

Participation in WTO Dispute Settlement: Complainants, Interested Parties, and Free Riders

Chad P. Bown

What affects a country's decision of whether to formally engage in a trade dispute directly related to its exporting interests? This article empirically examines determinants of affected country participation decisions in formal trade litigation arising under the World Trade Organization (wto) between 1995 and 2000. It investigates determinants of nonparticipation and examines whether the incentives generated by the system's rules and procedures discourage active engagement in dispute settlement by developing country members in particular. Though the size of exports at stake is found to be an important economic determinant affecting the decision to participate in challenges to a wto-inconsistent policy, the evidence also shows that measures of a country's retaliatory and legal capacity as well as its international political economy relationships matter. These results are consistent with the hypothesis of an implicit "institutional bias" generated by the system's rules and incentives that particularly affects developing economy participation in dispute settlement.

The basic rules and procedures of dispute settlement under the World Trade Organization (wto) are the same for all member countries. Nevertheless, there is substantial concern that the trading interests of certain types of members, such as small or developing economies, may be underrepresented in dispute settlement activity. A bias in participation activity may stem from the current system of self-representation requiring that countries have sufficient resources to both monitor and recognize relevant wto violations and to fund legal proceedings in cases in which their rights have been violated. Furthermore, the self-enforcing nature of the system requires that complainant countries have the retaliatory capacity to threaten

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to impose economic costs on respondents that fail to comply with WTO panel rulings. Dispute settlement activity may also be skewed against confrontation of trading partners with which a country has a special political relationship—either through reliance on a foreign government for development assistance or through membership in a common preferential trade agreement.

If these and other incentives affect litigation behavior, poor or powerless countries may not participate in dispute settlement activities critically important to their trading interests.¹ Thus, although all WTO members have equal access to the system in principle, use of the dispute settlement provisions may reflect an institutional bias—that is, that poor or powerless members do not participate because of the incentives generated by WTO rules and procedures. This article empirically investigates whether such determinants affect participation in the formal WTO dispute settlement process.

Economic research by Horn and others (2005) has begun to empirically investigate this question by assessing the biases associated with the initiation of disputes under the WTO. Their analysis compares the actual number and composition of complaints initiated in 1995–98 with a probabilistic model's predictions of the number and composition of complaints. They find that economic measures, such as the value of trade and the diversity of a country's trading partners, explain the pattern of actual dispute initiation fairly well. For example, they find that even though Canada, the European Union, Japan, and the United States initiated more than 60 percent of all complaints over the period, these two factors naturally led them to initiate more formal trade disputes than did other WTO members. Their preliminary conclusion is thus that “power” measures do not seem to matter, and they do not find evidence of institutional bias associated with dispute initiation. Although countries that engage in more trade with a wider array of partners are expected to be more involved in formal dispute settlement activity, their approach also assumes that WTO-inconsistent activity is randomly and uniformly distributed across markets, products, and trading partners. This last assumption in particular may be called into question given the subsequent results of Blonigen and Bown (2003) and Bown (2004b), which suggest that bilaterally powerless countries that do not have the capacity to retaliate are more likely than other countries to be the target of certain types of activity that are inconsistent with General Agreement on Tariffs and Trade (GATT) or WTO rules.²

1. Hoekman and Mavroidis (2000) provide a thorough discussion of these and other informational issues that are likely to increase the likelihood of nonparticipation by developing economies in particular.

2. Blonigen and Bown (2003) empirically investigated U.S. antidumping petitions between 1980 and 1998 and found that petitions are more likely to result in duties against countries that lack retaliatory capacity. This is consistent with the hypothesis that bilaterally powerless countries are more likely to be targeted by GATT/WTO-inconsistent antidumping measures unless powerless exporters were, on average, more likely to face GATT/WTO-consistent than GATT/WTO-inconsistent antidumping measures, which is unlikely. Second, Bown (2004b) examined a sample of GATT trade dispute data for 1973–94 and found that countries tend to implement GATT-inconsistent import protection leading to a trade dispute, as opposed to GATT-consistent safeguards protection, when the trading partner affected by the protection is bilaterally powerless.

Any attempt to estimate the bias associated with the initiation of disputes is subject to data constraints. There is no obvious source for comprehensive information on government policies that are WTO-inconsistent and yet have not been formally confronted through the initiation of a trade dispute.³ To get around this data problem, the focus is on the pattern of participation in disputes that have already been initiated instead of attempting to examine whether there is a bias in the initiation of disputes. Previously unexploited information on the participation and nonparticipation of potential litigants adversely affected by member-implemented, WTO-inconsistent policies is used. The data are derived from initiated disputes and the observation that in many disputes the respondent's WTO-inconsistent policy may have been imposed on a quasi-most favored nation (MFN) basis that negatively affected the exports of multiple member countries, any number of which could have formally participated in the dispute. In addition to the initiating complainant, many negatively affected exporting countries also participate in disputes, either as a co-complainant or as an interested third party, which is permitted by Article 10 of the Dispute Settlement Understanding. Nevertheless, dozens of affected exporting countries do not formally participate, even though they have a right to do so and an economic interest in the dispute's outcome.

More formally, the investigation covers a set of WTO trade disputes from 1995–2000 that involve respondents' WTO-inconsistent policies being implemented on a quasi-MFN basis. Such policies negatively affect the exports of multiple WTO members, thus establishing a set of potential litigants. An expected cost-benefit framework is then developed to guide an empirical examination of determinants of potential litigants' decision to formally participate in the disputes. Presuming that formal participation occurs when the expected benefits are greater than the expected costs, the investigation looks at whether the expected benefits include increased market access in the disputed sector and the increased probability of an economically successful dispute outcome that may be tied to credible retaliatory threats. Also examined is whether the expected costs to formal participation include either a country's capacity to afford the substantial legal costs associated with WTO dispute settlement litigation or the political costs associated with a potential deterioration of international relations when confronting important trading partners. Finally, it is acknowledged that an economically successful resolution to the disputes under investigation involves a respondent country removing a WTO-inconsistent policy on an MFN basis, so that any formal litigants' efforts generate positive externalities.

3. The WTO does not provide exhaustive data on the extent to which member countries violate their obligations, although periodic peer country reviews of trade policies are published under the WTO's "Trade Policy Review Mechanism." Though a potential future source of data, the peer reviews are also nonrandom and sporadic: Canada, the European Union, Japan, and the United States are reviewed every two years, the next 16 largest traders are reviewed every four years, and the remaining members are reviewed only every six years (WTO 2003b).

Such externalities generate an incentive to free ride on the litigation of others, providing a potential explanation for nonparticipation if the investigation finds that exporters do not engage in the dispute settlement process for reasons related to the expected cost-benefit determinants.

To clarify this approach, it is useful to consider a typical dispute under examination in the sample, such as *United States—Safeguard on Circular Welded Pipe from Korea* (DS202), which concerns a respondent having implemented a relatively nondiscriminatory (called quasi-MFN here) but WTO-inconsistent safeguard policy.⁴ Because the U.S. safeguard was applied on a quasi-MFN basis adversely affecting the exports from multiple WTO member countries, a completely successful economic resolution to this dispute would involve the United States eliminating the trade barrier, liberalizing imports of pipe from the Korean complainant, and extending that liberalization to exporters of pipe from other source countries on an MFN basis. In this instance, other exporting countries that were adversely affected by the U.S. safeguard did formally participate in the dispute. The European Union and Japan, for example, exercised their rights to intervene as interested third parties in the dispute.⁵ But other adversely affected exporting countries, such as South Africa, Turkey, and Venezuela, did not formally participate in the dispute. Undoubtedly they hoped to free ride and enjoy the market access benefits generated by the formal litigants' efforts to liberalize the safeguard-protected market on an MFN basis, as WTO rules require. But it is possible that other elements of the dispute resolution process generate incentives that also affected the nonparticipation decision (for example, lack of sufficient retaliatory or legal capacity, political relationships). The purpose of this article is to investigate econometrically whether such political economy determinants can be used to explain why some trading partners (for example, the European Union, Japan, and the Republic of Korea) formally participate in such disputes, whereas other adversely affected potential litigants (for example, South Africa, Turkey, and Venezuela) do not.

Why is understanding determinants of dispute settlement nonparticipation important? Although lessons from the *United States—Safeguard on Circular Welded Pipe from Korea* dispute are anecdotal and dispute outcomes are not under investigation here, the dispute's resolution nevertheless raises some relevant concerns about the implications of the current process. In this particular instance any nonparticipant's hopes of free riding on the complainant's litigation efforts

4. One critical element for the WTO inconsistency of this particular safeguard was the U.S. government's failure to attribute injury to imports (Irwin 2003). Nevertheless, the United States did exempt members of the North America Free Trade Agreement (Canada and Mexico) from the safeguard, so the Republic of Korea included discrimination allegations on its list of WTO violations. As discussed in the data section, such exempted countries were eliminated from the set of negatively affected exporters identified in safeguard disputes.

5. The European Union initiated its own dispute over the U.S. pipe safeguard as part of another dispute contesting a U.S. safeguard on steel wire rod (DS214), but it did not follow through as a complainant.

went unmet. Despite almost exhausting the WTO's formal dispute resolution process, the dispute was not resolved by the United States lifting the safeguard. Instead, the negotiated settlement yielded a discriminatory increase in market access benefits to the Republic of Korea alone.⁶ A policy concern raised by this experience is whether the lack of active participation by the other exporting interests contributed at least implicitly to a negotiated settlement that failed to generate positive trade liberalization benefits for the other exporters (spillovers) and instead led to a simple restructuring of the WTO-inconsistent policy into something that was likely even more discriminatory than the initial safeguard.⁷

As a preview to the empirical results, evidence is presented that countries with a substantial economic stake in the litigation (that is, lost market access) are more likely to participate in WTO dispute settlement. However, even after controlling for market access interests, several other political economy factors affect the decision not to litigate. These other factors are of potential concern from the perspective of an open and accessible dispute settlement system. Other things being equal, adversely affected exporters are less likely to participate when they are involved in a preferential trade agreement with the respondent, when they lack the capacity to retaliate against the respondent by withdrawing trade concessions, when they are poor or small, and when they are particularly reliant on the respondent for bilateral assistance. Because these last characteristics are typically associated with developing economies in the WTO membership, these results suggest evidence of an institutional bias affecting active engagement by such countries in the current system.

In addition to complementing the work of Horn and others (2005), this article is part of the growing empirical literature on dispute settlement activity under the WTO and its predecessor, the GATT. Bown (2004a) empirically assesses determinants of successful economic outcomes in GATT/WTO trade disputes, finding substantial evidence that retaliation threats affect the likelihood and size of trade liberalization undertaken by the respondent and weak evidence that

6. Specifically, the quantitative restriction element of the tariff rate quota facing the Republic of Korea under the safeguard was expanded, so that the safeguard tariff applied only to Korean imports of line pipe exceeding 17,500 tons per quarter (USTR 2002). The United States did not increase market access under the tariff rate quota to any of the other adversely affected exporters.

7. The formal third-party participants (the European Union and Japan) also did not enjoy additional benefits from the settlement negotiated between the Republic of Korea and the United States. This is consistent with the empirical results of Bown (2004c), which examined the outcomes of an earlier sample of GATT/WTO disputes and found no evidence that participating as an interested third party made the trade liberalization gains extended by a respondent more multilateral. Though Bown (2004c) did not narrow his focus to examine third-party participation in nondiscrimination violation cases alone, an alternative interpretation to the free riding hypothesis is simply that nonparticipants make a rational choice. Perhaps because they do not have the capacity to threaten retaliation and prevent the discriminatory settlement, the nonparticipants rationally choose not to pay the litigation and political economy costs of participation, under the expectation that they would not have additional benefits extended to them through MFN anyway.

panel rulings of guilty also induce economic compliance.⁸ In the political science literature a series of papers by Busch and Reinhardt (Busch 2000; Busch and Reinhardt 2000; Reinhardt 2001) examined determinants of GATT/WTO litigation decisions related to those under investigation here—such as why some disputes settle early as opposed to being resolved by the third party adjudication available through the panel process (see also Guzman and Simmons 2002). None of these publications focuses on the question of dispute participation, the determinants of such participation, or any potential institutional bias. Furthermore, with the exception of Bown (2004a, 2004c), none of these earlier WTO studies takes advantage of the disaggregated trade data on the actual products under dispute.

Section I discusses the WTO dispute settlement process and the data collection efforts that establish the set of adversely affected exporters whose dispute settlement participation decisions (as potential litigants) are investigated econometrically. Section II provides the empirical investigation, and section III discusses the results. Section IV draws out policy implications and suggests areas of potential future research.

I. WTO DISPUTE SETTLEMENT AND THE TRADE DISPUTE DATA

The increased legalization of the GATT's dispute settlement procedure, culminating in the 1995 establishment of the WTO's Dispute Settlement Understanding, was one of the major achievements of the negotiations under the Uruguay Round (Jackson 1997; Petersmann 1997). The GATT regime's dispute settlement process had several problems. For example, any contracting party, including potential respondents, could veto the initiation of a dispute, the establishment of a panel, or the adoption of a panel report. Furthermore, the dispute settlement process often failed to induce respondents to bring GATT-inconsistent policies into compliance with actual rulings.

The reforms embodied in the Dispute Settlement Understanding addressed many of these shortcomings: it eliminated countries' ability to unilaterally veto the establishment of a dispute settlement panel (Article 6.1), it delineated an explicit time frame for the panel decisions (Article 20), and it established more transparent rules, limits, and access to permissible retaliation (Article 22). At its inception, many scholars argued that the more rules-based dispute settlement system would benefit developing economy members in particular because they lacked the leverage to operate effectively under the old power-based system of the GATT.

Even with the increased legalization of the process, however, power relationships are still an important element of rules enforcement in the WTO system. Affected trading partners may be authorized to retaliate against a member

8. Bown (2002) presents a theoretical approach and Bown (2004b) an empirical one to address the related question of why a respondent country may have implemented a trade policy that was inconsistent with its international obligations and that thus put it in the position of being a respondent in a trade dispute.

country that fails to live up to its obligations by withdrawing concessions “equivalent to the level of the nullification or impairment” suffered by the complainant (Article 22.4). However, many small countries find such authorization to be useless. Their inability to affect world prices implies that any trade retaliation imposes substantial welfare costs on themselves through the standard inefficiencies associated with the imposition of tariff protection.⁹ Furthermore, although some subsidized legal assistance can be accessed by developing economies through the independent Geneva-based Advisory Centre on WTO Law (ACWL),¹⁰ the assistance is limited. Finally, there are no independent prosecutors under the WTO, so that firms in developing economies must be able to recognize that their rights have been violated before they can turn to their governments to pursue their case and even request access to subsidized legal assistance.

The Dispute Resolution Process under the WTO

How does the WTO dispute settlement process operate in practice? If a WTO member discovers its market access rights have been violated by another WTO member, it can initiate a dispute by requesting bilateral consultations under Article 4 of the Dispute Settlement Understanding. If those preliminary discussions fail to resolve the matter, the member can request the establishment of a formal dispute settlement panel under Article 6. Furthermore, any WTO member that has also been negatively affected by the respondent's policy or that has a substantial trading interest in the matter can formally participate in the dispute settlement proceedings as either a co-complainant or as an interested third party. With respect to multiple complainants Article 9.1 states that “where more than one Member requests the establishment of a panel related to the same matter, a single panel may be established to examine these complaints.” Furthermore, with respect to third party interests, Article 10.2 states, “Any [WTO] member having a substantial interest in a matter before a panel and having notified its interest to the DSB [Dispute Settlement Body] (referred to in this Understanding as a “third party”) shall have an opportunity to be heard by the panel and to make written submissions to the panel. These submissions shall also be given to the parties to the dispute and shall be reflected in the panel report.”

A final question for the dispute settlement process that could affect the data collection approach here is whether there are restrictions on who is eligible to initiate a dispute as a potential complainant. For example, are complainants limited to large suppliers of the products over which trade restrictions have been

9. Bown (2002) presents a theoretical model showing how a complainant's ability to affect the terms of trade influences the outcome it receives in dispute settlement negotiations, even in disputes that do not end in retaliation.

10. The mission of the Advisory Centre on WTO Law is to “provide legal counseling on WTO law matters to developing-country and economy-in-transition members of the Centre and all least developed countries free of charge up to a maximum of hours to be determined by the Management Board” (see the ACWL Web site, www.acwl.ch).

imposed? Article 3.7 suggests that a member should initiate a dispute only after exercising “its judgment as to whether action under these procedures would be fruitful,” which could be interpreted as limiting eligibility to large exporters where the economic gains of increased market access would be “fruitful.” By contrast, Petersmann (1997) details many explicit provisions in the Dispute Settlement Understanding that appear designed to encourage developing economies to become more involved in the initiation of disputes to protect their market access rights. Given these provisions mandating special treatment for developing area interests in the dispute settlement process, any WTO member that exports the disputed product to the respondent is treated as eligible to participate in formal disputes in which its exports have been adversely affected.

Building the Data Set of Potential Litigants

Because this is both a new approach and a new data set under investigation, this section briefly describes the effort to construct a database of potential litigants—that is, the exporters that are negatively affected by member-implemented, WTO-inconsistent, import-restricting policies. The approach essentially has three steps: determining the sample of WTO disputes to analyze, determining the set of exporters that are adversely affected by the disputed policy and that share the common goal of the WTO-inconsistent policy’s removal, and matching the resulting set of potential litigants with data on the actual formal dispute settlement participants.

There were 85 formal WTO trade disputes initiated between 1995 and 2000 that involved legitimate allegations of the respondent providing excessive protection to a domestic, import-competing industry, which affected a well-defined set of imported products.¹¹ Only 54 of them are unique, under the definition of a unique dispute relating to a singular WTO-inconsistent policy, respondent, and set of disputed products. The Harmonized System (HS) code of the imported products involved in the disputed policies is matched with the most disaggregated, multilateral trade data systematically available from an independent source, the HS six-digit import data provided by the United Nations Conference on Trade and Development’s (UNCTAD) Trade Analysis and Information System (TRAINS).¹² If *t* is

11. This eliminates from the sample of data several disputes involving excessive export promotion (typically WTO-inconsistent subsidies), as well as disputes that failed to relate to a well-defined set of products—for example, the dispute over the U.S. Byrd Amendment (*United States—Continued Dumping and Subsidy Offset Act of 2000*, DS217 and DS234)—because no specific products were identified in the dispute. The focus here on legitimate allegations minimizes the effect of omitted variable bias that might be introduced by failing to formally control variation in the level of difficulty of the legal issues across cases.

12. In most disputes the HS codes of the affected products are listed in the formal WTO dispute correspondence that is published on the WTO’s Web site. In a handful of cases the codes were obtained from other sources, such as national government Web sites (for example, the *Federal Register* in some cases involving U.S. antidumping measures). Furthermore, the products frequently at issue in the dispute may be at the more disaggregated 8- or 10-digit level. To the extent that there is substantial variation in other 8- or 10-digit exports not under dispute in a 6-digit HS category, the results may be imprecisely estimated.

the year of dispute initiation, an exporter is defined as being affected by the disputed policy if it was a WTO member with nonzero exports of the disputed six-digit HS product to the respondent in any of the years $t - 2$, $t - 1$, t , or $t + 1$.

Only potential litigants that were adversely affected by the WTO-inconsistent policy and thus seek its removal are included.¹³ To identify this set of countries required more detail on the discriminatory nature of the respondent violation in the WTO dispute. Only disputes that involved WTO-inconsistent policies applied on a quasi-MFN basis (that is, that negatively affected the exports from multiple countries) could be used. Some 35 of the 54 WTO-inconsistent policies fit the definition of being applied on virtually an MFN basis, so as to negatively affect the trade of all exporters of the disputed product (table 1).¹⁴ The other 19 WTO-inconsistent policies in the sample were applied on at least a quasi-MFN basis, in that even though an MFN violation was a key element of the dispute, non-WTO sources allowed the other exporting countries to be identified in addition to the complainant. A good example of this second type of dispute is *European Union—Banana Regime*, where many negatively affected exporters could have participated in the dispute (because they were injured by the discrimination) and many positively affected exporters, such as the Lomé Agreement countries that received preferential access, would not be potential litigants under the definition used here, because they would not have sought to have the WTO-inconsistent policy removed.

The final step is to take the adversely affected exporters in these 54 disputes and to match them with information on the exporters that formally participated in each dispute. First, there may be multiple complainant countries involved in a dispute against the same respondent and disputed policy. There were 89 complainants involved in these 54 unique disputes (see table 1).

13. This is not to say that exporters that implicitly benefit from a WTO-inconsistent policy—say, through preferential access generated by an MFN violation—are not interested in the dispute's outcome and thus do not have an incentive to participate as an interested third party. However, because they are not adversely affected by the WTO-inconsistent policy, they have no economic incentive to act as a complainant in the dispute (in fact, they have a disincentive to complain), and therefore it would be inappropriate to include them in the three-choice model estimated later. Nevertheless, there are several questions regarding third-country participation alone that are quite interesting but that cannot be addressed given the approach here—for example, the more general question of why countries participate as third parties in trade disputes at all and whether they are more likely to do so to defend economic benefits implicitly received through a discriminatory policy, fight for economic benefits promised but not given because of a WTO-inconsistent policy, or fight for legal interests that are more systemic in nature and that might not relate to any particular economic benefit at all.

14. As noted in the introduction, any exempted countries that the respondent announced as being excluded from the safeguard were excluded from the negatively affected exporting countries in safeguard disputes. In many cases these were countries in a common preferential trading agreement or small, developing economy suppliers that do not meet a de minimis criteria of at least 3 percent of the import market. For a discussion of the use of country exemptions in WTO safeguards protection, see Bown and McCulloch (2004).

TABLE 1. Nondiscrimination and Discrimination (MFN) Violations in the 1995–2000 WTO Trade Dispute Data Used in the Estimation

	Nondiscrimination Violations Negatively Affecting All Exporters	Discrimination (MFN) Violations, also Adversely Affecting Some Exporters in Addition to Complainant
Disputes in the data set (85)	DS1, DS7 (DS12, DS14), DS8 (DS10, DS11), DS9 (DS13, DS17, DS25), DS18 (DS21), DS20, DS26 (DS48), DS31, DS43, DS56 (DS77), DS62, DS74, DS75 (DS84), DS76, DS78, ^a DS85, DS87 (DS109), DS90 (DS91, DS92, DS93, DS94, DS96), DS98, ^a DS103 (DS113), DS111, DS121 ^a (DS123, DS164), DS146 (DS175), DS147, DS149, DS151, DS161 (DS169), DS166, ^a DS177 ^a (DS178), DS183, DS193, DS195, DS202, ^a DS207 (DS220), DS214 ^a	DS2 (DS4), DS24, DS27 (DS105), DS29, DS32, DS33, DS54 (DS55, DS59, DS64), DS58 (DS61), DS72, DS119, DS122, DS135, DS139 (DS142), DS140, DS141, DS179, DS184, DS190, DS206
<i>Unique disputes</i>	35	19
Adversely affected exporters	805	60
As complainants	57	32
As interested third parties	58	7
As nonparticipants	690	21

Note: Classification determined by the author as described in the text. A dispute in parentheses is combined with the immediately preceding dispute (not in parentheses) because it relates to a common respondent and set of disputed products.

^aThe exception is safeguard violations in which the safeguard-imposing country exempted imports from either members of a preferential trading arrangement or small developing countries under Article 9.1 of the Agreement on Safeguards.

Source: Author's compilation of HS codes based on publicly available WTO dispute settlement documents and national government publications. The exporters are derived from the HS import data in the UNCTAD TRAINS database.

There were also 65 adversely affected exporters that formally notified the WTO of their interest as a third party.¹⁵ The remaining 711 adversely affected exporters were nonparticipants.

15. Two sources were used to identify these countries. First, for all disputes that resulted in a panel report, the information in the report was used to determine which countries made third-party submissions or reserved their third-party rights to make legal arguments during the panel process. Second, in disputes that did not reach the panel stage countries could signal their interest by making a formal request to the respondent and complainant to join the consultations (under Article 4.11 of the Dispute Settlement Understanding), based on a substantial trading interest in the products under dispute. Such notifications are published on the WTO's Web site along with other information pertaining to the dispute.

Table 2 lists the frequency with which each exporting country was a non-participant, interested third party, and complainant in the data set of trade disputes under investigation. Developing economies constitute a substantial share of the sample, despite the fact that a country's inclusion was contingent on it already being an exporter of the HS six-digit product under dispute in the respondent's market. That is, the estimation excludes from the sample potential (developing and developed economy) exporters of the disputed product that have been shut out of a particular market entirely, perhaps due to the WTO-inconsistent policy.

II. PARTICIPATION DECISION BY ADVERSELY AFFECTED EXPORTERS

What factors determine whether an adversely affected exporting country formally participates in a trade dispute? The hypothesis here is that such exporters participate when the expected benefits to participation are greater than the expected costs. It is assumed that expected benefits depend on the size of the gains the exporter would receive from a successfully resolved case and on the probability that the case is resolved successfully.

The expected costs of formal participation in a dispute can be said to have two distinct components: the expected litigation costs and the expected political economy costs of confronting another nation in a formal dispute. As will be described in more detail, the hypothesis allows for economic interests to affect decisions, but proxies are included for some of the institutional biases that WTO scholars have been concerned might also influence participation decisions, given the rules and procedures of dispute settlement described in the previous section. The failure to find evidence of a relationship between the political economy determinants and participation decisions would be consistent with an alternative hypothesis that only the exporter's interest in its trade to the disputed sector matters. The next two sections describe the variables and data used to represent these expected benefits and costs.

Expected Benefits of Formal Participation

What are the expected benefits of participating in a dispute, and when would they be large? This investigation focuses on the direct short-term economic benefits of participating in the dispute—that is, the improved terms of market access or trade liberalization offered by the respondent country.¹⁶ The hypothesis here is that an exporter's decision to participate formally in the dispute increases the marginal benefit of all countries that export the disputed product to the respondent either by increasing the likelihood that the respondent will

16. Alternatively, countries might have an incentive to participate to ensure the long-term viability of the institutional arrangement or to make arguments that might apply to their rights and obligations being litigated in other concurrent (or future) cases—perspectives not considered here.

TABLE 2. Affected WTO Member Exporters as Nonparticipants, Interested Third Parties, and Complainants in the 1995–2000 Trade Dispute Data Used in the Estimation

Adversely Affected Exporter	Nonparticipant	Interested Third Party	Complainant
Total	711	65	89
Korea, Rep.	20	2	2
Indonesia	20	0	1
New Zealand	19	1	3
South Africa	19	0	0
Japan	17	8	3
Singapore	17	1	1
Turkey	17	0	0
Australia	16	4	3
Canada	15	5	7
Brazil	15	3	2
Hong Kong, China	15	2	1
Mexico	15	2	1
Switzerland	14	3	2
Argentina	14	0	2
Thailand	14	0	2
Czech Republic	14	0	0
Romania	14	0	0
Pakistan	13	2	1
Poland	13	0	1
Colombia	12	1	1
Peru	12	1	0
Malaysia	12	0	1
Uruguay	12	0	1
Morocco	12	0	0
Egypt	11	1	0
Hungary	11	1	0
Israel	11	0	0
Norway	10	1	0
Chile	10	0	1
Philippines	10	0	1
Sri Lanka	10	0	0
European Union	9	8	18
Ecuador	9	1	1
Venezuela	9	0	1
Bangladesh	9	0	0
Tunisia	9	0	0
India	8	6	7
Costa Rica	8	0	1
Kenya	8	0	0
United Arab Emirates	8	0	0
Zimbabwe	8	0	0
Bulgaria	7	0	0
Mauritius	7	0	0
St. Lucia	7	0	0
Honduras	6	1	1
Paraguay	6	1	0
Guatemala	6	0	2

Bolivia	6	0	0
Côte d'Ivoire	6	0	0
Madagascar	6	0	0
Nicaragua	6	0	0
Jamaica	6	0	0
El Salvador	5	2	0
Iceland	5	1	0
Bahrain	5	0	0
Ghana	5	0	0
Malta	5	0	0
Trinidad and Tobago	5	0	0
United States	4	5	20
Panama	4	0	1
Guyana	4	0	0
Mali	4	0	0
Niger	4	0	0
Nigeria	4	0	0
Papua New Guinea	4	0	0
Fiji	4	0	0
Zambia	4	0	0
Dominican Republic	3	1	0
Benin	3	0	0
Cameroon	3	0	0
Gabon	3	0	0
Guinea	3	0	0
Malawi	3	0	0
Mozambique	3	0	0
Tanzania	3	0	0
Togo	3	0	0
Uganda	3	0	0
Solomon Islands	3	0	0
Angola	2	0	0
Barbados	2	0	0
Belize	2	0	0
Burkina Faso	2	0	0
Congo	2	0	0
Gambia	2	0	0
Haiti	2	0	0
Senegal	2	0	0
Suriname	2	0	0
Burundi	1	0	0
Chad	1	0	0
Mauritania	1	0	0
Mongolia	1	0	0
Rwanda	1	0	0
Guinea-Bissau	1	0	0
Sierra Leone	1	0	0

Source: Author's compilation of HS codes based on publicly available WTO dispute settlement documents and national government publications. The exporters are derived from the HS import data in the UNCTAD TRAINS database.

comply with its obligations and undertake a given level of trade liberalization or by increasing the depth of any such liberalization.

First, an exporter would be more likely to participate in the proceedings when the respondent's disputed market is important. One measure of importance is the size of the market access commitment in question (that is, the value of trade lost to the disputed policy), for which the log of the real dollar value of exports to the respondent's disputed market in $t - 1$, the year before the initiation of the dispute, is used as a proxy. The disputed sector data for the respondent country is again the HS six-digit data derived from TRAINS.¹⁷ The exporter's share of the respondent's disputed import market in year $t - 1$ is used as a second measure. This variable addresses the idea that an exporter with a sizable market share may be expected to take on a leadership role in challenging a WTO-inconsistent measure. This might occur even when imports in $t - 1$ were small because it is a dispute in which the respondent refused to implement negotiated WTO obligations, as opposed to a dispute in which the respondent has applied a new, WTO-inconsistent policy in t after a market had been liberalized.

Next, even when the value of trade at stake is not large or when the exporter is not necessarily a leader in that particular market, exporters may be more likely to participate in disputes in which their sales are disproportionately concentrated in a particular destination market. Thus a measure of the exporter's diversification, defined as the disputed HS six-digit exports to the respondent as a share of the exporter's same six-digit exports to the world in $t - 1$, is also included as an explanatory variable.¹⁸ A positive relationship is expected between this variable and the participation decision because exporters that are more reliant on the respondent's market (that is, that are less diversified) are more likely to participate in a formal WTO challenge because they are concerned with the ability to deflect lost trade to alternative third markets due to a market-specific, fixed cost of exporting.¹⁹

The Likelihood of Success in a Dispute

The expected benefits of a dispute are also expected to be affected by the probability of its successful economic resolution. Due to the self-enforcing nature of the WTO's dispute settlement system, exporting countries can enforce their rights only through actual or implicit threats of retaliation against offending trading partners.²⁰ Therefore, the hypothesis here is that an exporter is more

17. The log of the level of $t - 1$ imports is used to avoid giving too much weight to particularly large values of this variable in certain observations in the data set.

18. Because the HS six-digit data are available only for importing countries reporting data in the TRAINS data set, a consistent time series exists for 23 of the 30 largest importing countries here.

19. For evidence on exporting countries' ability to deflect trade to third markets when confronted with newly imposed trade restrictions, see Bown and Crowley (2004).

20. Using a sample of GATT/WTO disputes initiated and completed over 1973–98, Bown (2004a) has shown that the more powerful the complainant exporter with respect to its capacity to engage in tariff retaliation against the respondent, the greater the trade liberalization gains that the respondent yields to the complainant at the conclusion of the dispute.

likely to participate in a dispute in which it is bilaterally powerful (with respect to the respondent) because this positively affects the probability of a successful economic outcome. A respondent country is more likely to bring a WTO-inconsistent policy into conformity with its obligations when it has a credible retaliatory cost for failing to do so. The capacity of an exporter to credibly threaten tariff retaliation is measured as the share of the respondent's total exports to the exporting country, using the bilateral export data provided in Feenstra (2000).

An alternative retaliation threat variable is the respondent's reliance on the exporter for bilateral aid. Specifically, the more reliant the respondent is on the exporting country for development assistance, the more aid the exporting country could threaten to withdraw, and thus the more likely that the respondent would implement market access commitments. The hypothesis here is that the more reliant the respondent is on the exporter for bilateral aid, the more likely the exporter is to formally join the dispute. By contrast, the respondent's reliance on the exporter for bilateral assistance could also signal a special political relationship between the two countries that might decrease the likelihood that the exporter would confront the country with a formal international dispute. These potential relationships are investigated using bilateral aid data derived from Organisation for Economic Co-operation and Development (OECD/DAC 2001). The variable is formally defined as the aid the respondent receives from the exporter, relative to the size of the respondent's gross domestic product (GDP), to normalize for level differences across countries.²¹

The Capacity to Absorb Litigation Costs

When would the expected costs to an exporting country of formally participating in a dispute be high? The resource costs of filing the paperwork to merely initiate or participate in a case as either a complainant or an interested third party (or reserving third-party rights) are not large, and this legal signal is all that is necessary for a country to be considered a formal participant in the data set used here. Nevertheless, the exporting country's GDP, with data derived from World Bank (2001), is used as a proxy for an exporter's capacity to incur significant legal costs. The theory is that although legal services may be internationally traded, richer countries have more access to the resources necessary to hire counsel to both monitor trading interests and to stand up for those interests through litigation. Data on the number of delegates that each WTO member has sent to the WTO offices in Geneva is used as a proxy for a country's legal capacity (Horn and others 2005).

21. The aid data are official development assistance and aid, and they do not include, for example, military aid or aid from nongovernmental organizations. An alternate measure of interest—not considered here due to lack of data—is trade preferences between the exporter and respondent countries, such as participation in the Generalized System of Preferences. Part of this concern is addressed by a variable capturing membership in formal preferential trade agreements sanctioned under the GATT's Article 24, discussed later.

Political Economy Costs

A second potentially important expected cost to developing economy exporters relates to the political economy costs of publicizing a grievance through a formal international confrontation with a particularly ‘important’ respondent country. One type of important country is a trading partner on which the exporter is particularly reliant for bilateral assistance. The expected result here is that the more aid the exporter receives from the respondent (relative to GDP), the less likely that the exporter will formally participate in a case against the respondent as either a complainant or an interested third party, for fear of losing this aid. Again, the bilateral aid data are derived from OECD/DAC (2001).

Another example of an important country from the exporter’s perspective is a trading partner with which the exporter is involved in a preferential trade agreement. The hypothesis here is that a country is less likely to formally participate in a dispute against another preferential trade agreement member because it would worsen relations or because the agreement contains its own dispute settlement provisions. The dummy variable thus takes on a value of 1 if the exporter and respondent country are members of a common free trade agreement or customs union that has been notified to the WTO under the GATT’s Article XXIV (WTO 2003a).

The summary statistics for each of the variables used in the estimation are provided in table 3.

Econometric Model

To address the determinants of a negatively affected exporter’s decision to participate in a trade dispute, a WTO member is assumed to make one of three choices: $i \in \{0, 1, 2\}$, where 0 = not participate, 1 = interested third party, and 2 = complainant. It is assumed that the formal participation decision is an ordered choice—that is, complainants are more involved in the case than are interested third parties, and so on. The determinants of this choice are econometrically estimated using the standard ordered probit model.²²

III. ECONOMETRIC ESTIMATES

Table 4 shows the maximum likelihood estimates of the marginal effects of the ordered probit model. The 865 observations are the negatively affected countries revealed by the trade data as exporting the HS six-digit disputed product to the respondent in one of the 54 quasi-MFN disputes described in table 1. The model is also estimated with respondent country fixed effects, whose estimates are suppressed. Table 4 presents estimates of the marginal effects of the determinants of the exporter’s choice of becoming a complainant, of becoming

22. For a formal discussion of the ordered probit model, see Greene (2000). Alternatively, one could also assume that these choices are unordered and thus use the multinomial logit model, which is discussed in more detail later. For a formal discussion of the multinomial logit model, see Greene (2000).

TABLE 3. Summary Statistics for the Variables Used in the Negatively Affected Exporter's Choice Model

Variable	Predicted Sign	Mean	SD	Minimum	Maximum
Dependent variable					
0 = nonparticipant					
1 = interested third party	(for = 1 or 2)	0.2797	0.6387	0	2
2 = complainant					
Explanatory variables					
<i>Size of potential liberalization benefits</i>					
Market access: log of exporter's real value of exports to respondent's disputed market in $t - 1$	+	6.4027	3.7417	0	17.2798
Leadership: exporter's share of respondent's disputed market in $t - 1$	+	0.0424	0.1320	0	1
Market diversification: exporter's disputed sector exports to respondent as a share of exporter's total disputed sector exports in $t - 1$	+	0.2667	0.3639	0	1
<i>Probability of realizing benefits</i>					
Trade retaliation capacity: respondent's exports sent to the exporter as a share of its total exports in $t - 1$	+	0.0289	0.0688	0.0000	0.8052
Aid retaliation capacity or special relationship: respondent's bilateral aid that is received from the exporter relative to respondent GDP in $t - 1^a$	Unknown	0.0042	0.0448	0	1.1028
<i>Capacity to absorb expected litigation costs</i>					
Income: log of exporter's GDP in $t - 1$	+	25.2763	2.0824	18.1965	29.3998
Legal capacity: log of exporter delegates at the WTO Secretariat	+	2.0524	0.8214	0	4.7185
<i>Political economy costs</i>					
Preferential trade agreement: respondent and exporter in a common free trade area or customs union	-	0.0624	0.2421	0	1

(Continued)

TABLE 3. Continued

Variable	Predicted Sign	Mean	SD	Minimum	Maximum
Fear of losing aid: exporter's bilateral aid that is received from the respondent relative to exporter GDP in $t - 1^a$	—	0.2358	0.8897	0	8.6872

Source: Author's calculations based on data sources described in the text.

^aRatio scaled up by 100,000.

an interested third party, and of the choice not to participate.²³ In considering the size of the marginal effects estimates discussed next, note that when evaluated using the means of the underlying data, the predicted probability of an exporter choosing to be a complainant is 2.7 percent and to be an interested third party is 5.7 percent, whereas the average exporter has a 91.6 percent chance of choosing not to participate.

Expected Benefits to an Economically Successful Resolution

The expected benefits of participating and the variables controlling for the size and importance of the benefits to the exporter if the dispute concludes successfully—that is, with the respondent liberalizing trade in the disputed sector—are considered first. The market access variable is defined as the log of the value of the exporter's exports to the respondent's HS six-digit disputed market in $t - 1$, and the estimated marginal effect is found to be 0.009. Although the implied size of the estimate for this variable is difficult to interpret (recall the import variable is defined in logs), it is economically significant—thus, a 1 point increase in the underlying explanatory variable from the mean of 6.4027 (\$603,472 of HS six-digit exports) to 7.4027 (\$1,640,408 of HS six-digit exports) increases the likelihood that an exporter will become a complainant by roughly 0.9 percentage points (from 2.7 percent to 3.6 percent). Next, the 0.098 estimate of the marginal effect for the leadership variable indicates that a 10 percentage point increase in the exporter's share of the respondent's disputed market in $t - 1$ leads to a 0.98 percentage point increase in the likelihood that the exporter will become a complainant. The one variable from the size of the expected benefits analysis that is not of the theoretically predicted sign is the diversification variable, defined as the exporter's HS six-digit exports to the respondent in $t - 1$ relative to its exports to the world of the disputed HS six-digit product. The estimate indicates that the more reliant (less diversified) the exporter is on the respondent's market,

23. Estimates of the three choices are included for convenience, though estimates for two of the choices would be sufficient. For example, the estimates for the nonparticipant choice can be derived by simply multiplying the sum of the values of the marginal effect estimates for the complainant and for the interested third party by -1.

TABLE 4. Marginal Effects Estimates of Ordered Probit Model of Complainant, Interested Third Party, and Nonparticipant Choice

Explanatory Variable	Dependent Variable: Exporter's Choice of Becoming A		
	Complainant	Interested Third Party	Nonparticipant
<i>Size of potential liberalization benefits</i>			
Market access: log of exporter's real value of exports to respondent's disputed market in $t - 1$	0.009*** (0.003)	0.013*** (0.003)	-0.021*** (0.006)
<i>Leadership: exporter's share of respondent's disputed market in $t - 1$</i>			
Leadership: exporter's share of respondent's disputed market in $t - 1$	0.098*** (0.037)	0.146*** (0.057)	-0.244*** (0.085)
<i>Market diversification: exporter's disputed sector exports to respondent as a share of exporter's total disputed sector exports in $t - 1$</i>			
Market diversification: exporter's disputed sector exports to respondent as a share of exporter's total disputed sector exports in $t - 1$	-0.029 (0.023)	-0.044 (0.031)	0.073 (0.053)
<i>Probability of realizing benefits</i>			
Trade retaliation capacity: respondent's exports sent to the exporter as a share of its total exports in $t - 1$	0.266*** (0.103)	0.397*** (0.129)	-0.663*** (0.203)
Aid retaliation capacity or special relationship: respondent's bilateral aid that is received from the exporter relative to respondent GDP in $t - 1$	-0.113** (0.057)	-0.170** (0.075)	0.283** (0.124)
<i>Capacity to absorb expected litigation costs</i>			
Income: log of exporter's GDP in $t - 1$	0.013** (0.005)	0.019*** (0.006)	-0.031*** (0.009)
Legal capacity: log of exporter delegates at the WTO Secretariat	-0.010 (0.007)	-0.015 (0.011)	0.025 (0.017)
<i>Political economic costs</i>			
Preferential trade agreement: respondent and exporter in a common free trade area or customs union	-0.030*** (0.011)	-0.059*** (0.014)	0.089*** (0.020)
Fear of losing aid: exporter's bilateral aid that is received from the respondent relative to exporter GDP in $t - 1$	-0.021* (0.012)	-0.032* (0.019)	0.053* (0.030)

(Continued)

TABLE 4. Continued

Explanatory Variable	Dependent Variable: Exporter's Choice of Becoming A		
	Complainant	Interested Third Party	Nonparticipant
Number of observations	865		
Number of unique disputes	54		
Pseudo-R ²	0.32		
Log likelihood	-344.47		

*Statistically different from 0 at the 10 percent level.

**Statistically different from 0 at the 5 percent level.

***Statistically different from 0 at the 1 percent level.

Note: White's heteroskedasticity-consistent standard errors corrected for clustering on the underlying dispute are in parentheses. Time t is the year of the start of the dispute. Specification also estimated with a constant term and with respondent country-fixed effects whose estimates are suppressed.

the more likely the exporter is to simply not participate (0.073). However, the estimate is not statistically different from zero.

The second set of explanatory variables is concerned with the probability that the benefits to the exporter will be realized through a successful resolution of the dispute. The more capacity that an exporter has to retaliate by withdrawing trade concessions, as measured by the respondent's reliance on the exporter's market for the respondent's trade, the more likely the exporter is to become a complainant (0.266). A 10 percentage point increase in the respondent's reliance on the exporter's markets for its own exports thus leads to a 2.66 percentage point (roughly double) increase in the likelihood that the exporter will formally participate in the dispute as a complainant. By contrast, the estimate for the retaliation threat through withdrawing bilateral assistance that was also expected to influence the likelihood of a successful outcome, is negative, though statistically insignificant. Although inconsistent with the threatened withdrawal of aid hypothesis, a viable explanation is that this aid relationship is instead capturing a special political relationship that makes the exporter less likely to participate in a formal international dispute confronting the respondent.

Expected Costs of Participating in a Dispute

The next set of variables covers the expected costs to an exporter of participating in a dispute. First, the exporter's GDP, a proxy for its capacity to pay for traded legal services, is positively associated with the decision to become a complainant or interested third party. Larger and richer countries are thus more likely to formally participate in WTO litigation. But the estimates for variables capturing the number of the exporter's delegates at WTO are neither of the correct sign nor statistically significant.

Finally, there is also strong evidence that potential political economy costs of international relations make it less likely that an exporter will participate in a

trade dispute when the respondent is politically important to the exporter. Exporters are less likely to participate in disputes against trading partners in a common preferential trade agreement as either complainants (-0.030) or interested third parties (-0.059). The estimated marginal effects of these variables are large: other things being equal, an exporter that is in a preferential trade agreement with the respondent faces a roughly 3 percentage point decrease in the probability of becoming a complainant and a 6 percentage point decrease in the probability of becoming a third party, relative to an exporter that is not in a preferential trade agreement with the respondent. Furthermore, the larger the exporter's reliance on the respondent for bilateral aid, the less likely it is to intervene as a complainant (-0.021) or an interested third party (-0.032). The size of the effect is also substantial, as a one standard deviation increase in the variable above its mean halves the likelihood of the exporter participating as a complainant (from 2.7 percent to 1.3 percent), and also substantially reduces the likelihood of it participating as an interested third party (from 5.7 percent to 3.3 percent).

Sensitivity Analysis

In addition to the baseline specification of the ordered probit model illustrated in table 4, several robustness checks are performed to assess the sensitivity of the results to basic changes of model specification. One potential source of concern for the approach used here relates to the choice of the ordered probit model itself. Alternatively, one might use the multinomial logit model, which does not require an assumption on the ordering of outcomes. But a concern with estimating the multinomial logit model is the independence of irrelevant alternatives assumption. In the estimation of the multinomial logit model (not reported here) the qualitative pattern of results was quite similar to those reported for the ordered probit model, and yet Hausman tests of the independence of irrelevant alternatives assumption suggested that in some specifications of the model it could be invalid.

As other robustness checks, the ordered probit model has been estimated using various subsets of data, including only the exporters from the 35 non-discrimination violation disputes listed in table 1 and the full set of 54 disputes truncated to include only countries that were above a minimum dollar threshold (for example, \$500,000, \$1 million, and \$2 million) of disputed sector exports to the respondent to ensure that the results were not driven simply by the smallest exporting countries. In both instances, the qualitative nature of the results was largely unchanged from those reported in table 4.

IV. CONCLUSIONS AND POLICY IMPLICATIONS

This article is the first to use detailed trade data to identify the potential litigants in WTO dispute settlement activity to investigate the determinants of those countries' participation decisions in formal trade disputes. Even after controlling for

the economic importance of disputed sector market access, variables that serve as proxies for the institutional bias generated by the current rules of the system also affect the nonparticipation choice. The formal evidence indicates that despite market access interests in a dispute, an exporting country is less likely to participate in WTO litigation if it has inadequate power for trade retaliation, if it is poor and does not have the capacity to absorb substantial legal costs, if it is particularly reliant on the respondent country for bilateral assistance, or if it is engaged with the respondent in a preferential trade agreement. These are characteristics typically associated with developing economies in the WTO membership.

This investigation is also subject to caveats. Foremost is that although the reasons why exporters do not participate in disputes that have already been initiated are examined, the lack of data and knowledge concerning noninitiated cases means that the more compelling question of whether the determinants of nonparticipation analogously lead to an underinitiation of trade disputes relative to a social optimum cannot be addressed. At most the evidence provided here on the importance of limited retaliatory and legal capacity, as well as special political economy relationships, suggests that these factors may also adversely affect the initiation of disputes more generally. Obviously, the question of dispute initiation is still open and should be the focus of additional research.²⁴

Although this is only a first attempt to characterize and analyze the data, these results may nevertheless contribute to the policy debate on proposals of reform to the WTO dispute settlement system. In particular, suppose that one policy goal was to promote systemic reforms designed to encourage a country's participation in dispute settlement activities that were important to its trading interests, so as to induce a sharing of the litigation burden and a commitment to working within the system. The results here suggest that any such attempt must recognize that it is not only the exporter's trading interest (and level of income) that affects the decision to participate but also its capacity to retaliate through trade, to be retaliated against through the withdrawal of bilateral aid, and the nature of special political or trading relationships that it has with respondents.

One proposal has been to expand the WTO's power to impose more discipline on negotiated settlements, so that the outcomes of disputes are truly transparent. In light of the concerns raised in this article, such an approach on transparency could be beneficial if it reduced the incidence of discriminatory settlements where market access benefits are not extended on an MFN-basis. For example, increased transparency could lead private sector interests (such as the adversely affected exporting firms) to increase the pressure they place on their own governments to better monitor and actively participate in the process on their

24. Bown (2005) is one attempt. It examines which U.S.-imposed antidumping measures are subject to WTO disputes. The evidence from this sample of data suggests that many of the same factors that influence the choice to participate investigated here also affect the decision of which disputes to initiate against the United States.

behalf. Active engagement and representation of exporting interests in developing economies especially could help balance the political influence that dominant, import-competing interests typically wield over their governments. Of course, a reform that increases transparency is also likely to affect the incentive for potential litigants to initiate disputes and thus the set of WTO-inconsistent policies that get challenged at all. Therefore, such a proposal should be the subject of additional research and scrutiny.

Second, the finding that political concerns affect nonparticipation decisions illustrates the difficulties confronting the desire to facilitate coordination of litigation efforts across countries. Another proposal that could minimize the influence of such political concerns would be to authorize a WTO-sponsored independent prosecutor or ombudsman to represent the joint interests of the group of adversely affected, potential litigants. This would focus attention on the WTO-inconsistent policy, as opposed to any particular complainant country. Although this approach would certainly also introduce additional concerns that should be studied, it could help overcome the unwillingness of dependent countries to challenge trade restrictions due to fear of retribution by the respondent in other areas.

Finally, with respect to the issue of a lack of retaliatory capacity, Bagwell and others (2004) present an approach that investigates potential schemes to address bilateral power imbalances, in particular the possibility that powerless complainant countries might auction off their rights to retaliate against noncompliant respondents. The results presented here, along with those of Bown (2004a), suggest that if the WTO seeks incentives for affected exporters to participate in dispute settlement, it might be most effective at targeting for participation the relatively (bilaterally) powerful country complainants and third parties, even if the powerful potential litigant would normally not participate because of only a small trading interest in the disputed sector. Each of these proposals raises interesting additional questions that should be the focus of additional theoretical and empirical economics research.

REFERENCES

- Bagwell, Kyle, Petros C. Mavroidis, and Robert W. Staiger. 2004. "The Case for Tradable Remedies in WTO Dispute Settlement." Working Paper 3314. World Bank, Washington, D.C.
- Blonigen, Bruce A., and Chad P. Bown. 2003. "Antidumping and Retaliation Threats." *Journal of International Economics* 60(2):249–73.
- Bown, Chad P. 2002. "The Economics of Trade Disputes, the GATT's Article XXIII, and the WTO's Dispute Settlement Understanding." *Economics and Politics* 14(3):283–323.
- . 2004a. "On the Economic Success of GATT/WTO Dispute Settlement." *Review of Economics and Statistics* 86(3):811–23.
- . 2004b. "Trade Disputes and the Implementation of Protection under the GATT: An Empirical Assessment." *Journal of International Economics* 62(2):263–94.
- . 2004c. "Trade Policy under the GATT /WTO: Empirical Evidence of the Equal Treatment Rule." *Canadian Journal of Economics* 37(3):678–720.

- _____. 2005. "Trade Remedies and World Trade Organization Dispute Settlement: Why Are So Few Challenged?" *Journal of Legal Studies* 34(2):515–55.
- Bown, Chad P., and Meredith A. Crowley. 2004. "Trade Deflection and Trade Depression." Working Paper 2003-26. Federal Reserve Bank of Chicago, Ill.
- Bown, Chad P., and Rachel McCulloch. 2004. "The WTO Agreement on Safeguards: An Empirical Analysis of Discriminatory Impact." In Michael G. Plummer, ed., *Empirical Methods in International Economics: Essays in Honor of Mordechai Kreinin*. Cheltenham, UK: Edward Elgar.
- Busch, Marc L. 2000. "Democracy, Consultation and the Paneling of Disputes under GATT." *Journal of Conflict Resolution* 44(4):425–46.
- Busch, Marc L., and Eric Reinhardt. 2000. "Bargaining in the Shadow of the Law: Early Settlement in GATT/WTO Disputes." *Fordham International Law Journal* 24(1):158–72.
- Feenstra, Robert. 2000. "World Trade Flows, 1980–1997, with Production and Tariff Data." Working Paper, University of California, Davis, Department of Economics.
- Greene, William H. 2000. *Econometric Analysis*, 4th ed. Upper Saddle River, N.J.: Prentice Hall.
- Guzman, Andrew, and Beth A. Simmons. 2002. "To Settle or Empanel? An Empirical Analysis of Litigation and Settlement at the World Trade Organization." *Journal of Legal Studies* 31(1):S205–35.
- Hoekman, Bernard, and Petros C. Mavroidis. 2000. "WTO Dispute Settlement, Transparency and Surveillance." *World Economy* 23(4):527–42.
- Horn, Henrik, Petros C. Mavroidis, and Håkan Nordström. 2005. "Is the Use of the WTO Dispute Settlement System Biased?" in Petros C. Mavroidis and Alan Sykes, eds., *The WTO and International Trade Law/Dispute Settlement*. Cheltenham, UK: Edward Elgar.
- Irwin, Douglas A. 2003. "Causing Problems? The WTO Review of Causation and Injury Attribution in US Section 201 Cases." *World Trade Review* 2(3):297–325.
- Jackson, John H. 1997. *The World Trading System: Law and Policy of International Economic Relations*, 2nd ed. Cambridge, Mass.: MIT Press.
- OECD/DAC (Organisation for Economic Co-operation and Development/Development Assistance Committee). 2001. *International Development Statistics*. Paris.
- Petersmann, Ernst-Ulrich. 1997. *The GATT/WTO Dispute Settlement System: International Law, International Organizations and Dispute Settlement*. London: Kluwer Law.
- Reinhardt, Eric. 2001. "Adjudicating without Enforcement in GATT Disputes." *Journal of Conflict Resolution* 45(2):174–95.
- USTR (United States Trade Representative). 2002. "United States and Korea Resolve WTO Dispute on Line Pipe." Press release, July 29. Available online at www.ustr.gov.
- World Bank. 2001. "Global Development Network Growth Database." Washington, D.C. Online document available at www.worldbank.org/research/growth/gdbdata.htm.
- WTO (World Trade Organization). 2003a. "Regional Trade Agreements." Online document available at www.wto.org/english/tratop_e/region_e/region_e.htm.
- _____. 2003b. "Trade Policy Reviews." Online document available at www.wto.org/english/tratop_e/tpr_e/tpr_e.htm.