Evolving discretionary practices of U.S. antidumping activity

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Abstract. Using data on U.S. dumping margin calculations by the U.S. Department of Commerce (USDOC), we first document the rapid rise in U.S. dumping margins from around 15% in the early 1980s to over 60% by 2000. Second, statistical analysis finds that USDOC discretionary practices have played the major role in rising U.S. dumping margins over this period. Importantly, the evolving effect of discretionary practices is due not only to increasing use of these practices over time, but to apparent changes in implementation of these practices that mean a higher increase in the dumping margin whenever they are applied. JEL classification: F13

Evolution des pratiques discrétionnaires des agences antidumping aux Etats-Unis. Utilisant des données sur le calcul de l'écart entre les prix aux Etats-Unis et les prix de ces biens dans leur marché national d'origine (dumping margin) calculés par le U.S. Department of Commerce (USDOC), on montre que ces marges sont passées d'environ 15% au début des années 80 à plus de 60% en l'an 2000. Une analyse statistique suggère que les pratiques discrétionnaires du USDOC ont joué un rôle important dans l'accroissement de ces marges au cours de la période. Cela n'est pas attribuable seulement à l'accroissement de ces pratiques dans le temps, mais aux changements apparents dans la mise en application de ces pratiques qui se sont traduits par un accroissement de la marge quand on choisit de l'appliquer.

1. Introduction

Antidumping protection is intended to remedy situations where foreign firms sell their product in the host market at a price that is below 'fair' or 'normal'

I thank Richard Boltuck, Alan Deardorff, Robert Feinberg, Dan Ikenson, Michael Moore, Morris Morkre, Tom Prusa, anonymous referees, and participants of presentations at the Kellogg School at Northwestern University, Pennsylvania State University, University of California-Santa Cruz, Utah State University, the 2003 American Economic Association meetings, and the Spring ITI National Bureau of Economic Research meetings for many excellent and useful comments. I also thank Walker Hanlon for his research assistance. All remaining errors are my own. Email: bruceb@uoregon.edu.

Canadian Journal of Economics / Revue canadienne d'Economique, Vol. 39, No. 3
August / août 2006. Printed in Canada / Imprimé au Canada

0008-4085 / 06 / 874–900 /

value, that is, dump their product in the host market. When dumping occurs and the host country's domestic industry is 'materially' injured by this dumping behaviour (or threatened with material injury), the host country may apply an antidumping duty equal to the dumping margin on the foreign firm's product according to World Trade Organization (WTO) agreements. As Miranda, Torres, and Ruiz (1998) and Prusa (2001) show, this form of trade protection is spreading rapidly across countries and is having a growing impact on world trade flows. Gallaway, Blonigen, and Flynn (1999) calculate the welfare costs of antidumping and countervailing duty trade protection for the United States as second only to the Multifiber Arrangement protection on apparel and textiles in terms of welfare costs from various U.S. trade protection programs.

Most economists would worry about price dumping only if such behaviour were predatory in nature and intended to drive out domestic-market competitors. The definition of dumping is clearly much broader, so that practices that are not necessarily anti-competitive, such as price discrimination or pricing below *average* cost, are included as 'unfair' dumping behaviour. However, even if one believes that such dumping practices are significant and harmful, a major problem with trade policies designed to counteract such practices is implementation. For example, how is 'normal' value defined, much less calculated, across a wide variety of potential products? What constitutes 'material' injury or the threat of such injury? Of course, the WTO agreements provide a framework that outlines implementation of antidumping policies for member countries. Countries with established antidumping laws, such as the United States have elaborate legal statutes that go beyond these WTO agreements to address implementation in great detail. In addition, country-level courts of appeal rulings and legislative amendments have further clarified implementation procedures over time. However, as will be shown in this paper, there is also much room for discretion by the government agencies charged with implementing antidumping protection despite these detailed laws and ongoing legal rulings.

While a number of studies have documented the incidence of antidumping cases across users of antidumping laws, (Miranda, Torres, and Ruiz 1998, and Prusa 2001), there has been little examination of how antidumping policies and implementation evolve over time within countries. Even a cursory look at the data reveals patterns that have not received much attention in the literature. Figure 1 displays a three-year moving average of the U.S. dumping margins calculated by the U.S. Department of Commerce (USDOC) over the period of 1980 through 2000.[1,2] The upward movement in U.S. dumping margin magnitudes is pronounced and substantial. A simple regression on a constant and an annual time trend indicates that the average dumping margin rose approximately 2.5 percentage points a year, from a starting point of 15.5% in the early 1980s to over 63% by

1 The calculated dumping margin by the USDOC becomes the applied antidumping duty if, and when, the USITC finds that imports caused material injury to the domestic industry.

2 Each yearly observation is the average of the current year and the previous two years. This presents a smoother picture of antidumping activity than using yearly data, as some years are based on a relatively small (less than 40) number of dumping margin calculations.

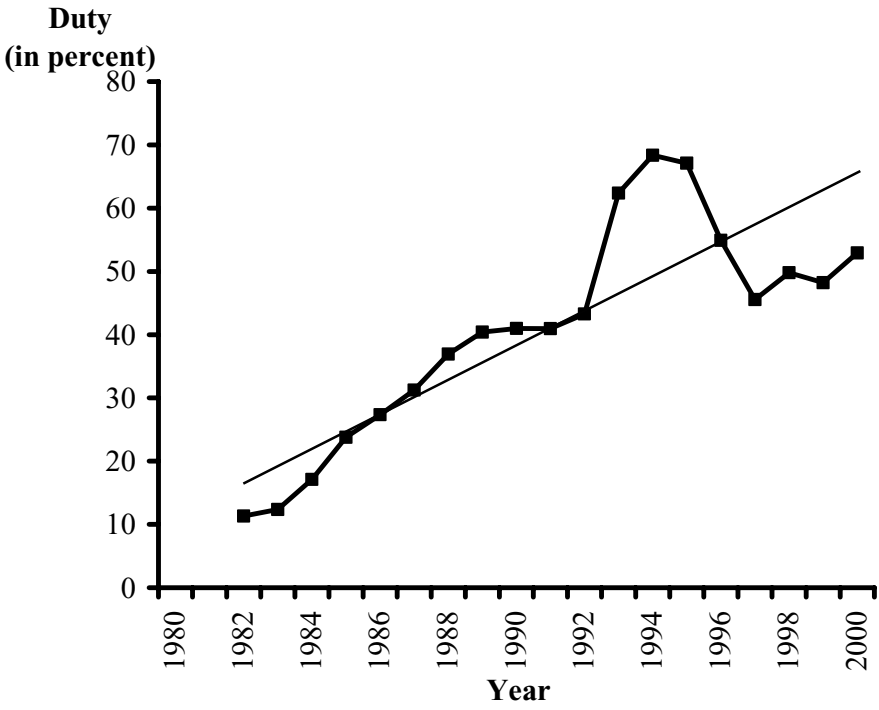

FIGURE 1 Three-year moving average of U.S. Dunping margins

2000. However, it is clear that the trend in the first decade of the sample is much steeper than the trend over the last 10 years of the sample, and there appears to be a potential break in this positive trend after 1995, when changes to the dumping margin calculations took place as mandated by the Uruguay Round Agreements of the WTO. Figure 2 shows a similar figure for a three-year moving average in the percentage of U.S. cases ruled affirmative for the injury determination by the U.S. International Trade Commission (USITC). Here too, the trend is towards a greater likelihood that the USITC will find injury, rising from about a 45% rate in the early 1980s to a 60% rate by 2000. Combined, these figures indicate a rise in the average expected antidumping duty (dumping margin times the probability of affirmative injury determination) from approximately 5% to over 30% for any foreign firm that finds itself investigated in a U.S. antidumping action over the sample time period! Similar trends in dumping margin calculations for specific products can be seen as well. For example, the 12 dumping margins calculated for 1986 U.S. antidumping cases in butt-weld pipe fittings averaged 41.8%, whereas the 26 dumping margin calculations for the same product in cases during the 1990s averaged 89.7%.

There are a number of possible explanations for such trends. First, legislative changes may have substantially altered the legal mandate that the USDOC and USITC must follow in making their decisions. Of interest in our analysis will be the

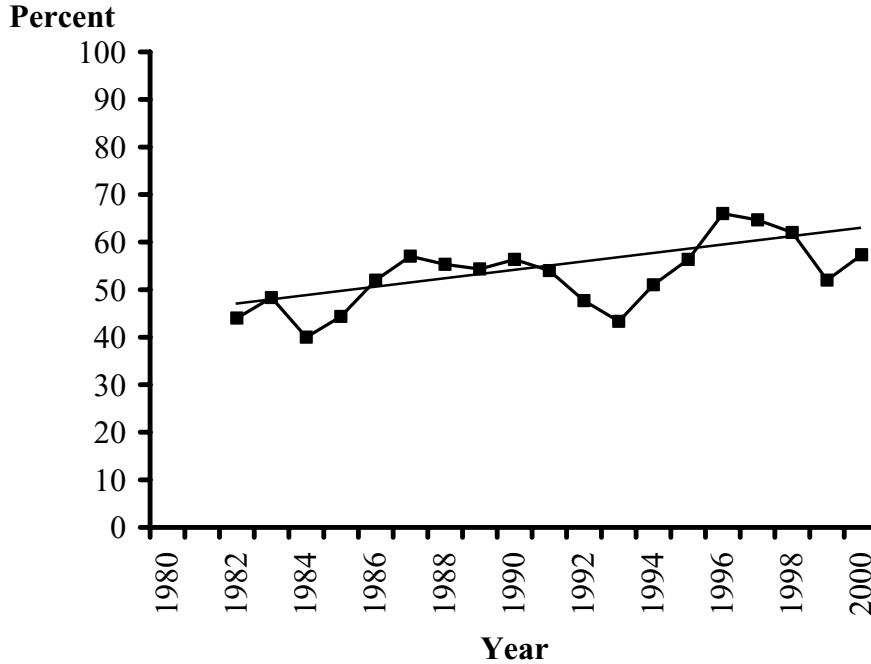

FIGURE 2 Three-year moving average of the percentage of affirmative injury determinations

impact of the Uruguay Round's effect. Second, the composition of investigated firms and products may have changed towards ones that would naturally receive higher dumping margins and affirmative injury decisions.[3] A final alternative is that discretionary practices by the U.S. agencies have evolved over time towards greater dumping margins and affirmative injury determination probabilities.

This paper examines data on U.S. dumping margins calculated by the USDOC to unravel the relative contributions of legal changes, case composition, and discretionary practices in the evolving pattern of USDOC-calculated dumping margins. A new database of the almost 1600 firm-specific dumping margin calculations by the USDOC from 1980 through 2000 was gathered to enable such an analysis. Regression analysis of the factors affecting the size of firm-specific dumping margins yields coefficient estimates that can then be used to decompose the relative contributions of these potential sources of rising dumping margins. The analysis finds that the upward trend in U.S. dumping margins is primarily through evolving discretionary practices at the USDOC, with little or no role for changing country composition of investigated cases or legal changes. In particular, the USDOC's use of 'adverse facts available,' cost of production tests,

3 In a related manner, there may be a learning story in the patterns, with potential domestic petitioners gaining experience over which products and countries can be more successfully targeted for U.S. antidumping actions.

and cost data to construct normal value are estimated to be driving a lot of the increasingly higher dumping margins. Importantly, this effect is due not only to increasing use of these practices over time (the extensive use of these practices), but apparent changes in implementation of these practices that mean a higher increase in the margin whenever these discretionary practices are applied (the intensive use). While rule changes due to implementation of 1995 Uruguay Round Agreements are estimated to have reduced the U.S. baseline dumping margin by 20 percentage points, greater extensive and intensive use of discretionary practices had already compensated for these Uruguay Round effects by the end of the sample in year 2000.

While previous studies have hypothesized and shown that discretionary practices by the USDOC lead to larger dumping margins, these results suggest that these practices are evolving rapidly into more distorted practices over time. This is despite the availability of appeals courts and dispute settlement procedures that are available to investigated parties.[4] With such a large role for discretion to affect dumping margins despite laws detailing implementation, the ability of WTO antidumping agreements to establish a consistent framework that will limit members' abilities to distort the process to their own goals is highly questionable. If such a wide range of discretionary actions can happen in a country, such as the United States, with some of the most detailed antidumping laws and transparent investigation procedures, this issue is likely even more prominent in many other member countries.[5]

2. Calculations of U.S. dumping margins

The practice of determining whether foreign firms are selling their product in the United States below normal value is fraught with a wide set of issues that must be addressed. Procedures necessarily vary by investigated products and firms. The basics of how the USDOC determines dumping margins is the following. The USDOC first determines which firms are responsible for the majority of the investigated imported product. These firms receive detailed questionnaires about their pricing and costs that allow the USDOC to calculate a firm-specific dumping margin for these firms with significant market share, with all other (small market share) firms facing a trade-weighted average of the firm-specific margin calculations for the firms from their country.

The 'preferred' method of determining a dumping margin for each foreign firm is to compare the *ex factory* price of the good exported to the United States

4 One potential mitigating factor is that WTO dispute settlement decisions on antidumping decisions became more frequent in the late 1990s, with judgments that often found problems with the way in which countries, including the United States, were applying their antidumping laws. See Tarullo (2003) for more details.

5 Congressional Budget Office (2001) shows that average U.S. antidumping duties are about at the median across other countries with active antidumping laws (chap. 4, figure 4), with many countries' duties increasing during the 1990s.

to the *ex factory* prices of the foreign firm in its own market for the same (or 'like') product. The *ex factory* price is the implicit price of the product at the moment it leaves the factory. Thus, 'normal' value in this case is defined as the *ex factory* price of the product destined for the foreign firm's own market.

Of course, *ex factory* prices are inherently unobserved. This leads the USDOC to take observed final consumer prices and back out a myriad of 'costs' that are added to these *ex factory* prices before they reach the consumer. These include transportation costs, tariffs, and other taxes, as well as mark-ups by distributors. It is assumed throughout these calculations that pass-through of such costs by the firm is perfect. Full pass-through is also assumed for exchange rate adjustments that use daily exchange rates (not adjusted for purchasing power parity) to convert prices into the same currency for comparison.

Once these adjustments have been made, the USDOC makes 'price-to-price' comparisons for sales transactions that occurred at a comparable point in time. However, until changes mandated by the Uruguay Round, the USDOC would often calculate a weighted average of all the foreign own-market prices over the entire period of investigation (typically the six months prior to the initiation of the case) to define normal value. Then transaction-specific dumping margins were calculated by subtracting individual U.S. *ex factory* prices from this measure of normal value. An overall firm-specific dumping margin was then the weighted average of these transaction-specific margins, treating transactions where the U.S. price is greater than normal value as 'zero' dumping margins.[6] Since the Uruguay Round, dumping margins must be calculated by either averaging price-to-price comparisons or by first averaging both sets of prices (the export and foreign own-home prices) and taking the difference. The practice of 'zeroing,' however, was not eliminated by the Uruguay Round, but is currently under review with the WTO through the dispute settlement mechanism.

When the investigated foreign firm does not have 'sufficient' sales of the like product in its own market, other measures of normal value must be used. The first option is to use sales by the firm to another export market (i.e., a third country) and then make 'price-to-price' comparisons, after adjustments. Absent 'sufficient' sales to a third market, the USDOC will turn to calculating a 'constructed value' of the normal value. For this calculation, the USDOC uses the foreign firm's detailed cost data to construct a measure of the firm's *average* cost (plus a profit margin) over the period being investigated.[7] Calculations of average costs entail apportioning fixed costs to per unit cost during the window of investigation. The

6 This method of averaging the foreign own-market prices, but not the U.S. prices, and then 'zeroing' the transactions where the U.S. price is above the average foreign own-market price can easily be shown to lead to dumping margins when no dumping occurs. As Baldwin and Moore (1991) point out: 'This obviously leads to the absurd result that, as long as prices vary over the sample period, a positive dumping margin can be found even if prices in the two countries are *identical* on every day' (271).

7 Prior to the implementation of the Uruguay Round Agreements this period of investigation was typically the six months prior to the petition prior to the Uruguay Round, but is now the prior twelve months.

USDOC then compares *ex factory* U.S. prices from individual transactions with this constructed value.

Even from this brief description of the general outline of procedures used by the USDOC, it is clear that there is wide room for discretion. Further, this discretion is often not connected with economic principles that are typically used to identify anticompetitive or market-distorting behaviour. Profit-maximizing firms in competitive environments may not fully pass through costs and exchange rates. Such firms may also price below average cost, since this is true any time a firm makes a loss.

Boltuck and Litan (1991) provide a more detailed description of the administration of U.S. unfair trade laws. Various chapters in Boltuck and Litan (1991), Lindsay (1999), and Lindsay and Ikenson (2002) also analyse a number of observable discretionary practices employed by the USDOC in determining dumping margins, pointing out the widespread possibility of bias inherent in such practices. In addition to the discretionary practices already mentioned, there are three other major practices that are often highlighted.

One of the most discussed USDOC practices is the use of 'facts available,' known as 'best information available' before the Uruguay Round Agreements were implemented in 1995. Given the detailed data requirements necessary to calculate dumping margins, the task becomes very difficult when the foreign firm does not provide accurate usable data or does not respond whatsoever to the USDOC's requests.[8] In these circumstances, the USDOC uses 'facts available,' which are invariably the information on dumping activity contained in the petition. The USDOC may use 'facts available' for small portions of a dumping margin calculation (such as to ascertain freight charges in backing out *ex factory* prices) to using it as the sole information for the dumping margin calculation. This wide variation has led the USDOC to distinguish between use of 'facts available' for cooperating foreign firms versus non-cooperating or non-responsive foreign firms. In the latter case, the USDOC employs 'adverse facts available,' which is intended to use 'facts available' in the most adverse manner as a punitive measure.

Another practice often discussed is the procedures used by the USDOC when faced with calculating a dumping margin for a firm from a non-market economy, such as China, the USSR/Russia, and eastern European and former Soviet bloc countries. Cost and price data for such firms are non-existent or may be meaningless from an economic/accounting perspective. As a result, the USDOC calculates normal value through a 'factors of production' analysis using information from a 'surrogate' country. More specifically, it gathers data from the foreign firm on the quantities of inputs used for production of the investigated good and then values these inputs using price information from a chosen market economy that is deemed comparable in economic development. Adding adjustments for

8 Moore (2005) provides a game theoretic analysis of a foreign firm's decision to participate in an investigation. He shows that a foreign firm's optimal choice may be non-cooperation if compliance costs are set high enough; these costs will be higher the more that authorities weigh domestic petitioners' interests.

packaging costs, transportation costs, and profits, the USDOC can construct normal value. With normal value in hand, the USDOC can then calculate dumping margins in the usual fashion.

A final practice that receives somewhat less attention is the cost-of-production test. This practice occurs when normal value will be calculated using the investigated foreign firm's own-market prices or third country prices. If alleged by petitioners, the USDOC will examine whether the investigated foreign firm is selling below cost of production (or average cost) in its own market or to third countries. If a significant number of transactions in these markets (greater than 10% before the Uruguay Round Agreements, greater than 20% afterwards) display prices below cost of production, the USDOC excludes these transactions for determining normal value. As others have noted, this obviously leads to a higher normal value and a greater dumping margin. If the USDOC finds the vast majority of these transactions (greater than 90% before the Uruguay Round Agreements, greater than 80% afterwards) below cost of production, it will completely disregard all foreign own-market prices and base normal value solely on the constructed value methodology.

Several studies have examined what factors determine the magnitude of U.S. dumping margins and examined the role of USDOC discretionary practices on such margins. Baldwin and Moore (1991) examine U.S. dumping margin determinations in the 1980s. Their econometric results find that most observable economic factors, such as changes in imports and domestic production, have little explanatory power for understanding final USDOC dumping margin determinations. However, after other factors are controlled for, the USDOC's use of 'facts available' leads to dumping margins that are 38 percentage points higher than the average 29% margin. This is the only discretionary practice they examine.

Lindsay (1999) and Lindsay and Ikenson (2002) examine a wider variety of USDOC discretionary practices than Baldwin and Moore. Lindsay's (1999) descriptive analysis samples all USDOC dumping margin calculations from 1995 through 1998 and, similar to Baldwin and Moore, finds that the average 'facts available' dumping margin is much higher: 95.58% versus an overall sample average of 44.68%. Lindsay's (1999) data also show that dumping margins that primarily used the foreign firm's own market prices or third-country prices to construct normal value are much lower than when constructed value, non-market economy methods, or 'facts available' are used.

Lindsay and Ikenson (2002) extend Lindsay's (1999) earlier work by analysing proprietary price and cost data used by the USDOC to calculate dumping margins for investigated foreign firms in eighteen U.S. antidumping cases.[9] Such data allow them to directly examine the effect of various discretionary practices on the dumping margins in these particular cases by trying alternative dumping calculations. They find that many discretionary practices serve to inflate dumping margins substantially in the cases they examine, including use of constructed

9 These data were obviously obtained from the investigated foreign firms, not the USDOC.

value, cost of production tests, zeroing, and even the way in which the USDOC determines which products are comparable across the models sold in the U.S. and the foreign firm's own market. These papers examine only a small subset of U.S. cases and none has analysed whether the impact of these USDOC discretionary practices evolves over time.

3. The evolution of discretionary practices

As discussed, theory and evidence suggest that discretionary practices likely have a substantial impact on the size of dumping margins calculated by the USDOC, with a consistent bias towards yielding a higher dumping margin. As mentioned, no previous work has examined the evolution of these practices. For example, are cost of production tests in 1990 associated with the same increase in the dumping margin as cost of production tests in 1980? The rapid increase in dumping margins over time displayed in figure 1 makes this an important question, as this may be an important source of the changes we observe. The evolution of the effect of these discretionary practices may stem from an increase (or decrease) in the use of such practices over time and/or staff-induced changes in how these practices are implemented. I will call these potential effects the extensive and intensive use of these practices, respectively.

Table 1 provides information on the change in the extensive use of these practices by showing the frequency of various discretionary practices by the USDOC over time from 1980 through 2000. The data for these tables were collected by the author from reading preliminary and final USDOC determinations in the *Federal Register*, as described in more detail below. It should be noted that the listed practices are not necessarily mutually exclusive, as the USDOC may employ more than one discretionary practice in a particular case. In addition, use of a practice for only part of a case (e.g., a subset of the investigated products) are included in table 1's numbers and treated identically to cases where the practice was fully used. This will also be true of the statistical analysis below.

For most practices, there is no discernible trend in the frequency of use over time. The exception is that there has been a clear increase in all 'facts available' cases over time (column 1 of table 1), with an ever larger share involving 'adverse facts available' (column 2). The average percentage of cases using 'facts available' in the first five years of the sample is 10.6%, whereas the latter five years' average is 39.6%, with the majority of these decisions using 'adverse facts available.' This means that by the early 1990s about 40% of USDOC dumping margin decisions were based on information supplied by the domestic petitioners.

Examination of how discretionary practices have evolved over time in their intensive use (i.e., changes in *how* the USDOC applies these practices) is more difficult to uncover. There is almost no discussion of this in the literature. One exception is Stewart (1991), who presents a defence of U.S. antidumping law and practices. One of the issues addressed by Stewart is Palmeter's (1991) assertion

TABLE 1
Frequency of USDOC's use of observable discretionary practices in U.S. dumping margin calculations, 1980–2000

Year	Facts available	Adverse facts available	Constructed value	Cost of production test	Third-country prices
1980	19.0	7.1	28.6	0.0	7.1
1981	8.1	0.0	29.7	10.8	5.4
1982	8.1	1.0	26.5	35.7	14.3
1983	4.8	1.9	41.7	49.5	11.7
1984	13.2	6.6	40.8	14.5	19.7
1985	21.9	7.3	37.5	41.7	8.3
1986	27.3	4.7	26.4	20.8	14.2
1987	35.1	13.5	16.2	35.1	2.7
1988	36.6	15.8	21.8	27.7	7.9
1989	41.7	16.7	20.8	18.8	20.8
1990	38.2	21.8	32.7	25.5	3.6
1991	25.4	20.3	20.3	20.3	15.3
1992	49.3	44.8	14.9	19.4	7.5
1993	49.6	34.3	32.3	39.4	4.0
1994	44.1	25.5	22.8	24.8	6.2
1995	29.7	27.0	35.1	27.0	0.0
1996	37.2	23.4	19.1	16.0	2.1
1997	35.9	35.9	59.0	59.0	10.3
1998	30.3	30.3	48.7	51.3	3.9
1999	45.1	45.1	15.4	20.9	0.0
2000	33.3	33.3	17.9	17.9	1.2

NOTES: Author's calculations are based on decision announcements by the USDOC in the *Federal Register*. Numbers are annual percentage of cases employing the listed discretionary practice. Listed practices are not necessarily mutually exclusive, as a case may employ more than one discretionary practice. Use of a practice for only part of a case (e.g., a subset of the investigated products) is included and treated identically to cases where the practice was fully used. 'adverse facts available' numbers are a subset of 'facts available' numbers.

that informational requirements required of foreign firms by the USDOC have become increasingly complex. In response, Stewart says that 'the core elements of the dumping calculus have remained largely unchanged since 1974' and that 'the burdens of the questionnaires have not increased dramatically' (300). This suggests that USDOC implementation procedures have been largely unchanged.

However, this author's reading of USDOC decision announcements found substantial evidence of systematic changes in USDOC implementation of discretionary practices that were not required by law. The most obvious changes involved use of 'facts available.' The USDOC seemed much more willing to work with foreign firms in cases in the early 1980s to assist them in getting the USDOC information it required for the dumping calculations than in subsequent years. In a representative 1979–80 case on countertop microwave ovens from Japan, the USDOC was confronted with the situation where Toshiba did not supply all

the necessary information and stated the following as its response: 'Toshiba did not supply any information concerning the adjustments needed for differences in domestic and export models. We have relied on descriptive literature and specification information supplied by Toshiba . . . In making its final determination, the Department will consider all information provided by Toshiba to the extent that such information can be verified prior to that determination.' (*Federal Register*, Vol. 45, p. 47456, 15 July 1980). Compare this to a representative passage for a 1987–88 case on digital readout systems from Japan involving the Mitutoyo Corporation: 'for those sales by Mitutoyo that involve further manufacturing in the United States, we used best information available because Mitutoyo failed to respond to section D of our questionnaire . . . it is our policy to assign the non-replying company . . . the highest margin indicated in the petition' (*Federal Register*, Vol. 53, p. 47844, 28 November 1988).

The difference in treatment is quite distinct. In the earlier case, the USDOC was willing to consider information from the foreign firm during the latter stages of the investigation and was also willing to use information supplied by the foreign firm as 'facts available.' In contrast, by the late 1980s the USDOC was applying 'adverse facts available,' even when firms failed to respond to one portion of the questionnaire, and was rejecting as untimely any information from the foreign firms after the preliminary decision and therefore did not use such information.

A key change in the use of 'facts available' was a policy put in place by the USDOC in the 1987–8 antifriction bearings cases against multiple countries. Appendix B of the USDOC's decision in the case outlined a two-tier method whereby cooperating firms may be assigned lower dumping rates than those that do not cooperate. The latter non-cooperating firms receive 'adverse facts available,' which is the higher of (1) the margin alleged in the petition, or (2) the highest calculated rate assigned to any foreign firm in the investigation. Such discrimination could have led to more firms' receiving a lower 'facts available' rate because they are deemed to be cooperating. Instead, it seems to go the other way over time, and the USDOC often rules firms to be 'non-cooperating' for seemingly minor omissions.[10]

The USDOC decision announcements show evolution of behaviour in the cost of production test as well. In the late 1980s decisions began to specify the '90–10 rule,' whereby the USDOC disregards below-cost sales by the foreign firm in its own market (or to a third-country) if such sales constitute more than 10% of all sales in those markets. If below-cost sales are greater then 90% of sales in those markets, then the USDOC uses constructed value as a measure of normal value. This rule is not mentioned in earlier cases, so it is not clear what method is used, since such a rule is not specified in the U.S. antidumping law. In subsequent years, the USDOC begins to extend this rule by applying it on a month-to-month basis

10 Substantial changes in implementation of procedures seem to have been precipitated by USDOC staff facing large, complicated cases, such as the antifriction bearings cases. Creating criteria that lead staff to turn to 'facts available' more often not only increases dumping margins, but also reduces workload.

for certain cases.[11] Thus, some months of data during the period of investigation may get constructed value, whereas others may not. This obviously increases the probability that constructed value will be used for at least part of the normal value calculation.[12]

While this anecdotal evidence is consistent with evolving implementation of discretionary practices on how such practices are implemented (their intensive use), it obviously relies on what the USDOC self-reports in its *Federal Register* notices of its determinations. There may be many adjustments that are not reported. In addition, it is not clear whether these adjustments have a significant impact on dumping margins in the final analysis. Thus, it is not clear how much weight one can give such observations. As we will show below, however, econometric techniques can be used to estimate whether these discretionary practices are evolving over time and what the impact of such evolution is on dumping margins. Much of the econometric evidence will be consistent with these observations from reading the USDOC decisions.

4. The effect of legal changes and court decisions

Before turning to a more formal empirical analysis, a discussion of the possible effects of legal changes and court decisions on dumping margins is in order as well. There have been three seemingly substantial U.S. legal changes regarding U.S. unfair trade laws since 1980. Baldwin and Moore (1991) provide an assessment of the Trade and Tariff Act of 1984 and the Omnibus Trade and Competitiveness Act of 1988. The most significant change for dumping margin calculations from the 1984 bill was to allow the USDOC to average U.S. prices, as well as the foreign firm's own-market prices (or third-country prices) in determining a dumping margin. As they note, 'most dumping margins are still calculated in the old manner, despite statutory change.' (260).[13] The 1988 bill made a number of substantial changes (e.g., allowing the USDOC to apply antidumping duties to the *parts* of investigated products), but did not to lead to any obvious changes affecting the USDOC calculation of dumping margins. Despite this general assessment of these legal changes and their effect on USDOC margin calculations, I control for the possibility of their effect in the empirical analysis below.

11 Such a rule was first found in the final USDOC decision for the 1992–3 steel wire rope case against Korea. Such rules were also apparently followed in 1994–5 furfuryl alcohol cases against Thailand and South Africa, and in the 1994–5 small diameter pipe case against Italy.

12 Readings of the USDOC decisions suggest there is some evidence of changes in how the USDOC calculates fair value for non-market economies as well, but less evidence that the constructed value and third-country price methods have changed over time. Also, as noted earlier, the Uruguay Round Agreements changed the 90–10 rule to an 80–20 rule.

13 Hansen and Prusa (1996) show that changes in the law due to the 1984 Trade and Tariff Act did have a substantial impact on USITC injury determinations, by allowing the USITC to cumulate import sources in their decision of injury to the domestic industry.

Finally, the Uruguay Round Agreements of the GATT, enacted by the U.S. Congress in 1995, led to a substantial list of changes to the U.S. antidumping and countervailing duty laws. The Congressional Budget Office (1994) provides a summary of changes expected to affect implementation of U.S. antidumping and countervailing duty laws and points out three specific areas that had the potential to affect dumping margin determinations significantly (66–7). First, the Uruguay Round Agreements stipulated that when comparing export prices with the foreign firm's home-market prices, the agency must use only weighted averages for both sets of prices or individual prices for both. As mentioned above, the USDOC's method had been to compare U.S. individual prices with a weighted average of the foreign firm's own market (or third country) prices, which likely helps to inflate the dumping margin. Thus, this change should lower dumping margins. Second, the Uruguay Round Agreements require dumping margin calculations to use actual data to estimate administrative selling costs and profits when constructing dumping margins. U.S. practice had been to assume a minimum 10% for administrative costs and 8% for profit unless data showed even higher figures. These administrative selling costs and profits are added to cost of production numbers to obtain constructed cost normal values. Thus, eliminating these high minimum levels should lead to lower dumping margins in these cases. Finally, the Uruguay Round Agreements specifically recognized the U.S. practice of examining costs of production and eliminating 'sales below cost' in constructing normal value. However, a number of changes were prescribed for implementation of this practice that Congressional Budget Office (1994) judged were more stringent than previous U.S. policy. In summary, the main changes involving dumping margin calculations were expected to reduce the resulting U.S. dumping margins, and this will be tested in the empirical analysis below.

Court rulings also have the potential to affect USDOC dumping margin calculations. Parties involved in U.S. antidumping actions have the ability to appeal rulings with the U.S. Court of International Trade (USCIT) and, ultimately, the U.S. Supreme Court. Many of these cases involve issues connected with procedures used in dumping margin calculations by the USDOC.[14] Importantly, the USCIT has allowed the USDOC broad discretion in how it administers the U.S. antidumping law and overturns decisions only when a procedure is clearly inconsistent with the law. Most decisions involve very specific issues connected with the dumping margin that are case specific and do not have general applicability. It is rare to see the USDOC announce general policy changes in procedure due to USCIT decisions, and none seems to be substantive in nature. I note that these are broad impressions from reading a number of USCIT decisions, in addition to the USDOC decision announcements. Future work to more consistently investigate effects of USCIT decisions would definitely be warranted, but will not be the focus of this study.

14 In recent years there have been over 150 USCIT rulings, many of which involve appeals related to antidumping cases.

Finally, dispute settlement processes connected with free trade agreements have the potential to affect USDOC margin calculations. The Canadian-U.S. Free Trade Agreement (CUSFTA) and North American Free Trade Agreements (NAFTA) provide for such a dispute settlement process, which has been used to some extent by member countries. Jones (2000) highlights a handful of cases where such rulings led to significant changes in dumping margins for particular cases and does a simple time-series analysis to show that U.S. antidumping activity against Canada fell after the CUSFTA. However, Blonigen (2005) finds no such effects of declining antidumping activity for member countries after either CUSFTA or NAFTA when controlling for other factors in a panel data setting. Neither study formally examines the effect of these dispute settlement activities on USDOC dumping margin calculations. Once again, a reading of various NAFTA dispute settlement panel decisions suggests that rulings are on issues that are quite case-specific and do not have general implications for USDOC procedures. The GATT/WTO also has a dispute settlement mechanism, but there have been relatively few rulings connected with U.S. antidumping cases, particularly with respect to the USDOC procedures.[15]

5. Empirical analysis

5.1. Methodology and data

To examine the factors underlying the changes in USDOC dumping margins over time, this section presents a more formal statistical analysis using data on all firm-specific USDOC dumping margins calculated for cases filed from 1980 through 2000. Specifically, I regress firm-specific dumping margins on controls for discretionary USDOC practices, legal changes, and country composition. Using these OLS estimates, I can then decompose the impact of each of these channels on dumping margins over time to understand their relative contribution. Later, I report estimation, employing case-specific fixed effects to explore the robustness of my estimates.

As mentioned, dumping margin calculations are done by firm, not by case, which often has multiple investigated firms. Data on firm-specific dumping margins (the dependent variable) come from USDOC decisions, announced in the *Federal Register* notices. I include dumping margin calculations for any foreign firm named in the Federal Register notices as being investigated, even if that firm ultimately received a country-wide dumping margin.[16] Also, I include preliminary USDOC margin determinations when the case is withdrawn or terminated

15 Irwin (2003) discusses recent WTO dispute settlement cases that have addressed the USITC's injury determination, particularly its methods of determining import causation of domestic industry injury.

16 Such country-wide margins are common for non-market economies like China, where many or all of the exporters are owned by the national government. In this case, the USDOC calculates one dumping margin that is applied identically to all firms from that country.

before a final USDOC decision is made. Preliminary USDOC margins account for about 9% of the sample, but their inclusion does not affect the paper's main results or conclusions. The final sample comprises 1590 firm-specific dumping margins over the 697 antidumping investigations that lasted long enough for dumping margin calculations to be completed. This means there was an average of 2.28 firms receiving a unique dumping margin in each antidumping case.

To control for USDOC discretionary practices, I begin by including separate indicator variables for each of the USDOC discretionary practices listed in table 1. In addition, I include an indicator variable that takes the value of '1' when the firm is from a non-market economy and 'factors of production' are used to calculate normal value.[17] To control for legal changes that occurred from the trade acts in 1984 and 1988 and the implementation of the Uruguay Round Agreements, I include separate indicator variables for each that take the value of '1' for years subsequent to the year of enactment and '0' otherwise. Finally, to control for country composition effects, I include the following country/region variables that correspond to the primary regions subject to U.S. antidumping actions: (1) Canada, (2) Mexico, (3) Other Latin America, (4) European Union, (5) Japan, (6) Korea, (7) Taiwan, (8) China, (9) Other Asia, and (10) USSR/Russia.[18] The excluded category is 'Rest of the World' and includes countries and regions such as Israel, Egypt, South Africa, East European countries, Scandinavian countries, and former Soviet republics. Table 2 provides descriptive statistics for the variables just described.

5.2. Econometric analysis

Column 1 of table 3 presents econometric results from an ordinary least squares regression of USDOC dumping margins on the indicator control variables discussed above. The overall fit of the equation is good, with an adjusted R^2 of 0.36. The estimates suggest that 'facts available,' 'adverse facts available,' and non-market economy procedures are the discretionary USDOC practices that have a statistically significant impact on dumping margin calculations. With the dependent variable measured in percentage form, the coefficient estimates are easily interpreted as changes in percentage points of the dumping margin. Thus, it is easy to see that the estimated effects of these USDOC discretionary practices are large, with 'facts available' methods associated with a 30.60 percentage point increase in the ad valorem dumping margin calculated by the USDOC and

17 I did not include this discretionary practice in table 1, because it is so closely tied to country composition. In the econometric analysis, however, it will be possible to identify the USDOC practice used for non-market economies from specific country effects to some extent.

18 'Other Latin America' comprises countries from the region (besides Mexico) that have been subject to U.S. antidumping actions. These are Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Peru, Trinidad & Tobago, and Venezuela. In like fashion, 'Other Asia' includes Australia, Bangladesh, Hong Kong, India, Indonesia, Malaysia, New Zealand, the Philippines, Singapore, and Thailand.

TABLE 2
Descriptive statistics

Variable	Mean	Standard deviation
USDOC dumping margin	41.86	54.46
Facts available	0.31	0.46
Adverse facts available	0.20	0.40
Cost of production test	0.28	0.45
Constructed value	0.28	0.45
Third-country prices	0.08	0.27
Non-market economy	0.22	0.41
1984 Trade Act	0.78	0.42
1988 Trade Act	0.56	0.50
Uruguay Round	0.24	0.43
Canada	0.05	0.21
Mexico	0.02	0.14
Other Latin America	0.09	0.29
European Union	0.16	0.36
Japan	0.15	0.36
Korea	0.09	0.28
Taiwan	0.10	0.30
Other Asia	0.07	0.25
China	0.17	0.37
USSR/Russia	0.02	0.14

NOTES: All variables are dummy variables with a minimum value of 0 and maximum value of 1, with the exception of the USDOC dumping margin. This variable, defined in percentage terms, has a minimum value of 0 and a maximum value of 454. The text provides more detailed definitions of all variables. Data were gathered from *Federal Register* notices on USDOC preliminary and final dumping margin decisions. Statistics for each variable are based on 1590 observations.

'adverse facts available' methods associated with an *additional* 32.38 percentage point increase. Thus, the total effect of 'adverse facts available' is a 62.98 percentage point increase in the dumping margin.[19] Foreign firms from non-market economies, where the USDOC uses third-country data to estimate normal value, is associated with a dumping margin that is 24.50 percentage points larger than average. The other discretionary practices show no statistically significant effects on dumping margins.

With respect to other controls, the 1984 Trade Act is estimated to have a moderate increasing effect on dumping margins, whereas implementation of the Uruguay Round Agreements is associated with an approximately 7 percentage point decrease in the baseline U.S. dumping margin. The 1988 Trade Act shows no statistically significant effect. The country indicator variables are jointly statistically significant at the 1% level. Korea, Taiwan, and USSR/Russia generally

19 Note that this interpretation of the coefficient estimates is due to the fact that 'adverse facts available' is a subset of 'facts available.'

TABLE 3
Effects of discretionary practices, legal changes, and country characteristics on size of U.S. dumping margins from OLS estimates

Regressors	(1)	(2)	(3)	(4)
Discretionary USDOC practices				
Facts available	30.60***	30.94***	32.31***	29.75***
	(3.84)	(9.00)	(9.02)	(8.73)
Adverse facts available	32.38***	9.44	−0.78	3.95
	(4.40)	(12.41)	(12.67)	(12.35)
Cost of production test	1.80	–2.25	–5.01	–5.94
	(3.37)	(6.34)	(6.85)	(6.73)
Constructed value	–1.15	–11.85*	–11.57*	–7.76
	(3.33)	(6.11)	(6.21)	(6.05)
Third country prices	–0.85	–12.76	–9.76	–2.88
	(4.28)	(8.56)	(8.51)	(8.43)
Non-market economy	24.50***	–8.90	–17.12	–7.21
	(7.73)	(10.99)	(11.26)	(10.97)
Facts available × trend		0.02	–0.09	0.25
		(0.82)	(0.83)	(0.81)
Adverse facts available × trend		2.02**	2.75***	2.25**
		(1.00)	(1.04)	(1.01)
Cost of production test × trend		0.40	0.59	0.43
		(0.61)	(0.66)	(0.64)
Constructed value × trend		1.31**	1.34**	1.03*
		(0.59)	(0.61)	(0.59)
Third-country prices × trend		1.29	0.70	0.11
		(0.88)	(0.87)	(0.86)
Non-Market economy × trend		2.97***	3.79***	3.30***
		(0.67)	(0.75)	(0.74)
Legal changes				
1984 Trade Act	8.51**	5.83		
	(3.46)	(3.54)		
1988 Trade Act	2.02	–5.96		
	(3.32)	(3.97)		
Uruguay Round	–6.95**	–20.01***		
	(3.04)	(4.19)		
Country/region effects	−9.23	−10.13	−15.37**	−19.94***
Canada	(6.81)	(6.79)	(6.82)	(6.68)
Mexico	1.40	2.67	1.26	–6.43
	(8.84)	(8.80)	(8.78)	(8.67)
Other Latin America	−0.34	–1.72	–4.06	–7.44
	(5.81)	(5.79)	(5.80)	(5.71)
European Union	−5.56	–5.66	–7.14	–5.98
	(5.33)	(5.32)	(5.47)	(5.34)
Japan	5.42	5.62	4.28	5.04
	(5.36)	(5.35)	(5.37)	(5.41)
Korea	−15.21***	–15.27***	–17.64***	–14.44**
	(5.92)	(5.90)	(5.99)	(5.99)
Taiwan	−19.77***	–18.93***	–24.39***	–22.69***
	(5.70)	(5.70)	(5.78)	(5.87)
Other Asia	−2.78	–2.81	–6.45	–6.19
	(6.27)	(6.23)	(6.27)	(6.16)
China	15.40**	12.04*	7.01	−1.78
	(6.84)	(6.96)	(7.00)	(7.00)

(*continued*)

TABLE 3
Effects of discretionary practices, legal changes, and country characteristics on size of U.S. dumping margins from OLS estimates (*Concluded*)

Regressors	(1)	(2)	(3)	(4)
USSR/Russia	–25.08**	−32.15***	−35.91***	−29.80***
	(10.16)	(10.24)	(10.33)	(10.17)
Constant	16.36***	21.74***	17.50**	19.50**
	(5.16)	(5.32)	(8.42)	(8.28)
Year dummies	No	No	Yes	Yes
Industry dummies	No	No	No	Yes
Adjusted R-squared	0.36	0.36	0.38	0.43
F-statistic	46.00***	36.41***	24.03***	24.62***
Number of observations	1,590	1,590	1,590	1,590

NOTES: The dependent variable is the firm-specific dumping margin in percentage form. Standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

receive lower average margins, while China averages dumping margins about 15 percentage points greater than the excluded 'rest of the world' category, everything else equal.

Assuming these estimated effects are constant over the sample, I next use these coefficient estimates to decompose the relative contribution of each of the three channels (USDOC discretionary practices, legal changes, and country composition) on the general increase in USDOC dumping margins over time. For example, if China is more often the target of petitions in later years of the sample, and Taiwan and Korea are targets less often, such changes in country composition may explain a significant portion of the general rise in dumping margins. To calculate this decomposition I construct predicted values for each channel using actual regressor values and estimated coefficients. Then I average these predicted components over the particular cases for each year and add the estimated intercept. Figure 3 shows this decomposition, using the estimates from column 1 of table 3. While a small part of the rise in dumping margins over time can be attributed to changes in country composition, the vast majority is connected with changes in the composition of discretionary practices over time, that is, in the extensive use of these practices. Given the coefficient estimates, this increase is almost exclusively due to the increased use of facts available, adverse facts available, and non-market economy procedures.

The analysis to this point does not estimate the possibility of changes in the intensive use of discretionary practices, that is, changes in how these practices are implemented over time. The way in which cost of production tests are conducted in 2000 may systematically differ from those conducted in 1980. This may be an additional source of increasing USDOC dumping margins. To explore this, I next interact the discretionary practices variables with a trend term. Coefficients on

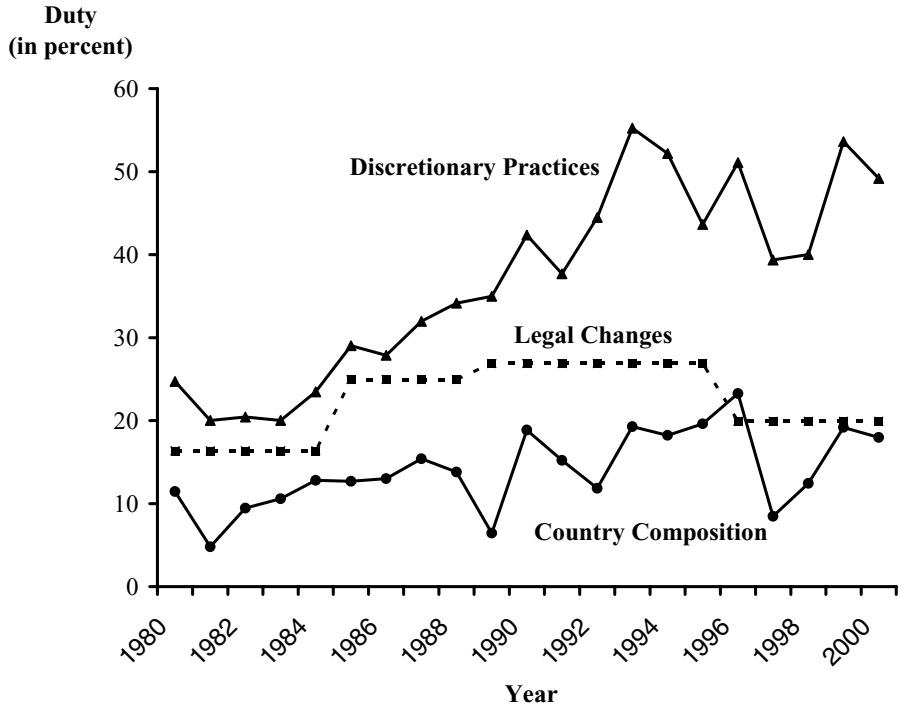

FIGURE 3 Decomposition of the effects of various factors on U.S. dumping margins over time

these terms then indicate how changes in implementation of these practices may affect dumping margins over time.

Column 2 of table 3 presents estimates when I include these trend-interaction terms. The interaction terms are jointly significant at the 1% significance level. Three of the six trend-interaction terms show statistically significant positive coefficients. This indicates that implementation of these practices (adverse facts available, constructed value, and non-market economy procedures) is changing in such a way that their application later in the sample is associated with a larger dumping margin than earlier in the sample. The use of facts available continues to have a significant direct effect on the dumping margin, but its effect does not significantly increase over time.

The other control variables remain largely the same, with the exception of the Uruguay Round Agreements implementation. This legal change is now associated with a 20 percentage point lower baseline dumping margin for the latter half of the 1990s. However, given the overall movement of dumping margins in figure 1, it is clear that other factors must have compensated for this drop in the baseline. As we discuss next, changes in discretionary practices continued to rise over the same time period to essentially compensate for the Uruguay Round effect in full by the end of the sample.

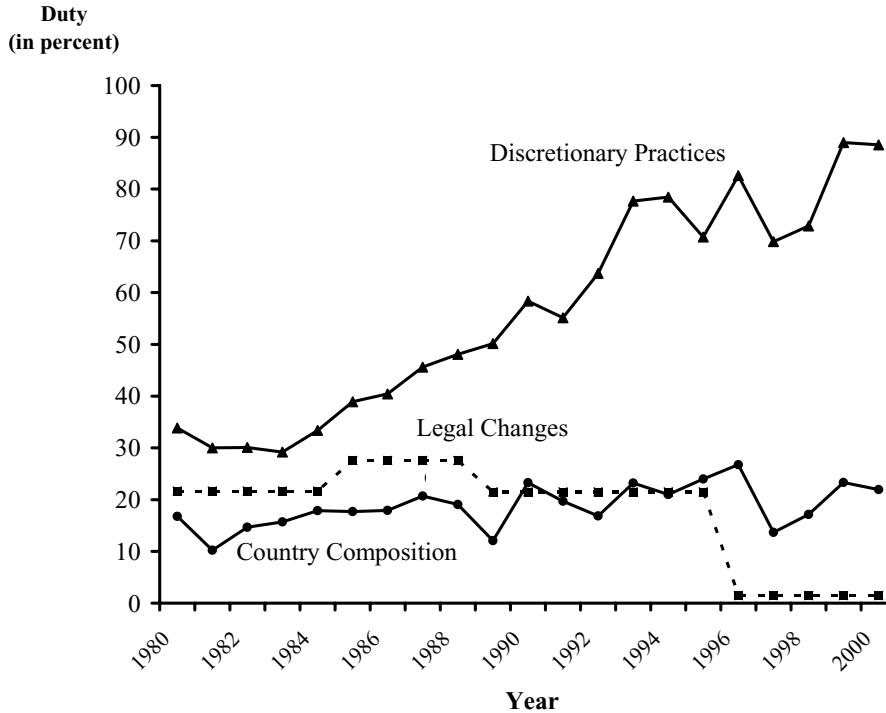

FIGURE 4 Decomposition of the effects of various factors on U.S. dumping margins over time, with trends in discretionary practices controlled for

Figure 4 decomposes the various channels of dumping margin effects with the estimates in column 2 of table 3, which account for both the change in the extensive use of discretionary practices and the intensive use (captured by the trend-interaction terms). Accounting for changes in the intensive use of discretionary practices clearly is important. The effect of discretionary practices is now seen as the main force in understanding average dumping margins changes over time (compare with figure 1), with a slight role for country composition changes and no (or even a mitigating role) of legal changes. While the Uruguay Round implementation led to a 20 percentage point drop in the baseline dumping margin after 1995, evolving discretionary practices led to almost an 18 percentage point increase from 1995 to 2000.

The results in table 3 are quite insensitive to a number of alternative specifications. Estimates with a general trend term included were hardly changed from those reported. The trend term was positive and statistically significant in the column 1 estimates, but insignificant in the column 2 estimates, where the trend term is also interacted with the discretionary practices variables. I also tried a specification where a trend is interacted with the country indicator variables.

This would pick up discretionary changes in how the USDOC treats firms from particular countries over time. This did not affect the discretionary practices variables significantly either.

A more significant concern is that macroeconomic or industry-specific forces may be significantly affecting dumping margins. For example, exchange rates and economy-wide or business cycles may affect dumping margin calculations and would not necessarily be controlled for properly by including only a linear trend.[20] With respect to industry forces, a variety of market structure features, from production technology to the types of distribution channels, may have significant and systematic effects on the USDOC's method of dumping margin calculations and may even affect the implementation of USDOC discretionary practices. To control for these concerns, column 3 of table 3 provides estimates when year dummies are included in the specification and column 4 of table 3 provides estimates when both year and industry dummies are included.[21] Inclusion of year dummies means I can no longer estimate any of the legal change variables that vary by year only. While F-tests support the inclusion of year and industry dummies in the specification, there is no qualitative change (and almost no quantitative change) in my estimates of the effects of USDOC discretionary practices when these year and industry controls are included. The industries that generally received statistically lower dumping margins, everything else equal, include steel, pipes, fabricated metals, machinery, and processed foods, while pipe fittings, semiconductors, agricultural products, and seafood sectors generally received significantly higher dumping margins.

Interestingly, one can go much further than simply controlling for year and industry fixed effects with these data. Because most cases have multiple firm-specific margins for each particular antidumping case, we can control for case-specific effects. Since each case occurs at a point in time and involves a particular country and unique product, inclusion of case-specific effects is the equivalent of time-country-product fixed effects. To see the statistical importance of this as a way to control for unobserved variation in the data, consider the example of the 1987–8 antidumping case against all-terrain vehicles from Japan. As shown in table 4, four Japanese firms received a firm-specific dumping margin in the case, each of which is an observation in my sample. There are common case-specific factors that may make all four dumping margins higher or lower on average. These include (1) time-specific effects, such as the Japanese and U.S. GDP growth rates prior to the case; (2) time-country-specific effects such as the movements in the yen-dollar exchange rate prior to the case; (3) product-specific effects that could make dumping more or less likely in all-terrain vehicles

20 For example, Feinberg (1989) and Knetter and Prusa (2003) find evidence that exchange rates and GDP growth affect antidumping filings.

21 Industry dummies were included for the following sectors: (1) Steel, (2) Pipes, (3) Pipe fittings, (4) Other steel products (nails, wire, etc.), (5) Bearings, (6) Non-ferrous metals, (7) Fabricated metal products, (8) Chemicals, (9) Semiconductors, (10) Other electrical and electronic equipment, (11) Machinery, (12) Agricultural products, (13) Seafood, (14) Processed foods, and (15) Textiles and apparel.

TABLE 4
Example of a U.S. antidumping case with multiple firms and variation in discretionary practices across firms: Japanese all-terrain vehicles, 1987–8

Firms	Dumping margin	Use of discretionary practice			
		Facts available	Adverse facts available	Constructed value	Cost of production
Honda Motor Co.	32.89%	No	No	Yes	Yes
Kawasaki Heavy Ind.	35.43%	Yes	Yes	No	No
Suzuki Motor Co.	14.11%	Yes	No	No	Yes
Yamaha Motor Co.	8.47%	No	No	No	Yes

NOTES: Data are taken from the USDOC *Federal Register* notices connected with the case.

relative to other products; and even (4) product-time-specific effects, such as innovation shocks occurring in the all-terrain vehicle industry leading up to the case. Inclusion of case-specific effects means coefficient estimates are identified only by the variation in firm-specific margins within each antidumping case. This leaves the discretionary practices as the primary factors that vary *within* the case across firms. For example, as seen in table 4, adverse facts available methodology was used only for Kawasaki Heavy Industries in the Japanese all-terrain vehicle case. Constructed value methodology was used only for Honda Motor Company's dumping margin, while cost of production tests were applied to all firms except Kawasaki Heavy Industries.

Inclusion of case-specific fixed effects means that one can no longer include the country/region indicator variables or the trade act variables, as they are subsumed into the fixed effects. The non-market economy variable likewise is perfectly collinear with these case-specific variables, since all firms from these countries are subject to such a discretionary practice; that is, there is no variation across firms in these cases with respect to this practice.

Column 1 of table 5 provides results from regressing USDOC firm-specific margins on the remaining control variables (the USDOC discretionary practices indicator variables) when also including case-specific fixed effects. The adjusted R^2 more than doubles from that of column 1 estimates in table 3 (from 0.36 to 0.77) and an F-test indicates that the case-specific fixed effects are jointly significant at the 1% level. Column 2 of table 5 includes interactions of the discretionary practices with a trend term. Once again, there is strong evidence that increasing extensive and intensive use of some of the discretionary practices is substantially associated with rising USDOC dumping margins. Consistent with table 3 specifications, 'adverse facts available' and constructed value methods correlate substantially with (increasingly) higher dumping margins. Also consistent with table 3 results, 'facts available' has a significant direct effect on the dumping margin, but its effect does not significantly increase over time. Unlike table 3 specifications, the cost of production test is also estimated to be significant in

TABLE 5
Effects of discretionary practices, legal changes, and country characteristics on size of U.S. dumping margins – controlling for case-specific fixed effects

Regressors	(1)	(2)
Discretionary USDOC practices		
Facts available	31.25***	28.03***
	(3.97)	(8.76)
Adverse facts available	42.46***	−3.42
	(4.65)	(13.38)
Cost of production test	10.18**	–10.48
	(4.20)	(9.23)
Constructed value	1.86	–11.09
	(3.67)	(6.77)
Third-country prices	–4.53	7.64
	(4.54)	(8.95)
Facts available × trend		–0.03
		(0.82)
Adverse facts available × trend		4.10***
		(1.13)
Cost of production test × trend		2.13**
		(0.88)
Constructed value × trend		1.41*
		(0.73)
Third-country prices × trend		–1.97*
		(1.02)
Constant	20.76***	17.68***
	(2.16)	(2.21)
Adjusted R-squared	0.77	0.78
F-statistic	96.41***	52.50***
Number of observations	1,590	

NOTES: The dependent variable is the firm-specific dumping margin in percentage form. Standard errors are in parentheses. ***, **, and *, denote significance at the 1%, 5%, and 10% levels, respectively.

increasing dumping margins over time once case-specific effects are controlled for. On the other hand, the estimates suggest that there is a downward trend in the effect of the application of third-country price methods. However, as shown in table 1, there are very few cases using this method by the end of the sample.

These case-specific fixed effects estimates are obviously preferred from an econometric standpoint, but they also are remarkably consistent with the anecdotal evidence of which practices have evolved the most, as well as with the results in table 3 when such factors are not controlled for. Because the country and legal change factors are subsumed into the case-specific effects, however, we cannot provide a similar decomposition to figures 3 and 4 from these estimates.

On a final note, possible alternative explanations of the econometric results are that foreign firms are simply dumping more over time and/or not cooperating as much with the USDOC. Greater dumping behaviour on the part of foreign firms is likely controlled for by the current set of regressors. For example, inclusion of

country dummy variables (or case-specific fixed effects) rules out a switch over time to countries that may dump more in general. Also, the inclusion of a general trend term yields an insignificant coefficient once the trend is interacted with the discretionary practices variables. Thus, the evidence suggests a trend in the USDOC discretionary practices, not a general trend in rising dumping margins.

The possibility that foreign firms are less likely to participate in AD cases over time, leading to greater use of 'facts available' and particularly 'adverse facts available,' is more plausible. A compelling story in this respect would involve foreign firms' learning over time that it is not cost effective to contest USDOC rulings. By the final five years of the sample, 27% of the foreign firms for which dumping margins were calculated had been involved in prior U.S. antidumping cases. However, if I rerun my regressions without observations where the firm has been involved in prior U.S. antidumping cases, the coefficients on 'facts available,' 'adverse facts available,' and their interactions with the trend term are hardly changed. Thus, the data suggest that this story of 'experienced' foreign firms opting out of the process is not driving the coefficients on the 'facts available' variables.

6. Conclusion

A little-noticed trend in U.S. antidumping protection has been the rapid increase in average dumping margins calculated by the USDOC. As a result, average U.S. dumping margins have risen from around 15% in the early 1980s to over 60% by 2000. With the percentage of cases ruled affirmative by the USITC also rising over this same period (from 45% to 60%) and the number of annual cases remaining high, this rise in calculated dumping margins has meant a dramatic rise in U.S. antidumping protectiveness. This paper finds that this increase is primarily through changing discretionary practices at the USDOC versus country composition of investigated cases or legal changes. This is due not only to increasing use of these practices over time (the extensive use), but apparent changes in implementation of these practices that mean a higher increase in the margin whenever they are applied (the intensive use).

One issue that could mitigate the economic importance of these trends in dumping margins is if the dumping margins were high enough that they were prohibiting trade already in the first half of the sample. If so, then increasing dumping margins would not have any further economic effect. However, a cursory look at the data shows a significant number of recalculations of firm-specific antidumping duties on imports in what are called administrative reviews by the USDOC even in the latter half of my sample. Since administrative reviews recalculate dumping margins based on import data since the time of the case, recent trading activity in the subject product is a necessary condition for such reviews to occur in the first place. This suggests that these generally higher dumping margins are not prohibitive for some firms, but further analysis of this issue is warranted.

While other studies have shown that agencies' discretionary implementation of legal antidumping statutes significantly affects the antidumping duties that foreign firms receive, this paper shows that these discretionary practices can evolve substantially in a relatively short period, despite being subject to appeals court and dispute settlement decisions. Given the rapid increase in U.S. dumping margins shown in this paper, perhaps the term 'devolution' is a better description than 'evolution.' As mentioned in the introduction, this calls into question the ability of WTO agreements (or regional agreements) to truly provide a credible and transparent framework for member countries' administration of antidumping laws. The multitude of legal changes that have occurred to this point have had little effect. Indeed, the estimates show that USDOC discretion compensated for a substantial Uruguay Round effect in just five years. Thus, the evidence suggests more drastic actions are required if the WTO wants to seriously address antidumping protection, which arguably is proliferating and increasing worldwide.

Many economists would argue that dumping concerns should be handled exactly as national antitrust authorities approach any other market concern. For these authorities, the issue is not about fairness, but about whether a certain practice makes markets anticompetitive and decreases overall welfare, not just the welfare of a certain subset of firms in the industry. The difficulty is taking these principles to an international stage, where countries will often have competing interests. Devising an appropriate international body to handle these issues, within the context of WTO or otherwise, is a major task with many political obstacles.

An alternative intermediate step would be to simply eliminate antidumping (and perhaps countervailing duty policies) in favour of safeguard actions. Under WTO rules, safeguard actions allow a country to provide temporary trade protection against all imports with the intention of allowing for a transition period for the domestic industry in the face of rising imports. Thus, a primary difference is that safeguard actions do not require documentation and measurement of so-called unfair trade practices. Safeguards still rely on injury determinations, and the problem of discretion may not be limited to dumping calculations, but also include injury determinations (see, e.g., Durling and McCullough 2005; Irwin, 2003). However, the limited evidence within the United States suggests that this process has not so quickly evolved towards more protection due to discretion. In addition, safeguards have additional benefits. First, they are clearly temporary measures, which is not true of antidumping and countervailing duty actions, despite adoption of common 'sunset' provisions by member countries. The United States still has antidumping duties in place that began with investigations as early as the 1970s. Liebman (2004) and Moore (2002) find that the vast majority of U.S. sunset cases led to continuation of antidumping and countervailing duties. Second, safeguard actions are handled in a much more public way than antidumping and countervailing duty actions and thus are subject to more political scrutiny from both sides of the issue. This certainly was seen in the recent steel safeguard actions pursued by the Bush administration in the early 2000s.

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