forms of trade protection may be one reason why agricultural activity in AD trade protection has been relatively low. If significant reductions in these other forms fall in upcoming WTO rounds, this trend in agricultural AD activity would likely see a substantial increase as firms turn to this escape valve for trade protection demands. Second, there is evidence from US data that dumping margin determinations for agricultural products follow a different process than for other products. In particular, agricultural products are hit much harder by the use of "facts available", which is employed when the foreign firm's data are deemed unusable or are not provided. Cost-based methods of calculating dumping margins are not found to lead to higher dumping margins for agricultural products. This result is in contrast to previous literature hypothesizing that such cost-based methods would be biased against products with substantial price volatility, as often characterized by agricultural products. Foreign firms involved in agricultural cases more often request dumping margin recalculations subsequent to the initial case, but are less able to reduce their dumping margins than foreign firms involved in non-agricultural cases. US data shows little evidence that the injury test and ultimate decision in AD cases are different for agricultural products than non-agricultural products. In addition, terminations and suspension agreements average around 17% for both types of products from 1980-2000.

References

- Blonigen, Bruce A. 2003. Evolving Discretionary Practices of U.S. Antidumping Activity. NBER Working Paper No. 9625. Cambridge, MA: National Bureau of Economic Research.
- Blonigen, Bruce A. and Chad Bown. Forthcoming. Antidumping and Retaliation Threats. *Journal of International Economics*.
- Blonigen, Bruce A. and Stephen E. Haynes. 2002. Antidumping Investigations and the Pass-Through of Antidumping Duties and Exchange Rates. *American Economic Review* 92(4):1044-1061.
- Blonigen, Bruce A., and Jee-Hyeong Park. 2001. Dynamic Pricing in the Presence of Antidumping Policy: Theory and Evidence. NBER Working Paper No. 8477. Cambridge, MA: National Bureau of Economic Research.
- Blonigen, Bruce A. and Thomas J. Prusa. Forthcoming. Antidumping. In *Handbook of International Trade*, eds. E. Kwan Choi and James Harrigan. Oxford, UK: Blackwell Publishers.
- Boltuck, Richard and Robert E. Litan, eds. 1991. *Down in the Dumps: Administration of the Unfair Trade Laws*. Washington, DC: The Brookings Institution.
- Braga, Carlos, Alberto Primo, and Simao Davi Silber. 1993. Brazilian Frozen Concentrated Orange Juice: The Folly of Unfair Trade Cases. In *Antidumping: How It Works and Who Gets Hurt*, ed. Michael. J. Finger, 83-101. Ann Arbor, MI: University of Michigan Press.
- Durling, James P. and Matthew P. McCullough. 2002. Teaching Old Laws New Tricks: The Legal Obligation of Non-Attribution and the Need for Economic Rigor in Injury Analyses Under U.S. Trade Law. Mimeo.
- Hartigan, James C. 2000. Is the GATT/WTO Biased Against Agricultural Products in Unfair International Trade Investigations? *Review of International Economics* 8(4):634-646.
- Irwin, Douglas A. 2002. Causing Problems? The WTO Review of Causation and Injury Attribution to U.S. Section 201 Cases. Mimeo.
- Kennedy, Kevin C. 2001. Reforming Farm Trade in the Next Round of WTO Multilateral Trade Negotiations. *Journal of World Trade* 35(6):1061-1079.
- Lindsay, Brink. 1999. *The U.S. Antidumping Law: Rhetoric versus Reality*. Washington, DC: Cato Institute.

- Lindsay, Brink and Dan Ikenson. 2002a. *Antidumping 101: The Devilish Details of 'Unfair Trade' Law*. Washington, DC: Cato Institute.
- Lindsay, Brink and Dan Ikenson. 2002b. *Reforming the Antidumping Agreement: A Road Map for WTO Negotiations*. Washington, DC: Cato Institute.
- Mendez, José. 1993. The Development of the Colombian Cut Flower Industry: A Textbook Example of How a Market Economy Works. In *Antidumping: How It Works and Who Gets Hurt*, ed. Michael J. Finger, 103-120. Ann Arbor, MI: University of Michigan Press.
- Miranda, Jorge, Raúl A. Torres, and Mario Ruiz. 1998. The International Use of Anti-dumping. *Journal of World Trade* 32(5):5-71.
- National Food and Agricultural Policy Program. 2000. Antidumping Legislation: Issues for the Produce Industry. National Food and Agricultural Policy Project, Policy Briefing Paper #00-1, Arizona State University.
- Palmeter, N. David. 1989. Agriculture and Trade Regulation: Selected Issues in the Application of U.S. Antidumping and Countervailing Duty Laws. *Journal of World Trade* 23(1):47-68.
- Prusa, Thomas J. 2001. On the Spread and Impact of Anti-dumping. *Canadian Journal of Economics* 34(3):591-611.
- Regmi, Anita, and David Skully. 2002. Trade Remedy Laws and Agriculture. *Agricultural Outlook* August:26-30.
- Roberts, Kenneth J. 2000. Import and Consumer Impacts of U.S. AntiDumping Tariffs: Freshwater Crawfish from China. Proceedings of the Tenth Biennial Conference of the International Institute of Fisheries Economics and Trade. http://oregonstate.edu/Dept/IIFET/2000/papers/_oberts.pdf.
- Rosson, Parr, and Flynn Adcock. 2000. A Primer on Antidumping and Countervailing Duty Petitions: Review of U.S. Trade Law and Applications to Agriculture. Center for North American Studies Working Paper No. 2000-1, Department of Agricultural Economics, Texas A&M University.
- United Nations Statistical Office. 1991. *Commodity Trade Statistics*. New York, NY: United Nations.
- U.S. International Trade Commission. 1995a. Chapter 7: Frozen Concentrated Orange Juice. In *The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements*, 7-1 to 7-25. Washington, DC: U.S. International Trade Commission.

U.S. International Trade Commission. 1995b. Chapter 8: Lamb Meat. In *The Economic Effects of Antidumping and Countervailing Duty Orders and Suspension Agreements*, 8-1 to 8-29. Washington, DC: U.S. International Trade Commission.