

## Does the Rule of Law Matter? The WTO and US Antidumping Investigations

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## **Abstract**

Are states constrained by international law? Recent studies suggest that the legal regime of the World Trade Organization (WTO), in particular, has no independent effect on members' trade policies. We argue, in contrast, that the WTO's "rule of law" is likely to deter protectionist practices against other members, including those lacking the ability to retaliate. The WTO accomplishes this by clarifying policy standards and providing for enforcement through judicial review. We test these competing hypotheses using a dataset of 921 United States (US) antidumping (AD) investigations and 2,539 potential cases which were never initiated, from 1978 through 2001. We find that the US is less likely to investigate and impose AD duties against countries that are members of the WTO. The WTO legal regime deters protectionist practices against fellow members, especially against those unable to credibly threaten retaliation.

## I. Introduction

Are states constrained by international law? The “power-oriented” perspective says that, absent a central authority to enforce it, international law is largely a guise for strong states to have their way. Looking at the World Trade Organization (WTO), in particular, recent studies lend some weight to this view, suggesting that the trade regime is of little consequence (Rose 2003, 2004), or that its effectiveness depends on member countries having sufficient market power with which to retaliate<sup>1</sup> for transgressions (Gowa and Kim 2005; Bagwell and Staiger 2002; Mavroidis 2000). We dissent from this view, arguing that the WTO raises the costs of protectionism by defining standards for acceptable practices and providing for enforcement through judicial review. Elaborating this “rules-oriented” perspective, we contend that the WTO should deter protectionism against its members, including those that lack the market power to retaliate.

This argument is not novel. Yet, despite the longstanding debate over the merits of the power- and rules-oriented views of international law, the field has not offered evidence that can adequately discriminate between these perspectives. The challenge is that, as Finlayson and Zacher (1981, 599) claim, “[i]t is impossible to know how many protectionist actions have *not* been undertaken because of the existence of GATT obligations.” This is because such actions do not typically surface in the empirical record. Consequently, studies of international trade agreements have only examined the association between membership and *observed* levels of trade or protection. But these studies may be biased by the fact that countries join the trade regime *because* they are ready to cooperate, rather than the other way around. So far, it has

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<sup>1</sup> By retaliation, we mean that members can seek the WTO’s authorization to suspend concessions to those found to be non-compliant, whereas non-members are unconstrained by the institution in terms of the means, or amount, by which they deny market access to an offending country. The difference in method of retaliation is important for our argument, for as we explain below. In either case, however, the credibility of this threat to retaliate is a function of market size.

proven difficult to falsify this skeptical interpretation. For this reason, Simmons (1998, 89) cautions that, while it can be shown “that much international behavior is *consistent with* international law” (italics added), “it has been far more difficult, however, to show any causal link between legal commitments and behavior.”

Our paper overcomes this challenge by using direct evidence on *non-cases*. We utilize a research design not previously brought to bear on this question, focusing on the political economy of United States (US) antidumping (AD) policy. Specifically, we look at a broad pool of comparable *opportunities* for the US to impose protectionism against other countries, including cases in which petitioning firms, and the government, decided *not* to request or impose AD duties, respectively. We thus avoid overstating the effects of international law—and sidestep concerns about selection bias—by scrutinizing identifiable instances of protection that did not happen, as well as those that did.

To this end, we construct a dataset of 921 US antidumping (AD) investigations, supplemented by 2,539 potential cases that were not initiated, from 1978 through 2001. We then use this set of cases and “controls” to test our hypothesis against the expectations of the power-oriented perspective. Our analysis takes account of a variety of other determinants of the demand for, and supply of, antidumping protection, including—we hasten to emphasize—the actual import price and volume of the product in question. We find that the US is less likely to both investigate and impose new AD duties against members of the WTO, even those lacking market power to retaliate. In particular, the probabilities of being named in a US antidumping petition, or subsequently having duties imposed, are about 25 percent lower for an average member of the WTO (or its predecessor, the General Agreement on Tariffs and Trade, or GATT) than for a non-member. Moreover, if anything, the deterrent impact of the WTO is *greater*, not

weaker, for members of the trade regime that cannot retaliate. The implication, of course, is that international law has a concrete, independent effect on states' trade policies. Those countries that are unable to hit back with trade sanctions can still effectively use the law to guard against adverse behavior by the strongest state in the trading system. This paper provides some of the first direct evidence of this point, lending clear support to the rules-oriented perspective.

Importantly, our methodology further allows us to estimate how many protectionist actions were prevented by the trade regime. Specifically, between 1978 and 2001, the GATT/WTO deterred **143** [118, 167]<sup>2</sup> impositions of antidumping duties by the US. To put this in perspective, the actual number of observed duties imposed by the US during this period was 413, with the average AD action directly affecting \$175 million of annual imports (in 1995 prices). Put simply, the GATT/WTO has substantially curtailed US AD actions, including against those members least capable of hitting back on their own.

The paper proceeds as follows. Section II sets out the rules-oriented perspective on international law, and grounds our empirical project in the literature. Section III elaborates our hypothesis, as applied to the domain of US antidumping decisions. Sections IV and V describe our research design and results, respectively. Section VI concludes by highlighting some implications of our findings for debates about the impact of international law.

## **II. The Literature**

The rules-oriented perspective on international law enjoys a long theoretical tradition, centered on the idea that codified rules constrain state behavior. Scholars in this tradition have emphasized a number of complementary causal mechanisms. Chief among these is the idea that the existence of mutually accepted rules clarifies each parties' obligations, limiting the prospects

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<sup>2</sup> Figures in square brackets here and elsewhere in this paper denote 95 percent confidence interval bounds.

for spirals of retaliation and counter-retaliation by reducing uncertainty (Finlayson and Zacher 1981; Keohane 1984). Robust dispute settlement provisions, and judicial review in particular, can make noncompliance costly as well (Keohane, Moravcsik, and Slaughter 2000). What ties these claims together is their implication that adherence to the law is not merely a function of coincidence of interests or power relationships among states. Our argument takes its cues from this tradition; our contribution is empirical rather than theoretical.

The view that law matters has long been taken as an article of faith.<sup>3</sup> To date, however, the literature has turned up decidedly inconclusive results. For example, Simmons (2000) looks at why governments commit to, and comply with, monetary rules set out by the International Monetary Fund. She finds that states generally do comply, and concludes that “legalization strengthens commitment.” In a similar vein, Davis (2004) examines whether trade negotiations under the GATT/WTO enable governments to credibly link issues and roll back agricultural protection. At least in the case of Japanese and European negotiations with the US, the answer is yes.

Using comparable methods, though, others find largely negative results. For instance, Hathaway (2002) observes that countries that ratify human rights treaties are no more likely to uphold those rights than countries that do not ratify. Likewise, Rose (2003, 2004) reveals that members of the GATT/WTO regime do not trade more with each other or liberalize their trade policies more than non-members.

Putting aside their differing conclusions, studies of this sort are open to charges of *selection bias*, which, as Simmons (1998, 89-90) explains, is the single biggest hurdle for studies of international institutions. The concern, as explained by Downs, Rocke and Barsoom (1996,

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<sup>3</sup> To quote an assumption made by Sykes (1991, 279-80), “GATT signatories regard their commitments as binding and are unwilling simply to abrogate them.”

380), is that compliant behavior might be traceable to a harmony of interests, rather than to the independent constraints imposed by international law. This presents an almost insurmountable problem for empirical research because individual opportunities for compliance or noncompliance are hard to observe.<sup>4</sup> Hence few studies are able to define an appropriate and comparable population of *potential* cases of noncompliance, from which all *actual* cases of defection are selected. Because the process by which AD duties are awarded enables us to identify non-cases, our methodology allows us to do precisely this. We thus now turn to briefly explain these procedures.

### *US Antidumping Procedures*

Antidumping cases are initiated by a domestic producer who alleges that a foreign firm is selling at “less-than-normal-value” (usually, below its home-market price) in the US. The goal is to obtain a duty that offsets the margin of “dumping,” or the difference between a “normal” price and the one being charged. For our purposes, the key is how petitions of this sort are vetted by the two agencies charged with overseeing US AD decisions.

First, a domestic producer(s) decides whether to file a petition with the International Trade Administration in the Department of Commerce (DOC). Second, if there is a filing, the US International Trade Commission (USITC) can either reject the petition (given insufficient evidence, for example), in which case it issues a negative preliminary ruling, or send the case on to the DOC after rendering a positive preliminary ruling. Third, the DOC then investigates, issues a preliminary ruling of its own as to whether dumping is occurring, which, if positive, will trigger provisional antidumping duties. Finally, the USITC must decide whether the dumping

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<sup>4</sup> For a study that attempts to correct for this problem explicitly in its estimation strategy, see Ringquist and Kostadinova’s (2005) examination of the impact of the 1985 Helsinki Protocol on pollution emissions.

(as decided by the DOC) is causing “material injury” to the domestic producer(s). If so, it issues a positive final decision, and the DOC imposes a final antidumping duty order based on the assessed dumping margin (see USITC 2005, II-23). The order technically applies to imports from only the particular foreign firms found to be dumping in the investigation. In practice, however, these firms account for the vast bulk of imports of the affected product(s) from the targeted supplier country, so we speak interchangeably of *country* and firm targets.

Given that, in the US (as elsewhere), AD protection is not overly difficult for firms to obtain (Prusa 2001), the puzzle is why so few investigations occur? Indeed, of the many foreign countries supplying a significant share of the imports of a typical product, why are only a small number ever named in petitions? Scholars agree that the answer does not lie in the economic merits of the case. Such merits are scarce in general, and US legal standards are sufficiently permissive that high duties can be imposed even on foreign firms making a profit—in fact, even on those selling abroad for *higher* prices than at home (Blonigen and Prusa 2003). In practice, as several former Commerce Department employees attest, US authorities engage in “margin shopping,” or “looking at different ways to calculate an importer’s costs or prices and choosing the one that helps fatten the prospective [dumping] margin to a desirably high level” (*Washington Post*, July 13, 2003, F1).<sup>5</sup>

Observers thus agree that the antidumping decisions are not mechanical products of legalistic reasoning or the economic facts alone. Rather, the authorities have latitude to exercise discretion; consequently, their decisions are affected by political context, as the literature widely appreciates (Finger, Hall, and Nelson 1982; Rehbein and Lenway 1994; Rosendorff 1996;

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<sup>5</sup> The point is not that margin shopping is necessarily widespread, but that political pressures can and do inform the pattern of antidumping duties awarded, as they do other protectionist measures, hence our desire to investigate this subject empirically.

Gilligan 1997; Unah 1997; Rosendorff and Milner 2001; Drope and Hansen 2004).<sup>6</sup> Indeed, the conventional wisdom is that, even if the facts and legal standards applied in two cases are *identical*, an affirmative outcome is more likely for the petition backed by stronger political pressures.

One aspect of political context that might influence US antidumping decisions is the threat of foreign retaliation. For this threat to be credible, though, US industry must export a sizable amount to the target country. If not, such threats are likely to be superfluous. This is in keeping with the broader claim made by Gowa and Kim (2005) that the GATT institution has only been successful in promoting trade *among its most powerful members*.<sup>7</sup> Countries lacking market power are thus expected to be more vulnerable to US protectionism in general, since they lack the ability to hit back.

The problem with this expectation—and the empirical literature on antidumping more generally—is that it fails to examine the *independent* deterrent impact of WTO membership, as distinct from market power. This independent effect goes to the heart of the debate between the power- and rules-oriented perspectives. Indeed, if anything, the trade regime *limits* the ability of countries with substantial market power to retaliate (Rosendorff 2005; Kucik and Reinhardt forthcoming; Sykes 1991), since non-WTO sanctioned measures are proscribed, and those seeking authorization to suspend concessions must first exhaust dispute settlement, to which we

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<sup>6</sup> To be sure, there have been a few studies downplaying the influence of politics on ITC decisions (e.g., DeVault 2002). However – in contrast to our paper – such studies look at only the antidumping decision, not the industry’s initial decision over whether to file a petition; as our later findings testify, that omission leads to significant selection bias. Further, those studies focus only on domestic political pressures, especially those arising from industry lobbying or Congress; they do not examine the impact of the threat of foreign retaliation or WTO litigation, as we do. Regardless, even a skeptic like DeVault (2002, 18-19) concedes that the evidence shows that “Congress attempts to influence the atmosphere in which ITC decisions are made (through commissioner appointments and legislation)” and that “the preferences of certain congressional oversight...committee members affect ITC decisions,” concluding that political factors influence ITC decisions, even if statutory considerations also matter greatly.

<sup>7</sup> See also Blonigen and Bown (2003).

turn momentarily. In this sense, if the rule of law matters, it should matter for the GATT/WTO membership as a whole, not just those members with sufficient market power to credibly threaten retaliation. This is the hypothesis we now develop.

### **III. The Argument**

Adopting the rules-oriented perspective, we argue that the WTO makes it more costly for members to impose AD protection against imports from other members, as compared to non-members. It does so by defining standards for acceptable practices and enforcing these standards through judicial review.

The WTO regulates the use of antidumping protection in the Anti-Dumping Agreement (ADA).<sup>8</sup> The ADA requires that a country conduct a formal investigation demonstrating that (a) the target firm(s) sold the product at “less than normal value,” customarily treated as the home market price; and (b) the imports caused “material injury” to a domestic industry. The ADA also stipulates how an investigation may derive reference prices (Art. 2), calculate the level of injury (Art. 3), prove causation (Arts. 3.5-3.7), and certify a petitioner with standing as a “domestic industry” (Art. 4), for example. In this respect, it contains pages of procedural requirements regulating how investigations should be conducted and how duty orders must be imposed and reviewed over time. Finally, the agreement requires that members notify the WTO at each step in the process for every AD investigation and order.

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<sup>8</sup> The full name of this text is the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994. Prior to 1995, the GATT regime also restricted antidumping explicitly, in the 1979 Tokyo Round Antidumping Code, whose parties included the major users of antidumping (including, of course, the United States). The 1979 agreement regulated the use of antidumping along much the same lines as the ADA, albeit with a lesser level of detail on certain points (Trebilcock and Howse 1999, 168-9). The general legal constraints on protection, at the core of the original GATT regime, also significantly constrained the use of antidumping by the US and other users from the start. Indeed, nearly one out of ten formal GATT disputes (i.e., at least 33 cases) from 1948 through 1994 concerned antidumping measures (e.g., see Hudec 1993). Hence we do not anticipate that the GATT differs much from the WTO in its success in deterring antidumping actions by one member against another.

WTO Members have incentive to comply with the institution's rules on antidumping. Not doing so puts at risk investor confidence, which depends on the stable expectations fostered by the rule of law (Abbott 2000; Simmons 2000). Moreover, the trade regime's guidelines give leaders a device to "tie their hands" and resist petitions for import relief when the institution's standards are not met (see Goldstein 1996). For instance, after the WTO ruled against the US practice of awarding the revenue from AD duties to petitioning firms (the Byrd amendment), this legislation was overturned on a close vote in 2005 despite "predictions from many critics and pundits that Congress would never repeal the Byrd amendment."<sup>9</sup>

In addition to detailing the standards for acceptable use of antidumping, the WTO also provides a well-established mechanism for enforcement of those standards through judicial review.<sup>10</sup> Indeed, one member (the "complainant") can file a dispute against another (the "defendant") alleging that its rights have been nullified or impaired. If the complainant is not satisfied after mandatory bilateral consultations, it may request a judgment by an ad hoc WTO panel, whose ruling may be appealed to the Appellate Body (AB). These rulings have binding legal force when adopted by the Dispute Settlement Body, which, in turn, can instruct the defendant to bring its measure(s) into compliance with trade regime's rules. In the event of

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<sup>9</sup> Vice President Dick Cheney cast the tie-breaking vote in the Senate. *Washington Post*, 22 December 2005, D1. Pekkanen (2001) similarly argues that the Japanese government bureaucracy was able to sustain certain liberalization proposals in the face of legislative and interest group pressure precisely because of the clarity and bindingness of the relevant WTO standards.

<sup>10</sup> Our discussion of dispute settlement in the text references the WTO. The predecessor institution, GATT, offered largely the same standards regarding antidumping and dispute settlement procedures, the chief exception being that defendants possessed a hypothetical "veto" over the formation of a panel, and panel ruling. Judicial review was thus not technically mandatory in the GATT period, although reforms in 1989 corrected the first limitation. Still, in practice, as the empirical literature on GATT disputes widely recognizes (Hudec 1993; Hudec 1999; Busch and Reinhardt 2003), the defendant's unilateral veto over panel formation was used in only a handful of occasions, in part because it came at great cost to the defendant's litigation as a complainant. In fact, a greater proportion of complaints over antidumping went to panels in the GATT era than in the WTO era. Patterns of settlement of disputes across the two periods are largely similar; empirical studies conclude that the two dispute settlement systems operated with roughly equivalent degrees of efficacy (Busch and Reinhardt 2003b). While we expect the two regimes to function similarly in terms of deterrence of AD activity, we nonetheless test for any differences across these institutions in our empirical analyses.

noncompliance, the WTO may legally authorize the complainant to raise its own tariffs against the defendant up to a stipulated (and often arbitrated) level, although such action is explicitly proscribed in the absence of multilateral authorization. From 1995 through July 2007, 61 formal disputes were filed over antidumping actions by one member against another.<sup>11</sup> In 29 of these cases, WTO panels issued legal rulings, 15 of which were appealed.

The WTO makes it costly for members to be too quick to act on particular antidumping petitions in other ways as well. Specifically, suits against AD duties have targeted key aspects of the defendant's domestic antidumping statutes and procedures, rather than specific instance of their use (e.g., the Byrd Amendment, Antidump 1916, and the oil country tubular goods sunset review). Members thus have an additional incentive to comply with the rules on antidumping to forestall challenges that would bring into question their overall legislation, which provides vital flexibility in maintaining domestic support for free trade more broadly (Kucik and Reinhardt 2008; Finger and Nogues 2005).

Legal scholars agree that this case law, built up in successive WTO rulings over AD duties, carries considerable weight (Palmer and Mavroidis 2004, 56). While formally there is no binding precedent in international law, the *acquis* of WTO jurisprudence works much the same way, leading observers to talk about a *de facto stare decisis* (Bhala 1999; Steinberg 2004). AD rulings, in particular, are often densely packed with citations to prior GATT/WTO rulings and have a substantial impact on subsequent practice. As Brendan McGivern, a prominent trade lawyer, notes, a recent WTO ruling against the US practice of “zeroing” (i.e., not counting higher-priced goods in assessments of the “less than normal value” pricing margin) has set up more litigation, explaining that “[t]he law is now so clear that these will be slam-dunk cases”

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<sup>11</sup> Measures by the US were the target of 46 of these complaints. Data in this paragraph was obtained from the WTO website and online document search facility.

(BNA International Trade Daily 2007). Indeed, in a follow-up dispute brought by Mexico against zeroing, the US did not even offer a defense of this practice.<sup>12</sup>

Evidence of the influence of WTO rulings on members' behavior can be seen as well in financial markets. For example, stock prices for Korea's Hynix Semiconductor rose 7.5 percent in the wake of a WTO Appellate Body ruling condemning Japan's duty on computer chip imports.<sup>13</sup> Shares in Chiquita, which imports bananas into Europe, jumped over 9 percent after the WTO ruled in favor of a complaint by Ecuador against the European Union's banana tariffs.<sup>14</sup> Desai and Hines (2008) and Jensen (2007) demonstrate similar stock price effects of WTO dispute settlement in other disputes as well. Examples like these show that investors are willing to stake large amounts of money on the belief that WTO Members tend to comply with rulings, even in disputes in which complainants have less market power than defendants.<sup>15</sup>

This discussion suggests two things. First, it is appropriate to speak about a cumulative body of GATT/WTO jurisprudence on antidumping. Second, this body of case law not only influences future panel rulings, but also protectionist practices, since members do not want to undermine the standards that constrain AD actions by others through noncompliance. By *anticipation*, then, the fact that the home country of a firm targeted in an AD petition may have recourse to WTO dispute settlement changes the incentives for the two US agencies, making an affirmative decision more costly. This is not to say that there is a two-track legal process for US antidumping decisions—one for WTO members and another for non-members. Rather, our point

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<sup>12</sup> While the question of zeroing has not been entirely resolved, McGivern notes that “[z]eroing has been on the ropes for a long time because there have been multiple rulings against the US” and that “[i]t’s wildly optimistic of the US to think they’ll get this back through negotiations.” See [http://www.whitecase.com/news\\_01102008/](http://www.whitecase.com/news_01102008/)

<sup>13</sup> From the CNBC website: <http://www.cnbc.com/id/22016781>, as posted on November 28, 2007.

<sup>14</sup> From Reuters: <http://www.reuters.com/article/consumerproducts-SP/idUSN0453319020071204>, as posted on December 4, 2007.

<sup>15</sup> For an examination of the impact of dispute settlement provisions on international trade flows more generally, see Kono (2007).

is that external political considerations, in this case arising from the WTO regime, weigh on the minds of the DOC and USITC authorities.

That political factors play a role in such decisions is not controversial; an extensive literature speaks to these influences (Hansen and Park XXXX), and the premise of margin shopping testifies to its importance. We have simply added, for the first time, a new variable—WTO membership—to the list of factors identified, and given it voice to speak for itself, rather than betting that market power is really the key. We expect that GATT/WTO membership deters US AD investigations and duties, even on the part of those countries lacking the market power to retaliate. This, we contend, is a far more direct test of the efficacy of law than what the literature has offered to date, both because we are able to get around the selection bias critique, and because we give full voice to both the power- and rules-oriented perspectives.

The implication of the rules-oriented perspective is clear enough with respect to the decision by the US authorities, who can expect WTO members to potentially invoke dispute settlement procedures against an AD order. The petitioning industry's decision about which countries to name, however, is not directly tied to consequences flowing from WTO dispute proceedings. Nevertheless, as the economics literature on antidumping agrees (e.g., Blonigen and Prusa 2003), there are nontrivial costs to filing a petition which can in some cases outweigh the benefits of doing so. Hence, by simple backward induction, the industry should build the government's anticipated response to the target's WTO membership into its petitioning decision. If the legal regime deters an affirmative finding, it should thus, beforehand, deter the naming of a member country in the petition.

To test for the independent impact of law, we focus on formal membership in the GATT/WTO. Formal, rather than informal, membership is the best indicator, because informal

members do not have access to dispute settlement. Our hypothesis, tailored to our empirical focus on US AD policies, is thus as follows:

*Hypothesis:* If a country is a GATT/WTO member, it is less likely to be targeted in US AD investigations *and* duty orders, controlling for its market power.

#### IV. Research design

We model both the demand for as well as the supply of antidumping protection. Specifically, we examine how GATT/WTO membership affects *two* dependent variables: (a) whether a given supplier country is named by private industry in a US AD petition; and (b) whether the US authorities issue an affirmative decision on that petition, ending in the imposition of AD duties.

##### *The Dataset*

We start with a list of all US AD investigations begun from 1978 through 2001.<sup>16</sup> This initial list has 921 observations, one per country named in each petition.<sup>17</sup> We group related investigations into families prompted by the same petition; they share the same date and products. For example, a pair of November 26, 2001 investigations against China and South Africa over ferrovanadium imports fits into one family, constituting two observations. The average petition has 2.3 country targets and, thus, investigations. For each petition, we then

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<sup>16</sup> We thank Bruce Blonigen for providing the core list of investigations used in Blonigen and Bown (2003). We would also like to thank Tom Prusa, who provided the product codes addressed in all of the pre-1994 cases. We ourselves updated case outcomes and the products petitioned in a number of the more recent cases in the list, following Blonigen and Bown's (2003) sources. Identification of products relies upon 5- or 7-digit TSUSA codes for the 1978-1988 period; 8-digit Harmonized System codes for the 1989-1993 period; and 4-, 5-, 6-, 8-, and 10-digit codes in the 1994-2001 period, as they are named in the petition. This paper's data on product- and country-level import and export volumes by year is from Feenstra, Romalis, and Schott (2002) for 1978-1988 and the USITC (<http://dataweb.usitc.gov>) for 1989-2001.

<sup>17</sup> From a complete set of 1,043 investigations we omit 122 due to missing data on one or more of the covariates used in our analysis.

construct a list of control observations, one for every *non*-named country supplying three percent or more of US imports of any one of the products named in that petition in the year it was filed.<sup>18</sup> Because Canada, Belgium, Austria, and the Czech Republic all supplied sufficient amounts of ferrovanadium to the US in the case above, for example, they enter our dataset as this petition's controls.

The file has 2,539 controls, or about 2.8 per case. The result is a complete dataset totaling 3,460 cases and controls.

Remarkably, 43 percent of the controls actually exported *more* of the product in question to the US than at least one of the countries named in the associated petition; 23 percent exported more than the *largest* supplier named. Similarly, in 42 percent of the control observations, the supplier's product-specific imports were priced *lower* than the comparable imports of at least one of the countries named in the petition; 27 percent were priced lower than the imports of that product from *all* of the named suppliers. Indeed, fully 16 percent of these controls supplied *more* of the product in question, at a *lower* price, than all suppliers actually targeted in the investigation. Why were these controls not also named, given that they constituted at least as severe a competitive threat to US producers? The point is that the controls in the sample constitute a legitimate reference point for comparison in terms of indicators relevant to the dominant statutory and political criteria (i.e., import price and volumes, respectively) that shape US antidumping decisions in practice.

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<sup>18</sup> In the preliminary determination phase of a US AD investigation, the Department of Commerce terminates cases in which the targeted country supplies less than 3 percent of total US imports of that product, though there are exceptions (USITC 2005, II-39). Such potential cases are thus unlikely to be filed in the first place, so we apply this sampling cutoff following Blonigen and Bown (2003, 260-1, 265). There would be about 8400 more controls if we did not apply the three percent cutoff.

### *Dependent Variables*

Our first dependent variable, *Petition*, is 1 if the country was named in that petition, 0 otherwise, thereby classifying observations as cases or controls. Our second dependent variable, *Affirmative*, is 1 if the US authorities ultimately imposed AD duties on the target country. *Affirmative* is zero for all other types of case outcomes, including negative determinations as well as withdrawn or terminated investigations. Needless to say, we do not observe the investigation's outcome if no petition was ever filed. *Affirmative* is one in 45 percent of the 921 decisions.

Two features of the dependent variables are worth highlighting. First, the economics literature on antidumping emphasizes the fact that the *investigation* itself, particularly when it results in a positive preliminary determination, imposes costs on the foreign supplier (Staiger and Wolak 1994), even if the final determination is negative. Thus, if we only looked at final decisions, we would miss much of the action. Moreover, the legal teams conducting domestic AD litigation are certainly sophisticated enough to induce the likely impact of GATT/WTO law on the final decisions of US authorities. They should accordingly factor this into the decision over whether to bring the case in the first place. If so, only looking at final AD actions would fail to reveal any *anticipatory* effect that the GATT/WTO might have on the petition choice itself. Doing so might also cause selection bias for inferences about the role of GATT/WTO in decisions themselves. The dependent variable at this stage is thus at least as important as the final decision.

Second, our coding of *Affirmative* does not distinguish among the various alternative ways an investigation might end.<sup>19</sup> For our purposes, the key issue is how different outcomes affect the foreign supplier's welfare. As Prusa (1992) demonstrates, AD investigations that are

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withdrawn or terminated early are certainly trade-restricting, but they tend to reflect collusive settlements among the petitioning and targeted firms. Such settlements may be profitable to the targets, just as foreign firms prefer voluntary quota restrictions over tariffs. Hence, given that an investigation is underway and has proceeded past a positive preliminary determination (a key point, as noted above), from the targeted country's perspective, the most negative outcomes occur only when duties are imposed, i.e., when *Affirmative* equals one.

### *Independent Variables*

*Regime Membership.* Our chief explanatory variable is dichotomous: *GATT/WTO*, coded 1 if the potential target country was a formal member of the trade regime in the year of the petition, and 0 otherwise. Of the 88 countries in our dataset, 23 were non-members at some point in the file. Non-members include China, Taiwan, Thailand, Mexico, Russia, Vietnam, Venezuela, Saudi Arabia, El Salvador, Panama, Guatemala, Ecuador, among others. 433 observations (12.5 percent) are of non-members<sup>20</sup>, though a disproportionate 19.2 percent of the filed cases were against non-WTO targets. We expect *GATT/WTO* to have a negative coefficient in both dependent variables' equations.

*Market Power.* The target country's credible capacity to retaliate using trade sanctions is derived from its position as a large and price-sensitive importer of products from the United States. Such consumption increases the target's price-setting market power, such that its actions can lower the world price of overall US exports. We measure this capacity in the variable *US*

*Export Dependence*, which is the volume of total US exports to the target country, in the petition

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<sup>20</sup> We emphasize that the non-member observations do not disproportionately involve China, which is actually second behind Taiwan in volume of exports of affected products and in its frequency in our dataset. To confirm that our findings are not being driven by any unique aspects of China as an AD target, we conduct a number of additional tests reported in the results section below.

year, as a percent of US gross domestic product.<sup>21</sup> The median observation's country imported about 0.15 percent of US GDP annually. US bilateral exports exceeded 0.5 percent of US GDP at some point for only 3 of the 88 countries in our dataset (Canada, Japan and Mexico). *US Export Dependence* should have a negative association with the filing of AD petitions and affirmative AD decisions.

*Import Price and Volume.* The main statutory criterion affecting antidumping decisions by the US authorities is the price of the imported products under investigation. As we shall see in the regression results below, this indeed proves to be a powerful predictor of antidumping petitions and affirmative decisions. If GATT/WTO members happen to supply higher-priced exports, then they would not be as liable to antidumping actions due to spurious considerations, rather than to the impact of the trade law regime. Hence we construct a variable, *Product Relative Price*, which indexes the per-unit product-specific price of imports from a given supplier, relative to a reference price (the per-unit average price of imports into the US from *all* suppliers of the product in question in that same year).<sup>22</sup> In particular, *Product Relative Price* is the natural log of the supplier's price as a percent of this reference price. Its sample median unsurprisingly corresponds to 102 percent. *Product Relative Price* exhibits only a small correlation (0.13) with *GATT/WTO*, but even this modest association disappears once we take per capita income into account, since rich countries' exports are more expensive, and rich

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<sup>21</sup> It should be obvious that, should the target choose to retaliate, it has the practical freedom to do so on any product, not simply the products the US is considering imposing a duty on. The relevant numerator here, from the state's perspective, is thus total US exports to the target country. Further, note that we could alternatively normalize this measure by US exports to the world, rather than US GDP. The two versions are virtually identical, however, with a 0.89 correlation. Not surprisingly, our findings are the same regardless of which formulation of *US Export Dependence* is used.

<sup>22</sup> We calculated this using raw data, at the appropriate disaggregated product level, from Feenstra, Romalis, and Schott (2002).

countries are more likely to be in the WTO.<sup>23</sup> We include *Product Relative Price* in both equations in the analysis. However, to head off any later misinterpretations of our findings about GATT/WTO, we also wish to emphasize this critical point: GATT/WTO members' exports of the products named in US antidumping petitions are *not* more expensive than comparable exports from countries not in GATT/WTO. So far as assessments of dumping are based on the market price of the product in question—which they must be, as noted earlier, since the calculations of fair value have wide latitude to achieve politically desired results—then GATT/WTO members by this measure dump no less frequently than non-members.

Relatedly, as prior studies demonstrate, AD duties are more likely when the volume of imports in question is larger. Therefore, we include the variable *Log Product Imports*, or US imports of the affected product(s) in the year of the petition, expressed in logged constant 1995 US dollars. For the purposes of explaining which countries get named in the petition, this variable counts all products ultimately addressed in any of the investigations resulting from that petition. For our analysis of the outcomes of cases once filed, *Log Product Imports* counts only those particular products named in the investigation against the specific target country. There is little difference, in practice, however. The average investigation concerned \$175 million (1995 prices) of annual imports, though that figure varies widely depending on the product at issue.

*Other Controls.* Several other attributes of a potential case are also important. Our analysis takes account of the overall amount of US imports from the potential target country in the year of the petition, as a percentage of US GDP, in the variable *US Import Penetration*. This has little bearing on the legal features of US antidumping proceedings. However, high levels of imports may make *any* US protectionist pressures against the source country more politically

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<sup>23</sup> An ordinary regression of *Product Relative Price* on *GATT/WTO* and *Log Per Capita Income*, for our 3460 observations, yields a coefficient on *GATT/WTO* of 0.074, with a two-tailed *p*-value greater than 0.10.

salient in that year, regardless of the value of imports of the product in question (e.g., Irwin 2005, 9-10). Total imports from the potentially targeted country are just over one-fifth of a percent of US GDP in the median observation.

The DOC designates certain countries as “Non-Market Economies” (NMEs) for the purposes of its assessment of less-than-normal-value pricing. In such cases, it bases its “normal value” figure on the cost of the relevant factor inputs in market economies of comparable levels of development, which also produce the goods in question. This use of substitute data tends to make the case easier to prove.<sup>24</sup> We accordingly add a dichotomous control variable, *Non-Market Economy*, to flag such country targets.<sup>25</sup> 12 countries are NMEs at some point in our dataset, constituting 4 percent of the control observations and 15 percent of the investigations. It is important to note that the terms of China’s WTO accession agreement allow the US to continue treating it as an NME, for AD purposes, for 15 years afterwards. That means China counts as an NME in all cases and controls in our dataset. If there is any change over time in petitioning and affirmative rates in US AD cases against China, it is not because of a change in its NME status.

Another idiosyncratic, yet widely appreciated, feature of US antidumping politics is that the steel industry files a disproportionately large number of cases. We use Standard Industrial Classification (revision 3, 1987) code 3312 to mark the steel observations (constituting our dichotomous variable *Steel*), which make up 31 percent of our dataset as a whole, and 36 percent of the investigations themselves.

We also control for the logged per capita real GDP of the potential target country, in *Log Per Capita Income*. This variable speaks to the competitive threat posed to import-competing

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<sup>24</sup> As one observer put it, in such cases, with respect to the DOC’s estimate of the dumping margin, “Basically, you can come up with any dang number you want to” (*Washington Post*, 13 July 2003, F1).

<sup>25</sup> We thank Tim Truman of the US International Trade Administration for these data.

US firms from labor- (rather than capital-) abundant countries (i.e., those with low per capita incomes). If this simple extrapolation from the Heckscher-Ohlin trade model is correct, then higher per capita income should decrease the probability of US AD duties.

Our analysis controls for four variables capturing the closeness of the US foreign policy relationship with the potential target country. It is possible that government responsiveness to petitions would be lower if the US were concurrently seeking to support or avoid alienating foreign governments deemed important for national security reasons. The reinstatement of US nonreciprocal trade preferences for Pakistani exports at the time of the invasion of Afghanistan illustrates this potential dynamic. In any case, we simply wish to control for this possibility. We do so using dichotomous variables flagging countries fighting alongside the US in an armed conflict (*Conflict Coalition Member*, 1 in 7 % of the observations), countries in a formal alliance with the US (*Ally*, 1 in 70 %), and countries with whom the US maintains a free trade agreement (*PTA*, 1 in 6 %), all measured in the year of the petition. We also add the Polity IV score measuring how democratic the target country is in that year, to ensure that any GATT/WTO effect is not merely an artifact of the prevalence of democracies in its membership.<sup>26</sup>

Finally, we include a variable, *GSP Fraction*, which measures the proportion of the potential target's total exports to the United States that fell under the Generalized System of Preferences (GSP) program. Imports through GSP face zero tariffs, in contrast to the typical nonzero rates faced by non-GSP suppliers. As Özden and Reinhardt (2005) have argued, however, GSP benefits lie outside of the GATT/WTO regime and can be (and have often been) unilaterally removed by the US. Hence, the more a country's exports depend on GSP benefits, the more vulnerable it is to any (never explicit) threat to remove those benefits. It is thus

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<sup>26</sup> Sources: PRIO's Armed Conflict Dataset, version 3.0 (Gleditsch et al. 2002); Mansfield and Reinhardt (2003); Jagers and Gurr (1995).

possible—though the issue has never before been tested—that GSP-dependent countries would be more reluctant to retaliate against any single AD action by the US, in the form of either unilateral measures or use of GATT/WTO dispute settlement. US firms and US authorities may consequently be less deterred from initiating AD actions against targets whose exports are more vulnerable to the removal of GSP benefits.

*Identification of Petition Equation.* The variables that shape the final decision by US authorities on antidumping investigations should similarly figure, by anticipation, in decisions by US industry associations about which suppliers to name in the petition to begin with. However, the logic of such industry decisions is shaped by other considerations as well, which do not bear on the goals of the US antidumping authorities. To this end, we construct the variable, *Log US Product Export Share*, which is based on the value of US exports to the potential target country, as a percent of US exports to the world, all in terms of just the specific product(s) in question. (Specifically, the variable, as measured, is the natural log of one plus that percentage, to deal with the multiple cases with zero exports.) It answers the question: how dependent are the exports of the specific petitioning US industry to retaliation from the potential target state's market? The fear of potential retaliation on the part of the US government, however, must necessarily take all industries into account, not just the petitioning firm(s); this motivation is captured in the variable mentioned earlier, *US Export Dependence*. Hence we include *Log US Product Export Share* in just the *Petition* equation below, not the *Affirmative* equation as well.

## The Statistical Model

We jointly estimate two equations, one for each of our dichotomous dependent variables, *Petition* and *Affirmative*, using a Heckman-like probit selection model. The model corrects for the failure to observe values of *Affirmative* in the unfiled observations. The equations are:

$$\Pr(\textit{Petition}_i = 1) = F \left( \begin{array}{l} \beta_{P_0} + \beta_{P_1} (\textit{GATT / WTO}_i) + \beta_{P_2} (\textit{US Export Dependence}_i) \\ + \beta_{P_3} (\textit{Log US Product Export Share}_i) + \kappa_i \lambda_P + e_i \end{array} \right)$$

and

$$\Pr(\textit{Affirmative}_i = 1) = F \left( \beta_{A_0} + \beta_{A_1} (\textit{GATT / WTO}_i) + \beta_{A_2} (\textit{US Export Dependence}_i) + \kappa_i \lambda_A + u_i \right)$$

where  $\kappa_i$  is a vector of the all the above control variables for observation  $i$ ;  $\lambda_A$  and  $\lambda_P$  are vectors of equation-specific coefficients for those variables; and  $F$  is the standard normal cumulative density function. The estimation allows  $\rho = \textit{Corr}(e_i, u_i) \neq 0$ . Note that the *Petition* equation is identified to the extent that, as previous research strongly indicates, *Log US Product Export Share* is a powerful predictor of petitioning behavior.

## V. Results

Before turning to the multivariate analysis, consider Figure 1, which displays the average petition and affirmative decision rates for all observations and all filed cases, respectively, broken down by the target country's GATT/WTO membership status. It shows that GATT/WTO members have a much more favorable experience in both domains. Only 25 percent of GATT/WTO members supplying sufficiently large amounts of the product in question are ultimately named in the petition, whereas 41 percent of non-members are named.

Antidumping duties are imposed in only 42 percent of the cases against GATT/WTO members, but they are imposed in 56 percent of the cases against non-members.<sup>27</sup>

The case of China is especially telling. China is second only to Japan in the number of AD cases investigated in our dataset (92). From 2003 through 2006, China accounted for more new US AD duty orders (22, or 39 percent of the total) than any other country.<sup>28</sup> However, it is an appealing case because it acceded to the WTO in 2001. 68 percent (of 76) of our sample's AD investigations initiated prior to 2001 against China ended affirmatively in duties, but only 50 percent (of 18) initiated from 2001 through 2003 ended similarly. This is despite the fact that the flood of imports into the US from China in recent years<sup>29</sup> has made it the most salient target for US firms seeking import relief, and the hands-down favorite "unfair trade" target for members of the US Congress. Certainly the shift is not due to any other obvious factor: recall that the US treatment of China as a non-market economy, for the purposes of less-than-normal-market-value calculations, remains constant in this period. And in the AD investigations against China, the average affected imports are literally 6 times larger (in real terms) in the WTO period than before, so these are not merely "easy" negative cases. Rather, it appears that China's WTO membership has indeed helped shield it from what would have been much more extreme antidumping protectionism by the US in the past few years, given the massive increase in imports from China since its accession to the WTO.

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<sup>27</sup> These differences are both significant at  $p < 0.01$  in chi-squared tests.

<sup>28</sup> Source: [www.usitc.gov](http://www.usitc.gov).

<sup>29</sup> From 1997 to 2007, goods imports from China into the US grew by 303 percent in real terms, more than *twice* the rate of any other major supplier ([dataweb.usitc.gov](http://dataweb.usitc.gov)). Judging by the pattern of trade alone, then, China should account for a far greater share of US AD activity than it actually *does* at present.

## *Multivariate Analysis*

Table 2 shows the results of our regression analysis. The model fit is fine. The fact that the correlation of errors across the two equations,  $\rho$ , is significantly different from zero reaffirms our decision to estimate the two equations jointly. Estimating the equations separately would thus yield selection bias, concealing the GATT/WTO's true effect. Diagnostics reveal relatively high bivariate correlations among several variables, but most exhibit small-to-moderate correlations.<sup>30</sup> This complication only makes our positive inferences all the more conservative. We report heteroskedasticity-consistent standard errors.<sup>31</sup>

The results forcefully uphold our hypotheses. The coefficient of *GATT/WTO* is negative and statistically significant at (two-tailed)  $p < 0.002$  in the selection equation and  $p < 0.02$  in the outcome equation. In short, the legal regime deters US AD petitions and duties. This effect does not derive from the country's retaliatory market power, but from the rule of law itself. That is not to say that market power is irrelevant. Indeed, in the *Petition* equation, the industry's dependence on the potential target country for its export revenues, *Log US Product Export Share*, has a strong and statistically significant negative impact on the odds the industry will name the country in its petition.<sup>32</sup> The US economy's overall dependence on exports to the potential target country, *US Export Dependence*, likewise has a statistically significant and negative effect on the probability of a positive AD decision, and, by anticipation, of investigations in the first place. But these effects apply regardless of the country's membership

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<sup>30</sup> For example, *US Import Penetration* and *US Export Dependence* are correlated at 0.92; but *GATT/WTO* is correlated with *Non-Market Economy* and *Democracy* at only -0.45 and 0.52, respectively; likewise, *Log Income* scores at -0.53 and 0.65 with *Non-Market Economy* and *Democracy* ( $N=3460$ ); *PTA* is correlated at 0.61 with *US Export Dependence*; the other correlations are notably lower.

<sup>31</sup> Results are the same if we cluster the SEs by petition.

<sup>32</sup> This result is convenient, in that it speaks to the adequacy of identification in the selection model.

in the trade regime: as the results show, *GATT/WTO* tangibly benefits even those countries that have little—if any—market power.

Our confidence in the results is greater because the effects of the control variables accord with intuition as well. Not surprisingly, the greater the relative price of imports of the disputed product from the potential target (*Product Relative Price*), the lower the chance of an investigation or an imposed duty. For an otherwise average case, discounting the product from 100 down to just 50 percent of the world reference price would increase the odds both of being investigated, and of a duty, by 18 percent. Similarly, the larger the volume of bilateral imports—of the affected product(s), in particular (*Log Product Imports*), and of all goods (*US Import Penetration*)—the greater the chances of an investigation and a positive AD duty order. Both have a sizable substantive impact: for example, moving *Log Product Imports* from its sample minimum to its maximum value, with other variables at their means, increases the predicted probability that *Petition* equals one from 0.07 to 0.49. Potential cases involving the steel industry are significantly more likely to be petitioned, and non-market economies bear a disproportionate brunt of investigations and imposed duties as well. And, for a given level of threat to US producers, wealthy countries are less likely to be named in a petition and to be the subject of an AD order, if investigated. It is, however, somewhat unexpected that allies and democracies, *ceteris paribus*, are more frequently named in petitions.<sup>33</sup> Finally, countries with a greater share of their exports to the US falling under the GSP program do, indeed, pose a weaker deterrent threat to US antidumping actions: they are named more often in petitions, with some suggestion that more duties are imposed on them as well.

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<sup>33</sup> The logged value of that year's total US foreign aid to the potential target country, in constant 1995 dollars (USAID 2003), is not significant if added to both equations (and does not alter our main results).

Having established the correspondence of the model's results with intuition, we can turn back to the substantive impact of GATT/WTO membership. Consider a country that supplies more than a *de minimis* (3%) import share of a product to the US. Now assume that the US industry is filing an antidumping petition against a firm in at least one country on that product. For an otherwise-average supplier country *not* in the WTO, the probability of being named in the petition is 0.31 [0.27, 0.36]. If that country *were*, however, in the WTO, it would have only a 0.24 [0.23, 0.25] probability of being included in the investigation. This is a 23 [17, 29] percent reduction in the odds of being named in the petition.

What about the impact on the imposition of AD duties? The country in question, if not in the WTO, faces a 0.19 [0.14, 0.23] probability of duties being imposed, which shrinks to 0.13 [0.12, 0.15] if it *is* in the WTO. That is, WTO membership reduces the probability of an AD duty by 29 [19, 37] percent for the average (non-*de minimis*) supplier.

The estimates allow us to make some counterfactual comparisons about the impact of WTO membership. Recall that the sheer volume of imports of the product is a major determinant of US antidumping actions. The average country in the sample supplies the US with \$175 million of annual imports of the named product(s). If that average country were not in the WTO, it would have a 40 percent chance of being investigated and a 24 percent chance of having AD duties imposed. Now imagine this country joins the WTO, which lowers its odds of facing AD actions by the US. How much would its exports to the US of that product have to increase to make its prospects of facing AD actions the same as before it acceded to the WTO? Judging by the estimates from Model 1, its exports of that product would have to grow by a factor of 10 (or 16) for it to have the same odds of being investigated (or having duties imposed on it).

Now, for a final counterfactual comparison. How many additional AD investigations might the US have conducted if *no* country had been a member of GATT or WTO in this period? We can generate predictions by zeroing out *GATT/WTO* and leaving the other variables at their observed sample values. There are 3460 potential investigations in our sample; of these, 921 were actually initiated. The model predicts that 207 [190, 222] *more* of these would have been investigated were it not for the global trade regime. Since, as is widely recognized, the AD investigation itself, as apart from any resulting duty order, has significant trade and welfare costs, this is indeed a sizable effect. Continuing with this counterfactual, however, 413 of the 921 observed investigations ended with duties being imposed. Had there been no GATT/WTO in this sample period, the estimates imply that an additional 143 [118, 167] affirmative decisions would have been made. Given the economic scope of the average case, affecting \$175 million of annual imports, that adds up to a hefty \$25 billion of *annual* export revenue for US trading partners. This, we submit, is a substantial savings underwritten by the trade regime.

### *Sensitivity Tests*

Our results are robust to a wide variety of statistical challenges. The signs, statistical significance, and net substantive impact of *GATT/WTO* remain the same in both equations if we add: (1) a dummy for China or for EC members<sup>34</sup>; (2) dichotomous variables denoting that the target has conducted an AD investigation of its own in the past 5 years (against any target) and that it has an AD measure in force against the US that same year<sup>35</sup>; or (3) the US growth and

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<sup>34</sup> Moreover, neither dummy proves to be statistically significant in either equation. On this basis, together with the fact that we have already controlled for NME status, relative price, and the sheer volume of imports of affected products, which also distinguish China from most WTO members, we can refute the objection that China drives our findings. It is not distinctive in any way, beyond the variables already controlled for in our multivariate analysis.

<sup>35</sup> Source: Zanardi (2004); Congressional Budget Office (2001, 116-125).

unemployment rate, as well as dummy variables flagging US congressional and presidential election years and the party of the president.

The findings are likewise robust to alternative formulations of the dependent variable, such as coding late withdrawn cases or even all withdrawn/suspended/terminated cases as *Affirmative* = 1.<sup>36</sup> What is more, if we substitute the AD duty ordered (which averages 50 percent when imposed) in place of our dichotomous variable *Affirmative* and re-estimate the model using Heckman's two-step procedure, we get virtually identical results. Indeed, GATT/WTO membership cuts the expected ad valorem duty by 34 [3, 65] points. The trade regime therefore reduces the *level of duty imposed* just as it decreases the probability of an AD action.

One question concerns the potential difference between the GATT and WTO regimes. If we break *GATT/WTO* into two separate variables, each with its own interaction with *US Export Dependence*, tests of equality of each pair of coefficients fail to reject the null, in both the *Petition* and *Affirmative* equations (with  $p=0.46$  and  $p=0.13$ , respectively). Consequently, there is no statistically discernible difference between GATT's and the WTO's ability to deter US AD investigations and duty orders. This fits with prior observations and evidence about the relative vitality of the widely-underappreciated GATT dispute settlement system (e.g., Busch and Reinhardt 2003b; Hudec 1999).

#### *Conditional Impact of GATT/WTO Regime*

We have not yet addressed one important alternative interpretation of the results. Namely, a number of prominent studies have argued that the benefits of the trade regime apply

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<sup>36</sup> If we run the model with a broader sample including all suppliers of the petitioned products, not just those above the three percent cutoff, the results are virtually identical as well.

only to the great powers or to countries with the most market power. For instance, according to Bagwell and Staiger (2002), the regime serves to facilitate reciprocal arrangements to reduce terms-of-trade externalities, but only for countries whose policies can affect the terms of trade. Along these lines, Bagwell and Staiger (2006) provide (indirect) evidence that only the larger countries are able to win sizable concessions from other members in the multilateral trade rounds. Gowa and Kim (2005) examine the impact of GATT membership on trade flows and find that the regime boosted commerce among pairs of industrialized nations but not for others.

This market power-driven interpretation of the impact of the trade regime is precisely the opposite of what we have argued. The evidence from Model 1 alone cannot falsify this interpretation: hypothetically, the *GATT/WTO* coefficients there (which equal about -0.2) could be a composite of, say, a -0.5 value for large developed economies and 0 for small, poor ones. Thus, to address this alternative interpretation directly, we conduct a follow-up analysis, using Model 2, which is reported in Table 3.

Model 2 uses the same sample, merely adding one new variable to each equation: an interaction term, the product of *GATT/WTO* with our measure of market power, *US Export Dependence*. If the argument implied by Bagwell and Staiger (2002, 2006), Gowa and Kim (2005), or Blonigen and Bown (2003) were correct, then the coefficient of this interaction term would be negative. That would signify that membership in the WTO deters AD actions the *most* when the target's market power is the greatest. The argument of this paper, in contrast, requires that the interaction term's coefficient be non-negative.

There is, however, a complementary theoretical position that might expect a strictly positive value for that coefficient. If Model 2's coefficient for *US Export Dependence* were negative and its coefficient for *GATT/WTO*  $\times$  *US Export Dependence* were positive, that would

mean the trade regime *weakens* the deterrent impact of market power, leveling the playing field between the mighty and weak. How could the system have this particular effect? In a world without the WTO, countries with significant market power would be accustomed to threatening or actually implementing unilateral protectionist retaliation to counter their partners' contemplated antidumping actions. In contrast, the WTO limits unilateralism (Sykes 2001, Rosendorff 2005), and thus potentially undermines the ability of powerful states to effectively deter AD actions by its trade partners. The WTO may prevent members from imposing unjustified protection, but it also may protect members from vigilante justice when they exercise their rights to use allowable forms of trade protection.

We test these competing perspectives. The results, reported in Table 3, unambiguously reject the realist interpretation of Model 1's findings. Specifically, the coefficient estimate of  $GATT/WTO \times US\ Export\ Dependence$  is *not* less than zero in the *Petition* and *Affirmative* equations. Indeed, these two estimates are both *positive*, so much so that we can reject the null that it equals zero in the *Petition* equation with two-tailed  $p < 0.001$ . (The test yields  $p = 0.14$  in the *Affirmative* equation.) In Model 2, the net coefficient of *US Export Dependence* for a WTO member is -0.57 (SE = 0.17) for petitioning, and -0.83 (SE = 0.21) for final duty decisions. These are considerably attenuated from the corresponding values of -2.47 and -2.27 for non-members. Countries in a position to be targeted by US AD actions get less bang for their buck out of their market power, in terms of deterring those AD actions, if they are in the WTO than if they are not. The flip side of this, given the more extreme and negative coefficient estimate for *GATT/WTO* in both of Model 2's equations, is that countries that totally *lack* market power are considerably more insulated from US AD actions than they otherwise would be. If we express the impact of the target's market power on the probability of US AD measures as a steep and

negatively-sloped line, that line's slope flattens and gets closer to zero for countries that have recourse to the protections of the trade regime.

We thus conclude that the rules-oriented interpretation of our main findings in Model 1 is the appropriate one. The WTO provides a shield against adverse protectionist measures by one's trade partners, and, if anything, the shield works better, not worse, for countries lacking a credible capacity to retaliate on their own.

## **VI. Discussion and Implications**

This paper weighs in on the debate between the power- and rules-oriented perspectives on international law. It asks whether a country's membership in the GATT/WTO deters US AD investigations and duty orders against it. Our results clearly show that it does, strongly endorsing the rules-oriented perspective.

How generalizable are our findings? By far the world's biggest importer, the US has more market leverage over its partners than any other country. If a potential case fails to be investigated, or fails to end in duties, it is not because the US is inclined to "go easy" on selected friends or strategic partners. After all, this paper controls for a wide variety of such factors,<sup>37</sup> which turn out to be either irrelevant, or counterproductive, in deterring US AD duties. Our findings should thus be highly generalizable, for if the legal regime deters US antidumping actions, it should deter those of other countries as well. In fact, our findings accord nicely with those reported in Francois and Niels (2004) on Mexican AD decisions.

This study makes three main contributions. First, the paper provides one of the only direct empirical tests of the *deterrent* effect of international law by itself, as apart from state

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<sup>37</sup> Recall that these included alliance status, participation alongside US in an ongoing armed conflict, democracy level, partnership with the US in a free trade agreement, and (c.f. note 29) US foreign military and economic aid.

power. Prior studies attempting to associate regime membership with compliance have often confronted vexing concerns about selection bias. For instance, in asking whether WTO members maintain lower average trade barriers than non-members, Rose (2004) is not able to make any direct observation of the reference point, the essential variation across countries in the initial frequency and intensity of protectionist temptations. In light of this concern, Hudec (1993, 359) long ago concluded that “One can never really *prove* that an international legal institution has made a difference.” Scholars of international institutions have been forced to seek only indirect, not direct, evidence about the central question in the field: what difference do institutions make?

This paper’s test, we argue, unequivocally resolves this analytical quandary. In contrast to most of the existing literature, we directly observe micro-level “non-cases” as well as “cases” in which a state, and import-competing firms beforehand, considers whether to introduce new protectionist measures. In fact, we take that selection process back one additional step to the articulation of protectionist demands by import-competing industry groups. The upshot is that the shadow of the law weighs heavily on governments and industry groups as they contemplate new protectionist measures, just as previous studies show that it does once those measures are later brought to court (e.g., Reinhardt 2001; Busch and Reinhardt 2003a).

Second, the paper’s findings address the debate over the influence of the GATT/WTO on trade. Rose (2003, 2004) sparked this debate with some provocative evidence showing that the multilateral system is not associated with greater trade flows or freer trade policies among members. Other studies have produced the opposite finding (Tomz, Goldstein, and Rivers 2007). No entry in this debate, however, has examined the kind of micro-level decisions over trade protection that this paper brings to bear. With such data we are able to endogenize the demand for protection in the first place, and we find a substantively strong deterrent effect of the

legal regime on protection among its members. Our results thus further challenge Rose's negative conclusions about the WTO.

Third, the paper shows, most importantly, that international law can be especially valuable to those states lacking the capacity to retaliate. In other words, far from being a guise for the most powerful to get what they can, international law actually helps level the playing field for states less capable of throwing their weight around in the global economy. One implication is that, to make the most of the trade regime's deterrent value, developing countries, in particular, need to invest more in legal capacity. An emerging body of research shows that legal capacity is a prerequisite to utilizing the WTO's dispute settlement process (Busch and Reinhardt 2003a; Busch, Reinhardt, and Shaffer 2007), which, along with the codification of AD rules and procedures, is the key to our argument. Inequities in the distribution of legal capacity, which plague domestic legal systems too (Galanter 1974), have drawn considerable interest on the part of WTO members, many of whom have put up funding to redress the problem. Our results suggest that these investments are likely to pay substantial dividends, not just in terms of helping developing countries follow through on litigation, but in deterring protectionism in the first place.

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Table 1: Descriptive Statistics

Variable	Cases ( $N = 921$ )					Controls ( $N = 2539$ )					Entire Sample ( $N = 3460$ )				
	Mean	SD	Min	Max		Mean	SD	Min	Max		Mean	SD	Min	Max	
Petition	1	0	1	1		0	0	0	0		0.266	0.442	0	1	
Affirmative	0.448	0.498	0	1		—	—	—	—		—	—	—	—	
GATT/WTO	0.808	0.394	0	1		0.899	0.301	0	1		0.875	0.331	0	1	
US Export Dependence	0.261	0.320	0	1.808		0.308	0.396	0	1.808		0.295	0.378	0	1.808	
GATT/WTO× US Export Dependence	0.238	0.332	0	1.808		0.291	0.404	0	1.808		0.277	0.387	0	1.808	
GSP Fraction	0.053	0.097	0	0.833		0.045	0.088	0	0.833		0.047	0.091	0	0.833	
Non-Market Economy	0.152	0.359	0	1		0.043	0.204	0	1		0.072	0.259	0	1	
PTA	0.037	0.189	0	1		0.072	0.258	0	1		0.062	0.242	0	1	
Conflict Coalition Member	0.046	0.209	0	1		0.062	0.241	0	1		0.058	0.233	0	1	
Democracy	5.530	6.361	-10	10		6.798	5.471	-10	10		6.460	5.748	-10	10	
Ally	0.655	0.476	0	1		0.714	0.452	0	1		0.698	0.459	0	1	
Log Per Capita Income	8.751	1.331	5.586	10.650		9.158	1.081	4.167	10.684		9.050	1.167	4.167	10.684	
US Import Penetration	0.437	0.527	0	2.335		0.438	0.556	0	2.335		0.438	0.548	0	2.335	
Product Relative Price	4.565	0.566	1.080	11.391		4.888	0.932	-0.763	13.751		4.802	0.862	-0.763	13.751	
Log Product Imports	16.599	2.048	6.322	23.883		15.974	2.141	7.752	23.834		16.148	2.130	6.322	23.883	
Log US Product Export Share	0.404	0.805	0	4.239		0.509	0.971	0	4.462		0.481	0.931	0	4.462	
Steel	0.357	0.479	0	1		0.289	0.453	0	1		0.307	0.461	0	1	

Table 2: Probit Selection Model of US Antidumping Petitions and Decisions, 1978-2001

Dependent Variable:	Petition		Affirmative	
	Coeff.	SE	Coeff.	SE
Constant	-0.269	(0.309)	-0.663	(0.432)
GATT/WTO	-0.218**	(0.067)	-0.226*	(0.092)
US Export Dependence	-0.565**	(0.174)	-0.829**	(0.215)
US Import Penetration	0.418**	(0.093)	0.734**	(0.119)
GSP Fraction	0.483*	(0.246)	0.626	(0.351)
Non-Market Economy	0.575**	(0.087)	0.485**	(0.126)
Log Per Capita Income	-0.095**	(0.026)	-0.127**	(0.037)
PTA	-0.177	(0.136)	-0.234	(0.190)
Conflict Coalition Member	-0.111	(0.096)	-0.277	(0.149)
Democracy	0.021**	(0.005)	0.014*	(0.007)
Ally	0.136*	(0.055)	0.123	(0.081)
Product Relative Price	-0.247**	(0.037)	-0.187**	(0.052)
Log Product Imports	0.094**	(0.011)	0.082**	(0.014)
Log US Product Export Share	-0.054*	(0.025)	—	—
Steel	0.107*	(0.042)	0.091	(0.063)
<i>N</i>	3,460		921	
Model $\chi^2$	235.89** (13 d.o.f.)			
Error Correlation, $\rho$	0.954** (0.061)			

Notes: \* denotes two-tailed  $p < 0.05$ ; \*\*  $p < 0.01$ . Robust standard errors in parentheses.

Table 3: Probit Selection Model of US Antidumping Petitions and Decisions, 1978-2001, with Interaction between Potential Target's Market Power and GATT/WTO Membership

Dependent Variable:	Petition		Affirmative	
	Coeff.	SE	Coeff.	SE
Constant	0.027	(0.318)	-0.447	(0.453)
GATT/WTO	-0.507**	(0.100)	-0.440**	(0.151)
GATT/WTO × US Export Dependence	1.901**	(0.566)	1.440	(0.976)
US Export Dependence	-2.466**	(0.592)	-2.271*	(1.010)
US Import Penetration	0.427**	(0.092)	0.743**	(0.119)
GSP Fraction	0.417	(0.246)	0.569	(0.355)
Non-Market Economy	0.597**	(0.091)	0.402**	(0.131)
Log Per Capita Income	-0.089**	(0.027)	-0.123**	(0.037)
PTA	-0.190	(0.137)	-0.241	(0.190)
Conflict Coalition Member	-0.116	(0.096)	-0.280	(0.149)
Democracy	0.018**	(0.005)	0.011	(0.007)
Ally	0.128*	(0.055)	0.113	(0.080)
Product Relative Price	-0.249**	(0.037)	-0.189**	(0.052)
Log Product Imports	0.092**	(0.010)	0.081**	(0.014)
Log US Product Export Share	-0.051*	(0.025)	—	—
Steel	0.112**	(0.042)	0.094	(0.063)
<i>N</i>	3,460		921	
Model $\chi^2$	238.86** (14 d.o.f.)			
Error Correlation, $\rho$	0.954** (0.061)			

Notes: \* denotes two-tailed  $p < 0.05$ ; \*\*  $p < 0.01$ . Robust standard errors in parentheses.

Figure 1. Proportion of Eligible Countries Named in a Petition and Proportion of Cases Ending in Affirmative Decision, by GATT/WTO Status, 1978-2001

