

Forum Choice in Trade Disputes:

WTO Adjudication, Negotiation, and U.S. Trade Policy

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Abstract

In the context of overlapping bilateral, regional, and multilateral trade agreements, states face a wide array of options for market opening strategies. This paper examines how states choose strategies to remove foreign trade barriers, and in particular, the question of why they adjudicate some trade disputes in the WTO dispute settlement process while negotiating or ignoring others. I argue that governments use choice of negotiation forum to signal commitment to resolve a dispute. The argument is tested with statistical analysis of an original dataset of potential trade disputes coded from U.S. government reports on foreign trade barriers. Evidence shows that U.S. selection of WTO disputes follows a political logic favoring industries that are highly mobilized in the United States and where there is strong opposition by protection interests abroad. Taking into account the factors that push politicized cases into WTO adjudication, the legal forum is shown to be effective to resolve trade conflict.

Increasing levels of trade that accompany globalization generate both wealth and conflict as states confront each other with demands for market access and protection for sensitive industries. States established the World Trade Organization in order to manage this conflict through a common set of negotiated multilateral rules and a formal dispute settlement system. Although recent studies focus on the role of the WTO to liberalize bilateral trade flows (Rose, 2004; Gowa and Kim, 2005; Goldstein *et al.*, 2007), it is also important to evaluate the WTO as a conflict resolution mechanism. Theories of the GATT/WTO emphasize the role of dispute settlement to make multilateral liberalization sustainable (Kovenock and Thursby, 1992; Maggi, 1999; Rosendorff, 2005). Less is known, however, about the conditions under which states challenge non-compliance and their choice of strategy to resolve the dispute. By examining the use of WTO adjudication as a trade policy choice taken in a context of multiple negotiation fora, I address a central issue about the monitoring and enforcement of international law. The goals of the paper are twofold: first to explain the causes of forum choice, and second to examine the consequences for policy outcomes.

While a growing literature examines WTO adjudication, few compare the choice of adjudication with alternative strategies. Since its establishment in 1995, the dispute settlement system of the WTO has been used for litigation of over three hundred trade disputes. Research has focused largely on explaining outcomes for these cases (e.g. Busch, 2000; Reinhardt, 2001; Guzman and Simmons, 2002; Bown, 2004b). The complaints filed for adjudication, however, represent a small fraction of the total number of policies in violation of WTO agreements. In trade policy, the parallel process of creating regional trade associations, participating in the multilateral trade system, and concluding bilateral arrangements has resulted in overlapping jurisdictions. Many trade issues could be addressed in any of these negotiation fora, as well as in bilateral negotiations outside of a formal institutional structure. What determines why one trade barrier is raised in a formal complaint for adjudication while others are negotiated in different venues or simply monitored without any action? Which strategy is more effective?

By examining the politics of the forum choice decision, this study explicitly addresses the process that generates issues for institutional cooperation. Drawing on the literature about endogenous protection (e.g. Magee *et al.*, 1989; Grossman and Helpman, 1994), I propose interest group pressure as a selection mechanism and conduct an empirical test. The central argument is that influential export industries *buy litigation* to address their market access problems similar

to how influential import industries buy protection. I use data on potential trade disputes to evaluate the choice of WTO adjudication versus the full range of negotiation options. My findings show that domestic political interests play a substantial role in the selection of issues for WTO adjudication. Statistical analysis of over 400 foreign trade barriers harmful to U.S. exports shows that WTO cases are more likely for those barriers which affect industries making large political contributions. Indicators measuring resistance by the trade partner to liberalization also increase the likelihood that the United States files a WTO complaint. As a result, the WTO dispute system confronts difficult cooperation problems where there are influential domestic interests at stake. On the one hand, this is a classic story of pressure group politics. On the other hand, adjudication helps to maintain support for free trade by relieving pressure that might otherwise push governments into trade wars. The process is political theater conducted on a public stage in order to show domestic interest groups that the government is giving their issue priority.

The importance of political pressure in the selection of WTO disputes contributes to two strands of research on international institutions. First, international institutions not only solve cooperation dilemmas at the international level such as fears of cheating, they also perform functions at the domestic level.¹ Second, the evaluation of institutional effectiveness needs to incorporate selection to address the criticism of endogeneity.²

My argument shows adjudication as a solution to a government credibility problem to convince domestic export industries that it will be a tough negotiator to enforce trade agreements and defend market access. Interest groups offer political contributions in the expectation of influencing policy outcomes. When states negotiate with a foreign government for market access, however, politicians face a credibility problem in their commitment to deliver a policy outcome. Domestic export industries and their representatives in the legislature suspect the executive will be too dovish in negotiations with foreign trade partners and/or the foreign government will not comply. Uncertainty about whether the government can deliver market access reduces the incentives for export industries to offer political contributions. This credibility problem may lead a government to file a WTO dispute as a costly signal of their commitment to the domestic interest group. As a result governments select cases for WTO adjudication according to political influence rather

¹See Drezner (2003). For other examples, see Goldstein (1996) on trade policy and Moravcsik (1999) on human rights policy, and Mansfield and Pevehouse (2006) on democratization.

²See Simmons (2000); Martin and Simmons (2001).

than just economic and legal criterion. At the same time, interest group pressure by the import industry of the respondent state influences forum choice when trade partners bear the costs of adjudication as a signal of commitment to their industry. In sum, interest group pressure on both sides of a trade dispute pushes politicized trade topics into dispute adjudication.

This argument about forum choice directly counters a central critique of theories about international institutions, which contends that the selection of easy issues for cooperation in institutions biases findings (Mearsheimer, 1994/5; Downs *et al.*, 1996). International adjudication faces the challenge of uncertain enforcement, which could give rise to a scenario in which WTO dispute settlement would only appear effective because states don't file cases where the stakes are high or compliance is unlikely. On the contrary, we observe that WTO dispute settlement confronts a docket including many of the most difficult trade disputes. Government subsidies for aircraft development and agriculture production, regulations on food safety, and safeguards to limit textile and steel imports are all some of the issues with high economic and political stakes that have been addressed in WTO dispute settlement. My argument about interest group pressure accounts for the selection process that filters hard cases into the adjudication forum. Therefore we can have confidence that the evidence for WTO dispute settlement as an effective forum for conflict resolution are not biased by selection of favorable cases.

The argument is evaluated in the context of U.S. trade policy. The United States has pursued free trade through a domestic bargain that exchanges a commitment to open U.S. markets for the promise of access to foreign markets (Gilligan, 1997; Bailey *et al.*, 1997). Most scholarly attention examines the first side of this bargain to explain the degree to which the U.S. has opened or protected its domestic market (e.g. Baldwin, 1985; O'Halloran, 1994; Busch and Reinhardt, 1999; Hiscox, 2002). This paper instead turns to the question of how the United States has pursued market access. The role of export industries is important because they are a key actor to mobilize against protection (Destler and Odell, 1987; Milner, 1988; Davis, 2003). At the same time, U.S. exporters have also become a source of protection as they support efforts to promote exports by means of retaliatory threats to close the home market (e.g. Milner and Yoffie, 1989; Bhagwati and Patrick, 1990; Bayard and Elliott, 1994; Noland, 1997; Gawande and Hansen, 1999). Yet the WTO rules have restricted the aggressive unilateralism that characterized U.S. efforts to gain market access in the 1980s. It holds an expanded array of trade strategy options including

a strengthened multilateral adjudication system as well as the proliferation of bilateral trade agreements. Therefore it is necessary to take a new look at how the United States manages the range of options in its pursuit of free and “fair” trade. If even the most powerful state achieves better outcomes through adjudication than negotiation, one would expect adjudication to be critical for other states who have less leverage in negotiations.

In this paper I will discuss in section 1 the selection dynamic that governments face when addressing potential trade disputes. I propose hypotheses about how governments choose a forum, with particular focus on which issues will be raised in adjudication. Section 2 tests these hypotheses about the selection of forum on an original dataset of U.S. complaints about market access barriers by leading trade partners. Section 3 compares the effectiveness of adjudication with alternative negotiation strategies through analysis of which strategy brings more progress towards removal of trade barriers. Section 4 offers concluding remarks.

1 Forum Choice in Trade Policy

Institutional Selection

Much of the literature on international institutions focuses on the design of institutions. Keohane (1984) presents a functional theory to explain the establishment of international institutions as a solution to cooperation problems arising from transaction costs and inability to enforce contracts in international society. Institutions overcome these problems by providing information, facilitating issue linkages, and establishing norms that encourage a longer time horizon and reciprocity. Variation in the form of institutions has attracted attention to analyze how different kinds of cooperation problems and political conditions lead states to design an institution with specific features (Martin, 1992b; Koremenos *et al.*, 2001). Yet even within the same issue area there often exist overlapping institutions.

Trade is one of the most densely institutionalized areas of international relations. The multilateral framework of the WTO itself has several venues for negotiations including trade rounds, ongoing committees, and the dispute settlement process for adjudication. In addition, the past decade has brought a dramatic increase in the number of formal bilateral and regional preferential trade agreements. Trade issues are also addressed informally in bilateral talks or as part of

discussions at summit meetings or at the OECD. The creation of multiple fora for trade disputes reflects that there is variation in the cooperation problem and domestic interest group demands even within the area of trade policy.

The long negotiations that establish an institution prevent frequent renegotiation. Transaction costs, concern about creating conflict with existing institutions, and the status quo inertia all favor using or modifying existing institutions rather than creating new ones for every problem (Aggarwal, 1998). As Jupille and Snidal (2005, 16) argue, states face a problem of *institutional selection* that calls for “choice of one institution from a fixed but plural menu of extant alternatives.”

Choice of when to use an institution to address specific disputes presents a different dynamic than the establishment of the institution or rule-making processes. The characteristics of the issue will shape preferences over institutional constraints. States face less uncertainty about domestic interest group demands given that they know the issue at stake. Consequently, decisions about the institutional forum for a dispute reflect specific goals of the state and interest groups.

Some issues will only fall into the jurisdiction of one forum such that there is no option of strategic selection. Many issues, however, could be negotiated in more than one venue. The “jurisdictional ambiguity” that arises in these cases resembles the frequent occurrence in Congress when a new bill could be referred to more than one committee (King, 1994). The EU policy context frequently raises questions of institutional selection as different actors try to frame an issue so that it will be discussed according to the procedures that would favor their preferred outcome (Jupille, 2004; Alter and Meunier, 2006). In the private sector, selection among multiple institutional fora is observed in commercial transactions by private international traders and investors who choose between pursuit of ad hoc arbitration versus several options for institutional arbitration (Mattli, 2001).

Trade disputes between states also present a wide range of choices that allow for selective use of an international institution. A few studies examine why some trade issues are taken before formal WTO adjudication (e.g. Horn *et al.*, 1999; Reinhardt, 2000; Bown, 2005; Busch and Reinhardt, 2002; Allee, 2003; Davis and Shirato, 2007), but more research is needed that compares alternative strategies. While there is a large literature on the relative welfare effects of bilateral versus multilateral liberalization, little attention has been given to why countries choose one approach over another for dispute settlement. As Pekkanen *et al.* (2007) point out in a study about the shift

toward bilateral and regional free trade agreements, states may prefer one venue because institutional features allow them to maximize their flexibility to address domestic political constraints. Busch (2007) highlights how concern about setting a multilateral precedent determines whether a state favors multilateral or bilateral dispute settlement. The factors that influence whether states choose one forum or another need to be examined with explicit comparison of available options. Typically trade officials are not making a decision of whether to adjudicate or do nothing, but rather whether to file a complaint and/or raise the issue in a different venue. Overlapping jurisdiction raises the possibility of *forum shopping* that is similar to the practice in a public law context of choosing among court jurisdictions.³

In many trade disputes, a complaint about a particular trade barrier could be raised in multiple possible negotiation fora. Indeed, many issues are raised in multiple fora simultaneously or sequentially. An overview of several important U.S.-Japan trade negotiations illustrates this point. U.S. complaints about Japan's quantitative restrictions on agricultural imports were addressed in the Tokyo Round, bilateral talks in the early 1980s, a GATT dispute panel in 1987, and in the Uruguay Round. Japan's restrictions on forestry products were addressed in comprehensive U.S.-Japan bilateral negotiations, which produced the Market-Oriented Sector-Selective (MOSS) trade agreement in 1986, the Uruguay Round, and later arose as a central issue in the APEC talks on Early Voluntary Sectoral Liberalization during the 1998 Kuala Lumpur Ministerial meeting. U.S. concerns about lack of access for U.S. semiconductors in the Japanese market were addressed through bilateral agreements in the 1980s and 1990s, and some issues were also addressed in the WTO Information Technology Agreement.

WTO procedures explicitly encourage bilateral settlement and/or resolution through discussion of trade problems in WTO committees or other venues, so there is no legal obligation to forward all potential legal disputes to the formal dispute process. Thus it is entirely consistent with the institutional framework for an issue to be raised in several other fora before it reaches adjudication. One well known example is the EU policy on bananas, which had been the subject of the Uruguay Round and bilateral consultations before the United States along with Latin American countries

³Busch (2005) examines the question of forum shopping between NAFTA and WTO dispute venues, which is closer to the legal conception of forum shopping. This paper uses the term more loosely to compare the choice between negotiation versus adjudication.

filed WTO complaints.⁴

While it is not uncommon for an issue to be addressed in multiple fora, few are addressed in all possible fora – some selection is made. Trade authorities have limited resources to engage in negotiations on all fronts for all issues. A kind of triage is necessary to direct specific trade disputes to the most appropriate negotiation forum. Just as hospitals hold different criteria for the level of patient treatment such as ability to pay or nature of medical condition, governments formulate criteria for the treatment of diverse trade problems. The next section proposes selection principles, one based on political influence and the others based on the nature of the issue.

1.1 Interest Group Pressure and WTO Adjudication

Political lobbying has long been a prominent force to shape trade policy. Schattschneider (1935) uses the infamous Smoot-Hawley Act of 1930 to show how the deals made to accommodate narrow interests can produce protectionist policies harmful to the general interest. These insights are central to theories of endogenous policy formation in economics and political science (e.g. Magee *et al.*, 1989; Gourevitch, 1986). In their seminal work on the politics of interest group lobbying for trade policy, Grossman and Helpman (1994, 1995, 2002) model politicians as choosing trade policies to maximize their interest in political contributions from special interests and votes gained through serving aggregate welfare. Industries offer a contribution schedule in order to influence policy outcomes, *buying protection*. Government policy choices are a function of the weight given to aggregate welfare relative to contributions, the organization level of the demanding industry, and the degree to which economic constraints force a trade-off given the particular demands from industry.⁵ Not only do interest group politics by import-competing industries explain protection policies, but mobilization by export industries contributes to pressure for liberalization (Milner, 1988; Destler and Odell, 1987; Gilligan, 1997). Indeed, the wide movement to liberalize policies since 1945 suggests the strength of the latter.⁶

⁴See Alter and Meunier (2006) for a discussion about how this case raised overlapping institutional commitments for EU members as they weighed the Lome convention and WTO agreement implications for the EU banana import regime.

⁵Goldberg and Maggi (1999); Gawande and Bandyopadhyay (2000) conduct empirical tests that provide support for the main parameters of the model.

⁶Other important factors include ideas and democratic institutions (Goldstein, 1993; Lohmann and O'Halloran, 1994; Verdier, 1994).

In the past, export industries shaped trade policy with demands for reciprocity and threats of retaliation (Milner and Yoffie, 1989; Bayard and Elliott, 1994). Private lobbying is also observed in the highly technical area of WTO adjudication (Shaffer, 2003). Interest groups help to identify specific trade problems, urge governmental action, and use their resources to support the negotiation strategy.⁷ The lobbying also provides information to legislative representatives who then act on behalf of these constituent interests (Milner, 1997).

In their response to lobbying pressure by export industries, governments face a credibility problem to demonstrate their effort to deliver improved market access. Whereas protection policies for import industries are unilaterally granted by the government as tariffs or subsidies that can be easily monitored in the domestic context, the promise to increase market access for export industries requires government intervention by means of negotiations with foreign governments. More direct export promotion policies in the form of export subsidies were foregone as a result of earlier decisions to ban them in the GATT rules. Use of export subsidies is notably absent as a major policy tool (Rodrik, 1995; Deardorff and Stern, 1998).⁸ Rather, increase of market access through the reduction of foreign trade barriers is a frequent policy demand of export industries. Through negotiations, governments seek to gain commitments from foreign governments to lower trade barriers. Outcomes depend upon the interaction between the two governments in trade negotiations conducted at the diplomatic level. This raises two sources of uncertainty for the industry that has lobbied its government to improve market access. First, it cannot distinguish whether a poor outcome results from inadequate effort by its own government or resistance by the trade partner. The industry may fear that the government has traded away its interests, whether for a side payment on other issues or diplomatic concerns. At the same time, industries recognize the potential for stonewalling at the bargaining table as means for a respondent state to resist

⁷USTR officials instruct companies seeking help from the USTR to resolve trade disputes with foreign countries that companies are expected to commit resources by providing a detailed rationale for their complaint, hiring lawyers and economists to conduct relevant analyses, and lobbying of agencies and politicians (*Inside U.S. Trade*, 3 February 2006).

⁸There have been occasional disputes over indirect export subsidies, such as the foreign sales corporation tax case raised before the WTO adjudication. The GATT and now WTO have also made explicit exceptions to allow export subsidies for agricultural products, although the Uruguay Round Agriculture Agreement set constraints on the amount. Goodhart (2006) provides a theory for why the geographic mobility of export industries relative to import industries makes politicians favor import protection over export subsidies.

market opening. Second, the industry does not know whether the foreign government will comply with the negotiated agreement.⁹ To address these uncertainties, governments must convince their domestic industry that they will negotiate for market access and monitor implementation by the foreign government.

The pressure from export industries creates incentives for governments to accuse their trade partners of unfair trade and demand removal of trade barriers. In the heyday of U.S.-Japan trade friction in the 1980s, the U.S. complained about the standards and quotas that hindered U.S. exports of everything from baseball bats to beef as well as the way the Japanese economy was structured. Now daily news stories report new complaints about China using currency manipulation and piracy to harm U.S. export interests. As domestic pressure expands the list of complaints about foreign trade barriers, trade partners are faced with a barrage of criticism. While a trade partner would often rather offer a concession than risk a trade war, offering liberalization concessions on every complaint would bring high domestic political costs. Thus trade partners face a dilemma as they must filter through complaints to determine which ones to take seriously.

In the U.S. context, the domestic credibility problem has given rise to explicit institutional checks by Congress intended to force the executive branch to serve the interests of export industries. While Congress delegated negotiating authority to the executive in the Reciprocal Trade Agreement Acts of 1934, it uses both informal requests and its formal authority to ratify trade agreements as leverage to push the executive to support an aggressive trade agenda against foreign trade barriers. Destler (2005, 112) notes that “If U.S. trade negotiators were to keep their mandate from Congress and product interests, they had to appear tough in advancing and defending specific U.S. commercial interests.” In the 1970s, dissatisfaction with apparent passiveness by the executive branch in the face of spiraling trade deficits widely blamed on foreign protectionism led Congress to enact a series of reforms. It established a strengthened U.S. Trade Representative office and mandated that the office publish annual reports listing foreign trade barriers and the status of U.S. efforts to address these problems. The most controversial change was a new provi-

⁹Schelling (1980, 131) notes that promises depend upon two conditions for enforcement: capacity to punish and ability to discern when punishment is called for. In the context of the promise by a leader to serve industry interests in exchange for political contributions, punishment is possible in future iterations of the exchange through withdrawal of contributions. But the problems noted here impinge on the ability to make an enforceable agreement because the industry cannot tell when it should punish a government for a failure to achieve market access gains.

sion for proactive export promotion, Section 301 of the Trade Act of 1974. The measure called for the executive to respond to industry petitions about foreign trade barriers by negotiating with foreign governments and enacting trade sanctions when the foreign government refused to cooperate. Subsequent amendments strengthened the measure by adding timetables and criteria for targeting foreign trade barriers. In what came to be termed “aggressive unilateralism” the United States used this policy tool extensively in the 1980s to pressure trade partners to increase market access (Bhagwati and Patrick, 1990). Bayard and Elliott (1994, 331) analyze 72 Section 301 cases and conclude that the policy was “reasonably successful in opening foreign markets.” The trend in U.S. trade policy in the 1980s to pursue free trade through threats of unilateral retaliation against trade partners was widely condemned as another form of protectionism (Bhagwati and Patrick, 1990). Even those who recognized some gains from use of the controversial Section 301 provision for trade threats called for channeling U.S. complaints through multilateral venues (Bayard and Elliott, 1994). Thompson (2007) argues that the United States was willing to accept the constraint on its power through legalization of the WTO dispute settlement as a recognition that its use of unilateral trade measures caused excessive harm to diplomatic relations.

The WTO rules against unilateral sanctions have reduced the power of coercive bilateral negotiations. While the United States continues to act on Section 301 petitions, initiation of retaliation must be conditional on a WTO panel ruling. This was tested most explicitly in the U.S.-Japan negotiations about U.S. demands for greater access to the Japanese auto and auto parts market in 1995. When the breakdown of bilateral negotiations led the U.S. government to threaten retaliation against Japanese auto exports to the United States, Japan filed a WTO complaint against the retaliation measures. Recognizing it would lose the case, the U.S. instead backed down on its major demands to make a deal. Since then Japan has used WTO rules to reject U.S. pressure in bilateral negotiations (Schoppa, 1999; Pekkanen, 2001). Separately the EU won a WTO ruling on the Section 301 measure that mandated retaliation could only follow WTO rulings.¹⁰ While some in Congress still make calls for unilateral trade retaliation, those on trade committees who

¹⁰“United States - Sections 301-310 of the Trade Act of 1974” WTO DS152. The complaint was filed November 1998 and the panel ruling adopted January 2000. The ruling found that the U.S. law itself was not a violation, but noted that this conformity was contingent on the U.S. implementing Section 301 in conjunction with a WTO ruling and authorization of retaliation as stated by U.S. officials to the panel. See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds152_e.htm.

influence the policy process recognize that this is no longer an option and WTO adjudication is the means to resolve disputes.¹¹

How can a government persuade both its domestic industry and the trade partner to believe that the government will be a tough negotiator? I argue that governments use choice of forum to signal their commitment to their domestic industry. A large literature has grown about the role of costly signals as a way to give information about underlying type.¹² Through accepting self-imposed costs that are tied to fulfilling the promise, an actor increases the credibility of its commitment. In this case, a government chooses a costly strategy in an effort to convince its export lobby that it will fulfill its promise to negotiate a reduction in a foreign trade barrier. This simultaneously signals the trade partner of the government's high priority for the issue.

Adjudication represents a solution to this problem. Filing a WTO complaint represents a high cost activity in terms of government resources, diplomatic relations, and audience costs. Reinhardt (2003, p.81) highlights how the high transaction costs of WTO adjudication can help a *defendant* state make liberalization commitments by raising the cost of protection. These transaction costs are equally important for the plaintiff that chooses to initiate the process. WTO disputes last anywhere from two months to four years depending on the case, and extensive legal resources are necessary to support building the case. The legal fees alone average \$1.5 million for a typical case that goes through panel proceedings and may reach higher for complex and lengthy disputes.¹³ The public nature of suing a trade partner can contribute to acrimonious rhetoric harmful to diplomatic relations (Alter, 2003). The state that files a legal complaint raises the stakes by taking public action because it would suffer both international and domestic audience costs if it backs down after a trade partner fails to offer early concessions or refuses to comply with a ruling.¹⁴ Even the most active users of WTO adjudication such as the United States and EU only file seven cases in a typical year. Given that states face hundreds of barriers harmful to exports, filing for one case represents the opportunity cost of not taking up the issue of another barrier. Consequently, the act of filing a complaint signals to the domestic industry that their issue is

¹¹USTR official. Interview by author, 11 July 2007.

¹²Spence (1973) started the focus on this issue in economics with his study about the role of investments in education as a signal of quality to employers. The concept has been extended in international relations to address state efforts to demonstrate high resolve in foreign policy crises (Martin, 1992a; Fearon, 1997).

¹³Lawyer for a major international law firm. Interview by author, Geneva 24 October 2007.

¹⁴See Fearon (1994) and Sartori (2005) for discussion of domestic and international audience costs.

receiving high priority in the government's trade policy agenda. Yet at the same time, WTO adjudication presents lower costs than imposing unilateral retaliation, which harms diplomatic relations and domestic consumer interests. The moderate costs of adjudication are sufficient to signal resolve without risk of a trade war.

Participants in the trade policy process recognize the political role of adjudication. A U.S. trade official commented that pressure from Congress on the executive to initiate more WTO disputes reflects the fact that it is an easy response for representatives to tell constituents they are seeking a case. "It really shows you are tough when you go to court."¹⁵ A WTO official told of cases that were initiated as "candy" to reward industries which had provided key electoral support.¹⁶ A lawyer involved in several WTO cases spoke of instances where officials were reluctant due to concerns about the legal strength of a case, and then initiate because they get "rolled by political pressure."¹⁷ Former Representative William Frenzel, who chairs the President's Advisory Committee for Trade Policy and Negotiations, said that input from politicians and industry can be a factor in the selection of WTO cases. He commented that too often the pressure reflects the view that a small market share can be fixed by being a tough negotiator.¹⁸

The Kodak-Fuji film dispute provides an example of how strong political pressure can lead to a WTO dispute on an issue that would not otherwise appear to have been a likely case for adjudication. The dispute began in 1995 when Kodak filed a petition under the provisions of Section 301 requesting that the U.S. government take action to address unfair barriers in the Japanese market that prevented access for U.S. film exports. Kodak argued that connections between retail stores and Fuji film and the structure of the distribution market were discriminatory. Fuji film denied the claims and hired a legal team to counter point by point every argument, while the Japanese trade ministry insisted this was a matter of private business actions and refused to intervene. Fundamentally the complaint was about competition policy, which could more directly be addressed by filing a complaint to the Japan Fair Trade Commission. But Kodak was skeptical that the JFTC would bring any meaningful change and wanted to see direct action by the U.S. government. After a year of getting nowhere in bilateral talks during the Section 301 investigation, political pressure built for the USTR to do something. The Japanese side had made no concession,

¹⁵U.S. government official, interview by author, 26 October 2007.

¹⁶WTO official, telephone interview by author, 2 November 2007.

¹⁷Lawyer for international trade law firm, interview by author, 25 October 2007.

¹⁸Interview by author, 11 July 2007.

and the terms of Section 301 call for retaliation in the case of a foreign trade partner not taking actions to redress the complaint. Having just finished the auto dispute with Japan in which the Japanese government challenged U.S. retaliation measures in a WTO case, USTR was reluctant to again issue unilateral retaliation. Kodak drew upon its political connections and calls were made by congressional offices to USTR calling for action. Despite concerns about a weak legal case, in 1996 USTR filed a WTO complaint against Japan (DS44). Not many observers were surprised when two years later the United States lost the ruling. The entire dispute had absorbed considerable resources for all sides involved and brought no change in the policy. Yet the use of adjudication finally convinced Kodak and its political backers that nothing further could be done. Statements from Kodak representatives and the New York congressional delegation as well as a *New York Times* editorial (10 December 1997) criticized the WTO ruling but none claimed the government had made insufficient effort or that it should undermine the WTO ruling. No more calls were issued for unilateral retaliation. Even in this worst case scenario with a difficult legal case, adjudication had served as the best response to political pressure.¹⁹

The implications of the argument for a politicized pattern of WTO adjudication can be tested across a larger range of cases. The government incentives to signal willingness to take strong actions for an industry are greater for issues that affect politically important industry groups. Political contributions are a key indicator of industry political influence on trade policy (Grossman and Helpman, 1994; Hansen and Drope, 2004). Collective action is also important as organized groups can more effectively coordinate for lobbying and political contributions (Olson, 1965). Trade barriers that directly affect an industry with high political contributions and organization would be the most likely to trigger the government choice to use WTO adjudication.

Interest Group Hypothesis: *Trade disputes involving strong interest group pressure are more likely to be raised in WTO adjudication.*

¹⁹This brief account of the dispute draws upon interviews with U.S. and Japanese officials involved in the case and the detailed written account in Durling (2000).

Additional Strategic Considerations in Selection of WTO Cases

Factors related to the economic and legal stakes of a case are also important. Few governments would want to challenge a trade partner's policy in court if they have no economic stakes or legal argument in support of their case.²⁰ While the interest group hypothesis emphasizes political factors that influence the cost benefit calculation for a dispute, a more narrow focus would dictate simply weighing the costs of the dispute against the likely gains from ending the trade barrier. In the selection among industries, large export industries are more likely to present sufficient benefits to justify the cost of litigation. In the selection of trade partners to target, those with larger markets promise greater potential gains from any market access gains.²¹ A unitary state acting to maximize economic gains would favor large export industries and its largest trade partners in its expenditure for export promotion activities such as WTO adjudication.

Studies of the litigation behavior of administrative agencies suggest that legal certainty pushes bureaucracies to prioritize their win-rate over the actual economic gains per case (Posner, 1972). The observation that over eighty percent of the rulings by WTO panels favor the plaintiff suggests that governments screen out weak legal cases before filing or in early settlement. Ideally, one would want a legal brief prepared to evaluate each trade barrier by a trade partner, but short of this, one can evaluate which policy issues generally represent a stronger expectation of legal victory and compliance outcome. In the record of WTO jurisprudence, some issues that directly limit imports, such as anti-dumping measures or import quotas, have led to consistently strong positive rulings and have transparent implementation.²² Such measures are more likely to represent clear legal cases with high probability of gains compared with issues on standards or intellectual property where there are fewer case precedents and greater difficulty to evaluate implementation. Guzman and Simmons (2002) show that within the set of WTO disputes, those related to tariffs and quotas are easier to resolve (and hence more likely to settle early) because their "continuous" nature allows

²⁰There are exceptions. The WTO does not require that a state have an industry interest in order to file a case and there are examples such as the U.S. decision to file a complaint against the EU banana import regime even when the U.S. does not produce bananas.

²¹See Guzman and Simmons (2005) on the hypothesis that in WTO adjudication states should target large market defendants in order to maximize economic gains.

²²See Tarullo (2004) for review of trend for positive rulings in anti-dumping cases. Allee (2003) shows that within the sample of anti-dumping cases, legal criterion influence the likelihood that a state will file a WTO case challenging an AD duty.

for compromise that cannot be made on “all-or-nothing” regulations. Thus a bureaucrat trying to maximize either early settlement or legal victory is more likely to choose cases related to border measures affecting goods imports.

Finally, the economic and political conditions of the trade partner also influence choice of negotiation strategy. Ultimately the trade partner must agree to change its trade barrier for there to be any realization of market access gains. On the one hand, the state seeking market access may be less likely to adopt costly adjudication strategies for cases where high trade partner resistance reduces the likelihood of success. This logic of strategic restraint suggests that states would only bother to file WTO cases when they anticipate low trade partner resistance. This is the logic of critics who suggest that cooperation in institutional fora occurs for *easy issues* that are ripe for cooperation (Downs *et al.*, 1996). On the other hand, the interest group pressure argument of this paper suggests that resistance by a trade partner pushes cases to WTO adjudication. Similar to governments that initiate a legal dispute to signal their willingness to take a high cost negotiation strategy for their export industry, respondent states will refuse bilateral settlements and wait for a WTO ruling as a way to signal their willingness to accept high cost adjudication in defense of their import industry. The two propositions about high trade partner resistance offer opposite predictions about whether adjudication is more or less likely as a strategy against high trade partner resistance. This can be tested as an empirical question by controlling for the stakes to the partner industry. Studies point to import penetration, employment share, and tariff rates as key variables to influence demand for protection (e.g. Trefler, 1993; Busch and Reinhardt, 1999; Kono, 2006), which allows one to identify the industries in which trade partners are the most likely to resist lowering their trade barriers.

2 Analysis of U.S. Trade Negotiation Strategies

Foreign Trade Barrier Dataset

This section will present analysis of an original dataset of potential trade disputes based on coding government reports by the USTR that provide annual lists of trade barriers by U.S. trade partners that are harmful to the interests of U.S. exports. These data offer three major advantages that will contribute to the study of trade policy. First, the trade barriers which are listed in the

government reports meet a minimum threshold of demand that makes them potential issues for a negotiation agenda. This facilitates analysis of a *politically relevant* set of cases, unlike studies that measure trade policy barriers as the residual for any product trade flow in a gravity model of trade.²³ Second, the data include not only standard NTBs such as quotas, but also regulations that affect the service industry, investment policies, and qualitative non-tariff barriers related to technical standards and intellectual property rights protection. In contrast, the UNCTAD dataset that is the most frequent source in analysis of non-tariff barriers does not include intellectual property policies. Third, the data are reported from the U.S. perspective as a “victim” of the trade measures that has an interest in full disclosure of the barriers taken by other countries. In contrast, the UNCTAD dataset relies on official national reports of governments about their own trade policies, and as a consequence understates barriers where governments do not desire transparency (Laird and Yeats, 1990, 20). Finally, whereas most empirical studies of non-tariff barriers focus on manufacturing industries, the data include barriers affecting both primary and manufacturing sectors. In short, the data will allow me to examine the full range of trade protection whereas existing datasets focus on a small number of basic protection tools that no longer reflect the current trade agenda.

A brief background on the creation of the reports is necessary. They represent one tool by which Congress monitors the executive branch actions on trade policy. In the Trade Act of 1974, Congress mandated that every year the Office of the U.S. Trade Representative submit to the Senate Finance Committee, appropriate House Committees, and the President “The National Trade Estimate Report (NTE),” which should analyze market access barriers that adversely affect exports of U.S. goods and services. The report represents an inventory of trade barriers that was originally intended to help generate cases for the Section 301 process in which the U.S. Congress had mandated the government target particular foreign barriers for negotiation on a time schedule leading to possible economic sanctions. Noland (1997, 369) uses the report to measure U.S. government attention to bilateral trade problems.²⁴ The NTE is drafted in consultation

²³Such gravity model studies are subject to the critique that poor fit of the model would erroneously suggest that there are high trade barriers (Laird and Yeats, 1990, 35).

²⁴He counts the number of pages in the report devoted to each trade partner for a single number measuring the attention given to the aggregate trade problems with a specific trade partner. In contrast, my dataset codes the individual trade barriers.

with U.S. embassies abroad, trade policy advisors (academic and industry officials with formal clearance to participate in the trade policy process), USTR officials of the relevant area and policy specialties, and a public comment process in which industries make submissions.²⁵ Carmen Suro-Bredie, the Assistant U.S. Trade Representative for Policy Coordination, confirmed that the NTE trade barriers represent the politically relevant trade barriers and said that briefing reports for U.S. officials going to a particular trade negotiation draw upon the information in the NTE.²⁶ Members of Congress have used the release of the report to urge more action by the administration to address specific foreign trade barriers.²⁷ This report is complemented by the “Annual Report on Trade Agreements Program and National Trade Policy Agenda” that provides information on the goals and reported actions and progress for specific trade agenda items.

The data were coded in three stages. First, a list of barriers was created from each annual NTE report and any reference to government action was recorded. Second, these cases were aggregated into a single list of discrete trade barriers. Third, the notes on government negotiation activities drawn from the NTE reports were confirmed against the USTR Annual Reports and the WTO dispute settlement web-site list of cases. In the final dataset, a case represents a distinct complaint about a specific policy measure. Some industries are affected by multiple trade barriers stacked on top of each other, and each one is coded separately. For example, the NTE report on Korea lists discriminatory tax policies, standards, and anti-import bias generated by media campaigns as policies that adversely affect U.S. auto exports to Korea. These are coded as three cases. Sometimes a complaint will be mentioned in the reports for several years before action is taken, which makes it important to control for the duration of a trade barrier (measured as the number of years the trade barrier continues to receive mention in the NTE). This paper analyzes the trade barriers that address a single industry that could be coded at the 2 digit International Standard Industry Classification (ISIC) level (e.g. textiles or motor vehicles) and where data was available for key economic indicators and political contributions.²⁸ Other barriers which affect

²⁵For example, there were 39 new submissions for the 2006 NTE from associations such as the California Avocado Commission and the National Electrical Manufacturers Association as well as from companies such as Pepsico and Walmart.

²⁶Interview, Washington, D.C. 11 May 2006.

²⁷Correspondence of House Ways and Means Subcommittee provided to author.

²⁸The 2 digit level is used because this is the aggregation at which data is most consistently available for both political contributions and economic control variables. Some trade barriers are more narrow (e.g. dairy rather

several industries such as general tax policies are not included for analysis in this paper.

The data scope is for all U.S. complaints about trade barriers by nine top trade partners: Canada, EU, Japan, Korea, and Mexico represent the top five OECD trade partners. These trade partners are those with the highest trade volumes with the United States. Four additional countries, Brazil, India, Malaysia, and Singapore were added to the sample as representative of top U.S. trade partners among developing countries that have also been WTO members since 1995 (note that while China is a major trade partner, it only joined the WTO in November 2001). In 2005, the value of U.S. exports to these nine countries represented 72 percent of all U.S. exports.²⁹ The time period begins with the establishment of the WTO in 1995 and continues to 2004, which is the most recent year for which industry level data from the OECD is available. The unit of analysis is a complaint about a trade barrier affecting U.S. exports listed in the NTE report. There are 410 barriers with data on relevant covariates for inclusion in the analysis.

Forum Choice The dependent variable is the choice of forum for addressing the trade barrier and consists of three categories: no action, negotiation, and WTO adjudication. Any case in which a formal complaint was filed to the WTO is classified as WTO adjudication. Many of these cases are resolved before the final adjudication process has ended, but the key quantity of interest here is the decision to file a complaint. Negotiation includes trade barriers discussed in the range of other venues available for addressing trade barriers. Most of these represent bilateral negotiations, while some represent multilateral discussion in WTO committees or regional negotiation fora. In addition, many complaints are mentioned in the reports without any reference to negotiation activity, and these cases are coded as having no action. Some of these “no action” cases may have actually been raised at a low level in bilateral or multilateral talks, but the lack of any specific mention of the negotiation in the report suggests that these cases received less attention.

The forum coding reflects the dominant strategy taken during the period that the barrier is listed in the NTE. For example, a trade barrier that was listed without mention of any government action in the 1995 report and was an item in bilateral talks for the 1996 to 1997 reports before

than agriculture or woolen coats rather than textiles). Data availability forces this aggregation, but one would also expect that lobbying influence draws upon the larger industry aggregation. For the following five industries for which data was consistently available, industry is coded at the 4 digit level: pharmaceuticals, steel, aircraft, ship-building, and railroad transport equipment.

²⁹WTO, International trade statistics 2006, table III.16 U.S. Merchandise Trade by Region.

a WTO complaint was filed in 1998 would be coded as a WTO adjudication case, whereas if the reports had returned to simply mentioning the trade barrier in the 1998 and subsequent reports, the case would be coded as a negotiation case.

Negotiation is the most frequent strategy, used for fifty-three percent of the cases. Over one third of the cases are mentioned without record of any action taken. WTO adjudication is used for nine percent of cases - 35 of the 410 barriers analyzed in the dataset are raised for WTO adjudication.

Contributions The argument suggests that the U.S. government will choose dispute adjudication as the negotiation strategy in response to demands from organized interest groups. Industry lobbying is measured by the level of political contributions. The data is from the Center for Responsive Politics (CRP), a non-partisan research group that tracks money in U.S. politics.³⁰ The CRP collects the publicly listed data from the Federal Election Commission and summarizes the total contributions by individuals, PACs, and soft money contributions according to industry category for over one hundred industries. The main analysis here uses the total contributions for the election cycle prior to the first listing of the barrier in the reports.³¹ Using the period prior to policy outcome is consistent with testing the first stage of a Grossman and Helpman (1994) theoretical framework that organized industries provide a menu of contributions that specifies their preferred trade policy outcomes, and politicians choose policies. While contributions should vary in response to reward policy outcomes, studying the effect of trade strategies on political contributions is beyond the scope of this study.³² The main analysis sums contributions to all parties, but additional tests that disaggregate contributions by party will be discussed later. The amount of contributions ranges from high levels of 99.8 million dollars by the finance industry and 24.6 million dollars by agricultural producers to lower values of 2.6 million by the auto industry and 859 thousand dollars by the TV production industry (these examples are from the 1996 election

³⁰Data available at <http://www.crp.org/>.

³¹Similar results are found when using the total contributions over the period 1990 to 2006.

³²See Gawande (1997) for research showing that U.S. industry contributions increase as a function of NTB coverage. Mitra (1999) model lobby formation as a function of government willingness to offer policy outcomes for political contributions.

cycle).³³ The log of the U.S. dollar value is taken to smooth high values.

Section 301 Seventeen of the trade barriers in the data used for regression analysis are Section 301 cases. As described earlier, the U.S. Congress created a tool for export promotion in Section 301 of the U.S. Trade Act. The law mandates that the USTR investigate the complaints of industries that file petitions and initiate a Section 301 case for those evaluated to have sufficient merit. Congress also added provisions for the USTR to initiate Section 301 cases on its own without an industry petition when unfair trade policies by a trade partner called for such action.³⁴ Section 301 cases follow specific deadlines for government action to request negotiations with the foreign government. When met by continued resistance by the trade partner, the government must resort to unilateral sanctions or initiate a GATT/WTO dispute. Given the institutional constraint one would expect that Section 301 cases would be more likely to have an adjudication strategy chosen. Since the government is legally obligated to act for the petitions that it has accepted as Section 301 cases, this variable is constrained to zero for estimating the probability of “no action” as the forum choice.

U.S. Economic Interest Control Variables Industry size is an important control variable since larger industries represent greater economic stakes.³⁵ I use the production value in the base model, and model 2 adds an additional control for the employment share of the U.S. industry affected by the foreign trade barrier.³⁶

Since the analysis focuses on government policies to increase market access for exports, it is also important to control for export interests. I use the world export value as reported by the The OECD STAN Bilateral Trade Database (thousand U.S. dollars). For the economic control variables, data is for the U.S. industry at the 2 digit ISIC industry category measured during the year that the trade barrier is first reported. For the production and export values, the log is taken

³³The CRP industry categories have been adjusted when necessary to provide the closest match with the ISIC industry used for economic variables.

³⁴See Bayard and Elliott (1994) for description of the use of Section 301.

³⁵Others use these measures as the proxy for *political importance* (e.g. Lee and Swagel, 1997). This study is able to more directly measure political importance with data on political contributions. To the extent that larger industries will also have more resources to make political contributions, it is also necessary to control for this variable.

³⁶OECD STAN database for Industrial Analysis.

to smooth high values. Employment share is the percent of the industry in total employment.

Trade Barrier control variables To analyze the selection of disputes for adjudication, one wants to control for the legal strength of a potential complaint. Unfortunately this is rarely possible. Evaluation of the legal status of a trade barrier requires both extensive WTO legal expertise and knowledge about the specific policy and its impact on trade; even when governments conduct such internal analysis, they treat their conclusions as private information. Coding legal status was not possible for this project, which involves over four hundred distinct trade barriers. Rather, I use a proxy variable for strong legal cases based on the nature of the trade barrier. Protection measures directly targeting imports represent a straightforward application of existing WTO rules. These policies have always been at the core of the trade regime regulations, so there is a large body of jurisprudence based on previous cases under both GATT and the WTO that can help governments to build a legal case. A government looking for strong legal cases is more likely to challenge trade barriers based on import policies over other policy areas. The NTE divides the report on each trade partner into sections for the type of trade barrier, and I code an indicator variable for those described as import policies.

The level of trade distortion from the disputed barrier increases the economic stakes and likelihood of a violation ruling, so one would expect high distortion trade barriers to be more likely to face challenge by WTO dispute adjudication. I measure the distortionary burden from the trade barrier with an indicator variable which codes cases that involved substantial market closure resulting from policies such as high quantitative restriction (ban, quota, or increase of tariff/duty by more than 10 percent), use of standards or rules of origin to implement a de facto ban on imports, violation of intellectual property rights, or subsidies provided to competitors. Forty-seven percent of the cases involved such high distortion policies. Other barriers coded as having a more moderate distortionary effect on trade included policies such as low level quantitative restriction or burdensome procedures.

Partner Industry Control Variables Negotiations are a strategic interaction between two states, and the demand for protection in the trade partner for its industry influences whether the government will be more or less likely to remove the trade barrier. At the same time the expected market gain for the exporter influences their incentives to push for change. The import

penetration ratio (share of imports in GDP) for the trade partner industry serves as a proxy for the market stakes to both sides.³⁷ The literature offers conflicting interpretations of whether import penetration increases demand for protection by threatening the domestic industry (Trefler, 1993) or reduces the supply of protection by increasing the cost to aggregate welfare (Grossman and Helpman, 1994). From the exporter perspective, a higher level of trade partner import penetration suggests a larger market. I also test for the impact of change in import penetration during the year prior to the case.

Model 2 adds employment share and tariff rate, which are also common control variables in studies of nontariff barriers (e.g. Kono, 2006; Busch and Reinhardt, 1999; Lee and Swagel, 1997). Employment share of the industry in the trade partner proxies for the strength of demand for protection because industries that affect more voters have greater influence.³⁸ The tariff level is itself a product of past decisions that incorporate demands for protection.³⁹ I expect both high employment share and high tariff levels to increase the likelihood of adjudication as the trade partner resists settlement in other fora. For the trade partner as well, the high costs of adjudication signal government commitment to the industry. Furthermore, the delays introduced by the lengthy adjudication process work in the favor of the protected industry.

Trade Partner Fixed Effects Including indicator variables for the trade partner imposing the trade barrier against U.S. exports controls for the possibility that other country specific factors such as market size or preferential trade agreements influence the choice of strategy. The indicator variables allow us to examine whether the pattern shows that the U.S. favors WTO adjudication against its largest trade partners, Canada, EU, and Japan over the smaller markets of Korea and Mexico or the developing country non-OECD members.

³⁷The data on import penetration ratios for Canada, the EU, Japan, Korea, and Mexico at the 2-digit ISIC level is measured for the year that the trade barrier is first reported. Import penetration data is from the OECD STAN Indicators database. Since data on import penetration ratio was unavailable for the non-OECD countries, these observations are entered as zero and any effect from the systematic nature of the missing data will be captured in the non-OECD indicator variable.

³⁸The data on employment share by industry is from UNIDO's Industrial Statistics database for manufacturing employment and FAO's FAOstat database for agricultural employment, and total employment is from the ILO.

³⁹Ray (1981) showed that there is little reverse feedback from the non-tariff barrier to tariffs. Tariff rates are measured as the simple average MFN rate for the 2 digit industry, and are from the UNCTAD TRAINS dataset.

On the other hand, the U.S. could be less likely to initiate disputes against Canada and Mexico because NAFTA provides an alternative venue that makes bilateral negotiations more effective. Industries that face trade problems with a NAFTA partner do not need to rely on U.S. government intervention because companies are empowered to initiate disputes directly under NAFTA Article 19. Indeed, the U.S. government has only initiated one NAFTA dispute under the Article 20 provision for government to government adjudication while there have been over thirty Article 19 disputes initiated by U.S. companies against Mexico and Canada.⁴⁰ The distribution of trade complaints varies by trade partner. Of the 410 trade barriers, twenty-two percent were EU measures, eighteen percent were Korean, and seventeen percent were Japanese. Canada, Mexico and Malaysia each had nine percent of the barriers, while India had eight percent and Brazil six percent.

Results

Table 1 presents the results from multinomial logit regression analysis. The three outcomes are treated as unordered choices, and negotiation is the base outcome so other coefficients represent the comparison of each alternative with the negotiation forum choice.⁴¹ The results confirm that political pressure influences the choice of cases for WTO adjudication. Both political contributions by the industry and the Section 301 mechanism by which Congress applies pressure on the executive branch have a statistically significant positive effect on the likelihood that a complaint will be raised as a WTO dispute.

The substantive effect of political contributions is large, as can be seen through a comparison of how changing the variable influences the predicted probability for initiating a WTO dispute when all other variables are held constant.⁴² I estimate the first difference for the quantity of interest

⁴⁰The Article 20 dispute was initiated against Canada, “TARIFFS APPLIED BY CANADA TO CERTAIN U.S.-ORIGIN AGRICULTURAL PRODUCTS” CDA-95-2008-01. It is included in the dataset as a bilateral negotiation. The Article 19 NAFTA cases initiated by companies are not mentioned in the NTE and are not included in the dataset.

⁴¹The base outcome affects the coefficient interpretation but not the estimated probability of a particular outcome. I use negotiation as the base outcome because this was the most frequent forum choice.

⁴²Using the software Clarify, I simulate model parameters from their asymptotic sampling distribution and compute the Monte Carlo estimates of predicted probability of a WTO dispute initiation. See Michael Tomz, Jason Wittenberg, and Gary King (2003) CLARIFY: Software for Interpreting and Presenting Statistical Results,

| Variables | Model 1 | | Model 2 | |
|-----------------------|----------------------|---------------------|----------------------|---------------------|
| | WTO adjudication | No action | WTO adjudication | No action |
| Contributions (log) | 0.851 * ** (0.199) | -0.047 (0.149) | 0.521 * * (0.201) | -0.044 (0.146) |
| Section 301 | 3.346 * ** (1.096) | | 3.958 * ** (1.139) | 0.000 (0.000) |
| Production (log) | -0.534 * * (0.238) | 0.447 * * (0.218) | 0.501 * (0.298) | 0.746 * (0.385) |
| Empl. share (US) | | | 0.148 (0.290) | -0.133 (0.286) |
| Exports (log) | 0.332 (0.217) | -0.213 * ** (0.070) | -0.504 (0.381) | -0.326 (0.309) |
| MPEN (partner) | 0.020 * ** (0.008) | 0.009 (0.009) | 0.033 * ** (0.011) | 0.010 (0.009) |
| Empl. share (partner) | | | 0.080 * * (0.034) | -0.012 (0.020) |
| Import policy | 0.646 * ** (0.223) | 0.108 (0.199) | 0.448 * (0.263) | 0.122 (0.198) |
| Distortion | 1.332 * ** (0.400) | 0.486 * ** (0.178) | 1.253 * ** (0.384) | 0.449 * * (0.189) |
| MFN tariff rate | | | 0.022 (0.028) | 0.008 (0.013) |
| EU | 0.579 * * (0.273) | -0.120 (0.558) | 0.627 * (0.235) | -0.035 (0.633) |
| Japan | -0.715 (0.676) | -2.695 * ** (0.719) | -0.478 (1.060) | -2.366 * ** (0.773) |
| Mexico | 0.161 (0.495) | -0.621 * (0.342) | -0.666 (0.760) | -0.632 (0.458) |
| Korea | -1.003 (0.940) | -2.085 * ** (0.420) | -1.648 (1.765) | -2.497 * ** (0.431) |
| Non-OECD | -0.042 (1.054) | 0.554 (0.513) | 0.138 (1.612) | 0.330 (0.596) |
| Duration | 0.157 * ** (0.049) | -0.101 * * (0.048) | 0.175 * ** (0.052) | -0.084 * (0.043) |
| Intercept | -15.096 * ** (5.150) | -2.471 (2.552) | -15.036 * ** (5.337) | -5.039 * * (2.556) |
| Pseudo R squared | 0.257 | | 0.256 | |
| N | 410 | | 355 | |

Table 1: Multinomial Logit Model of U.S. Choice of Trade Strategy. Data are trade barriers listed in the National Trade Estimate Reports during the period 1995 to 2004 that were industry specific. The first column of each model presents coefficients for the choice of WTO adjudication. The second column presents coefficients for the choice of no action. These two sets of coefficients are relative to the base category of negotiation in a bilateral or multilateral forum. The Section 301 variable is constrained to zero in the estimation of no action since the government is legally mandated to take some action in these cases. In model 2, an indicator variable for cases with missing data on employment share of partner was included but is not shown. Robust standard errors, which have been clustered by industry categories, are in parentheses. Canada is the omitted comparison group for the trade partner indicator variables, and Non-OECD groups the trade barriers of Brazil, India, Malaysia, and Singapore. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

based on the estimates from model 1 in table 1. Increasing the level of political contributions by one standard deviation above the mean while holding other variables constant increases the predicted probability of WTO dispute initiation from 0.04 to 0.12.⁴³ The same shift reduces the predicted probability of negotiation by 0.03 from the high base expectation of a 0.60 predicted probability of negotiation as the strategy choice.⁴⁴ As an illustrative example, I compare the probability of initiating a WTO dispute when setting the political contributions variable at the level of the computer industry, which gave 9.5 million dollars in the 1996 election cycle, with the probability of initiating a WTO dispute when setting the political contributions variable to the level of the agriculture industry, which gave 24.6 million dollars in the 1996 election cycle.⁴⁵ This shift from low to high levels of donations increases the probability of initiating a WTO dispute from 0.02 to 0.07.

The effect of contributions does not appear to vary substantially by party recipient. When replacing the total contributions with either the value of contributions to the Republicans or the Democrats, the coefficient is positive and significant for each although slightly larger for Democratic contributions (results not shown). There is high correlation of 0.90 between Democratic and Republican contributions by industry.

An alternative measure of political influence that examines the level of organization within the industry also has a significant positive effect on the probability that a case will be raised in either WTO adjudication or multilateral negotiations. Organization is measured by a variable that counts the number of industry associations within the aggregate 2-digit ISIC industry. For example, there was one industry association for ISIC 30 computer and office equipment, five associations for ISIC 34 motor vehicles, twenty-one associations for ISIC 17 textiles, and forty-two associations for ISIC 1 agriculture.⁴⁶ I expect that more associations corresponds with more

Version 2.1. Stanford University, University of Wisconsin, and Harvard University. January 5. Available at <http://gking.harvard.edu>.

⁴³The simulation estimates a first difference of 0.074 with 95 percent confidence interval from 0.027 to 0.149.

⁴⁴The 95 percent confidence interval for the first difference of 0.03 is from -0.118 to 0.046, and so does not reach standard significance.

⁴⁵Note that the CRP data on contributions aggregates computer and software industries together, whereas in other economic control variables measured by the OECD these are separate.

⁴⁶I thank Wendy Hansen for sharing this data. I have aggregated her industry associations data from 4 digit NAICS level to 2-digit ISIC by using the concordance provided by the U.S. Department of Commerce and summing the total number of 4 digit NAICS industry associations that fall within the corresponding ISIC category. See

lobbying activity. For industries with more associations there is a greater probability that any given trade barrier will affect exporters that have close ties with an industry association that will lobby for their interests. The variables for number of associations and level of political contributions are correlated (0.60 correlation) and would be expected to measure the same underlying concept of industry political lobbying. Therefore I treat them as alternatives rather than including them jointly. I used the same models presented in table 1, and replaced the political contributions measure with the organization measure. The coefficient for the associations variable in the WTO adjudication outcome estimates is positive and highly significant (results not presented here). The shift of the association variable from its value of 1 for computer industry to 5 for autos while all other variables are held at their mean increases the predicted probability of dispute initiation by 0.04 (95 percent confidence interval 0.02 to 0.08). A shift from 5 associations to 42, which is the number of agriculture industry associations, increases the predicted probability of dispute initiation by 0.10 (95 percent confidence interval 0.04 to 0.17). This additional test shows that political influence is robust to measures of contributions or organization.

The effect of a trade measure being selected for Section 301 investigation is even larger. In the aggregate data used in the regression analysis, there are seventeen section 301 cases, and eleven were raised as WTO disputes for adjudication. There were no Section 301 cases in which the government did not take any action (the regression estimation constrains the coefficient to zero for this outcome as shown in the second column). When using multivariate regression to control for other factors, the pattern for Section 301 to encourage WTO adjudication is even more stark. Moving the variable for Section 301 from zero to one increases the predicted probability of initiating a WTO dispute from 0.05 to 0.69.⁴⁷ Similar to the pattern noted above for political contributions, the positive effect of Section 301 on the probability of a WTO dispute contrasts with a significant negative effect on the probability that the measure will be addressed through negotiations. Most negotiations have a bilateral stage before WTO adjudication, but the analysis shows that those measures targeted through Section 301 are more likely to be taken to the next level with initiation of WTO dispute.

The choice of Section 301 cases itself is influenced by some of the same variables included in the regression, but not by political contributions. The section 301 variable and political contributions

Hansen *et al.* (2005) for the original data explanation.

⁴⁷The simulations estimate a first difference of 0.64 with 95 percent confidence interval from 0.347 to 0.861.

variable have a correlation of 0.026. In logistic regression analysis of the dichotomous outcome for Section 301 case selection, production and export value as well as the distortionary effect of the barrier and duration of the dispute have significant positive effects while the import penetration ratio of the trade partner has a significant negative effect. Political contributions, however, do not come close to having a significant effect. This indicates that it is highly unlikely that the effect of political contributions on negotiation choice is endogenous with the Section 301 case selection.

The characteristics of the partner industry also influence choice of negotiation forum. Those industries with high import penetration are significantly more likely to be raised in WTO adjudication. A shift of trade partner import penetration ratio from 20 to 40 increases the estimated predicted probability of dispute initiation from 0.05 to 0.21.⁴⁸ Somewhat surprisingly, a variable measuring the growth of import penetration during the year prior to the start of the dispute does not have any significant effect (results not shown). Model 2 includes employment share of the trade partner and the MFN tariff rate as additional control variables for the strength of political resistance to liberalization. Industries with a higher employment share in the trade partner and higher tariff rate are also more likely to be raised in WTO adjudication. Rather than avoiding WTO adjudication for cases with high stakes for the trade partner, it appears that the U.S. government is more likely to use WTO adjudication for these tough cases.

The variables measuring economic interests are useful to show that the effect of political contributions holds even when controlling for industry size and trade interests, but not for drawing conclusions about the effect of economic indicators on negotiation choices. The estimates of industry production and export value are sensitive to specification with different signs in Model 1 and 2. Alternative measures of industry size and export interests do not yield different results. Replacing production value with total employment or replacing world export value with bilateral export value or U.S. share of the partner's market for the industry does not have a significant effect on choice of forum. One should not conclude that economic factors are irrelevant, however, since these variables are also correlated with whether an industry gives more political contributions and is likely to be selected as a Section 301 case.

Neither is there a consistent pattern of economic maximization by using the more costly WTO

⁴⁸The mean import penetration ratio is 17.3, with a standard deviation of 24.5. Note that this variable was only available for OECD countries, and takes a zero value for the non-OECD partners. Results are robust to instead dropping the non-OECD partners from the sample.

adjudication forum for trade partners with the largest domestic market. On the one hand, the U.S. does appear to favor WTO adjudication with the EU. On the other hand, smaller trade partners, Japan and Korea, are significantly less likely to have their trade barriers ignored than the U.S. top trade partner, Canada. Interestingly, NAFTA partners are no more or less likely to be targeted in WTO adjudication.⁴⁹ The option of another dispute resolution venue does not substantially reduce their use of WTO adjudication. This is consistent with the argument by Busch (2007) that states value the multilateral precedent over the bilateral forum so long as they have a comparative advantage both relative to their regional partner and multilateral partners.

The nature of the policy issues plays a large role. The import policies that represent the core of WTO regulations are also the most likely trade measure to be targeted in WTO adjudication. Government agencies trying to maximize their win-rate will prefer these measures as easy legal cases where WTO rules and jurisprudence offer more clarity about the legal standard compared with newer areas of trade regulations such as services, IPR, and technical standards. The data show a strong relationship between the distortionary effect of the barrier and the choice of WTO adjudication. Yet those high distortion trade barriers that are not challenged in WTO adjudication are likely to be ignored rather than negotiated.

2.1 Sensitivity Analysis

Several alternative model specifications reveal that the importance of political contributions is robust to changing the control variables or statistical estimation model. Two sets of control variables suggested by the literature but not included in the main models presented in table 1 are industry concentration and trade balance. The standard measure of industry concentration, the Herfindahl index, has a positive effect on the choice of WTO adjudication, but does not reach standard significance levels. More concentrated industries are also less likely to have their barrier left in the no negotiation outcome.⁵⁰ Previous research highlights the importance of bilateral trade balance to influence the pattern of disputes and economic outcomes (Bayard and Elliott, 1994;

⁴⁹This can be seen from the individual country indicators in the model shown in table 1. I also ran the regression replacing the country indicators with a single NAFTA indicator for the trade barriers of Mexico or Canada. The NAFTA variable has a negative but insignificant coefficient.

⁵⁰The HHI variable is measured as the dollar value of 1997 domestic shipments. U.S. Bureau of the Census and the log is taken to smooth extreme values.

Guzman and Simmons, 2005; Bown, 2004b). To the extent that this accounts for cross-national variation, e.g. the larger trade deficit with Japan compared to Canada, it would be captured by the country indicators in the main model. Variation in the bilateral trade balance in the particular industry affected by the trade barrier, however, could be important through either a retaliatory logic or for political salience as U.S. politicians focus on the deficit as a sign of unfair trade. When adding a variable for the 2 digit level industry bilateral trade balance, it has a positive and weakly significant effect on the choice of WTO adjudication.⁵¹ In all of these specifications, the political contributions variable remains approximately the same magnitude and statistical significance.

The findings are also robust to choice of a different statistical model and subsets of the data. Results are similar when collapsing together the two categories of no negotiation and negotiation as a single base category and using a logistic regression model to estimate WTO dispute initiation. The importance of political contributions is also evident when looking at subsamples of the data. I use the same model to estimate WTO dispute initiation for the subset of 252 cases where some negotiation is mentioned in the report (dropping the no-negotiation cases). The political contributions coefficient is remarkably consistent even for this smaller sample (Model 1 estimates a coefficient 1.02 with standard error 0.21, significant to 1 percent level).

In sum, there is a clear pattern of interest group pressure in the selection of WTO cases. The United States is the most likely to choose adjudication for barriers that affect an industry that offers political contributions and when there is strong protectionist resistance in the trade partner due to high import penetration and large employment share.

A final concern may be that there is bias in the generation of the cases in the dataset because they include only trade measures listed in the National Trade Estimate Report written by the USTR. It would only be a problem for the central conclusions reported here if industries that make more political contributions are *less likely* to have their trade problems reported in the NTE. Typically one would expect the opposite - those industries that offer political contributions are likely to have their trade problems over-represented in the NTE reports. This direction of bias would imply that the results here if anything underestimate the role of political contributions in selection of WTO cases.

⁵¹Data is from the COMTRADE dataset.

3 How Effective is WTO Adjudication?

The question of evaluating effectiveness has long been troubled by the lack of evidence for the counter-factual, what if a similar case had not been raised for WTO adjudication? Given the likelihood of a selection bias in the process that generates WTO cases, which is supported by the analysis above, cases that are raised in the WTO are not the same as other trade disputes. Yet the studies that evaluate WTO dispute outcomes have been limited to the set of filed WTO disputes (Bown, 2004b; Busch and Reinhardt, 2002, 2003). They have increased our understanding of the conditions within WTO disputes that encourage more liberalization, such as retaliatory capacity and a positive ruling. Busch and Reinhardt (2003, 725) find GATT/WTO disputes produce substantial concessions in 50 percent of cases, and partial concessions for another 20 percent of cases. But these studies do not address the broader question of how WTO dispute settlement compares with *alternative strategies*. For this question, one needs data on potential disputes.⁵² Here I will present a preliminary analysis of WTO dispute effectiveness using the subset of my trade barrier data for those trade barriers that were either negotiated or raised in WTO dispute adjudication. This allows me to compare the effectiveness of dispute settlement relative to the alternative of negotiation in a different forum.

Using data to evaluate U.S. trade strategies holds constant the retaliatory capacity of the complainant in order to focus on the role of the WTO dispute process. In their analysis of GATT/WTO disputes, Bown (2004b) shows that retaliatory capacity of the complainant increases the level of liberalization by a defendant and Busch and Reinhardt (2003) show that developed country members gain better outcomes than developing country members. Nonetheless, while small countries have less leverage for enforcement, this applies to their use of both negotiation and adjudication strategies. Indeed, one would expect that variables related to market size and trade dependence would be even more important outside of the legal setting that favors rule orientation over power orientation (Jackson, 1997). Therefore, any bias from testing the argument on U.S. trade disputes would lead me to underestimate the importance of dispute settlement to improve outcomes for small countries.

⁵²Horn *et al.* (1999) and Bown (2005) are two innovative studies that generate potential disputes in order to examine the choice of whether to initiate, but they do not take the next step to analyze outcomes.

3.1 Measuring Dispute Outcomes

Evaluating the effectiveness of negotiation strategies poses a significant measurement challenge. One way would be to look at the change in trade flows after settlement. Bown (2004b) uses this approach in his analysis of the economic outcomes of GATT/WTO disputes. However, as Bown himself notes, the GATT/WTO does not call for an increase of trade flows as the measure of compliance, and “Better measures of economic success would thus include detailed information on the change in the tariff or non-tariff measure under dispute” (p. 814). Along this line, a second way to evaluate outcomes requires direct evaluation of the policy change. Busch and Reinhardt (2003) use this latter approach to classify the outcomes of GATT/WTO disputes on an ordered scale. Bayard and Elliott (1994) also evaluate the outcomes of Section 301 cases in terms of a categorical variable for policy change.

I measure effectiveness by evaluating the progress in resolving the trade complaint recorded in the National Trade Estimate Reports. The advantage to this approach from a theoretical perspective is that it is closer to the goals of the WTO agreement. It also maintains consistency with the underlying data without introducing measurement error that would come with using a trade flow measure (i.e. product trade flows and period would only loosely correlate with the specific items in dispute and expected period of implementation). The disadvantage is the risk of bias. There are two potential sources of bias. First, the USTR may be overly positive in order to show Congress that it has made progress. The greatest threat to the inference in this study would arise if the USTR tends to be more positive about outcomes for those disputes raised in WTO adjudication. This seems unlikely, however, since industry actors know whether their problem has been solved and will inform Congress. Overly positive reporting would also undermine the role of the reports to inform foreign governments that the United States is concerned about an issue. The USTR has not hesitated to criticize specific dispute rulings or poor compliance by members, which indicates that it is not blindly taking a positive stance towards dispute adjudication. Nevertheless, the analysis below is subject to the assumption that USTR reports on negotiation progress are not biased to report more optimistic outcomes for one negotiation venue over another. The second source of bias is in the coding of what the reports say. The reports do not grade the outcome. Coding involved a judgment about whether the report mentions specific policy improvement.

The following illustrates a comparison of the coding for three cases that were all WTO disputes.

For the the WTO dispute about Canadian restrictions on U.S. periodicals (DS31), the report states “In June 1999, the United States and Canada announced an agreement under which U.S. publications would be allowed gradually improved access to this market.”⁵³ For the WTO dispute challenging EU export subsidies for processed cheese (DS104 against Belgium), it states that the United States filed a complaint in 1997 and held initial consultations that November, while noting that “The United States is considering next steps.”⁵⁴ No further mention of the dispute is made again in the reports and no settlement was notified to the WTO. A search of the widely used trade briefing report “Inside Trade,” shows that in 1999, U.S. agricultural industry sources complained about EU circumvention of export subsidies while specifically noting the example of “inward processing” for cheese.⁵⁵ For the WTO dispute filed against Mexico for anti-dumping duties on high-fructose corn syrup (DS132), the 2000 report notes that Mexico will have to comply with the ruling adopted by the Dispute Settlement Body, but the 2001 report notes that the Mexican corn industry is considering filing a new dumping petition and the 2002 report notes that the Mexican Congress passed a consumption tax on beverages including high fructose corn syrup, which is described as “a major barrier to a settlement of broader sweetener disputes between the United States and Mexico.”⁵⁶ The first case on Canadian periodicals was coded as having progress, and the second and third cases about European cheese export subsidies and Mexico’s barriers against high-fructose corn syrup were coded as having no progress.

As a check on the validity of the “progress” measure, I examined whether the cases coded as having resulted in progress to resolve the trade barrier experience an increase of trade flows one year after the barrier ends. Using all cases that were specific to 4 digit level industry coding and were concluded before 2004 (114 barriers), a comparison shows that the 54 cases with progress reported in the NTE report experienced a mean 24.8 percent increase of trade, while those barriers that have no progress recorded experienced a mean 7.1 percent increase of trade.

| Dispute Outcome | WTO DS | Negotiation | All cases |
|--------------------------|--------------|---------------|---------------|
| No Progress (percent) | 13 (37.1) | 100 (46.1) | 113 (44.8) |
| Progress (percent) | 22 (62.9) | 117 (53.9) | 139 (55.2) |
| Total cases | 35 | 217 | 252 |

Table 2: Measuring Dispute Outcomes *The data represents industry specific trade barrier cases coded from the National Trade Estimate Reports of the USTR from 1995 to 2004. The first column describes progress towards resolving the U.S. complaint for trade barriers that were initiated for WTO dispute settlement, and the second column describes those that were negotiated.*

3.2 Analysis of Progress to Resolve Trade Complaint

As a first look at the problem, I examine the measure of progress in the aggregate data for the 252 cases coded for trade complaints with the 9 trade partners that were negotiated or raised in WTO dispute settlement (Table 2). Sixty-three percent of the WTO disputes (22 of 35 cases) recorded progress. Although this is higher than the progress rate for negotiation cases, which was fifty-four percent with progress, the difference between the two is not statistically significant (p -value is 0.32 based on the χ^2 test). This suggests that the WTO dispute system provides at best a modest improvement over negotiation. Before drawing any *causal* conclusions from such *descriptive* inference, however, one needs to consider the selection mechanism that sends politicized cases to the adjudication forum.

The variables that helped to explain choice of forum serve as control variables for the factors that make WTO adjudication cases different from other cases. The key variable of interest is the effect of WTO adjudication on progress reported towards resolving the trade complaint. I use logistic regression model to estimate the effect of the indicator for dispute settlement on the dichotomous outcome measure for progress to resolve the complaint.

The results in Table 3 show that WTO adjudication has a significant positive effect on the likelihood that the United States will achieve some progress to resolve its trade complaint once controlling for factors that influence the selection of WTO cases. The model correctly predicts

⁵³NTE 2001, p.31.

⁵⁴NTE 1999, p. 120.

⁵⁵Inside U.S. Trade, 21 May 1999. "Agriculture Coalition Sets priorities for WTO, Sidesteps Radical Reform."

⁵⁶NTE 2002, p. 293.

| Variable | Model 1 | | Model 2 | |
|------------------|-------------|-------------|-------------|-------------|
| | Coefficient | (Std. Err.) | Coefficient | (Std. Err.) |
| WTO DS | 0.591 ** | (0.264) | 0.747 ** | (0.324) |
| Contribution | -0.379* | (0.217) | -0.267 | (0.234) |
| Section 301 | -0.254 | (0.413) | -0.796 ** | (0.364) |
| Production (log) | 0.478 | (0.291) | 0.327 | (0.456) |
| US Emp. share | | | -0.068 | (0.363) |
| Exports (log) | -0.115 ** | (0.056) | -0.015 | (0.246) |
| MPEN (partner) | 0.007 | (0.008) | 0.003 | (0.007) |
| Employment share | | | -0.027 | (0.029) |
| Import policy | 0.390* | (0.227) | 0.377* | (0.216) |
| Distortion | -0.418* | (0.247) | -0.371 | (0.233) |
| MFN tariff | | -0.028 | -0.021 *** | (0.008) |
| EU | -1.197 | (0.853) | -1.408 | (0.971) |
| Japan | -0.666 | (0.527) | -1.074 | (0.711) |
| Mexico | -0.424 | (0.462) | -0.260 | (0.610) |
| Korea | 0.108 | (0.431) | 0.297 | (0.660) |
| Non-OECD | -0.428 | (0.528) | -0.735 | (0.706) |
| Duration | 0.103* | (0.052) | 0.130 ** | (0.055) |
| Intercept | 1.467 | (2.331) | 1.110 | (3.059) |
| Pseudo R-squared | 0.078 | | 0.107 | |
| N | 252 | | 232 | |

Table 3: Logistic Regression Model of WTO DS Effectiveness. The coefficients estimate the likelihood of progress towards resolving the trade complaint. Robust standard errors (clustered on industry) are in parentheses. Canada is the omitted comparison group for the trade partner indicator variables and Non-OECD groups the trade barriers of Brazil, India, Malaysia, and Singapore. A coefficient for observations with missing partner employment data was included but is not shown. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

progress 75 percent of the time.⁵⁷ This evidence shows that dispute settlement is effective for resolving disputes in comparison with a sample of trade barriers where the government has taken some action and when controlling for variables that influence the choice of strategy.⁵⁸

One may still be concerned that the cases going forward for dispute adjudication differ from those that are only being negotiated. Although we cannot randomly assign trade complaints to different strategies, statistical techniques of matching offer a means to bring the observational

⁵⁷The proportional reduction of error is 21 percent when following a cutoff rule to compare predictions with 0.50 or higher probability of progress to those in the data that actually report progress.

⁵⁸The control variables should not be given causal interpretation and are not discussed since their effect is in part absorbed through their influence on the choice of forum.

data closer to a comparison of cases that are similar in all but the treatment (e.g. Rubin, 1973, 1979). In this study, the treatment group are those barriers raised for WTO dispute settlement and the control group are those barriers that are only negotiated. The pre-processing of data involves removing observations from the sample that lack common support in terms of overlapping distribution for the treatment and control groups. Creating a smaller sample of more similar units by “pruning” outlier observations allows for less model-dependent causal inference through the reduction of bias (Ho, Imai, King, and Stuart, 2007). I use this approach to examine the robustness of the regression results reported in Table 3.

I conduct three-to-one nearest neighbor matching with exact restrictions on trade partner.⁵⁹ The propensity score, which represents a single measure summarizing variables that estimates the probability of a unit receiving treatment (in this case, WTO dispute settlement), is estimated based on logistic regression with all of the covariates included in model 2 in Table 1 with the addition of two additional policy description variables, an indicator for intellectual property right cases and standards cases. Exact matching on trade partner means that for each dispute case filed against a specific trade partner, the matching procedure will select control cases from within the group of negotiation cases with that same trade partner (the four developing countries are grouped together). I find that this improves the balance on other covariates. The choice to exact match on partner also reflects the concern that bilateral relations are shaped by an economic and political structure specific to the trading pair.

Figure 1 shows the imbalance between the control group and treatment group before and after matching. The horizontal axis represents the standardized mean difference (i.e., mean differences measured in terms of standard deviation units) between the treatment and control groups for a variable before matching, and the vertical axis represents the remaining imbalance after matching. The 45 degree line indicates where values would lie if there is no change, and variables with improvement of balance fall underneath the line. The figure shows that the remaining imbalance after matching is smaller than the imbalance before matching, for all control variables with the exception of the standards policy indicator. Table 5 in the appendix describes the percent balance improvement for each covariate through a comparison of the mean difference and quantile breakdown. The exact restrictions on trade partners are reflected by improvements of 100. The

⁵⁹I implement matching procedures using the MatchIt software available at <http://gking.harvard.edu/matchit>.

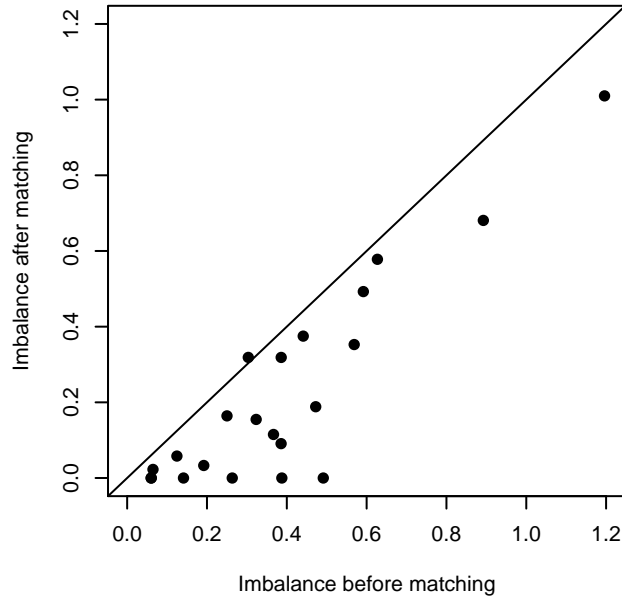


Figure 1: Imbalance Before and After Matching: Each circle represents a variable, and its coordinates indicate the level of imbalance before and after matching. The level of imbalance is measured in terms of standardized mean difference. See table 5 in the appendix for detailed description of the results summarized here in the figure.

table shows that matching substantially improves balance across all variables in terms of various balance measures. For example, the mean difference of import penetration in the full data sample comparison of dispute cases and negotiation cases is 6.7 because the mean import penetration for WTO dispute cases is 24.6 compared to the mean import penetration ratio of 17.9 for negotiation cases. After matching, the mean difference improves by 82.7 percent for a mean difference of 1.2.

After using matching to improve the balance, I run the same regression shown in Table 3 on the smaller sample of matched data. Ho, Imai, King, and Stuart (2007) show that preprocessing the data via matching reduces the sensitivity to modeling assumptions and thus yields more robust results. The propensity score is included as an additional variable. The results in table 4 show dispute settlement is effective to increase the likelihood of resolving the complaint. Dispute settlement increases the predicted probability of progress resolving the complaint by 17 percentage points.⁶⁰ The model correctly predicts progress 77 percent of the time.⁶¹ The strength of the

⁶⁰The first difference of 0.17 (95 percent confidence interval from 0.03 to 0.30) is calculated from 5,000 simulations using the estimates of model 1 in table 4.

⁶¹The proportional reduction of error is 15 percent when following a cutoff rule to compare predictions with .50

| Variable | Model 1 | | Model 2 | |
|-------------------|-------------|-------------|-------------|-------------|
| | Coefficient | (Std. Err.) | Coefficient | (Std. Err.) |
| WTO DS | 0.763 ** | (0.313) | 0.708 *** | (0.264) |
| Contributions | -0.665* | (0.365) | -0.691* | (0.417) |
| Section 301 | -0.421 | (0.807) | -1.302 | (1.019) |
| Production (log) | 1.788 *** | (0.448) | 0.884 | (0.703) |
| US Emp. share | | | 1.131* | (0.668) |
| Exports (log) | -0.198 | (0.625) | 0.064 | (0.737) |
| MPEN (partner) | 0.015 | (0.015) | 0.013 | (0.018) |
| Employment share | | | -0.118 | (0.076) |
| emp. data missing | | | -1.514 | (1.047) |
| Import policy | -0.005 | (0.253) | 0.063 | (0.248) |
| Distortion | -0.170 | (0.557) | -0.500 | (0.482) |
| MFN tariff | | | -0.028 ** | (0.010) |
| EU | -1.343 | (0.860) | -1.349 | (1.009) |
| Japan | 0.058 | (0.581) | 0.201 | (0.856) |
| Mexico | -0.443 | (0.503) | 1.448 | (1.826) |
| Korea | 0.243 | (0.469) | 1.824 | (1.283) |
| Non-OECD | -0.027 | (0.492) | 1.974 | (1.223) |
| Duration | 0.021 | (0.056) | 0.003 | (0.074) |
| Propensity score | -0.688 | (1.476) | 0.266 | (1.730) |
| Intercept | -8.754 | (7.106) | -0.636 | (7.017) |
| Pseudo R-squared | 0.137 | | 0.170 | |
| N | 127 | | 127 | |

Table 4: Matched Sample Logistic Regression Model of WTO DS Effectiveness. The coefficients estimate the likelihood that the NTE reports describe progress towards resolving the trade complaint. Robust standard errors (clustered on industry) are in parentheses. Canada is the omitted comparison group for the trade partner indicator variables, and Non-OECD is an indicator for barriers of Brazil, India, Malaysia, and Singapore. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

findings here increase confidence in the results. In sum, WTO adjudication makes a substantively important contribution towards helping states resolve trade complaints, and this is not because states are only sending *easy* issues to the forum. On the contrary, when controlling for the process that sends cases with strong interests on both sides into the dispute settlement mechanism, WTO adjudication is effective relative to negotiation.

or higher probability of progress to those in the data that actually report progress. The model predicts quite well for the progress cases, with more noise to explain cases without progress. For the thirty observations where the model predicts the probability of progress as 0.75 or higher, actual progress is observed in all but two cases.

4 Conclusion

This paper offers three contributions to the existing literature. First, I have shown that insights from political economy research on domestic trade policies can also be applied to address the choice of trade negotiation forum for export promotion. As the strengthened multilateral rules restrict the options for unilateral policy choices, it has become more important to understand how states advance their trade interests within the multilateral rules. Second, by focusing on the choice of forum for trade disputes, I confront the selection issue that has long troubled theories about institutions. While the literature on institutions has focused on the creation and design of these institutions, skeptics have countered that states only use an institutional forum when cooperation will be easy. To resolve these debates, more theoretical and empirical research is needed to explain how states select among existing institutions. This study shows one approach through analyzing data on a wide range of potential disputes to explain choice among alternative strategies. The evidence that trade disputes with high political stakes on both sides are most likely to be selected for WTO adjudication counters the concern that only issues “ripe for cooperation” are being raised in institutional venues. Third, I demonstrate that WTO dispute settlement is an effective conflict resolution mechanism. Given that politicized cases are channeled into the WTO forum, it is remarkable that the dispute system has been relatively successful to resolve trade disputes.

A key point of this study is that the dispute adjudication mechanism solves a domestic political problem. It offers governments a way to show they are making effort for their home industry. As a costly negotiation strategy, WTO adjudication represents a signal to domestic lobbies and foreign governments of government commitment to address the foreign trade barrier. The argument is supported by evidence that industries making larger political contributions are more likely to have a WTO complaint filed to challenge a foreign trade barrier that affects their exports. The channeling of aggressive unilateralism into WTO adjudication can also be seen from the high correlation between WTO adjudication and Section 301, which is a provision in U.S. trade law that triggers institutional constraints from Congress for the executive to take action against a foreign trade partner. In sum, when governments face political pressure to favor an industry, they choose WTO adjudication. This dynamic works on both sides of the dispute. WTO adjudication is also more likely when the respondent state faces high resistance to liberalization, such as for industries with high import penetration and a large share of employment. As a result, it is not surprising

that the legal forum does not solve all cases. One continues to read about ongoing compliance problems for a small number of high profile disputes between the United States and Europe. Some trade barriers may have such entrenched opposition that progress is unlikely regardless of the negotiation forum. Yet even when it fails to bring compliance, WTO adjudication relieves pressure from export industries. Acting as a lightning rod for trade conflict, the WTO dispute system attracts politicized disputes while at the same time diffusing their pressures to either bring settlement or prevent a trade war.

There may also be additional mechanisms by which dispute adjudication plays a role to maintain an open trade system. In particular, any legal system has as the fundamental goal the *deterrence* of violations. Thus any one WTO adjudication case may have ramifications beyond the change of the single barrier by one country that is in contention. Although rulings do not formally represent legal precedent, there has been a de facto evolution of jurisprudence building on earlier cases. Jackson (2001, 209) credits the high quality jurisprudence from WTO panels as one standard of institutional effectiveness. Each ruling clarifies ambiguities in the agreement, and in response, other states may decide not to adopt similar barriers. The record of strong enforcement may lead more generally to higher compliance. In this sense, each ruling has a broader trade value that cannot readily be measured. The deterrent effect of a WTO ruling is cited by industry representatives as a reason they seek WTO adjudication (Davis and Shirato, 2007). Busch (2007) argues that the desire for multilateral precedent vis a vis other states not party to a dispute accounts for why NAFTA parties often use WTO adjudication with each other even when NAFTA provides an equivalent dispute mechanism. In an analysis of preferential trade agreements, Kono (2007) shows that having a dispute settlement mechanism increases trade liberalization by promoting compliance. The broader deterrence effects of adjudication to improve compliance across members and over time would be on top of the directly observed effects analyzed in this study.

The evidence presented here has been from U.S. trade policy, and further research is necessary to investigate whether the trade policy choices of other states follow a similar political logic. Can other states with less power also use adjudication to resolve disputes and protect their access to foreign markets? Some have argued that developing countries gain less from WTO dispute settlement than developed country members (Busch and Reinhardt, 2003; Bown, 2004a). Yet one might reach a different conclusion if comparing outcomes for developing countries in WTO

dispute settlement relative to negotiation (Davis, 2006). Once developing countries have passed the capacity threshold that enables them to use a complex legal system, they can wield the law to force a reluctant trade partner to take their complaint seriously. Indeed, given the relative power of the United States to use side-payments or threats in the informal setting of negotiations, one would expect the differential in outcomes to be the *smallest* for the United States. The effectiveness of dispute settlement relative to alternative strategies would be even greater for other countries that lack the market power to enforce agreements by other means.

5 Appendix

| | Mean Diff. | eQQ Med | eQQ Mean | eQQ Max |
|------------------|------------|---------|----------|---------|
| Contributions | 38.0 | 9.4 | 19.6 | -6.4 |
| Section 301 | 7.8 | 0.0 | 10.0 | 0.0 |
| Production (log) | 76.4 | 40.4 | 45.2 | 24.5 |
| US Emp. share | 60.1 | 100.0 | 54.3 | 40.0 |
| Exports (log) | 68.6 | 47.0 | 40.3 | 11.0 |
| MPEN (partner) | 82.7 | 57.5 | 33.9 | 26.7 |
| Employment share | 52.1 | 57.6 | 52.9 | 17.0 |
| Import policy | 17.4 | 0.0 | 14.3 | 0.0 |
| IPR | 100.0 | 0.0 | 0.0 | 0.0 |
| Standards | -5.0 | 0.0 | -25.0 | 0.0 |
| Distortion | 23.7 | 0.0 | 25.0 | 0.0 |
| MFN tariff | 64.9 | 39.7 | 16.1 | -6.3 |
| EU | 100.0 | 0.0 | 100.0 | 100.0 |
| Japan | 100.0 | 0.0 | 100.0 | 100.0 |
| Korea | 100.0 | 0.0 | 75.0 | 0.0 |
| Mexico | 100.0 | 0.0 | 0.0 | 0.0 |
| Non-OECD | 100.0 | 0.0 | 100.0 | 100.0 |
| Duration | 16.7 | 50.0 | 25.5 | 25.0 |
| Propensity score | 15.6 | 10.7 | 15.7 | 10.6 |

Table 5: Percent Improvement in Covariate Balance due to Matching: Each column shows percent improvement in covariate balance in terms of mean difference, the median, mean, and maximum values of differences in empirical quantile functions. The table shows that matching substantially improves covariate balance across all variables and in almost all measures.

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