

Plaintiffs by Proxy: A Firm-Level Approach to WTO Dispute Resolution

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Abstract

Studies of disputes in the World Trade Organization typically assume that the disputants are the states that have the legal rights as members of the organization to bring suit and to be sued. We argue that in most cases, the real parties to the disputes are multinational business firms, which use states as proxies to pursue their claims. Firms lobby their governments (and sometimes foreign governments) to initiate disputes, and firms lobby the government of the defendant state and the complainant to defend policies that benefit them. In many cases involving the United States, firms lobby the U.S. government on both sides of a dispute. We match Fortune 500 firms to disputes in which they have a publicly announced stake, and demonstrate that firm lobbying expenditures increase significantly when a WTO dispute engages a firm's interests. We also analyze dispute resolution, using firm lobbying expenditures in the United States as an index of power. We find no effects of lobbying expenditures on the outcomes of disputes that are decided by a panel ruling, but we find that lobbying on the U.S. side of a dispute extends the duration of the dispute. This is consistent with a bargaining model in which lobbying increases the audience cost when a state makes concessions in a dispute.

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Contents

1	Introduction	1
2	Trade Disputes at a Firm Level: Related Literature	3
3	Argument	6
4	Political Contributions and Initiation of WTO Disputes	12
4.1	Data	12
4.2	Results	13
5	Effects of WTO Trade Disputes on Firm Lobbying	15
5.1	Data	15
5.2	Do Firms Spend More on Lobbying under WTO Disputes?	19
6	Effects of Lobbying on the Outcome of Disputes	21
6.1	Data	21
6.2	Lobbying and the Direction of Panel Rulings	22
6.3	Lobbying and the Duration of Disputes	25
7	Case Study	29
8	Conclusions	32

1 Introduction

Studies of dispute resolution in the World Trade Organization (WTO) typically follow the conventions of the organization and assume that the parties to disputes are states. Only states are members of the WTO, only states take on legal obligations regarding their trade and other economic policies under the GATT and relevant treaties, and only states have legal rights to sue and be sued in the WTO dispute resolution procedure. In this respect, the WTO differs from NAFTA, the TPP, and numerous other multilateral and bilateral trade and investment agreements that allow firms to initiate disputes when they judge that their legal rights have been abridged. Nevertheless, we argue, the notion that states are the interested parties in WTO disputes is a polite fiction. In the majority of cases, the true parties are multinational business firms, which use states as proxies to pursue their interests.

This change of perspective helps to explain why WTO disputes are so small. Received theory explains dispute resolution as a response to opportunism by governments and an efficient way to neutralize the terms-of-trade effects of trade-diverting policies. Cooperation requires mutual restraint, so there must be a punishment mechanism; but uncertainty could cause inefficient cycles of mutual retaliation. A dispute resolution mechanism avoids these problems by announcing when punishment is justified and when it is not, allowing the parties to coordinate their policies in spite of uncertainty (Keohane 1984). More recent work argues that the incentive to externalize trade adjustment comes from terms-of-trade effects, and the dispute resolution procedure neutralizes that incentive because trade retaliation is authorized that affects comparable quantities of exports (Bagwell and Staiger 2002). Both of these explanations suggest that it is puzzling that the stakes in WTO disputes are typically measured in millions of dollars, rather than in tens of billions. In the only case in which the WTO went so far as to authorize the imposition of trade sanctions—Brazil’s complaint against the United States over cotton subsidies—the sanctions authorized were well under \$1 billion. Disputes of this magnitude are not sufficient disincentive to prevent opportunism on politically salient issues (or even, as it turned out, on the issue of cotton subsidies), and they are not economically important enough to shift the terms of trade in any meaningful sense. Nevertheless, small-scale WTO disputes have proliferated since 1995, and the outcomes have been very important to one type of actor: multinational firms.

We will show that in most non-agricultural WTO disputes, at least one multinational firm can be identified that stands behind the plaintiff, and whose interests are directly affected by the outcome. This firm is often identified in the plaintiff's brief and in WTO documentation, which we used in our first pass at data collection. In democracies, trade ministries and agencies such as the Office of the U.S. Trade Representative are accessible to lobbying by firms, as are legislative bodies that exercise oversight over them, such as the U.S. Congress. This may help to explain the striking fact that democracies are much more prone to initiating WTO disputes than non-democracies (Davis 2012). Unlike consumers and other diffuse interest groups, firms have concentrated interests in trade disputes and incentives to lobby for their preferred outcomes, so it is not surprising that their interests typically prevail. Data released as a result of the Lobbying Disclosure Act of 1995 indicate that the overwhelming majority of lobbying is carried out by or on behalf of firms, rather than by any of the other categories of lobbyists, such as unions, religious organizations, or special interest groups (Baumgartner and Leech 2001). Further, by matching lobbying data to firms involved in disputes, we will show that firms increase their lobbying expenditures significantly when they become involved in WTO disputes.

Firms do not only find themselves lobbying on behalf of the plaintiffs of WTO disputes, however; the firms in our sample find themselves on the defendant's side approximately half of the time. In other cases, firms apparently lobby their home governments to convince them to enter briefs as third party participants in disputes. In some cases we can identify firms on both sides of a dispute. The U.S. lobbying data indicate that foreign firms that are targeted by U.S.-initiated disputes lobby in the United States, and so do foreign firms that stand to benefit from disputes that target the United States as a defendant. We find robust evidence that when a firm becomes involved in a dispute in any of these ways, its lobbying expenditures in the United States increase.

Finally, we have suggestive evidence that lobbying by MNCs affects the bargaining that surrounds dispute resolution. We find no evidence that lobbying home or foreign governments affects the outcome of panel rulings, when the dispute progresses to the stage that a panel forms, deliberates and comes to a decision. This is reassuring, since this is a quasi-judicial procedure that depends on the appearance of impartiality to function. However, most of the action in the dispute resolution procedure takes place in informal bargaining sessions that precede the panel ruling, or in additional rounds of bargaining that determine how the ruling will be implemented or what compensation will

be offered (Reinhardt 2001). In that bargaining process, the parties have to weigh the benefits of resolving the dispute against the cost of offending domestic audiences by making concessions. As a result, lobbying makes both parties more intransigent. In cases where both sides were represented by an important firm with a great deal at stake—the Boeing-Airbus case is a famous, although not a typical, example—the bargaining process could be stretched out dramatically because neither side could afford to make concessions.

2 Trade Disputes at a Firm Level: Related Literature

There is a rich tradition in the literature on international trade politics that explains variations in policy in terms of firm-level characteristics (Grossman and Helpman 2002; Milner and Yoffie 1989). In this view, intra-industry heterogeneity in areas such as competitiveness, factor mobility, industry size, diversification, and trade dependence determines the industry’s ability to influence public policy (Gilligan 1997; McGillivray 2004; Hillman, Keim, and Schuler 2004). Another source of firm-level variation is that firms that take advantage of state support enjoy competitive advantages (Schuler, Rehbein, and Cramer 2002; Hansen and Mitchell 2000). In view of this, it may be considered surprising that the literature on WTO disputes is decidedly state-centric.

With the formation of the WTO, a growing literature focused on multilateral adjudication as a trade policy-making tool. Since the members of the WTO are states, it seemed natural to focus attention at the state level. In addition, this was consistent with the most influential theoretical work on the WTO, which focused on state strategies and explained international trade politics as a response to the terms-of-trade externalities created by trade barriers (Bagwell and Staiger 2002). In this view, the incentive for a member government to deviate from trade agreements was to shift the national terms of trade, and the WTO dispute-settlement procedure was calibrated to minimize those incentives.

Following early work by Hudec (1993), most of the empirical work on WTO dispute settlement has focused on state-level explanations. Some scholars argued that the size of the economy affects involvement in disputes (Bown 2005; Guzman and Simmons 2005; Horn and Mavroidis 2009; Sattler and Bernauer 2011), and others focused on past experience (Davis and Bermeo 2009; Conti 2010), or exchange-rate regimes (Copelovitch and Pevehouse 2011; Broz and Werfel 2014; Betz and Kerner

2016). While some developing countries have actively initiated WTO disputes, most do not, and empirical papers show that country-level factors such as weak legal capacity, lack of resources, or fear of retaliation deter developing countries from initiating disputes (Guzman and Simmons 2005; Bown 2005; Kim 2008; Busch, Reinhardt, and Schaffer 2009; Elsig and Stucki 2012). Other studies investigated country-level factors affecting escalation of disputes Busch and Reinhardt (2000, 2003). Other scholarship focused on domestic politics. Chaudoin (2014) and (Pervez 2015) argued that the timing of dispute initiation is driven by elections. The working assumption of all of these studies is that states are the relevant actors.

Article	Level	Firm Coverage	Type of Disputes
Davis (2012)	Industry	U.S. firms	WTO disputes
Davis and Shirato (2007)	Firm	Japanese manufacturing firm	WTO disputes
Broz and Werfel (2014)	Industry		Anti-dumping
Jensen, Quinn, and Weymouth (2015)	Firm	U.S. firms	Anti-dumping

Table 1: Previous Firm-level Literature on Trade Disputes

With a few exceptions, existing research has paid little attention to private firms' influence over the WTO dispute settlement process (Bown 2010; Johns and Rosendorff 2009). One obstacle to empirical research in this area is the challenge of identifying the firms that are interested in particular WTO disputes.¹ No complete list of these firms exists, although Bown (2010) provides a partial list of firms involved in anti-dumping actions. As noted by De Bièvre, Poletti, and Yildirim (2015), it is hard to identify the universe of trade barriers that are potentially in conflict with WTO rules and regulations. Some recent work has used data on trade barriers collected by the Japanese and American governments to show that private firms' activities influence which trade barriers are selected for initiation of WTO disputes. Davis and Shirato (2007) and Davis (2012) find that political contributions made by private industries are positively associated with the probability that a potential trade barrier is raised in a WTO dispute. Private actors play an important role at an initial stage because they identify foreign trade barriers that affect their operations, and in many cases they mobilize their legislative representatives by making political contributions (Milner

1. According to research on interest group and trade policy, large firms in an industry are more likely to have legal standing and provide more political contributions to influence government policies (Grier, Munger, and Roberts 1994; Bombardini 2008; Weymouth 2012). We use this in what follows to help narrow our field of view to International Fortune 500 firms.

1997; Chalmers 2013).

From the perspective of “new, new” trade theory, Jensen, Quinn, and Weymouth (2015) investigate why anti-dumping (AD) filings by United States firms have declined in an era of persistent foreign currency under-valuation on the part of major U.S. trade partners. They argue that firms integrated into global supply chains, particularly those in countries with undervalued currencies, are unlikely to pursue AD because they benefit from producing in the country with an undervalued currency. In a similar vein, Broz and Werfel (2014) focus on how exchange-rate misalignments affect protectionism. Using industry-level data, they show that currency appreciation increases the number of AD petitions. Gawande, Hoekman, and Cui (2015) make similar arguments using country-level data. They conclude that the 2008 financial crisis did not cause the open trading system to collapse largely because the fragmentation of production across global value chains deters protectionism.

While state-centric work on WTO dispute settlement has ranged more widely, firm-level studies have so far remained limited to dispute initiation.² There is reason to believe, however, that political activity by firms may play an important role in the escalation and duration of disputes. For example, Davis (2012) finds in qualitative work that private firms have increased their political contributions during WTO disputes. This suggests the need for research to analyze the effects of political contributions on dispute escalation and duration. These post-initiation dynamics are important because most disputes are settled through bargaining, so firm lobbying can influence settlements and determine which disputes require panel rulings. In addition, focusing exclusively on dispute initiation leads us to ignore the political activity of defendant-side import-competing firms. This is remarkable, since it is the political activity of firms that seek protection that inspired much of the literature on interest group politics and U.S. trade policy (O’Halloran 1994; Busch and Reinhardt 1999; Hiscox 2002).

In what follows, we build on theories of lobbying. We examine empirically how WTO disputes influence lobbying, and how firm-level political activities affect various aspects of WTO trade disputes, including escalation, duration and outcomes.

2. The country-level literature, for example has examined dispute outcomes (Busch and Reinhardt 2000; Reinhardt 2001; Guzman and Simmons 2005; Bown 2004).

3 Argument

The members of the WTO are states, and only states have the right to sue or be sued in the WTO dispute settlement mechanism (DSM). The principals in a typical WTO dispute, however, are firms, which influence states to act as their agents. This has implications for dispute initiation, for political activity by firms, and for dispute duration. We will argue that firm political activities determine which cases states choose to raise to the level of a formal dispute. Once a dispute is initiated, a bargaining game begins. States have broad interests in resolving disputes quickly because they are costly to litigate and they create tensions that might jeopardize other interests, so most cases are settled without proceeding to a formal panel ruling. As a result, the settlements reflect the resolve on each side of the case. This means that affected firms on either side of a dispute have incentives to escalate their political activity to prevent their own side from caving in, or to weaken the resolve of the opponent government. This bargaining game is similar to a war of attrition, in which firms on each side burn money to prevent their side from settling on unfavorable terms, and both states bear costs until the dispute is resolved. Lobbying by firms determines which cases are settled early and which drag on for years. Since only cases that have substantial support on the complainant side make it to the litigation stage, we argue that variation in the intensity of political activity on the defendant side determines the duration of disputes.

The United States Trade Representative (USTR) is charged with securing America's trade rights and benefits through formal dispute settlement procedures, including the WTO dispute settlement mechanism. During the two terms of the Obama administration, the USTR filed 23 complainants at the WTO, more than any other WTO member.³ However, the public sector does not formulate public policy on its own. In practice, it shares its authority with private sector actors, and business firms in particular, and is formally obliged to consult with them at various stages of the policy-making process. Shaffer (2003) characterizes this relationship as a "public-private partnership," which arises because government relies on the private sector to identify the policies pursued by foreign countries that distort trade. Private firms experience the adverse effects of trade barriers and alert government agents (Shaffer 2003, 2006; Bown 2010). The role that firms play becomes clear in the National Trade Estimate Report on Foreign Trade Barriers (NTE), which USTR publishes

3. Source: <https://ustr.gov/issue-areas/enforcement>.

annually to analyze foreign market access barriers. According to the NTE in 2012, for example, U.S. firms experienced negative effects from India's application of particular customs valuation criteria. The firms argued that India's practices raised the cost of their exports and constituted a trade barrier that went beyond the applied tariff rate (NTE 2012). USTR investigated after the firms identified the problem.

Having identified a trade barrier, however, firms still have to convince their governments to pursue a case through the WTO dispute settlement process (Bown 2009; Shaffer 2006). This selection stage represents an important bottleneck. Of over eight thousand paragraphs identifying non-compliant trade barriers in National Trade Estimates between 19xx and 20xx, USTR pursued only ?? WTO cases. Government agencies have budget constraints and limited technical expertise, so they cannot bring all potential cases before the WTO to satisfy domestic exporting firms (Bown 2009). The cost of initiating a dispute can be substantial (Finger 2010; Bown and Reynolds 2015), and legal expenses grow rapidly if the case proceeds to panel and Appellate Body rulings. Many cases involve private law firms, and the legal expenses are estimated to exceed one million dollars in an average case (Finger 2010). Many developing countries have been deterred from pursuing WTO litigation because of limited capacity, or have settled their cases quickly when they were targeted for litigation because the legal costs are high (Reinhardt 2003).

Moreover, a variety of considerations outside of trade screen out potential WTO disputes. Governments often prioritize diplomatic relations over trade interests, and developed countries often tolerate discriminatory policies by developing countries with which they share military alliances. Alliances are widely believed to internalize the security externalities stemming from close trade ties (Mansfield and Bronson 1997; Morrow, Siverson, and Tabares 1998; Bliss and Russett 1998; Reinhardt 1999; Mansfield and Reinhardt 2003). For example, although Korea was the 6th largest U.S. trade partner by 2013, the United States has only initiated six of its 92 WTO disputes against Korea. On the other hand, weaker states may be deterred from initiating disputes by the prospect of retaliation within the trade regime, or of jeopardizing an important relationship with a powerful patron.

Because states pursue a small minority of potential disputes, lobbying by private firms plays an essential role in determining which disputes are initiated (Bown 2009; Shaffer 2004, 2008; Davis 2012). Lobbying is costly, so it provides a signal of political support, which mobilizes Congressional

staff to contact USTR. In addition, private firms often hire law firms on behalf of the government to prepare for litigation, which may relax resource constraints and send another signal (Bown 2009).⁴ More broadly, expenditures on lobbying and political contributions act as a self-screening mechanism. Firms have private information about the merit of their cases, and the firms that are willing to invest the most in political influence likely have the cases with the highest expected value. Consequently, political activity increases the credibility of the signals firms send about the harm caused by foreign trade barriers. Finally, government agencies rely on lobbying by private firms to achieve their own policy goals. Political contributions and lobbying by firms can persuade Congress and other government agencies to support USTR's objectives (Gilligan 1997; Shaffer 2003), and USTR cooperates with private firms in exchange. Although this paper relies on data on lobbying that occurs in the United States, the European Union also establishes partnerships with private businesses in making trade policy. Policy-makers and firms broadly share the goals of enhancing access to overseas markets and defending domestic policies, but the effect of the partnership is that public policy is skewed towards the interests of the most powerful and organized firms. This leads to our first hypothesis:

Hypothesis 1. Lobbying and political contributions by affected firms make the United States more likely to initiate WTO disputes.

A case that illustrates the operation of this public-private network is the set of WTO disputes between the U.S. and EC over large civil aircraft. Confronted with an aggressive market strategy by Airbus, Boeing increased lobbying expenditures to the USTR as well as contributions to individual members of the House and the Senate in order to persuade the U.S. government to escalate the case to an official WTO dispute. Figure 1 displays how Boeing increased its lobbying spending to government agencies during WTO disputes. The shaded area marks the period of WTO disputes. The figure shows a rising trend of lobbying expenditures leading up to dispute initiation, as well as elevated expenditures throughout the period when the disputes were under adjudication. Boeing was not the only firm that increased its lobbying; its competitor, Airbus, also increased its expenditures on lobbying the U.S. government on the opposing side.⁵

4. Selected list of law firms involved in WTO cases is in Bown (2010) p. 122.

5. A lobbying report provided by Airbus (see the appendix) indicates that Airbus lobbied regarding civil aircraft

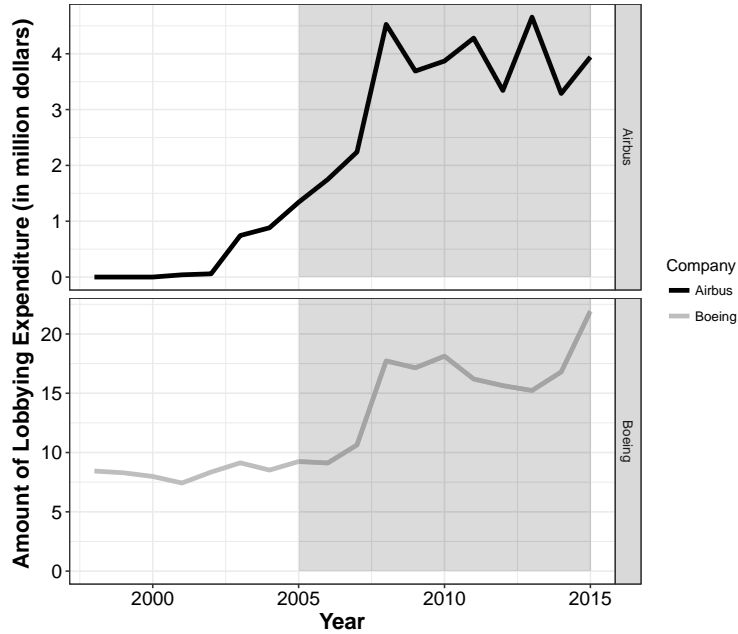


Figure 1: Lobbying Expenditures by Boeing and Airbus

If our analysis is correct and firms are the principals behind WTO disputes, while states are their reluctant agents, the initiation of a dispute creates incentives for firms to increase their political activity. A typical dispute is settled through informal negotiations before a panel has a chance to rule, and both governments that are party to the dispute usually have a preference for settling quickly. This leads to a bargaining game in which the terms of the settlement depend on the resolve of the negotiators; negotiators who are willing to wait longer are able to extract more favorable agreements. Firms on both sides of a dispute have incentives to mobilize to influence the outcome. Those that favor domestic exporters or import-competing trade interests lobby to prevent government agents from defecting and settling on terms that they find unfavorable, while those that represent the opposite side—foreign interests, multinationals with international value chains, importers—lobby to undermine the government’s commitment to its side of the case.

Hypothesis 2. Firms increase their lobbying expenditures when they are involved in WTO disputes.

One implication of our framework is an explanation for the fact that over eighty percent of WTO

issues, and in section 16 reports that specific lobbying issues are “matters pertaining to the U.S. and European civil aviation industries.”

dispute settlement cases that proceed to the panel stage have pro-complainant rulings. Complainant firms lobby for the initiation of disputes, and reluctant governments act as gatekeepers. This selection process is sufficiently rigorous that it is rare for a dispute to be selected that does not have a high probability of a successful ruling. Since the WTO dispute settlement process is a quasi-judicial procedure where the reasons for rulings are constrained by rules of legal procedure and are published openly, there is no obvious mechanism for lobbying or political contributions to affect the outcome at that stage. Political activity could affect the distribution of cases that reach the panel stage, affecting the distribution of outcomes through a selection effect, but our expectation is that the prior selection stage washes out most of the variation in case quality.

Hypothesis 3. Firm lobbying does not affect the outcomes of panel rulings.

Our final hypotheses focus on the duration of WTO disputes, and we turn first to the strategy of defendant-side firms. Their positions cannot improve as a result of a dispute, so their objectives are to protect the status quo and retain their current trade barriers. According to the argument above, defendant firms generally face opponents with strong cases, so they are likely to lose if their case reaches a panel ruling. However, it is possible that the complainant government will settle on favorable terms if they can motivate their side to hold out long enough. They face a risk-reward trade-off: the best possible outcome is a negotiated settlement that preserves the policies that benefit them, but bargaining failure likely leads to an unfavorable outcome. They have an additional advantage that complainant-side firms lack, however. As long as they are able to delay the resolution of the dispute, they continue to benefit from the status-quo policies. (The WTO does not authorize retroactive punishment.) Even after a panel ruling is issued, it is possible to appeal; and if an appeal is lost, it is possible to delay compliance with the ruling, or to comply partially. In some cases this leads to a subsequent dispute over the adequacy of compliance, which can delay policy change further. In one famous case the United States charged that China was illegally discriminating against U.S. automobile tire exports, and won, but China was able to delay the resolution of the case for several years, by which time American tire companies had built factories in China in order to circumvent the protectionist measures (Stone 2011). In short, defendant-side firms almost always have a dominant strategy of lobbying their government to take a hard line and

refuse to make concessions (Davis 2012). The firms with the strongest incentives to seek delay have the strongest incentives to lobby, and they lobby on behalf of specific policies that benefit them, so their preferences should be decisive. As a result, we expect lobbying by these firms to be associated with delay in dispute resolution, and the consequences may severely compromise the effectiveness of the dispute-resolution procedure.

Hypothesis 4. Lobbying by defendant-side firms is expected to substantially delay dispute resolution.

Finally, we investigate complainant firms' incentives and strategies. As we have argued, the government's selection of cases to raise as disputes ensures that complainants generally have strong cases that are expected to prevail at the panel stage. However, complainant firms suffer from a bargaining disadvantage because they prefer swift dispute resolution. Delaying the process extends the time period under status-quo policies that are unfavorable to them, and both litigation and the political activity to bolster the government's resolve are costly. As a result, complainant-side firms have mixed motives, which makes it difficult for them to form a solid front to lobby for a tough bargaining position. Several other features of the process magnify these disadvantages. First, firms may have divergent interests about particular protectionist policy measures, so the defendant can splinter their coalition by offering concessions on some issues and not on others. Second, because complainant-side firms have more nuanced interests than defendant-side firms (complainant-side firms are not categorically interested in delay), their governments have a stronger information advantage. It is difficult for firms to monitor their agents, because they cannot directly observe the negotiations, and governments prefer to settle quickly. Third, the outcome is much more satisfactory for complainant firms when early settlement takes place. Although the complainant is likely to win at the panel stage, the defendant is more likely to comply with the settlement if it settles early (Busch and Reinhardt 2013). The panel ruling limits the complainant's bargaining leverage because complainants are restricted in their use of measures to force a defendant into compliance. For instance, in the Kodak-Fuji film dispute, Kodak preferred not to pursue legal action through the WTO, but instead demanded that the United States impose bilateral pressure on Japan. The Japanese government, on the other hand, welcomed the U.S. decision to bring a case

before the WTO because that would prevent U.S. unilateral retaliation (Davis 2012). In short, the location of the status quo has a number of implications that weaken the effect of complainant-side lobbying on dispute settlement. Individual firms still have compelling incentives to lobby, but the aggregate effect of their efforts on the duration of disputes is theoretically indeterminate and in particular cases may cancel each other out.

Hypothesis 5. Lobbying by complainant-side firms is not expected to have a strong effect on dispute settlement.

We investigate these hypotheses empirically in the following section.

4 Political Contributions and Initiation of WTO Disputes

4.1 Data

To test our first hypothesis that case selection and initiation of disputes is determined by political contributions, we rely on the Foreign Trade Barrier Dataset constructed by Davis (2012). This dataset codes lists of trade barriers established by U.S. trade partners that have adverse effects on U.S. exporters' interests. The unit of analysis is the trade barrier-year and the amount of political contributions at the industry level is matched with each trade barrier.⁶ The dataset covers the period from 1995 - 2004, and we expand its coverage through 2011, adding an additional 106 trade barriers, which brings the total to 870.⁷ We test the implications of our theory using models and specifications similar to those in Davis (2012).

The dependent variable used in the models is the government's decision to bring a case to the WTO. The binary variable is coded 1 for the year in which the U.S. government initiates a case at the WTO that addresses a particular trade barrier, and 0 otherwise. The independent variable of interest is the amount of political contributions U.S. industries provide to political parties and all Federal candidates.⁸

6. For further information about the dataset, see Davis (2012), 123-32.

7. Davis (2012) considers only nine countries that have the highest trade volumes with the United States. These nine countries are Canada, EU, Japan, Korea, Mexico, Brazil, India, Malaysia, and Singapore. Note that China is one of the major trade partners of the United States, but it is excluded because it joined the WTO only in 2001.

8. Data available at <http://www.opensecrets.org>.

A variety of variables is included to control for unobserved factors that could potentially affect the relationship between political contributions and dispute initiations. We first control for industry-level factors. The total value of U.S. production in each industry is included because large export industries are expected to make more political contributions. We also use the world export value of the industry to control for other industry-specific characteristics. Factors specific to industries of trade partners can also influence U.S. government’s initiation decisions. We thus include the import penetration ratio for the partner industries. These economic variables are gathered from the OECD Structural Analysis (STAN) Database.⁹ Variations specific to each trade barrier should also affect initiation decisions. We first control for the duration of the trade barrier, which counts the number of years such barriers have been identified in the NTE report. The binary variable “distortion” identifies trade barriers that result in significant market closure, such as bans, quotas, or high tariffs. In addition, the binary variable “import policy” indicates issues related to anti-dumping measures or quantitative import quotas (Guzman and Simmons 2002). We expect that these two variables are positively associated with dispute initiations because trade distortions are more likely to violate economic interests of U.S. industries, and import policies are relatively easier to resolve (Guzman and Simmons 2002). Furthermore, we consider whether the case is related to a Section 301 petition. The U.S. government is constrained by trade legislation in ways that we expect to make Section 301 cases more likely to be initiated. Finally, we include five indicator variables to control for trade partner-level characteristics, including bilateral trade agreements, market size, and political features of each country. Descriptive statistics for the variables used in the analysis are the appendix Table B.1.

4.2 Results

Estimation results are reported in Table 2. The results are consistent with the findings of Davis (2012). Political contributions by firms in an industry are associated with a significant and substantively increase in the estimated probability that the United States initiates a WTO dispute. The difference in political contributions between an average industry, whose firms contribute \$15.2 million per year, and an industry that is one standard deviation above the mean, whose firms contribute \$49.8 million per year, is estimated to increase the probability of initiating a dispute by

9. Data available at <http://www.oecd.org/sti/ind/stanstructuralanalysisdatabase.htm>.

37 percent.¹⁰

Table 2: Logistic Regression of WTO Dispute Initiation

	Defendant Variable: Initiation of Disputes at the WTO		
	(1)	(2)	(3)
Political contributions	0.418** (0.196)	0.458** (0.216)	0.457** (0.223)
Duration	-0.147** (0.058)	-0.152** (0.063)	-0.148** (0.059)
Section 301	4.047*** (0.734)	3.660*** (0.778)	4.025*** (0.550)
Production value	-0.581* (0.331)	-0.222 (0.390)	-0.279 (0.379)
World export value		0.054 (0.115)	0.007 (0.114)
Import penetration	0.017*** (0.006)	0.021*** (0.005)	0.016*** (0.006)
Import policy	1.390*** (0.406)	1.440*** (0.414)	1.458*** (0.360)
Distortion		1.911*** (0.521)	1.896*** (0.512)
EU			1.840** (0.723)
Japan			1.412* (0.809)
Mexico			0.995 (0.806)
Korea			0.586 (0.838)
Non-OECD			1.071 (0.835)
Intercept	2.177 (7.437)	-10.116 (9.938)	-8.789 (9.281)
Number of Barriers	594	448	448
Observations	7,926	5,879	5,879

Notes: We use random-effects logistic regression models. Canada is the omitted comparison group for the trade partner. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

10. In addition, we analyze the effects of political contributions to the Republicans and the Democrats separately. The results are similar to those reported above, and we report them in the appendix Table B.2.

5 Effects of WTO Trade Disputes on Firm Lobbying

5.1 Data

Our theoretical argument implies that firms increase the resources they devote to lobbying when WTO disputes begin that affect their interests. As previous research has shown (Davis 2012) and our results in the last section confirm, political contributions by organized interest groups on the complainant side of a case are associated with an increased probability of WTO dispute initiation. However, we argue that both complainant-side and defendant-side firms have increased incentives to engage in lobbying once a dispute begins. Lobbying effort encourages often-reluctant government officials to invest time and resources in a case rather than settling early, which improves the prospects of a settlement that is favorable to the lobbying firms' interests.

To test hypothesis 2, we construct a firm-year-level database by combining the list of Fortune 500 firms, WTO disputes, and lobbying expenditures data. We expand the list of Fortune 500 firms to include all firms that fell into the top 500 during the years of our study, yielding a total of 906 firms in our database. We match these firms with WTO disputes from DS1 through DS415, which were initiated and resolved in 1995-2013. Among the 906 firms, 255 firms (28.1%) were involved in WTO disputes in which their home country featured either as plaintiff, defendant, or third party. Firms are coded as involved in a WTO dispute if they are mentioned in the complainant's brief or subsequent WTO documentation, including panel rulings, or if they are linked to the dispute by news articles.¹¹ We then match the firms to data on their annual lobbying expenditures from the Center for Responsive Politics (CRP), as reported under the 1995 Lobbying Disclosure Act.¹² Lobbying firms are required to provide a good-faith estimate rounded to the nearest \$10,000 of all lobbying-related income from their clients in each quarter, and the CRP calculates the annual lobbying expenditure by adding the four quarterly totals.¹³ On average, Fortune 500 firms spend \$621,506 per year to lobby the U.S. Congress and Federal agencies. While we cannot directly observe firms' political activities or the details of what lobbying firms sought, we treat the firms' annual lobbying expenditures as a measure of their lobbying effort and political influence.

11. A description of the text analysis method used in the data collection and the list of involved firms can be found in the appendix.

12. Data available at <http://www.opensecrets.org>.

13. Details on the methodology are available at <http://www.opensecrets.org/lobby/methodology.php>.

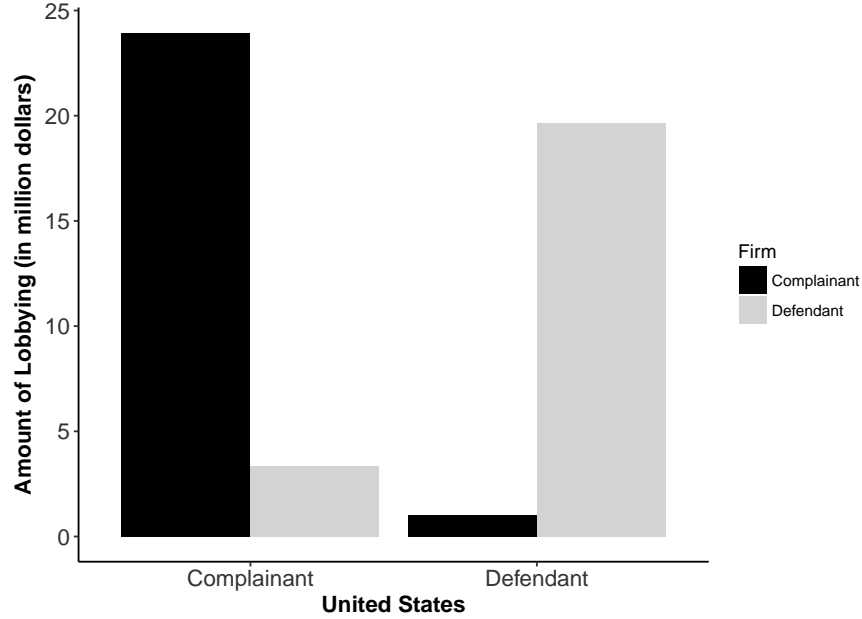


Figure 2: The Amount of Average Lobbying Expenditures by Dispute Types

The unit of analysis is a firm-year, the dependent variable is annual lobbying expenditures, and the main independent variable of interest is an indicator variable for whether a firm is implicated in a WTO dispute that involves the United States in each year. Since we focus on lobbying of U.S. government agencies due to data availability, we limit our attention to disputes involving the United States, either as complainant or defendant. The data include U.S. and foreign firms, and either type can be involved on either side of a dispute. For example, a U.S. multinational with a global supply chain may take the defendant side in a case initiated by the United States, and a U.S. affiliate of a foreign multinational may take the defendant side in a case lodged against the United States. Accordingly, we construct four indicator variables of dispute involvement: when the U.S. is a complainant, whether firms are involved on the complainant side (in models (2) and (3)); when the U.S. is a complainant, whether firms are involved on the defendant side (in models (4) and (5)); when the U.S. is a defendant, whether firms are involved on the complainant side (in models (6) and (7)); and when the U.S. is a defendant, whether firms are involved on the defendant side (in models (8) and (9)). These four binary variables are used to analyze the relationship between involvement in disputes and annual lobbying expenditures.

Figure 2 shows the results of cross-tabulating lobbying expenditures by complainant and defendant firms with U.S. involvement in WTO disputes on the complainant and defendant sides. In

all of these cases, most of the lobbying is done by U.S. firms, but some is done by U.S. affiliates of foreign firms. As the table indicates, complainant-side firms dominate the lobbying game when the United States is the complainant (\$23.9 million vs. \$3.3 million), and defendant-side firms mobilize more political influence than complainant firms when the United States is the defendant (\$19.7 million vs. \$1.0 million). As we will show below, further analysis indicates that firms aligned with the U.S. position in a dispute indeed increase their lobbying expenditures when a dispute arises that affects their interests. Because U.S. firms are more heavily represented in the list of Fortune 500 than firms from any other country, it is important to conduct this analysis at the firm level. Among the 918 Fortune 500 firms, 299 firms (32.6%) are headquartered in the United States, and 25.4% of those are involved in WTO disputes at some point.

Each model includes additional variables to control for factors that might affect lobbying expenditure. First, as the growing number of scholars focuses on differences in firm productivity and size within an industrial sector to explain firm activities, we include several firm-level characteristics.¹⁴ We use the number of employees and gross profit to control for firm effects. These firm-level variables are taken from Compustat. We expect firms with more resources to invest more in lobbying. Second, as Jensen et al. (2015) point out, firms with more vertical FDI are less likely to file anti-dumping petitions. To control for the effect of intrafirm trade on trade disputes, we control for a firm's cumulative number of FDI transactions (from SDC Platinum). In addition, we control for whether complainant and defendant countries enter into treaties with investment provisions (TIPs) to see how other available venues for addressing trade barriers affect firms' political activities. The data on TIPs are collected from the database of international investment agreements maintained by the United Nations Conference on Trade and Development (UNCTAD). Finally, we include firm and year fixed effects to control for unobserved factors that might affect expenditures that are specific to fixed firm-level characteristics or that are due to contemporaneous shocks that affect all firms, such as U.S. election years or global financial crises. Descriptive statistics for all variables we use are in the Table 3.

14. On the “new-new” trade theory, see Melitz (2003), Bernard et al. (2003), Helpman, Melitz, and Yeaple (2004), and Antràs and Helpman (2004).

Table 3: Descriptive Statistics

Statistic	N	Mean	SD	Min	Max
<i>Firm-level variables</i>					
Lobbying amount (<i>in million \$</i>)	12,684	0.622	1.98	0	45.51
Number of employees (<i>in thousand</i>)	3,897	74.53	123.89	0	2,100
Gross Profit (<i>in billion \$</i>)	3,983	8.68	12.95	-76.74	112.37
FDI	11,783	2.28	4.70	0	67
TIP _{s1}	12,684	0.004	0.06	0	1
TIP _{s2}	12,684	0.001	0.03	0	1
TIP _{s3}	12,684	0.001	0.04	0	1
TIP _{s4}	12,684	0.003	0.06	0	1
<i>When the U.S. is complainant:</i>					
Complainant-side firms	12,684	0.02	0.12	0	1
Defendant-side firms	12,684	0.01	0.11	0	1
<i>When the U.S. is defendant:</i>					
Complainant-side firm	12,684	0.02	0.15	0	1
Defendant-side firm	12,684	0.02	0.13	0	1
<i>Dispute-level variables</i>					
Lobby Amount (<i>complainant</i>)	980	1.05	5.14	0	63.83
Lobby Amount (<i>defendant</i>)	980	1.67	6.54	0	82.96
Duration of disputes	980	3.22	2.62	1	18
Logged GDP (<i>complainant</i>)	980	27.86	1.92	20.55	30.41
Logged GDP (<i>defendant</i>)	980	28.36	1.71	22.35	30.41
Polity Score (<i>complainant</i>)	980	8.84	2.99	-7	10
Polity Score (<i>defendant</i>)	980	8.72	3.57	-7	10
U.S. complainant	980	0.24	0.43	0	1
U.S. defendant	980	0.34	0.47	0	1
Legislative election (<i>complainant</i>)	980	0.31	0.46	0	1
Legislative election (<i>defendant</i>)	980	0.34	0.48	0	1
Political constraint (<i>complainant</i>)	980	0.72	0.22	0	0.88
Political constraint (<i>defendant</i>)	980	0.75	0.21	0	0.87
Involved disputes (<i>complainant</i>)	980	18.28	16.69	0	54
Involved disputes (<i>defendant</i>)	978	19.69	16.18	0	54
Cited articles	980	8.87	7.16	1	39
Third parties	980	5.47	5.24	0	24
Agriculture	980	0.22	0.42	0	1
SPS/TBT	980	0.14	0.34	0	1
TIPs	980	0.28	0.45	0	1

5.2 Do Firms Spend More on Lobbying under WTO Disputes?

We combine the covariates of Fortune 500 firms and their lobbying spending on U.S. government agencies, which result in a time-series and cross-sectional format.¹⁵ For the primary test of our arguments, we run fixed-effects models with two types of specifications.¹⁶ In models (2), (4), (6), and (8), we run the baseline specification that relies on fixed effects to control for firm heterogeneity. In models (3), (5), (7), and (9), we include two additional firm-level covariates, gross profits and number of employees, and missing data substantially reduces the usable sample size. In addition, we classify the involvement of firms into two situations. In models (2), (3), (4), and (5), we consider cases where the United States is complainant, whereas in models (6), (7), (8), and (9), the United States is defendant. In model (1), we pool all disputes and all firms without specifying which side of the dispute firms take or whether the United States is complainant or defendant.

We report estimates of the determinants of lobbying at the firm level in Table 4. We find strong evidence that when MNCs are involved in disputes, they are likely to increase their investment in lobbying. Specifically, when firms are involved in disputes on the complainant side (in models (2) and (3)), as expected, firms are likely to spend money to open up the market of a defendant. We can find the same pattern in models (8) and (9). When the U.S. is defendant, MNCs spend more on lobbying to protect their domestic markets. However, this significant relationship disappears for defendant-side firms when the United States is the complainant (in models (4) and (5)). Similarly, we find no statistically significant effect of firm involvement on the complainant side when the United States is the defendant. All of these models have firm-level and year fixed effects, so we can interpret this result as a change over time: firms that become involved in a WTO dispute increase their lobbying expenditures.

15. The total number of observations is 12,684, but missing values in the number of employees and gross profit lead to loss of observations.

16. The results are robust to other model selections (pooling and random effects). A Hausman test indicates that fixed-effect models are appropriate.

Table 4: Fortune 500 Firm Lobbying

	Total: (1)	When the U.S. is complainant: (2) ~ (5)				When the U.S. is defendant: (6) ~ (9)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total firms	0.393*** (0.124)								
Complainant-side firms		0.873*** (0.109)	1.133*** (0.228)						
Defendant-side firms				-0.189 (0.125)	-0.266 (0.405)				
Complainant-side firms						0.017 (0.104)	-0.276 (0.464)		
Defendant-side firms								0.481*** (0.120)	0.867*** (0.252)
FDI	-0.021*** (0.008)	-0.004 (0.004)	-0.023*** (0.008)	-0.004 (0.004)	-0.022*** (0.008)	-0.004 (0.004)	-0.022*** (0.008)	-0.004 (0.004)	-0.022*** (0.008)
Number of employees	-0.0004 (0.001)		-0.0004 (0.001)		-0.0004 (0.001)		-0.0004 (0.001)		-0.0004 (0.001)
Gross Profit	0.076*** (0.006)		0.073*** (0.006)		0.076*** (0.006)		0.076*** (0.006)		0.076*** (0.006)
TIP _{s1}			-2.202*** (0.432)						
TIP _{s2}					0.189 (1.151)				
TIP _{s3}							0.314 (1.189)		
TIP _{s4}									-1.034** (0.498)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	3,597	11,783	3,597	11,783	3,597	11,783	3,597	11,783	3,597
R ²	0.176	0.042	0.181	0.037	0.173	0.036	0.173	0.038	0.176

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

As expected, the gross profit variable is positive and significant. Firms with more gross profit are likely to spend more on lobbying. Another firm-level control variable, the number of employees, has a negative coefficient but is not statistically significant. The coefficients of TIPs are also, as expected, negative, but not statistically significant in models (5) and (7). The important conclusion from the models with an additional covariate is that the core findings are robust: WTO disputes are associated with increased lobbying expenditures, but only when a firm's interests are aligned with the position taken by the United States.

6 Effects of Lobbying on the Outcome of Disputes

6.1 Data

In this section we examine whether lobbying by firms affects dispute outcomes. The unit of analysis for these regressions is the WTO dispute, and our data cover the first 415 disputes, ranging from 1995-2013. Our dependent variable is a binary indicator for the direction of a panel ruling. We collected original data on the direction of panel rulings and cross-checked our data with Horn and Mavroidis (2011). Our main variables of interest measure political activities by involved firms. First, we count the number of firms that we code as implicated in a dispute on each side, and then we use lobbying data linked to those firms, which is aggregated by dispute into pro-complainant and pro-defendant variables. In addition, we rely on recent papers to identify variables to control for factors that might affect dispute outcomes. We include the total market size of each disputant, measured as logged GDP in current US dollars gathered from the World Bank's World Development Indicators (WDI). GDP captures a disputant's capacity to pursue dispute settlement procedures at the DSU (Guzman and Simmons 2005), and since large economies conduct more trade, they have more resources and bargaining power during disputes. As Busch and Reinhardt (2006) and Johns and Pelc (2014) point out, third parties decrease the likelihood of early settlement and may affect panel rulings. In addition, following Johns and Pelc (2014) we include a binary variable for Article XXII citations, which are used by complainants to manipulate the number of third parties to influence panel rulings. They find that Article XXII is positively associated with early settlement and negatively related to pro-complainant panel rulings. We construct two types of election timing variables. First is an indicator variable that is coded 1 if the legislative election is coming in twelve

months, and 0 otherwise. The second variable is a count variable that measures the number of years to an approaching election.

We also consider several dispute-specific characteristics. We include the number of GATT articles cited in the complaint to control for a case’s legal complexity (Busch and Reinhardt 2006). We also include a systemic interest indicator, which is coded 1 when a third party to a dispute asserts a concern that the dispute has broad implications for the interpretation of trade law. We expect that cases concerning systemic interests are associated with longer duration. Finally, according to the recent research by Kim (2015), states have difficulty resolving trade disputes when they involve human health and safety measures, because defendant countries often use such regulations to disguise protectionism. He finds that disputes last longer and are more likely to recur when they are related to the WTO Sanitary and Phytosanitary (SPS) Agreement. Accordingly, we include a binary variable to indicate whether a dispute concerns the SPS Agreement. In addition, we also consider the Agreement on Technical Barriers to Trade (TBT), which can be used to disguise trade barriers. We also consider a binary variable to indicate whether disputes concern agricultural issues.

6.2 Lobbying and the Direction of Panel Rulings

We do not expect firms’ political activities to affect panel rulings, since WTO panels follow transparent, quasi-judicial litigation procedures. However, it seems likely that if there is an association between lobbying and panel rulings, it is due to selection bias, since lobbying could affect which cases are settled early and never make it to a panel. Accordingly, we use a two-stage Heckman model that addresses the possibility of selection bias into panel rulings to test hypothesis 3 (Busch and Reinhardt 2006; Johns and Pelc 2014).¹⁷ The first step estimates an equation for survival of a dispute to the panel-ruling stage, and the second step estimates how firm lobbying and controls affect the outcome of panel rulings. The dependent variable in the second stage is a binary variable, which indicates whether a panel rules in favor of the complainant. Our main variables of interest

17. Additional results in the appendix show that a model that does not control for selection effects does exhibit a significant positive effect of *political contributions* on the probability of a pro-complainant ruling (Table B.5), and this result survives in models that control for selection into WTO dispute initiation (Table B.4). (We use industry-level political contributions data because the unit of analysis for the selection model is an industry-level trade barrier.) However, the result of firm-level lobbying on panel rulings is insignificant when we model the selection problem as survival of a dispute until the panel rules.

are the number of involved firms and the amount of lobbying.

We report the estimates in Table 5. In models (1) and (2), the sample includes all disputes, whereas in models (3) and (4), we only consider U.S.-related cases, where we can measure lobbying activities. Model (2) has a similar specification to Johns and Pelc (2014). As expected, the results indicate that lobbying expenditures are not significantly related to the resolution of disputes that proceed to a panel ruling. This is reassuring, since WTO dispute resolution is a quasi-judicial procedure based on legal reasoning, which is designed to be insulated from informal influence. However, firms' political activities measured by the number of involved firms do affect government decisions to proceed to a panel rather than settling a case early. Regardless of whether they are involved on the complainant or disputant side, increasing the number of involved firms is associated with an increased probability that a dispute proceeds to a panel ruling.¹⁸

The results confirm the finding that third parties push the case into the panel stage (Busch and Reinhardt 2006; Johns and Pelc 2014). We also confirm that filing under Article XXII is negatively associated with the likelihood of proceeding to a panel, but does not have any effect in the second stage Busch and Reinhardt (2006). The systemic interest indicator is the only variable that affects both stages. When third parties assert systemic interest in a case, it is more likely to proceed to the litigation stage and the panel is more likely to rule in favor of the complainant. As for size of the economy, complainant GDP matters in the selection stage, whereas defendant GDP plays an important role in the outcome stage. We use election timing as an exclusion restriction, because initiation of WTO disputes has been found to be linked to election timing, but it should not be related to panel rulings (Chaudoin 2014; Pervez 2015). Data on the timing of legislative elections are gathered from Bormann and Golder (2013).¹⁹ However, we could not find a significant effect of election year. Finally, in models (3) and (4) we include the number of cited articles only in the outcome stage because this sort of technical factor should be relevant only in the judicial stage, but it does not have a significant effect.

18. It would appear natural to include lobbying data in the selection stage in models (3) and (4), we cannot do so because the data are not available. Since the consultation stage only lasts a few months and the lobbying data are collected annually, we cannot specify the amount of lobbying spent in the first stage.

19. We update the dataset because its coverage ends in 2010. We consider both legislative and presidential elections.

Table 5: How do firms' political activities affect WTO panel rulings?

	Outcome equation: Likelihood of pro-complainant panel ruling			
	(1)	(2)	(3)	(4)
Firms (complainant, <i>count</i>)	0.019 (0.018)	0.020 (0.019)	0.024 (0.019)	0.029 (0.019)
Firms (defendant, <i>count</i>)	0.005 (0.017)	-0.004 (0.020)	0.005 (0.028)	0.007 (0.028)
Complainant lobbying			-0.000 (0.001)	-0.000 (0.001)
Defendant lobbying			0.004 (0.006)	0.003 (0.006)
Article XXII	-0.020 (0.059)	-0.014 (0.066)	0.007 (0.067)	0.005 (0.067)
Third parties	0.008 (0.007)	0.004 (0.007)	0.009 (0.007)	0.007 (0.007)
Systemic interest indicator	0.107 (0.073)	0.117 (0.081)	0.155* (0.086)	0.163* (0.085)
Complainant logged GDP	-0.015 (0.015)		-0.020 (0.017)	-0.022 (0.017)
Defendant logged GDP	-0.035** (0.017)		-0.040** (0.020)	-0.045** (0.021)
Anti-dumping		0.043 (0.071)		0.061 (0.088)
SPS & TBT		0.085 (0.089)		0.121 (0.090)
Agriculture		0.106 (0.082)		0.082 (0.086)
Cited article			0.004 (0.003)	0.002 (0.004)
Intercept	2.116*** (0.657)	0.691*** (0.129)	2.274*** (0.742)	2.446*** (0.747)
	Selection equation: Likelihood of proceeding to panel			
Firms (complainant, <i>count</i>)	0.689*** (0.158)	0.661*** (0.177)	0.721*** (0.205)	0.726*** (0.209)
Firms (defendant, <i>count</i>)	0.375** (0.148)	0.350** (0.169)	0.840*** (0.247)	0.839*** (0.247)
Article XXII	-0.231 (0.196)	-0.230 (0.215)	-0.430* (0.246)	-0.441* (0.249)
Third parties	0.240*** (0.034)	0.249*** (0.036)	0.159*** (0.038)	0.157*** (0.039)
Systemic interest indicator	0.944*** (0.224)	1.076*** (0.260)	1.222*** (0.280)	1.270*** (0.309)
Complainant logged GDP	-0.023 (0.049)	-0.231** (0.100)	-0.178** (0.070)	-0.180** (0.072)
Defendant logged GDP	0.000 (0.051)	0.014 (0.089)	-0.053 (0.069)	-0.049 (0.071)
EU complainant		0.695* (0.396)		
US complainant		1.380*** (0.467)		
EU defendant		0.010 (0.338)		
US defendant		0.388 (0.394)		
Anti-dumping		0.194 (0.280)		-0.085 (0.349)
SPS & TBT		0.192 (0.286)		0.090 (0.318)
Agriculture		-0.185 (0.264)		-0.016 (0.286)
Complainant election year			0.233 (0.334)	0.250 (0.341)
Defendant election year			0.428 (0.294)	0.438 (0.298)
Intercept	-0.844 (1.788)	3.876 (2.977)	5.393* (2.768)	5.327* (2.779)
Observations	379	357	248	248

6.3 Lobbying and the Duration of Disputes

Most WTO disputes are settled by the disputants before a panel ruling is made. The disputants enjoy joint gains from early settlement, because they resolve uncertainty about the substance of the panel ruling and retain greater control over the outcome. However, the disputants differ about the distribution of those gains, so they delay agreement in order to signal resolve and extract concessions. Disputes may remain unresolved after a panel ruling, and in some cases drag on for years involving appeals, implementation, compensation, and retaliation proceedings. Lobbying, in this context, serves to stiffen the resolve of the national negotiators, making them less willing to make concessions and more willing to delay agreement. Our expectation is that lobbying is associated with delay in dispute resolution.

In addition, the context of WTO dispute resolution allows us to make distinctions between defendant-side and complainant-side lobbying. Dispute resolution favors the defendant, because the complainant seeks to change the status quo, and therefore faces higher costs from delay. Complainant countries attempt to terminate defendant countries' WTO-inconsistent policies as soon as possible, while defendant countries benefit from those policies while the dispute remains unresolved. Consequently, we expect that lobbying will have stronger effects on the defendant side than on the complainant side.

The dependent variable is the duration of WTO disputes, measured in years (Table 6), and in months (Appendix), and the main explanatory variable is lobbying expenditures. All models use the Cox proportional hazard model and the Breslow method for dealing with ties.

In addition to control variables used in the previous section (GDP, the number of third parties, and TIPs), we control for democracy, because the previous literature argues that democratic countries are more likely to become involved in trade disputes (Rosendorff 2005; Sattler and Bernauer 2011). We use an indicator variable that is coded 1 for countries with Polity scores ranging from 7-10, and 0 otherwise (Marshall and Gurr 2012). We also control for political constraints, a measure of political risk developed to capture the stability of the status quo (Henisz 2000). In addition, we control for the total number of disputes in which each disputant is involved, since involvement in multiple disputes may reinforce incentives to demonstrate resolve, as in the chain-store paradox (Kreps and Wilson 1982).

Table 6 presents the estimated coefficients from a series of Cox model specifications of the duration of disputes in years, using a database with annual coding of all variables. Models (1) and (2) are the primary specifications testing our arguments, and to facilitate further analysis we include the interaction terms added in models (3) - (6). We identify significant negative coefficients of defendant-side lobbying expenditures in all model specifications, which indicate that increases in the amount of lobbying are associated with decreases in the probability (hazard rate) of dispute settlement. This is consistent with the hypothesis that lobbying lengthens dispute duration. In model (1), the hazard ratio of the estimated coefficient is 0.95, which means that increasing lobbying spending by MNCs on the defendant side by \$1 million decreases the probability of a dispute being settled in the current year by approximately 5% below the baseline hazard. The estimated effect of lobbying in the average dispute (with defendant-firm lobbying expenditures of \$1.7 million) is an 8.4 % reduction in the probability of settling the case each year, and a high-stakes dispute with defendant-firm lobbying one standard-deviation above the mean (\$8.2 million) is 41 % less likely to be settled. The hazard ratios corresponding to the other estimated coefficients are reported in the appendix (Table B.8).

Table 6: Cox Proportional Hazard Models

	(1)	(2)	(3)	(4)	(5)	(6)
Firm lobby (<i>complainant</i>)	-0.020 (0.016)	-0.026 (0.017)	-0.012 (0.086)	-0.027 (0.018)	-0.029 (0.018)	-0.029 (0.018)
Firm lobby (<i>defendant</i>)	-0.050** (0.025)	-0.055** (0.025)	-0.061** (0.025)	-0.068** (0.027)	-0.069*** (0.026)	-0.062 (0.047)
Logged GDP (<i>complainant</i>)	0.009 (0.050)	-0.005 (0.066)				
Logged GDP (<i>defendant</i>)	-0.195*** (0.060)	-0.158** (0.062)				
Polity score (<i>complainant</i>)	-0.062*** (0.024)					
Polity score (<i>defendant</i>)	-0.061*** (0.019)					
U.S. complainant			-0.528** (0.256)	-0.575** (0.252)		
Firm lobby (<i>complainant</i>) × U.S. complainant			-0.012 (0.088)			
Firm lobby (<i>defendant</i>) × U.S. complainant				0.115 (0.083)		
U.S. defendant					0.088 (0.195)	0.093 (0.198)
Firm lobby (<i>complainant</i>) × U.S. defendant					-0.018 (0.157)	
Firm lobby (<i>defendant</i>) × U.S. defendant						-0.010 (0.057)
Involved disputes (<i>complainant</i>)	-0.004 (0.007)	-0.006 (0.008)	0.005 (0.008)	0.004 (0.008)	-0.005 (0.006)	-0.005 (0.006)
Involved disputes (<i>defendant</i>)	0.003 (0.008)	0.004 (0.008)	-0.010 (0.006)	-0.010 (0.006)		
Cited article	-0.001 (0.011)	0.001 (0.011)	0.0002 (0.011)	-0.0003 (0.011)	-0.005 (0.011)	-0.004 (0.011)
Third parties	-0.005 (0.016)	-0.002 (0.016)	-0.012 (0.016)	-0.015 (0.016)	-0.018 (0.016)	-0.018 (0.016)
SPS/TBT	0.184 (0.211)	0.158 (0.221)	0.211 (0.219)	0.191 (0.220)	0.327 (0.219)	0.314 (0.231)
Agriculture	-0.270 (0.185)	-0.298 (0.185)	-0.253 (0.181)	-0.274 (0.182)	-0.259 (0.187)	-0.266 (0.192)
Election (<i>complainant</i>)		-0.107 (0.153)	-0.068 (0.152)	-0.071 (0.152)	-0.095 (0.152)	-0.096 (0.152)
Election (<i>defendant</i>)		-0.102 (0.154)	-0.121 (0.156)	-0.115 (0.156)	-0.106 (0.156)	-0.106 (0.156)
Political constraint (<i>complainant</i>)		0.155 (0.496)	0.042 (0.383)	0.066 (0.385)	0.072 (0.377)	0.072 (0.377)
Political constraint (<i>defendant</i>)		-1.269*** (0.345)	-1.363*** (0.338)	-1.399*** (0.338)	-1.500*** (0.317)	-1.505*** (0.318)
TIPs		-0.085 (0.157)	-0.108 (0.162)	-0.116 (0.161)	0.018 (0.156)	0.018 (0.156)
Observations	977	977	977	977	979	979
R ²	0.061	0.062	0.059	0.060	0.053	0.053
Max. Possible R ²	0.932	0.932	0.932	0.932	0.932	0.932

Notes: Canada is the omitted comparison group for the trade partner. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We include two dummy variables to capture the effect of involvement of the United States: US complainant and US defendant. The hazard decreases significantly when disputes are raised initially by the United States, indicating that US-initiated disputes last substantially longer than disputes initiated by other countries. The substantive effect is a 41 % (64 %, 3 %) decrease in the probability of settling a case in a particular year. In models (3) – (6), US complainant or disputant status is interacted with complainant- and defendant-side lobbying variables to determine whether the effectiveness of lobbying the US government depends upon which side of the dispute the United States takes. The interaction terms have insignificant coefficient estimates, but this exercise confirms that defendant-side lobbying has significant effects only when the United States takes the defendant side, and that complainant-side lobbying never has a significant effect. It is interesting to note, however, that the size of the estimated effect of US initiation is similar for the average dispute to the effect of high-stakes lobbying in a case in which the United States is the defendant. We interpret this result to mean that US initiation of a dispute indicates a high degree of lobbying, and consequently a high degree of resolve on the part of US negotiators, while cases in which the United States plays the role of defendant are more heterogeneous. This is consistent with the findings above that indicated that political contributions by exporting industries play an important role in determining which disputes are initiated. We are only able to identify the effect of lobbying, however, when the United States is the defendant.

The other findings support our conjectures and previous literature, so they provide greater confidence in the model. As expected, increasing the number of third parties lengthens the duration of disputes, and disputes over agricultural issues, which are highly salient to political parties with rural voting bases, are less likely to be resolved early. When the complainant country is involved in multiple simultaneous disputes, it is less likely to resolve any of them early, which is consistent with the inference that early settlement on one issue will embolden the disputants on others. Finally, democracies and defendant countries that operate under significant political constraints as measured by *Polcon* are less likely to resolve disputes early. Evidently, these domestic constraints prevent government from making concessions. It may be the case, as Davis (2012) argues, that it is preferable for the country to lose the case and be seen to be compelled to comply with an adverse judgment than to bear the political cost of pushing through a compromise.

We have refined this analysis by estimating our models on monthly-frequency data, transforming

the applicable variables to vary by month. We recalculated the number of contemporaneous disputes in which the disputing countries are involved at the monthly level, defined an election timing variable to count the number of months until the next legislative election, and recoded political constraints to change at the monthly level after elections. Table A4 in the appendix presents estimation results from the same Cox models using these monthly data. The results are largely consistent with the annual-frequency results, but with a couple of interesting differences. Lobbying by defendant-side firms is consistently associated with disputes of longer duration. However, in the month-level analysis, this effect is significant even when the United States is the complainant. This suggests that “disloyal” firms are able to influence the US government through lobbying to delay resolution of disputes that might be adverse to their interests, even when the US government has initiated the dispute.

The other interesting difference is that in the month-level analysis domestic political constraints (Polcon) in the complainant country have the effect of significantly increasing the probability of dispute resolution. This suggests that, although independent political actors at the domestic level make it difficult for defendants to make concessions in trade disputes, the operation of similar constraints in the complainant country encourage defendants to make concessions early because they indicate the complainant government’s resolve. This is similar to the finding that democracies make deeper concessions to each other in trade negotiations because they recognize that the partner’s domestic ratification constraints are binding (Mansfield, Milner, and Rosendorff 2000).

7 Case Study

On September 30, 1998, U.S. steel producers filed a trade complainant seeking punitive tariffs against alleged unfairly-traded imports from Japan.²⁰ They alleged that Japanese steel was being sold below cost, and that imports of Japanese steel caused significant injury to the U.S. steel industry. In response to their petitions, the U.S. Department of Commerce (DOC) and the U.S. International Trade Commission launched an investigation and made a determination that sales of Japanese hot-rolled steel products qualified as dumping, and an anti-dumping duty would be

20. Japanese steel producers related to this case are Nippon Steel, NKK Corp., Kawasaki Steel Corp., Kobe Steel Ltd., Sumitomo Metal Industries Ltd., and Nisshin Steel Co.

imposed.²¹

Throughout the process, U.S. steel producers mounted political activities and commenced aggressive lobbying efforts even before submitting the petition. On September 10, the steel producers began a “Stand Up for Steel” campaign, which lasted until election day, to pressure Congress and the administration for protection. On November 5, the United Steelworkers of America (USWA) president George Becker and the chief executive officers of the major steel companies met President Clinton, Vice President Gore, and the key Cabinet members to discuss steel industry concerns (Iida 2006). Following this meeting, President Clinton said for the first time that the United States would not tolerate the “flooding of our markets” with low-cost goods from Asia and Russia. U.S. Secretary of Commerce William Daley also expressed public support for this case, saying, “[...] Japan’s trade surplus [...] is a major source of instability. And such instability—caused by boatloads of cheap imports—can lead to political unrest, as people fear for their jobs.”²² He further added, “Enforcing our trade laws is not protectionist.”²³

In the middle of the process, the U.S. government took aggressive new steps to protect the steel industry, which included speeding up anti-dumping procedures and providing faster relief for industries and workers.²⁴ While these new steps were planned to satisfy domestic workers in response to their lobbying and political pressure, they inflamed the already tense dispute with Japan. After about nine months, the panel ruled that the United States had acted inconsistently with the anti-dumping agreement in its application to Kawasaki Steel Corporation, Nippon Steel Corporation, and NKK Corporation. The Japanese government welcomed this decision and hoped to conclude the case. From the perspective of the United States, however, this was not acceptable. One of the U.S. lawyers was quoted as saying, “What’s wrong with this case is the intrusiveness of the WTO in internal matters of member countries” (Iida 2006, 218).

One of the most controversial issues discussed in this dispute concerned the calculation of anti-dumping margins. Japanese firms played a decisive role in this respect by monitoring the anti-

21. WTO Panel report WT/DS184/R.

22. New York Times article, “Clinton warns U.S. will fight cheap imports.” Source: <http://www.nytimes.com/1998/11/11/business/international-business-clinton-warns-us-will-fight-cheap-imports.html>.

23. House hearing in the 106 Congress to discuss steel trade issues, which is available at <https://www.gpo.gov/fdsys/pkg/CHRG-106hrg57306/html/CHRG-106hrg57306.htm>.

24. New York times article, “New U.S. guards promised against steel import surges.” Source: <http://www.nytimes.com/2000/07/26/business/new-us-guards-promised-against-steel-import-surges.html>

dumping process, providing relevant information to the government, which often included business secrets, and challenging U.S. decisions. It appears to be the case that the DOC used inaccurate production cost estimates, which erroneously caused Japanese firms to be found guilty of dumping. After the preliminary dumping determination was issued, the NKK Corporation found a serious clerical error in the calculation of the margin that inflated the rate. NKK brought this to the Commerce Department's attention, but the DOC declined to correct it.²⁵

The United States appealed the panel ruling on April 25, 2001. The Appellate Body reviewed the legal issues and interpretations covered in the panel report and upheld most of the panel's findings, and the DSB adopted the Appellate Body rulings. The United States thereby assumed the legal burden of promptly implementing the recommendations of the panel,²⁶ but it did not do so. The two parties disagreed over the determination of "a reasonable period of time" for implementation. The United States insisted that it needed 18 months, while Japan wanted to allow only 10 months. As a result, arbitration was required to determine the implementation period, which led to additional delay. After the dispute had ostensibly been settled and an implementation period had been set, the United States has repeatedly requested extensions of the reasonable period of time, and the dispute is still under way.²⁷ A senior official at the Ministry of International Trade and Industry of Japan said, "As is often the case with defendants at the WTO, the U.S. probably wanted to buy time and delay the WTO's procedures for settling the steel dispute."²⁸ During the dispute settlement period, the Japanese steel industry has suffered severe damage.²⁹

The U.S. steel industry dramatically expanded its political contributions during the 2000 election cycle, when the dispute with Japan advanced to the panel stage. The industry made total contributions of \$2.7 million dollars, compared to total contributions during the previous election cycle of \$1.6 million. One of the top contributor firms, Nucor Corporation, also increased its lobbying spending from \$440,000 in 2001 to \$760,000 in 2002, and to \$800,000 in 2003.³⁰ Lobbying

25. WTO Panel report WT/DS184/R.

26. According to the Article XXI, prompt compliance with recommendations or rulings of the DSB is required in order to ensure effective resolution of disputes for the benefit of all members.

27. A recent status report is WT/DS184/15/Add.171 [accessed 12 April 2017].

28. "Japan-U.S. steel dispute to be resolved by WTO," *Japan Times*, July 18,, 2000. www.japantimes.co.jp/news/2000/07/18/business/japan-u-s-steel-dispute-to-be-resolved-by-wto/.

29. Compared to imports during a period before the U.S. imposed anti-dumping measures in 1998 (6.07 million), steel imports from Japan decreased to only 1.93 million tons in 2000 (Iida 2006).

30. Japanese steel producers also spend on lobbying, but the amount is relatively small. Sumitomo Metal Industries Ltd spent a mere \$40,000 in 1999 and this amount decreased to \$20,000 in 2002.

reports provide evidence that the defendant-side firms were indeed attempting to delay the dispute settlement process. According to the lobbying report provided by Nucor Corp in 2008, it “requires the President to delay or reverse the implementation of a decision of a World Trade Organization dispute settlement panel.” (Report 2008)

8 Conclusions

The existing literature attempts to explain the outcome of WTO disputes using country-level variables, and has paid little attention to private actors. We argue that this has turned attention away from an important dimension of international trade politics. Firms conduct the majority of world trade, and it is firms that stand to gain or lose the most from the resolution of trade disputes. The states that file the cases, negotiate their disposition, and win or lose if the dispute goes to a panel are in fact acting as proxies for their business firms, and the strength of their commitment to the cause depends on the influence and lobbying power of their respective firms. Firm-level analysis is needed in order to understand the implications of power and influence in international trade.

The empirical results we present provide consistent evidence of firms’ political activity. We show that political contributions by firms and industry trade groups play a key role in determining which foreign trade barriers the United States government escalates to the level of a WTO trade dispute. Even the U.S. government, with its high institutional capacity, has to pick and choose which disputes it will raise, and the decision often turns on the resources that firms are able to bring to bear. Firms self-select into participation, because preparation for an official WTO adjudication is costly for firms. They have to identify foreign policies that are WTO-inconsistent, estimate the economic benefits of removing such policies, and engage the domestic government and convince it to pursue the case through the WTO. This is generally a game for high-capacity organizations.

Once a WTO dispute begins that touches on a firm’s interests, the firm generally increases its investment in political lobbying. Using firm-level data matched to lobbying expenditures and involvement in WTO disputes, and controlling for fixed effects for firms, we show that Fortune Global 500 firms allocate more resources to lobbying when they are involved in WTO trade disputes. U.S. firms can take advantage of legal mechanisms such as the Section 301 process and anti-dumping rules to request that the U.S. Trade Representative investigate their concerns, but this does not

necessarily guarantee that firms can motivate policymakers to act on their concerns. Lobbying persuades government officials to act as their agents.

WTO disputes may be decided by panel rulings, but are usually resolved through informal bargaining, and the process is deliberately structured to encourage such out-of-court settlements. We find that the existence of firms that are directly implicated in a WTO dispute because they are named in WTO documents or that are publicly associated with the case in the press makes it substantially more likely that a case will proceed to a panel. These firms have vested interests in the case at hand, and are unwilling to tolerate disadvantageous settlements. There is no guarantee that firms' political efforts will result in successful outcomes when disputes are in the hands of the international court, and indeed, our evidence indicates that lobbying expenditures do not influence the outcome of disputes that are decided by a panel ruling. This is not surprising, since WTO panels are independent agencies that reach their decisions through a transparent process of legal reasoning.

There is ample reason to believe that lobbying does substantially affect the outcomes of negotiated settlements, because bargaining is a game in which the willingness to wait provides leverage. The complainant's priority is to remove WTO-inconsistent policies and open up the exporting market, whereas defendants prefer to maintain the status quo and drag out the litigation process. This implies that defendant-side firms have a bargaining advantage, which compensates to some degree for the fact that they tend to have weak legal cases. Defendant-side firms lobby more consistently for their government to take a hard line, while complainant-side firms may find their coalitions fragmented by tactical considerations. We find that lobbying expenditures by firms that support the defendant's position lead to longer disputes, and we find no similar effect for lobbying by complainant-side firms.

On the other hand, the investment in a lengthy dispute may be worthwhile for the plaintiff from a bargaining perspective. Bargaining is a contest in which time is wasted in order to demonstrate resolve. If lobbying increases the home government's audience costs from making concessions, it should extend the bargaining process on average, but also lead to more favorable negotiated settlements. While we find that the effects of complainant-side lobbying on dispute duration are statistically insignificant, we also find a substantial effect of initiation by the United States on the duration of disputes involving the United States. Since initiating a dispute requires firms to

surpass a high threshold of political activity—we have demonstrated a strong relationship between political contributions and dispute initiation—the insignificant effect of complainant-side lobbying may simply indicate that there is not enough variation in lobbying effort on the complainant side to estimate a significant effect.

The evidence is clear that U.S. policy towards WTO trade disputes is largely controlled by the preferences of politically-active firms. Firms increase their investment in the political process considerably when a WTO dispute arises that directly affects their interests. Lobbying and political contributions determine which disputes are initiated, which are settled early rather than litigated, and how long they last. The only outcome that lobbying does not seem to determine is who wins the legal contest when a dispute goes to a panel ruling; but even after a panel ruling, determined lobbying can lead to substantial delay that ultimately subverts the decision and leads to a new negotiated settlement more favorable to powerful firms. The international trade regime includes a dispute-resolution procedure that is nominally designed to resolve disputes between states, but it is actually used as a device to resolve disputes between firms that employ states as their agents.

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