

# 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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# 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 suf-

ficient 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 for-

eign 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 International 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. One set of studies attempted to explain which countries were most likely to be targeted by WTO dispute settlement procedures. Sattler and Bernauer (2011) and Horn and Mavroidis (2009) focused on “gravitation effects” to explain which countries became targets of litigation: economic size and deep bilateral trade relationships increased the likelihood of being involved in dispute settlement. In this view, countries with more diversified economies and greater market size were more attractive targets of litigation. Another group of studies focused instead on state-level characteristics that explain reluctance to engage in WTO disputes. Weak legal capacity, lack of resources, or fear of retaliation may deter developing countries from initiating a WTO dispute (Guzman and Simmons 2005; Bown 2005; Kim 2008; Busch, Reinhardt, and Schaffer 2009).

In short, following early work by Hudec (1993), the literature has focused on various state characteristics to explain WTO dispute settlement. 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), legal capacity (Busch, Reinhardt, and Schaffer 2009), or exchange-rate regimes (Copelovitch and Pevehouse 2011). Other studies focused on dispute-settlement procedures. Busch and Reinhardt (2000, 2003) investigated country-level factors affecting escalation of disputes. In addition, focusing on non-disputant participants of disputes, Busch and Reinhardt (2006) and Johns and Pelc (2014) study the role of third-party states during dispute resolution. Other scholarship focused on domestic politics. From the perspective of the domestic audience-cost the-

ory, Chaudoin (2014) and (Pervez 2015) argued that initiation of disputes is influenced by election timing. The working assumption of all of these studies is that states are the relevant actors.

Article	Level	Firm Coverage	Type of Disputes
Davis and Shirato (2007)	Firm	Japanese Manufacturing Firm	WTO Disputes
Broz and Werfel (2014)	Industry		Antidumping
Jensen, Quinn, and Weymouth (2015)	Firm	US Firms	Antidumping

Table 1: Previous Firm-level Literature on WTO Disputes

Recently, a few studies have begun to explain disputes in terms of industrial, sectoral, and firm-level characteristics. To begin with, Davis and Shirato (2007) and Davis (2012) use industry-level data to show that business environment is an important variable to explain which industries are more likely to demand WTO dispute settlement. They argue that some countries file trade disputes to placate domestic firms, and firms in “static” industries that can tolerate the lengthy DSU process more strongly lobby their government for litigation.

From the perspective of “new, new” trade theory, Jensen, Quinn, and Weymouth (2015) investigate why anti-dumping (AD) filings by US firms have declined in an era of persistent foreign currency under-valuation on the part of major US 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 protectionist activities. Using industry-level data, they show that currency appreciation positively and significantly affects the number of industry-level antidumping petitions. Gawande, Hoekman, and Cui (2015) make similar arguments using country-level data. Their question is that why the 2008 financial crisis did not give cause the collapse of trade. Their answer is that the rise in the fragmentation of production across global value chains—vertical integration—deters

protectionism.

### **3 WTO Trade Disputes at the Firm Level**

The United States Trade Representative (USTR) is charged with securing America's trade rights and benefits through formal dispute settlement procedures, including the WTO. During two terms of the Obama administration, the USTR filed 23 cases at the WTO, more than any other WTO member.<sup>1</sup> The public sector does not formulate public policy autonomously, however. In practice, this authority is broadly shared with private firms. Firms provide important information about the trade policies of foreign governments that affect their interests and lobby extensively to influence public policy. Information asymmetries and the exigencies of policymaking in Washington compel trade officials to listen closely to the lobbyists and to establish inter-organizational networks. The result is that WTO dispute resolution, like trade policy more broadly, is largely captured by the largest, best-organized firms.

Shaffer (2003) characterizes the changes of traditional functions of the public and private sectors as a "public-private partnership." "The blurring of the public and private," he argues, is due largely to resource interdependencies. Governments need to have access to information that private firms possess. According to Shaffer (2003) and Bown (2010), private firms identify foreign WTO-inconsistent policies and do much of the pre-litigation work before the official litigation procedure begins. More broadly, the USTR relies on lobbying by the private sector to persuade Congress and other government agencies to support the USTR's policy goals (Gilligan 1997; Shaffer 2003). In exchange for this support, the USTR cooperates with private firms to protect their interests. For exporting firms, this largely takes the form of dispute resolution and diplomacy. For import-competing firms, the USTR imposes unilateral anti-dumping duties on foreign exporting firms or invokes

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

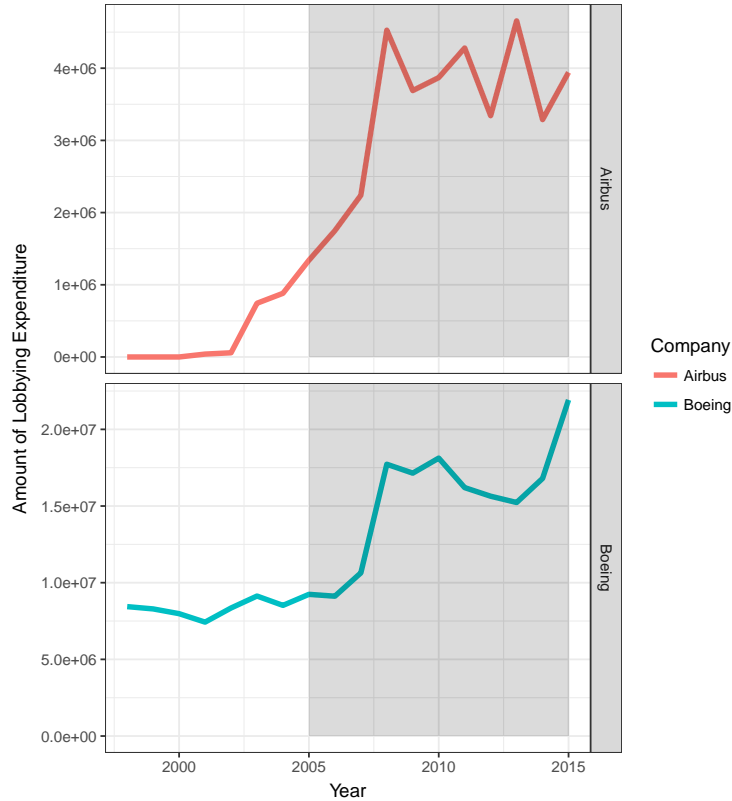


Figure 1: Lobbying Expenditures by Boeing and Airbus

executive authority to impose trade barriers to protect domestic industries.

A relevant 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.<sup>2</sup> Faced with an aggressive market strategy by Airbus, Boeing escalated disputes to an official WTO adjudication. Since then, Boeing increased lobbying expenditures to the USTR as well as contributions to individual members of the House and the Senate. Figure 1 displays how Boeing increased its lobbying spending during WTO disputes. This figure shows total lobbying spending to government agencies. The shaded area marks the period of WTO disputes.

Interestingly, Boeing was not the only firm that increased its lobbying. Its competitor, Airbus, also expanded the amount it spent on lobbying the US government, and a lobbying report in the appendix provided by Airbus shows that Airbus lobbied regarding civil

2. There are four WTO cases related to this dispute: DS316, DS317, DS347, and DS353.



aircraft issues. In this report in section 16, it says that specific lobbying issues are “matters pertaining to the U.S. and European civil aviation industries.” Corporate political activity is not limited to the executive branch. As attention to this dispute rose, congressional testimony, briefings, and phone calls also increased (Davis 2012).

Although this paper is limited to data on lobbying that occurs in the United States, the European Union also establishes partnerships with private businesses in making trade policy. Policymakers and firms broadly share the goals of enhancing private sector access to overseas markets and defending domestic prerogatives, but the effect of the partnership is that public policy is skewed towards the interests of the most powerful and organized firms.

### *Hypotheses*

As we have seen, private firms exert influence by informing government agencies about foreign trade barriers and demanding initiation of formal dispute settlement under a public-private partnership. Initiating a formal dispute resolution process can be costly (Finger 2010; Bown and Reynolds 2015), involving private attorneys and law firm fees, which are estimated to exceed one million dollars in an average case (Finger 2010). A substantial amount of this cost is borne by the private firms whose commercial interests are at stake (Bown 2010), so initiating a dispute by mobilizing political support is not a strategy that is attractive for every firm. Consequently, many WTO-inconsistent policies persist or firms find other venues to address them. According to evidence provided by Davis and Shirato (2007), industries with low velocity—few product lines and low product turnover—are more likely to advocate WTO adjudication than those with high velocity, because it takes several years to get final results and the opportunity cost of lobbying is relatively high for those with high velocity. When WTO disputes are initiated, we can be sure that some set of firms is highly motivated on the complainant side.

Most countries are highly selective about initiating WTO disputes. In most cases,

countries wait years after a GATT-inconsistent policy is put in place before initiating a dispute. Chaudoin (2014) notes that the complainant countries often wait to file a WTO complaint until an election year in the defendant country in order to mobilize support from pro-compliance audiences in the defendant country. Similarly, Pervez (2015) focuses on political leaders in the complainant country, particularly in developing countries, who raise disputes around their elections to gain support from domestic industries. The evidence shows that as the political business cycle theory implies, initiation of WTO disputes is influenced by political considerations during election years.

When a WTO dispute is initiated, the stakes that complainant-side and defendant-side firms have in the political process increase. Concessions made by either side may affect the market share of these firms, and since most WTO disputes are settled informally before a panel ruling, it is critical for affected firms to be present at the bargaining table. Consequently, we expect to see a substantial increase in lobbying expenditures by firms on both sides of a dispute.

**Hypothesis 1.** *Firms are more likely to increase lobbying expenditure when they are involved in WTO disputes.*

This is a straightforward hypothesis, but to our knowledge, it has never been tested. We further argue that when firms have other tools to bypass foreign trade barriers, they are less likely to become involved in corporate lobbying expenditures. Jensen, Quinn, and Weymouth (2015) provide evidence to support this argument in the set of US anti-dumping cases, and we test it using a more comprehensive database covering all WTO disputes. Support for this more nuanced, conditional hypothesis helps to suggest that the mechanism that explains the lobbying is indeed the initiation of the WTO dispute rather than some other factor that was coincidentally correlated with it.

We now turn to explaining the duration of WTO disputes. A WTO dispute is a bargaining situation in which governments act as agents of their respective firms, and un-

certainty about the reservation points of both sides leads to delay. MNCs in the complainant country have mixed incentives. On one hand, having lobbied for the initiation of the dispute because they wanted to change the defendant's policy, they resist efforts by bureaucratic actors to resolve it without achieving their goals. Firms do not internalize the government's interests in smoothing diplomatic relations and avoiding retaliation in other markets. On the other hand, they have incentives to conclude disputes sooner rather than later because litigation is costly and delaying resolution causes them to lose markets. Trade volume typically increases after a dispute is resolved (Bechtel and Sattler 2015), and the cost of delaying this surge of exports can be critical to exporting firms. In addition, when the parties fail to settle their disputes at the negotiation stage, defendant countries are less likely to comply with panel or Appellate Body rulings (Busch and Reinhardt 2003), which further delays changes to WTO-inconsistent policies. Furthermore, complainant firms prefer early settlement to formal litigation procedures because complainants are restricted in their use of other measures to force defendant countries into compliance after a panel ruling. For example, in the Kodak-Fiji film dispute, Kodak preferred not to pursue legal action, but demanded that the U.S. government impose bilateral pressure against Japan. The Japanese government, on the other hand, welcomed the U.S. decision to bring a case before the WTO because that would prevent US unilateral retaliation (Davis 2012). These mixed motives may splinter the coalition of complainant-side firms, if the defendant offers concessions that satisfy some but not others. This should weaken the effect of complainant-side lobbying on dispute duration and render its direction theoretically indeterminant. Defendant-side firms, in contrast, have undiluted motives: they want to protect the status quo as much as possible and delay the process. Since WTO panels generally rule in favor of the complainant, they expect to lose if the case goes to a panel. Consequently, they may be willing to settle early, but only if they get a better deal than they expect from litigation; meanwhile, they have every incentive to delay the procedure. Even after a panel ruling, they may lobby their government to ap-

peal or to drag out the post-litigation process in order to delay their adjustment costs. The firms with the strongest incentives to seek delay have the strongest incentives to lobby, so their preferences should be decisive. The following two hypotheses test our argument that firms in the complainant and defendant countries have difference preferences.

**Hypothesis 2.** *Lobbying by complainant-side firms is not expected to have a strong effect on the duration of disputes.*

**Hypothesis 3.** *Lobbying by defendant-side firms is expected to have a strong effect that delays the resolution of disputes.*

## **4 WTO Disputes and Firm Lobbying**

We employ data at two levels of analysis gathered from multiple sources to test our hypotheses. This section consists of two parts. First, we use firm-level lobbying data to investigate whether multinational firms allocate more resources to political activity when they are involved in WTO disputes. Next, we use WTO dispute-level data to examine the effect of firm lobbying by affected firms on the outcomes of WTO disputes. We first investigate whether firm lobbying affects the direction of panel rulings, and then analyze the relationship between lobbying and the duration of WTO disputes.

Our expectation is that when firms are involved in WTO disputes, they increase the resources they devote to lobbying. To test this hypothesis, we construct a database combining the list of Fortune 500 firms and the data on lobbying expenditures by those firms. We expand the list of Fortune 500 firms to include all firms that fell into the top 500 during the years of our study, so that we have a total of 906 firms in our database. Among the 906 firms, 255 firms (28.1%) were involved in WTO disputes in which their home coun-

try featured either as plaintiff, defendant, or third party.<sup>3</sup> We cover WTO disputes from DS1 to DS414, which were initiated and settled in 1995-2013 and yield a firm-year unit of analysis format with 12,654 observations.

***Dependent Variable.*** The dependent variable for this stage of our analysis is the annual amount each firm spends on lobbying the U.S. government, as reported under the 1995 Lobbying Disclosure Act. The data on lobbying expenditures are collected from the Center for Responsive Politics (CRP).<sup>4</sup> The CRP compiles the data in a publicly available format, beginning in 1998.<sup>5</sup> The average Fortune 500 firm spends 621,506 USD each year to lobby U.S. Congress and federal agencies. While we cannot directly observe lobbying activities or the details of what lobbying firms sought, we treat firms' annual lobbying expenditures as a measure of their lobbying effort and political influence.

***Explanatory Variables.*** The main independent variable is an indicator variable for whether a firm is involved in a WTO dispute that involves the United States in each year. Since we focus on lobbying of U.S. government agencies, we limit our attention to disputes involving the United States, either as a complainant, as a defendant, or as a third party. Firms can be involved on either side of a dispute, and we also seek to determine whether lobbying is associated with the U.S. side of the dispute or the contrary side. 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 (1) and (2)); when the U.S. is a complainant, whether firms are involved on the defendant side (in models (3) and (4)); when the U.S. is a defendant, whether firms are involved on the complainant side (in models (5) and (6)); and when the U.S. is a defendant, whether firms are involved on the defendant side (in models (7) and (8)). These four binary variables are used to analyze the relationship between involvement in disputes and annual lobbying

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3. 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. The data collection method and the list of involved firms can be found in the appendix.

4. The data can be accessed here: <http://www.opensecrets.org>

5. Details on the methodology can be accessed here: <http://www.opensecrets.org/lobby/methodology.php>

expenditures.

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

	U.S. complainant	U.S. defendant
Complainant-side Firms	\$23,945,126	\$1,026,730
Defendant-side Firms	\$3,365,364	\$19,661,221

Table 1 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 U.S. is the complainant (\$23,945,126 vs. \$3,365,364), and defendant-side firms mobilize more political influence than complainant firms when the United States is the defendant (\$19,661,221 vs. \$1,026,730). 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.

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.<sup>6</sup> We use the number of employees and the 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

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6. For a deeper understanding of the new-new trade theory, see Melitz (2003), Bernard et al. (2003), Helpman, Melitz, and Yeaple (2004), and Antràs and Helpman (2004).

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), from the database of international investment agreements maintained by the United Nations Conference on Trade and Development (UNCTAD).

Finally, we include firm fixed effects 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 appendix.

#### *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 time-series and cross-sectional data. The total number of observations is 12,783, but extensive missing values in the number of employees and gross profit lead to loss of observations. For the primary test of our arguments, we run fixed-effects models with two types of specifications.<sup>7</sup> In models (1), (3), (5), and (7), we run the baseline specification that measures how the covariates affect the amount of lobbying. In models (2), (4), (6), and (8), we include additional firm-level covariates and year fixed effects to capture the effects of global time-specific trends. In addition, we classify the involvement of firms into two situations. In models (1), (2), (3), and (4), we consider cases where the United States is the complainant, whereas in models (5), (6), (7), and (8), the United States is the defendant.

We report estimates of the determinants of lobbying at the firm level in Table 3 and 4. We find evidence that when MNCs are involved in disputes, they are likely to increase

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7. The results are robust to other model selections (pooling and random effects). We also run a Hausman test, which shows fixed-effect models are more appropriate.

Table 3: Dispute Involvement and Lobbying Expenditure (1)

<i>Dependent variable: Corporate Lobbying</i>				
The U.S. is Complainant				
	(1)	(2)	(3)	(4)
Complainant Firms	10.245*** (0.753)	6.156*** (1.061)		
Defendant Firms			-0.397 (0.828)	-1.517 (1.767)
FDI	0.069*** (0.013)	-0.020 (0.027)	0.085*** (0.014)	-0.032 (0.028)
TIP <sub>s1</sub>	-4.308*** (1.292)	-3.694** (1.735)		
Employee		-0.002* (0.001)		-0.003** (0.001)
Gross Profit		0.0001*** (0.00001)		0.0001*** (0.00001)
TIP <sub>s2</sub>			4.105 (3.314)	12.419 (8.729)
Constant	0.313*** (0.056)	0.441 (1.694)	0.409*** (0.062)	0.481 (1.783)
Observations	11,783	3,597	11,783	3,597
Firm FE	✓	✓	✓	✓
Year FE		✓		✓
R <sup>2</sup>	0.226	0.360	0.038	0.292
Adjusted R <sup>2</sup>	0.225	0.339	0.038	0.275

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01



Table 4: Dispute Involvement and Lobbying Expenditure (2)

<i>Dependent variable: Corporate Lobbying</i>				
The U.S. is Defendant				
	(5)	(6)	(7)	(8)
Complainant Firms	-0.778 (0.485)	-1.750 (1.358)		
Defendant Firms			6.124*** (0.596)	4.788*** (0.858)
FDI	0.085*** (0.014)	-0.038 (0.028)	0.077*** (0.013)	-0.040 (0.027)
TIPs <sub>3</sub>	-0.557 (2.153)	-0.719 (4.788)		
Employee		-0.003** (0.001)		-0.003** (0.001)
Gross Profit		0.0001*** (0.00001)		0.0001*** (0.00001)
TIPs <sub>4</sub>			-4.309*** (1.515)	-3.605 (2.243)
Constant	0.426*** (0.062)	0.546 (1.783)	0.345*** (0.059)	0.440 (1.705)
Observations	12,783	3,5971	12,783	3,597
Firm FE	✓	✓	✓	✓
Year FE		✓		✓
R <sup>2</sup>	0.040	0.291	0.139	0.352
Adjusted R <sup>2</sup>	0.040	0.274	0.138	0.331
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01			

the amount of lobbying. Specifically, in Table 2, when firms are involved in disputes on the complainant side (in models (1) and (2)), as expected, firms are likely to spend money to open up the market of a defendant. We can find the same pattern in models (7) and (8) in Table 3. 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 (3) and (4)). Similarly, we find no statistically significant effect of firm involvement on the complainant side when the United States is the defendant. The models with firm-level fixed effects allow us to interpret this result as a change over time: firms that become involved in a WTO dispute increase their lobbying expenditures.

As expected, the gross profit variable is positive and significant. Firms with more gross profit are likely to spend more on corporate lobbying. Another firm-level control variable, the number of employees, is significant but has a negative coefficient. The coefficients of TIPs are also, as expected, negative, but not statistically significant in some specifications. The coefficient of FDI is not consistent with previous findings that vertical FDI decreases firms' interest in trade disputes. However, it may not contradict the previous literature, since our estimate is a conditional effect: we find that when they are involved in disputes, vertically integrated firms spend more on lobbying, but it may still be the case that increasing vertical FDI makes trade disputes less likely. In either case, this result is not robust in models (2), (4), (6) and (8). The important conclusion from the models with additional covariates 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.

## 5 Effects of Firm Lobbying on the Outcome of Disputes

### 5.1 Firm Lobbying and the Direction of Panel Rulings

Next, we investigate how corporate lobbying affects the direction of panel rulings. Since we focus on the direction of panel rulings—whether or not panels make rulings in favor of the defendant, we exclude cases where disputants make early settlement. The dependent variable is coded 1 if panels substantially favor the defendant, and 0 otherwise, and is coded by closely reading panel reports. The main independent variable is the average amount of lobbying each year.

In addition to our main explanatory variables, we include variables to control for factors that might affect an outcome of disputes. First, 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. 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 bargaining power during disputes. Second, a disputant's legal capacity may affect the outcome of panel procedures, as pointed out in the literature (Busch, Reinhardt, and Schaffer 2009; Guzman and Simmons 2005; Busch and Reinhardt 2003; Horn, Mavroidis, and Nordström 1999) Accordingly, we include a measure of whether the disputant is a member of the Advisory Centre on WTO Law (ACWL). The ACWL provides legal assistance for any WTO member for a small membership fee so we use this binary measure as a proxy for WTO members' lack of legal capacity (Davis and Bermeo 2009). We might observe that the members of the ACWL are less likely to have favorable outcomes of panel rulings because the panel and Appellate Body are *de jure* procedures. In addition, as Busch and Reinhardt (2006) and Johns and Pelc (2014) point out, third parties decrease the likelihood of early settlement and

affect rulings of the panels. To control for their effects during dispute settlement, we include the number of third parties. We expect that the number of third parties is positively related to the duration of disputes.

We report the estimates of lobbying at the dispute level in Table A2 in the appendix. 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 upon legal reasoning, which is designed to be insulated from informal influence. If we found a significant relationship, we would suspect that it was due to selection into the set of disputes that could not be settled out of court. The absence of such effects suggests that early settlement of a WTO dispute is not systematically related to the merits of a case.

### *5.2 Firm Lobbying and the Duration of Disputes*

Most WTO disputes are settled by the disputants before a panel ruling is made, so most of the variation in the duration of disputes is due to the bargaining process that leads to early settlement. 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. 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 and risk an eventual panel ruling. Our expectation is that lobbying expenditures are 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 coun-

tries' 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 5), and in months (Appendix), and the main explanatory variable is lobbying expenditures. All models use the Cox proportional hazard model with Breslow methods for dealing with ties.

Besides control variables we use in the previous section (GDP, the number of third parties, and TIPs), we include several other variables to control for the domestic institutions of the disputants. We include the Polity score to capture the overall level of democracy (Marshall and Gurr 2012). The previous literature identifies that democratic countries are more likely to become involved in trade disputes (Rosendorff 2005; Sattler and Bernauer 2011). To control for this effect, we include an indicator variable that is coded 1 for countries with relatively greater Polity score (7-10), and 0 otherwise. We also control for political constraints, a measure of political risk developed to capture the feasibility of policy change (Henisz 2000). We also control for election timing, because politicians are expected to be most responsive to domestic audiences when elections approach. Initiation of WTO disputes has been found to be linked to election timing because government leaders in the complainant country want to mobilize political support either from the defendant country (Chaudoin 2014) or from their own people (Pervez 2015). Data on the timing of legislative elections are gathered from Bormann and Golder (2013), but are updated because their coverage ended in 2010. 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 months to an approaching election.

Furthermore, we consider several dispute-level variables that may affect the duration

Table 5: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
Lobby Amount	12,684	621,505.600	1,979,282.000	0	45,510,000
FDI	11,783	2.275	4.697	0	67
Employee	3,897	74.525	123.887	0.000	2,100.000
Gross Profit	3,983	8,676.191	12,953.680	-76,735.000	112,370.000
US Complainant: Complainant Firm	12,684	0.015	0.121	0	1
US Complainant: Defendant Firm	12,684	0.012	0.107	0	1
US Defendant: Complainant Firm	12,684	0.022	0.148	0	1
US Defendant: Defendant Firm	12,684	0.016	0.125	0	1
TIPs <sub>1</sub>	12,684	0.004	0.063	0	1
TIPs <sub>2</sub>	12,684	0.001	0.029	0	1
TIPs <sub>3</sub>	12,684	0.001	0.038	0	1
TIPs <sub>4</sub>	12,684	0.003	0.057	0	1
Complainant Firm Lobby	979	1,048,408.000	5,146,246.000	0	63,825,000
Defendant Firm Lobby	980	1,673,549.000	6,541,863.000	0	82,956,276
Duration of Disputes	980	3.217	2.622	1	18
Complainant Logged GDP	980	27.86	1.922	20.55	30.41
Defendant Logged GDP	980	28.36	1.705	22.35	30.41
Complainant Polity Score	980	8.835	2.986	-7	10
Defendant Polity Score	980	8.717	3.570	-7	10
US Complainant	980	0.236	0.425	0	1
US Defendant	980	0.336	0.472	0	1
Cited Articles	980	8.867	7.163	1	39
Number of Third Parties	980	5.474	5.239	0	24
Agriculture	980	0.221	0.415	0	1
SPS/TBT	980	0.136	0.343	0	1
TIPs	980	0.279	0.449	0	1
Complainant Legislative Election Year	980	0.309	0.462	0	1
Defendant Legislative Election Year	980	0.342	0.475	0	1
Complainant Political Constraint	980	0.722	0.223	0	0.882
Defendant Political Constraint	980	0.748	0.213	0	0.869
Complainant Number of Involved Disputes	980	18.283	16.689	0	54
Defendant Number of Involved Disputes	978	19.687	16.180	0	54

of disputes. First, we include the number of GATT articles cited in the complaint to control for the case's legal complexity (Busch and Reinhardt 2006). In addition, according to the recent study 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 such 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 as disguised trade barriers in a similar fashion. Finally, we control for the total number of disputes in which each disputant is involved. Involvement in multiple disputes may skew the incentives in favor of demonstrating 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 lobbying expenditures in all model specifications, which indicate that increases in the amount of lobbying are associated with decreases in the hazard 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. This indicates that the average dispute (with defendant-firm lobbying expenditures of \$1.7 million) is 8.4 % less likely to be settled 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 A3).

Table 6: Cox Proportional Hazard Model

	(1)	(2)	(3)	(4)	(5)	(6)
Complainant Firm Lobby	-0.020 (0.016)	-0.026 (0.017)	-0.012 (0.086)	-0.027 (0.018)	-0.029 (0.018)	-0.029 (0.018)
Defendant Firm Lobby	-0.050** (0.025)	-0.055** (0.025)	-0.061** (0.025)	-0.068** (0.027)	-0.069*** (0.026)	-0.062 (0.047)
Complainant GDP	0.009 (0.050)	-0.005 (0.066)				
Defendant GDP	-0.195*** (0.060)	-0.158** (0.062)				
Complainant Polity Score	-0.062*** (0.024)					
Defendant Polity Score	-0.061*** (0.019)					
US Complainant			-0.528** (0.256)	-0.575** (0.252)		
Complainant Lobby * US Complainant			-0.012 (0.088)			
Defendant Lobby * US Complainant				0.115 (0.083)		
US Defendant					0.088 (0.195)	0.093 (0.198)
Complainant Lobby * US Defendant					-0.018 (0.157)	
Defendant Lobby * US Defendant						-0.010 (0.057)
Complainant Involved Disputes	-0.004 (0.007)	-0.006 (0.008)	0.005 (0.008)	0.004 (0.008)	-0.005 (0.006)	-0.005 (0.006)
Defendant Involved Disputes	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)
Complainant Election Year		-0.107 (0.153)	-0.068 (0.152)	-0.071 (0.152)	-0.095 (0.152)	-0.096 (0.152)
Defendant Election Year		-0.102 (0.154)	-0.121 (0.156)	-0.115 (0.156)	-0.106 (0.156)	-0.106 (0.156)
Complainant Political Constraint		0.155 (0.496)	0.042 (0.383)	0.066 (0.385)	0.072 (0.377)	0.072 (0.377)
Defendant Political Constraint		-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 <sup>2</sup>	0.061	0.062	0.059	0.060	0.053	0.053
Max. Possible R <sup>2</sup>	0.932	0.932	0.932	0.932	0.932	0.932

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



In model (1) in Table 5, the market size of defendant countries measured by GDP decreases the hazard of dispute resolution, which is also identified in the literature (Kim 2015). Disputing countries' overall level of democracy also decreases the hazard.<sup>8</sup> In model (2), we include several control variables to account for variations in domestic politics. We find that when defendant countries have a high level of political constraint, it is less likely to settle disputes.

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 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. A possible interpretation of this result is 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. 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

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8. We had to exclude the Polity score in other models because it is highly correlated with other variables.

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, defendant countries that operate under significant political constraints in the sense that independent actors in the political system have differing policy preferences 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 the complainant country’s domestic political constraints (*Polcon*) 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).

## **6 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. Fortune Global 500 firms allocate more resources to lobbying when they are involved in WTO trade disputes. In the United States, firms have access to the government and can use the Section 301 process to request that the U.S. Trade Representative investigate their concerns and possibly file a case in the WTO. The existence of this formal institutional mechanism, however, does not necessarily guarantee that domestic exporting firms can motivate policymakers to act on their concerns. In addition, preparation for an official WTO adjudication is costly for firms. They have to first identify foreign policies that are WTO-inconsistent, and then estimate the economic benefits of removing such policies.

With some evidence in hand, firms have to engage the domestic government and convince it to pursue the case through the WTO. Firms may expedite this preparation procedure through formal or informal lobbying, and our empirical evidence helps to explain why they are politically active during dispute settlement procedures.

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. 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.

However, we find that lobbying expenditures by firms that support the defendant's position lead to longer disputes. 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. However, from a bargaining perspective the investment in a lengthy dispute may be worthwhile even for the plaintiff. 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 a more favorable negotiated settlement.

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## A1. List of WTO Dispute Involved Firms

ABBOTT LABORATORIES	Gaz de France	ONEX
ALLIED DOMECQ	GENERAL DYNAMICS	PEPSICO
Alstom	GENERAL MOTORS	Petrobras
Apple	GEORGIA-PACIFIC	Peugeot
Archer Daniels Midland	GLAXO WELLCOME	PFIZER
AT&T Corp	GOODYEAR TIRE & RUBBER	PHARMACIA
AVENTIS	H.J. HEINZ	Philip Morris
Banco Do Brasil	Hewlett-Packard	Procter & Gamble
BANK OF CHINA	Hitachi	RAYTHEON
Bank of Montreal	Holcim	Renault
Baosteel Group	Home Depot	RICOH
BAYER	HONDA MOTOR	RJ Reynolds tobacco
Bear Stearns	HONEYWELL INTERNATIONAL	Roche Group
BMW	HYUNDAI	ROCKWELL INTERNATIONAL
Boehringer Ingelheim	Hyundai Heavy Industries	Royal Bank of Canada
BOEING	INTEL	Royal Dutch Shell
Bombardier	International Business Machines	SAINT-GOBAIN
BRISTOL-MYERS SQUIBB	INTERNATIONAL PAPER	SAMSUNG
Canadian Imperial Bank of Commerce	Itochu	SAMSUNG ELECTRONICS
CANON	JOHNSON & JOHNSON	Shanghai Automotive
CATERPILLAR	Kookmin Bank	Shinhan Financial Group
Cemex	Kraft Foods	Siemens
China Minmetals	KT	Sinosteel
CHRYSLER	KVAERNER	SONY
Cisco Systems	Kyocera	Sprint Nextel
CITIGROUP	Lehman Brothers Holdings	SUMITOMO
COCA-COLA	LG	Suzuki Motor
COMMERZBANK	LOCKHEED MARTIN	THOMSON
COMPAQ COMPUTER	LOEWS	ThyssenKrupp
Costco	Marathon Oil	TIME WARNER
Credit Suisse Group	Matsushita Electric Industrial	TOSHIBA
DAEWOO	Mazda Motor	Toyota Motor
DAIMLERCHRYSLER	MERCK	TRW
Delphi	MERRILL LYNCH	TUI
Diageo	Microsoft	Tyson Foods
Dongfeng Motor	MITSUBISHI MOTORS	United States Steel
Doosan	Morgan Stanley	UNITED TECHNOLOGIES
EASTMAN KODAK	MOTOROLA	VOLKSWAGEN
ELI LILLY	NEC	Volvo
EXXON MOBIL	Nike	WALT DISNEY
FedEx	Nissan Motor	WEYERHAEUSER
Fiat	NORTHROP GRUMMAN	Woori Finance Holdings
FORD MOTOR	NORTHWEST AIRLINES	XEROX
Fuji Heavy Industries	Novartis	
Fujitsu	Nucor	

Table A1: List of Dispute Involved Firms

# A2. Lobbying Report

Clerk of the House of Representatives  
 Legislative Resource Center  
 E-106 Cannon Building  
 Washington, DC 20515  
<http://lobbyingdisclosure.house.gov>

Secretary of the Senate  
 Office of Public Records  
 232 Hart Building  
 Washington, DC 20510  
<http://www.senate.gov/lobby>

## LOBBYING REPORT

Lobbying Disclosure Act of 1995 (Section 5) - All Filers Are Required to Complete This Page

1. Registrant Name <input checked="" type="checkbox"/> Organization Lobbying Firm <input type="checkbox"/> Self Employed Individual Stonebridge International LLC	
2. Address Address1 555 13th Street NW Address2 City Washington State DC Zip Code 20004 Country USA	
3. Principal place of business (if different than line 2) City State Zip Code Country	
4a. Contact Name Mr. H.P. GOLDFIELD	b. Telephone Number 2026378600
c. E-mail kguzenberg@stonebridge-international.com	
5. Senate ID# 76797-36	
7. Client Name <input type="checkbox"/> Self <input type="checkbox"/> Check if client is a state or local government or instrumentality Airbus Americas, Inc.	
6. House ID# 361290001	
TYPE OF REPORT	
9. Check if this filing amends a previously filed version of this report <input type="checkbox"/>	
8. Year 2008 <input type="checkbox"/> Q1 (1-1-3/31) <input type="checkbox"/> Q2 (4-1-6/30) <input type="checkbox"/> Q3 (7-1-9/30) <input type="checkbox"/> Q4 (10-1-12/31) <input checked="" type="checkbox"/>	
10. Check if this is a Termination Report <input type="checkbox"/> Termination Date <input type="checkbox"/> 11. No Lobbying Issue Activity <input type="checkbox"/>	
<b>INCOME OR EXPENSES - YOU MUST complete either Line 12 or Line 13</b>	
12. Lobbying INCOME relating to lobbying activities for this reporting period was: Less than \$5,000 <input type="checkbox"/> \$5,000 or more <input checked="" type="checkbox"/> \$ 50,000.00 Provide a good faith estimate, rounded to the nearest \$10,000, of all lobbying related income from the client (including all payments to the registrant by any other entity for lobbying activities on behalf of the client).	13. Organizations EXPENSE relating to lobbying activities for this reporting period were: Less than \$5,000 <input type="checkbox"/> \$5,000 or more <input type="checkbox"/> \$ _____ 14. REPORTING Check box to indicate expense accounting method. See instructions for description of options. <input type="checkbox"/> Method A. Reporting amounts using LDA definitions only <input type="checkbox"/> Method B. Reporting amounts under section 6033(b)(8) of the Internal Revenue Code <input type="checkbox"/> Method C. Reporting amounts under section 162(e) of the Internal Revenue Code
Signature Digitally Signed By: H.P. Goldfield, Vice Chairman Date 01/21/2009	

**LOBBYING ACTIVITY.** Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Add additional page(s) as needed.

15. General issue area code AER.

16. Specific lobbying issues

Matters pertaining to the U.S. and European civil aviation industries

17. House(s) of Congress and Federal agencies  Check if None

U.S. HOUSE OF REPRESENTATIVES, U.S. SENATE

18. Name of each individual who acted as a lobbyist in this issue area

First Name	Last Name	Suffix	Covered Official Position (if applicable)	New
H.P.	Goldfield		Asst Sec. of Commerce for Trade (cont.)	<input type="checkbox"/>
H.P.	Goldfield		Development, 1984-1987.	<input type="checkbox"/>
Janice M.	O'Connell		Sen. For. Relations Comm., 1977-2007 (cont.)	<input type="checkbox"/>
Janice M.	O'Connell		Senate Banking Committee, 2007	<input type="checkbox"/>

19. Interest of each foreign entity in the specific issues listed on line 16 above  Check if None

Airbus S.A.S.  
EADS N.V.

**LOBBYING ACTIVITY.** Select as many codes as necessary to reflect the general issue areas in which the registrant engaged in lobbying on behalf of the client during the reporting period. Using a separate page for each code, provide information as requested. Add additional page(s) as needed.

15. General issue area code AVI

16. Specific lobbying issues

Matters pertaining to the U.S. and European civil aviation industries

17. House(s) of Congress and Federal agencies  Check if None

U.S. HOUSE OF REPRESENTATIVES, U.S. SENATE

18. Name of each individual who acted as a lobbyist in this issue area

First Name	Last Name	Suffix	Covered Official Position (if applicable)	New
H.P.	Goldfield		Asst Sec. of Commerce for Trade (cont.)	<input type="checkbox"/>
H.P.	Goldfield		Development, 1984-1987.	<input type="checkbox"/>
Janice M.	O'Connell		Sen. For. Relations Comm., 1977-2007 (cont.)	<input type="checkbox"/>
Janice M.	O'Connell		Senate Banking Committee, 2007	<input type="checkbox"/>

19. Interest of each foreign entity in the specific issues listed on line 16 above  Check if None

Airbus S.A.S.  
EADS N.V.

Figure A1: Lobby Report by Airbus.

### A3. Data Collection Methods

We use two original sources to collect the list of Fortune 500 firms involved in WTO disputes: official WTO dispute settlement documentation and newspaper articles. We use basic automated content analysis to extract firm names from WTO documents, which include official request for consultation, panel and Appellate Body reports. In total, we gather 1,131 documents for this work. Below is an example of extracted firm name from “WT/DS222/R.”

A. BRAZIL'S REQUEST FOR INTERIM REVIEW

6.2 Brazil drew the attention of the Panel to a number of typographical and factual errors in the interim report, which we have corrected.

6.3 Brazil requested a change to the Panel's description of Brazil's argument in paragraph 7.221 of the interim report. Canada denied the need for any such change. In order to avoid any misunderstanding, we have deleted that paragraph from the final version of our report.

6.4 Brazil requested the inclusion of a note to paragraph 7.226 of the interim report, to the effect that Brazil was able to obtain details of Embraer's offer to Air Wisconsin. Canada objected to the note requested by Brazil, in part because Brazil obtained those details in response to a direct request from the Panel. In our view, the fact that Brazil was able to obtain details of an offer made by Embraer in response to a request from the Panel has no bearing on the issue of whether or not it would be realistic to expect the EDC to have access to data regarding commercial financing transactions involving **Bombardier** aircraft. We therefore decline to include the note requested by Brazil.

Figure A2: Example of Data Collection Methods from WTO Official Documentation

Another source is newspaper. Firms involved in WTO disputes are found by keyboard searches in Lexis-Nexis newspaper database using each dispute's unique identifier as the search term. After downloading top 25 results for each dispute, we match the list of Fortune 500 firms with these newspapers using the same content analysis. The automated content analysis is conducted through Python. To check the validity of our methods, we read the articles to see whether the extracted firms are actually related to disputes. As a supplementary source, we rely on Bown (2010, 100-101), which contains a list of firms involved in disputes, but is limited in that it only covers 14 WTO disputes.

## A5. How Does Corporate Lobbying Spending Affect the Direction of Panel Rulings?

	<i>Dependent variable:</i>	
	Pro Defendant Panel Rulings	
	(1)	(2)
Complainant Lobbying	-0.001 (0.004)	-0.0001 (0.0004)
Defendant Lobbying	0.004 (0.002)	0.0002 (0.0003)
Complainant GDP		0.040* (0.021)
Defendant GDP		-0.040 (0.036)
Complainant ACWL		0.131* (0.073)
Defendant ACWL		0.013 (0.111)
Complainant Developing Country		-0.063 (0.069)
Defendant Developing Country		-0.269*** (0.103)
Number of Third Parties		-0.009* (0.005)
Constant	-2.097*** (0.283)	0.284 (1.067)
Observations	142	142
R <sup>2</sup>		0.157
Adjusted R <sup>2</sup>		0.099
Log Likelihood	-50.913	
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Table A2: Effects of Lobbying on Panel Rulings

## A6. Hazard Ratio

	(1)	(2)	(3)	(4)	(5)	(6)
Comp_Lobby	0.979 ( 0.949 , 1.011 )	0.974 ( 0.941 , 1.007 )	0.988 ( 0.835 , 1.169 )	0.973 ( 0.940 , 1.008 )	0.971 ( 0.938 , 1.006 )	0.971 ( 0.937 , 1.005 )
Def_Lobby	0.951 ( 0.906 , 0.999 )	0.946 ( 0.900 , 0.994 )	0.940 ( 0.895 , 0.988 )	0.934 ( 0.886 , 0.984 )	0.933 ( 0.938 , 1.006 )	0.94 ( 0.858 , 1.029 )
Com_GDP	1.008 ( 0.915 , 1.111 )	0.994 ( 0.873 , 1.133 )				
Def_GDP	0.822 ( 0.731 , 0.926 )	0.854 ( 0.756 , 0.963 )				
Com_Polity	0.939 ( 0.896 , 0.984 )					
Def_Polity	0.941 ( 0.907 , 0.976 )					
US_Com			0.589 ( 0.357 , 0.974 )	0.562 ( 0.343 , 0.922 )		
Com_lobby*US_Com			0.987 ( 0.831 , 1.173 )			
Def_lobby*US_Com				1.121 ( 0.952 , 1.320 )		
US_Def					1.092 ( 0.745 , 1.600 )	1.097 ( 0.744 , 1.616 )
Com_lobby*US_Def					0.981 ( 0.721 , 1.336 )	
Def_lobby*US_Def						0.989 ( 0.885 , 1.106 )
Com_Inv Disputes	0.996 ( 0.982 , 1.010 )	0.993 ( 0.979 , 1.008 )	1.004 ( 0.989 , 1.019 )	1.004 ( 0.989 , 1.019 )	0.994 ( 0.983 , 1.006 )	0.994 ( 0.983 , 1.006 )
Def_Inv Disputes	1.002 ( 0.987 , 1.018 )	1.003 ( 0.988 , 1.020 )	0.990 ( 0.978 , 1.002 )	0.990 ( 0.978 , 1.002 )		
Cited Article	0.998 ( 0.977 , 1.020 )	1.001 ( 0.979 , 1.023 )	1.000 ( 0.978 , 1.022 )	0.999 ( 0.978 , 1.021 )	0.995 ( 0.9737 , 1.017 )	0.995 ( 0.973 , 1.017 )
Third Party	0.994 ( 0.964 , 1.026 )	0.998 ( 0.967 , 1.029 )	0.987 ( 0.957 , 1.018 )	0.985 ( 0.954 , 1.016 )	0.982 ( 0.951 , 1.013 )	0.981 ( 0.951 , 1.013 )
SPS/TBT	1.201 ( 0.794 , 1.817 )	1.170 ( 0.759 , 1.803 )	1.234 ( 0.804 , 1.895 )	1.210 ( 0.786 , 1.862 )	1.386 ( 0.903 , 2.127 )	1.368 ( 0.869 , 2.152 )
Agriculture	0.763 ( 0.531 , 1.097 )	0.742 ( 0.516 , 1.066 )	0.776 ( 0.544 , 1.106 )	0.760 ( 0.532 , 1.086 )	0.771 ( 0.534 , 1.114 )	0.766 ( 0.526 , 1.116 )
Com_Election		0.898 ( 0.666 , 1.212 )	0.934 ( 0.693 , 1.258 )	0.931 ( 0.691 , 1.255 )	0.909 ( 0.675 , 1.224 )	0.908 ( 0.674 , 1.223 )
Def_Election		0.903 ( 0.667 , 1.222 )	0.886 ( 0.653 , 1.201 )	0.891 ( 0.657 , 1.209 )	0.899 ( 0.662 , 1.219 )	0.899 ( 0.662 , 1.219 )
Com_Polconv		1.167 ( 0.441 , 3.085 )	1.042 ( 0.492 , 2.210 )	1.068 ( 0.502 , 2.271 )	1.074 ( 0.512 , 2.251 )	1.074 ( 0.513 , 2.249 )
Def_Polconv		0.281 ( 0.142 , 0.553 )	0.256 ( 0.132 , 0.496 )	0.246 ( 0.127 , 0.479 )	0.223 ( 0.119 , 0.415 )	0.222 ( 0.119 , 0.414 )
TIPs		0.918 ( 0.675 , 1.249 )	0.897 ( 0.654 , 1.232 )	0.890 ( 0.649 , 1.22 )	1.018 ( 0.750 , 1.381 )	1.018 ( 0.750 , 1.3818 )

Note: 95% confidence interval in parenthesis.

Table A3: Hazard Ratio

## A7. Cox Proportional Hazard Model at the Monthly Level

	(1)	(2)	(3)	(4)	(5)	(6)
Complainant Firm Lobby	-0.017 (0.015)	-0.018 (0.017)	0.056 (0.085)	-0.026 (0.018)	-0.018 (0.018)	-0.018 (0.019)
Defendant Firm Lobby	-0.061** (0.027)	-0.075*** (0.029)	-0.091*** (0.029)	-0.105*** (0.031)	-0.110*** (0.030)	-0.147** (0.062)
Complainant GDP	0.074 (0.046)	-0.113 (0.072)				
Defendant GDP	-0.231*** (0.061)	-0.095 (0.072)				
Complainant Polity Score	-0.091*** (0.024)					
Defendant Polity Score	-0.068*** (0.017)					
US Complainant			-0.426* (0.234)	-0.518** (0.232)		
Complainant Lobby * US Complainant			-0.075 (0.088)			
Defendant Lobby * US Complainant				0.252*** (0.085)		
US Defendant					0.257 (0.207)	0.202 (0.204)
Complainant Lobby * US Defendant					-0.137 (0.198)	
Defendant Lobby * US Defendant						0.052 (0.070)
Complainant Involved Disputes	-0.025*** (0.009)	-0.029*** (0.009)	-0.027*** (0.009)	-0.027*** (0.009)	-0.036*** (0.008)	-0.035*** (0.008)
Defendant Involved Disputes	-0.002 (0.009)	-0.007 (0.010)	-0.014* (0.007)	-0.013* (0.007)		
Cited Articles	-0.003 (0.011)	0.002 (0.012)	-0.003 (0.012)	-0.004 (0.012)	-0.011 (0.012)	-0.011 (0.012)
Third Parties	-0.030** (0.014)	-0.018 (0.014)	-0.028* (0.015)	-0.030** (0.015)	-0.032** (0.015)	-0.030** (0.015)
SPS/TBT	0.142 (0.211)	-0.082 (0.228)	0.030 (0.222)	-0.011 (0.224)	0.176 (0.224)	0.242 (0.236)
Agriculture	-0.373* (0.193)	-0.427** (0.193)	-0.318* (0.188)	-0.346* (0.189)	-0.319* (0.192)	-0.286 (0.197)
Complainant Election Month		-0.004 (0.005)	-0.004 (0.005)	-0.005 (0.005)	-0.002 (0.005)	-0.002 (0.005)
Defendant Election Month		-0.004 (0.006)	-0.001 (0.005)	-0.002 (0.005)	0.001 (0.006)	0.001 (0.006)
Complainant Political Constraint		2.152*** (0.622)	1.480*** (0.445)	1.552*** (0.447)	1.472*** (0.434)	1.458*** (0.437)
Defendant Political Constraint		-2.180*** (0.511)	-2.621*** (0.483)	-2.677*** (0.484)	-3.204*** (0.436)	-3.176*** (0.436)
TIPs		0.133 (0.163)	0.132 (0.163)	0.123 (0.162)	0.132 (0.163)	0.143 (0.162)
Observations	9,416	8,819	8,819	8,819	8,819	8,819
R <sup>2</sup>	0.013	0.014	0.014	0.014	0.013	0.013
Max. Possible R <sup>2</sup>	0.333	0.328	0.328	0.328	0.328	0.328

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A4: Cox Proportional Hazard Model