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# Antidumping and Market Power in the Agriculture Sector, with a Special Case Study of the Fresh Tomato Industry

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In this article we highlight the anticompetitive nature of antidumping (AD) legislation. Antidumping legislation was set up to protect domestic firms from predatory pricing by foreign firms. We argue that protecting highly concentrated industries drastically reduces competition at home. In cases where the industry consists only of one or two firms, import restriction may breed monopolies at the expense of domestic consumers. This article looks at cases filed by the agriculture sector, and at the market concentration of industries in this sector, to illustrate the above possibility. We study the case of fresh tomatoes in detail to further demonstrate the anticompetitive nature of AD legislation. We show the effect of AD legislation on imports, as well as the change in the Lerner index in the fresh tomato industry.

Keywords: agriculture, antidumping legislation, competition, fresh tomato industry

## 1. Introduction

One of the few economic arguments in favor of antidumping (AD) policy is its potential to limit predatory pricing by foreign firms.[1] For a firm to engage in predatory pricing, it must have market power. If the industry lends itself to market power, limiting imports may reduce market competition in the domestic market. At their extreme, AD measures can help create monopolies at home by restricting, and at times eliminating, import competition. Thus, AD legislation, intended to support free and fair trade, if not implemented properly can create an environment that discourages competition. We argue that protecting industries reduces competition in the domestic market, and in cases where industries consist of only one or two firms, import restriction may breed monopolies. In this article we look at the cases filed by the agriculture sector, and at the market concentration of industries in this sector, to illustrate the above possibility.

The agriculture sector is often used as the example of perfect competition. It has relatively few barriers to entry, little specific technology and, usually, many producers. However, even in the agriculture sector there are a number of products whose production is concentrated in the hands of a small group of producers, and import restriction leads to a significant decline in market competition. For example, Maui Pineapple Company Ltd. is the only producer of canned pineapple in the United States; in 1994 it filed a petition for an antidumping duty against imports from Thailand, the largest exporter to the United States, and has been protected from import competition since June 1995.

Even in the case of a more competitive industry like fresh tomatoes, we observe a decline in market competition. The U.S. fresh tomato industry is quite competitive, with more than 1,000 producers in the market, but even in this industry AD legislation lead to a significant decline in import competition and a rise in the price-cost margin as measured by the Lerner index.[2] We argue that if we see anticompetitive effects arising from AD policy even in a relatively competitive industry it is likely the anticompetitive effect of AD policy is wide-ranging.

The anticompetitive nature of AD policy has been discussed in earlier literature. Both Lipstein (1997) and Tavaras (2001) note that AD legislation, unlike U.S. antitrust legislation, does not take consumer welfare into account. This contention was echoed in congressional testimony by Jan Paul Acton, Assistant Director of the Congressional Budget Office in 1996. He stated, “Antidumping law serves primarily to protect U.S. firms from foreign competition, regardless of the impact on U.S. consumers and the economy. In contrast, our antitrust laws serve primarily to encourage competition and protect individual consumers and the economy from harmful pricing practices” (Acton, 1996, 3). Dumler (2001) highlights the role played

by the U.S. AD policy in reducing competition in the high-end supercomputers market. The following quotation sums up the argument he makes in his article: "[The] U.S. Commerce Department operates under rules that virtually guaranteed a hostile ruling, with the end result that overseas competitors have been forced out of the U.S. supercomputer market in the name of defending competition." Taylor (2001) considers whether AD policy is used as a coordination mechanism between firms; he does not find strong evidence in support. Malhotra (2006) highlights the anticompetitive nature of antidumping policy by reflecting on the cases filed in the chemical industry. Messerlin (1990) considers the link between AD and domestic antitrust policy in Europe for the chemical industry and finds that some AD petitioners were charged with antitrust violations shortly after getting import protection. Taylor (2001) asks whether there is evidence that AD cases, and suspension agreements in particular, are used to support international cartels, and finds little empirical support. In our article we first consider the agriculture sector and then carry out a detailed case study of the fresh tomato industry to further emphasize our point.

In the next section we briefly discuss the antidumping procedure in the United States. Section 3 highlights the costs and benefits of granting protection to domestic industries. Section 4 lists cases filed by industries in the agriculture sector. In this section we discuss the competitive nature of the product markets whose firms file for import relief. We then go on to discuss the fresh tomato industry in more detail in section 5. Section 6 concludes the analysis.

## 2. Antidumping Procedure

Under Article VI of the General Agreement on Tariffs and Trade, countries can impose duties on imports from a particular country or countries to protect domestic industries against dumped imports. In the United States, an interested party[3] can file an antidumping petition with the Import Administration (IA) and the International Trade Commission (ITC) alleging that a domestic industry is materially injured or threatened with material injury by the dumped imports. The IA determines whether and to what extent dumping is occurring, and the ITC determines whether the domestic industry is suffering material injury or is threatened with material injury as a result of dumped imports. In the case where a petition is accepted by the ITC and the IA, an antidumping investigation is initiated by the IA.

The petitioner must file on behalf of an industry. The IA sends out a questionnaire to the nonpetitioning producers of the product to determine the extent of support for the petition. In its initial petition, the interested party has to provide a large amount of information about the domestic industry and about the foreign firms importing into the United States. The foreign firms named in the dumping allegation are also required to provide a large amount of information to defend against the allegations, and have to

be present at various hearings. If both the IA and the ITC make affirmative findings of dumping and injury, an AD duty equivalent to the dumping margin is imposed on imports of that product. The duties remain in effect until an interested party calls for an administrative review, and the exporter is found to be no longer dumping.

## 3. Predatory Pricing

Foreign firms can engage in a form of predatory pricing in which they set very low prices in the export market in order to drive domestic producers out of business. This ensures unimpeded entry for these foreign firms in the future in these domestic markets. It becomes essential to regulate such behaviour, especially in a developing country. Surplus production from a foreign country can be dumped into developing markets where a new industry is being established. If such dumping is not regulated it can hinder the domestic industry's development. The new industry, without established firms, may not survive a price reduction and might collapse altogether.

The above argument, however, assumes a certain pattern of behaviour for the protected domestic firms. It assumes domestic firms would innovate in the absence of import competition. Such is not necessarily the case; the positive correlation between competition and innovation is widely accepted. In the absence of competition there is little incentive to innovate and grow. Thus, an industry that is promised protection from international competition has the potential to degrade rather than grow. Another assumption inherent in the above argument is that the domestic industry would grow enough to gain comparative advantage in the future. However, the industry might not be able to compete internationally even in the long run, due to lack of natural resources, higher labour costs, or other factors. The industry might just remain in a state of permanent infancy.

Another point against antidumping legislation is the cost incurred by consumers as a result of higher prices for the protected good. Chemicals that serve as intermediate goods raise the cost of production of the final product. The higher cost, depending on the demand and supply elasticities, trickles down to consumers in the form of higher prices. Consumer welfare however, does not play any role in the decision to restrict imports.

To be able to study the claim of predatory pricing we should investigate whether the foreign firms claimed to be dumping have any market power in the domestic market. Most of these data are difficult to obtain at the foreign-firm level. Looking at the number of firms in the domestic industry in the importing country should nevertheless give us some idea of the average level of market power of domestic as well as foreign firms. We specifically consider agricultural products, since for all such products the technology is well understood and is usually generally available. Likewise, for many of these cases, there are few or no barriers to entry.

## 4. Overview of Antidumping in the Agriculture Sector

Over the past decade, there has been a substantial upsurge in the number of antidumping cases across the world. This increase occurs as more and more countries adopt AD legislation. By 1999, 34 countries were reported to have AD laws in place, as compared to 9 countries in 1980. Roughly 111 AD cases have been initiated in the agriculture sector.[4] Despite an increase in the users of AD legislation, the traditional users still account for a majority of these cases. The United States and Canada are the largest users, followed by the Latin American countries of Mexico, Brazil and Peru, which together accounted for 20 percent of all the cases.[5] It also seems that NAFTA members are the key players, accounting for 40 percent of all antidumping cases filed between 1995 and 2003.[6]

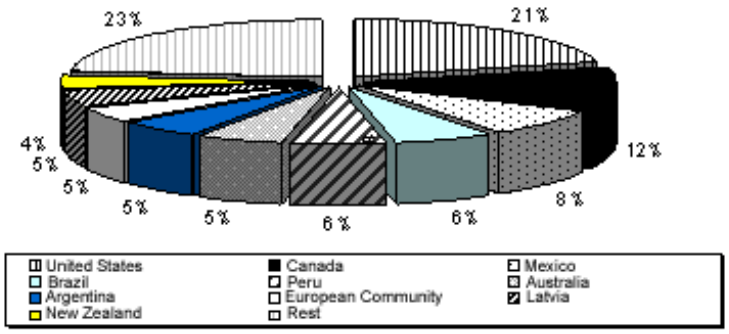


**Figure 1** Antidumping Cases Initiated in the Agriculture Sector (1995-2003)
Sources: World Trade Organization: AD Statistics from Reporting Countries

We now look at antidumping cases filed by the agriculture sector of the biggest user of this protectionist tool, the United States.[7] The products we consider fall under three, two-digit SIC industries: SIC 01 (agricultural products: cash grains, field crops, vegetables and fruits); SIC 02 (livestock and livestock products); and SIC 20 (food and kindred products – processed food industry). Table 1 lists the number of antidumping petitions filed with the ITC and International Trade Administration (ITA) within these two-digit SIC industries. Antidumping data for the period 1995-2002 come from the WTO web site, and data for the period 1990-1995 come from the ITC's web site. Information about the petitioners and the market structure is gathered from reports published by the ITC.

**Table 1** AD Cases Brought by U.S. Industries, 1990-2002, by two-digit SIC

| SIC | SIC code | Frequency |
|---|---|---|
| Agricultural products: grains and crops | 01 | 8 |
| Livestock and livestock products | 02 | 7 |
| Food and kindred products | 20 | 15 |
| Total | | 30 |

Sources: WTO web site, U.S. ITC preliminary reports

SIC 20 encompasses food manufacturing, which is relatively more concentrated than the primary agricultural industries. SIC 20 industries have also filed more cases than have SIC 01 and 02 industries. One reason for the larger number of cases may be that since SIC 20 is relatively more concentrated, the free rider problem associated with filing an AD case is reduced. Views are mixed on the significance of concentration ratio in the petitioning decision of an industry; some studies find it to be a significant factor, where others find it to be insignificant (please see Finger, 1981). Since the financial cost of petitioning is quite high, it is logical to think that a firm or group of firms would file for import relief if the benefits from such protection outweigh the costs; these benefits increase with an increase in the market share for these firms.

Table 2 reports information about the petitioners. Groups can also file petitions; if more than one firm feels the industry is being injured by unfair imports they can file the case as co-petitioners. In most cases in the agriculture sector the petitions are filed by coalitions or associations.[8] Thus, a few firms can act together to file a case, reducing the cost of petitioning facing any individual firm and overcoming the free rider issue that might prevent an individual firm from taking action.

Table 2 gives a breakdown of the number of firms that asked for import restrictions. Column three reports the number of firms or establishments in the domestic industry.[9] Column four (frequency) reports the number of countries named in the investigation. Column five reports the number of petitioners that actually filed the dumping complaint and asked for an AD duty. For cases where there were more than 20 coalition members, we simply report that the petition was made by a coalition. As the table illustrates, the level of competition varies across industries within the agriculture sector.

**Table 2** Concentration in the Domestic Industry (AD Petitions, 1990-2002)

| 2-digit SIC | Product | No. of firms or establishments in the industry | Frequency (no. of countries named) | No. of AD petitioners |
|---|---|---|---|---|
| 01 | fresh garlic (1994) | 16 | 1 | 7 |
| 01 | fresh cut roses (1994) | 250 | 2 | coalition |

| | | | | |
|---|---|---|---|---|
| 01 | fresh tomatoes (1996) | >1000 | 1 | coalition |
| 01 | durum and hard red spring wheat | >1000 | 1 | coalition |
| 01 | fresh kiwifruit (1991) | >1000 | 1 | coalition |
| 01 | spring table grapes | >1000 | 2 | coalition |
| 02 | fresh Atlantic salmon (1997) | 12 | 1 | 7 |
| 02 | honey (1994) | >1000 | 2 | coalition |
| 02 | live cattle (1998) | >1000 | 2 | coalition |
| 02 | fresh and chilled Atlantic salmon (1990) | ?* | ?* | coalition |
| 20 | canned pineapple (1994) | 1 | 1 | 1 |
| 20 | butter cookies in tins (1998) | 2 | 1 | 1 |
| 20 | live processed blue mussels | 3 | 1 | 1 |
| 20 | tart cherry juice & concentrate (1991) | 10 | 2 | 1 |
| 20 | certain pasta (non-egg) (1995) | 17 | 2 | 3 |
| 20 | non-frozen apple juice concentrate (1999) | 16 | 1 | 5 |
| 20 | preserved mushrooms (1998) | 10 | 4 | 7 |
| 20 | freshwater crawfish tail meat (1996) | 45 | 1 | coalition |
| 20 | individually quick frozen red raspberries | 50 | 1 | coalition |
| 20 | certain frozen fish fillets | ?* | 1 | coalition |

Source: ITC Preliminary Reports.
* We could not obtain data for these cases.

As mentioned previously, most of the cases in agriculture were filed by coalitions, trade groups or associations. SIC 01 (agricultural products) industries filed eight AD petitions in six product groups.[10] The domestic market for all of the products except for fresh garlic seems to have a low concentration, with over 1,000 producers or growers. Large producer numbers also characterize SIC 02 industries, (livestock and livestock products), where four out of the five cases were filed by industries that have low market concentration, again with over 1,000 producers.

Domestic industries belonging to SIC 20 (processed food) that filed for protection seem to be highly concentrated, with fewer than 50 producers in all products. In the case of canned pineapple, the single firm filing the petition (Maui Pineapple Company) is the sole producer of the product. This case ended in an affirmative decision, with a 29 percent AD duty on imports, further increasing the market power of the domestic firm.

The number of petitioners filing AD cases also reflects the market structure. In cases where there are more than 1,000 U.S. producers, the cases have been filed by coalitions with long lists of members. Where the domestic market has fewer than 20 producers, we observe a couple of firms filing for protection. In five cases, all in processed food industries, the petition was filed by a single firm. Action by a single petitioner implies that this one firm had at least 25 percent of the market share. Thus, processed food industries filing AD cases were relatively highly concentrated. This finding is echoed by the Herfindahl-Hirschman index[11] (HHI) for the processed food industry, which is 1038, relatively higher than the average HHI for the average manufacturing sector, which stands at 785.[12] Thus, even in a market with known technology and few barriers to entry, we can see relatively concentrated domestic industries asking for AD measures, raising the concern that AD legislation may facilitate anticompetitive practices.

It is not surprising that most cases in SIC 01 and SIC 02 industries are filed by numerous firms, as petitioners have to account for at least 25 percent of the market share. Given such strong competition in the United States it seems unlikely that foreign firms are employing predatory pricing or pose a threat to competition in the U.S. market. However, increased protection can change domestic profit. To illustrate this effect, we choose a case that was filed by a coalition in an industry with more than 1,000 firms: fresh tomatoes. We will show in the next section that even in the fresh tomato industry import competition significantly declined, and the Lerner index for the domestic industry increased, after restrictions were imposed as a result of the AD petition.

## 5. Case Study: Fresh Tomatoes from Mexico

In the case of fresh tomatoes, where there is a lot of competition (and common technology), we still see an increase in the price-cost margin after the AD duty is imposed on imports.[13] The implication is that competitive concerns need to be considered when evaluating AD cases.

On April 1, 1996, various U.S. tomato growers, in an action initiated by farmers from Florida, filed an antidumping petition alleging that their industry was threatened by fresh tomatoes from Mexico imported "at less than fair value" (USITC, 1996). The petition was in response to a sharp rise in tomato imports (276 percent) from 1992 to 1996, the bulk of which came from Mexico (93 percent in 1996). U.S. production fell 21 percent over the same period, and U.S. prices dropped from $0.79 per kg. to $0.63 in 1996. On December 6, 1996, the United States and Mexico reached a "suspension" agreement whereby Mexico would voluntarily limit its exports, and in return the United States would suspend the antidumping case and remove the antidumping tariffs. Mexico agreed to set a single reference (floor) price of $5.17 per 25-lb. carton

(or 20.68 cents per lb.) of tomatoes exported to the United States. For the suspension agreement to hold, producers representing 85 percent of the exports had to agree to be bound by the minimum price.

Figure 2 highlights the import patterns for fresh tomatoes coming in from Mexico, which account for more than 90 percent of the import market. After the suspension agreement of 1996, there was a considerable decrease in the level of imports coming in from Mexico, which declined by 29.1 percent from 1996 to 2000. (Total imports of fresh tomatoes, that is, imports from all sources, declined by 4.8 percent over the same period, from C$672 million in 1996 to C$640 million in 2000.) The import data at the eight-digit harmonized system (HS) level for Mexico and other countries were provided by the U.S. Department of Agriculture.[14]

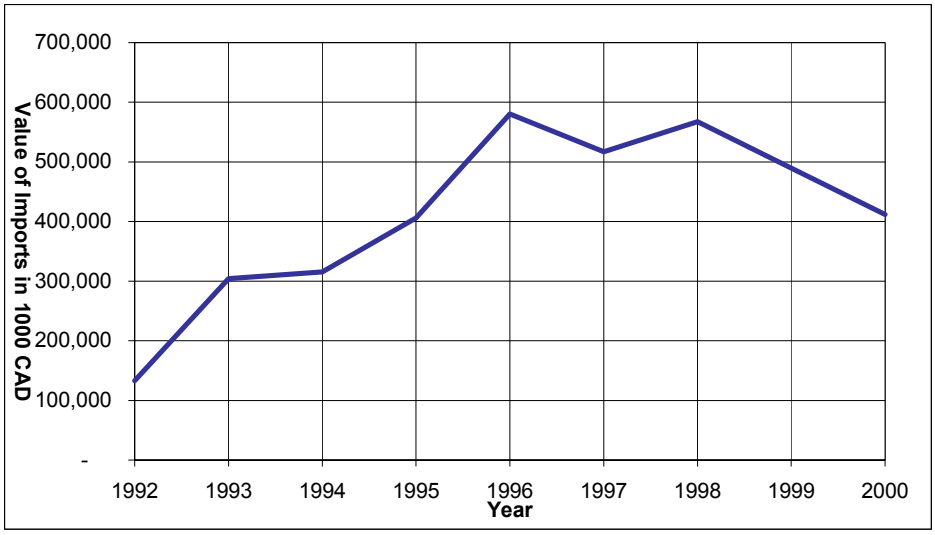


**Figure 2** Imports of fresh tomatoes from Mexico, before and after the restriction.

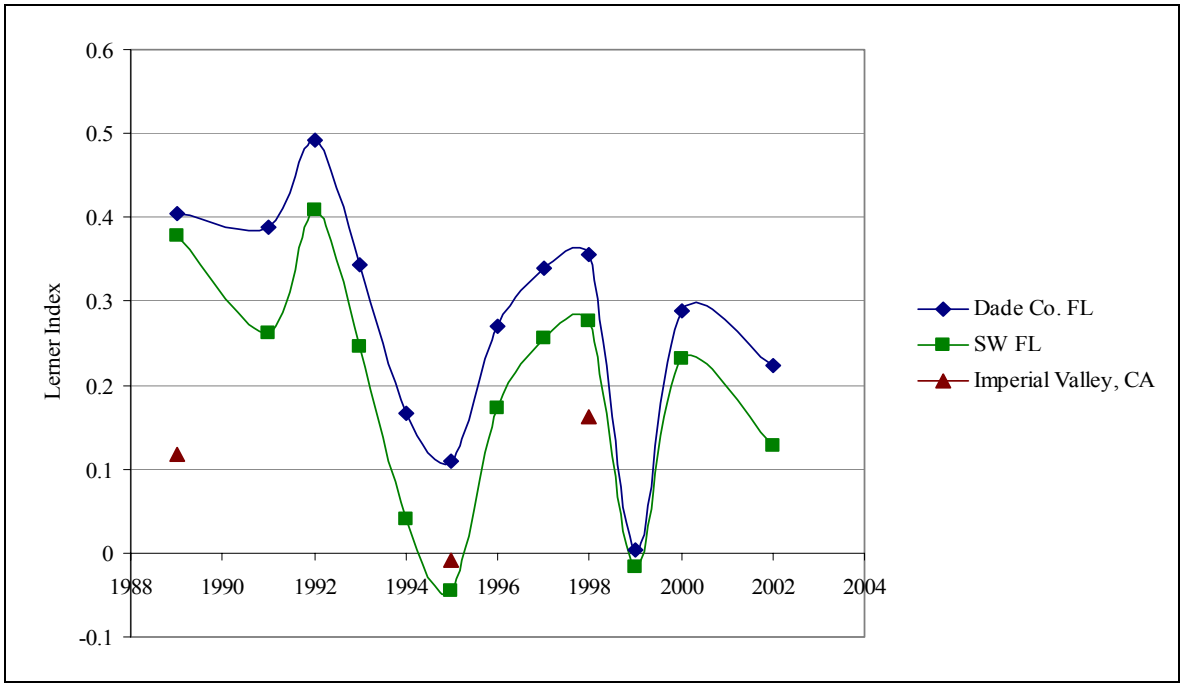


**Figure 3** Lerner index in the fresh tomato industry, before and after the restriction.

Using regional cost-of-production data from Florida State University and from extension officers in Southern California (various years), and farm-gate prices for the United States, we calculated the Lerner index for two tomato-growing areas in Florida and one in California.[15] As figure 3 shows, the Lerner indexes for Florida dropped in the two years before the dispute and (with the exception of a large drop in 1999) have been higher since then. We have California data for only three years, but the pattern of that Lerner measure is consistent with the Florida series. Thus, even in an industry with many producers, AD disputes can affect the price-cost margin.

## 6. Conclusion

The main aim of this article is to highlight the anticompetitive nature of the U.S. antidumping legislation. By granting import protection to domestic markets with few or single firms, the ITC and IA might be promoting monopolies at the cost of consumer welfare. This article raises the following questions: In the face of dumped imports, should national governments adopt protectionist strategies? Does such protection provide an environment conducive to the growth of domestic industries, or does it discourage competition and distort market conditions? These questions need to be further researched for a better understanding of this issue.

Over the past decade there has been a substantial upsurge in the number of antidumping cases across the world as more and more countries adopt AD legislation. Thirty-four countries were reported to have AD laws in force in 1999, as compared to

nine countries in 1980. The traditional users (the United States, the EU, Australia and Canada) now account for only 50 percent of AD cases as compared to 99 percent from 1980 through 1985. The spread of AD legislation among various countries makes it even more important to understand the AD mechanism and its threat to international competition.

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## Endnotes

1. For a good discussion of the possible conflicts between the rationale for antidumping measures and economic reasoning see Kerr, 2006.
2. The Lerner index is a measure of industry or firm profit and is often used to indicate possible market power. The Lerner index is calculated as (price–marginal cost)/price.
3. Interested parties include the following: 1) a manufacturer, producer, or wholesaler of the product in the United States; 2) a certified union or group of workers that is representative of the industry; 3) a coalition of firms, unions, or trade associations that represent the industry.
4. This accounts for roughly 6 percent of the overall AD cases filed.
5. Mexico began using AD measures in 1987; Peru and Brazil first used AD measures in 1994 and 1998, respectively.
6. These cases are against both NAFTA members and non-NAFTA members.

7. Since the United States is the biggest user of AD mechanisms in the agriculture sector, it provides a good sample for such a study. Also, it allows a good reflection of the market power that foreign firms might have. For example if there are over 1,000 firms in the domestic market, each with almost negligible market power, it is very likely that the foreign firms exporting into the U.S. market do not have much market power either. Of course such a claim cannot be made if the importing country is a small country.
8. In the agriculture sector there were no labour unions as co-petitioners, as there were in other industries, for example steel.
9. Our use of "domestic industry" is as defined by ITC; it can be defined as narrowly as the eight-digit harmonized system (HS) level.
10. AD petitions for fresh cut roses were filed against two countries, and these are counted as two cases. This method of counting AD petitions is in general use. (This method is also used for the WTO data.)
11. The Herfindahl-Hirschman index (HHI) is a measure of market concentration. It is calculated by summing the square of each firm's market share; thus, HHI = $s_1^2 + s_2^2 + s_3^2 + \ldots s_n^2$. The HHI ranges from 0 to 10,000, with 10,000 indicating a monopoly.
12. Data source: annual survey of manufacturers (figures are averages over 90s data).
13. Later we show that for the case of fresh tomatoes from Mexico the price-cost margin for the domestic industry increased after the AD duties were put in place.
14. These data can be downloaded from the FATUS database at http://www.ers.usda.gov/Data/FATUS/
15. The marginal cost data come from estimates from the Florida State University and from extension officers in Southern California, reported in the USITC annual reports (various years). Price data are from the USDA-ERS Tomato Briefing Room Farm Gate Prices (http://usda.mannlib.cornell.edu/data-sets/specialty/92010/). Some of the Lerner indexes are zero or slightly negative in 1995, presumably due to a surge in foreign imports, and in 1999 because fungicide and pesticide costs were unusually high.

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