# **Protection for Free?**

# The Political Economy of U.S. Tariff Suspensions<sup>1</sup>

(Preliminary and incomplete)

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Abstract: This paper studies the political and economic determinants of tariff suspensions granted on specific products by the United States Congress. Hundreds of bills are submitted to Congress every year at the behest of U.S. firms seeking temporary relief from duties on imported intermediate inputs. These tariff suspensions constitute a significant source of variation in tariff schedules between negotiating rounds. We focus on the roles of information and lobbying expenditures in the determination of tariff suspensions. We develop a model that incorporates strategic information transmission into an otherwise standard "protection for sale" framework, and show that "cheap talk" by import-competing firms is effective in defeating suspension bills in some circumstances, while money is necessary in others. Using data on tariff suspension bills from 1999-2006 (roughly 1400 items) combined with firm-level data on lobbying expenditures, we find that indeed lobbying expenditures by both proponent and opponent firms sway (in opposite directions) the probability that a suspension is granted. In addition, verbal opposition by import-competing firms, with no lobbying expenditures, significantly reduces the probability of a suspension as well.

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### 1. Introduction

With the success of the WTO in binding and reducing tariffs over the recent decades, it is tempting to believe that the tariff schedules of WTO members are largely static between negotiating rounds. Not so. In fact, tariff schedules are constantly being modified for a host of reasons. In the United States, for example, Congress regularly passes Miscellaneous Tariff Bills (MTBs), each containing hundreds of modifications to the harmonized tariff schedule. The European Union modifies its tariff schedule in a similar fashion every six months.<sup>5</sup> The modifications made under such schemes are primarily in the form of tariff "suspensions," which eliminate tariffs on specific products for a period of two to three years and are renewable. The process by which tariff suspensions become law is a labyrinth of administrative and political interaction, driven by firms seeking to avoid paying duties on imported intermediates. For economists, it is a unique laboratory for exploring some basic questions in the political economy of trade policy.

The main question addressed in this paper is how do firms use information and money to influence trade policy. The leading model in the literature is the Protection for Sale (PFS) model of Grossman and Helpman (1994), which posits that producer lobbies offer money to incumbent politicians in exchange for import protection. Noted for its explicit micro-foundations, ability to accommodate competing interest groups, and applicability to a diversity of settings, the PFS model has considerable theoretical appeal. In the broader political economy literature, however, it is but one of several recognized

<sup>&</sup>lt;sup>5</sup> See European Union (1998).

models of the role of special interests. The foremost alternative views lobbying as a means by which special interests strategically convey information to policymakers about the relative merits of different policy options. Indeed, Grossman and Helpman (2001) cites considerable evidence for the importance of this channel and devotes as much attention to models of informational lobbying as to the PFS model. Yet the idea that special interests influence policy via information has not gained traction in the trade literature.

At first glance, the absence of informational lobbying in the trade literature appears justified. The PFS model already explains *why* governments systematically deviate from welfare-maximizing trade policies (because they want money) and *how* they deviate (they follow a modified Ramsey rule). Moreover, this rule appears to fit the data (e.g. Goldberg and Maggi, 1999, Gawande and Bandyopadhyay, 2000, Eicher and Osang, 2002). It is difficult to imagine a model of asymmetric information doing better than this.<sup>6</sup> However, the empirical tests of the PFS model have been fraught with difficulties (see Imai, Katayama and Krishna, 2009, for a survey). For example, the classification of sectors into "organized" and "unorganized" is bedeviled by the fact that all sectors make positive political contributions in the data. Moreover, the sectors classified as unorganized receive positive protection, contrary to prediction of the model. As pointed out by Ederington and Minier (2008), these problems have been dealt with by appealing to factors outside of the model, without serious consideration of how such factors might play out.

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<sup>&</sup>lt;sup>6</sup> Indeed, in a standard small open economy model, the government needs no information to follow the first best policy (free trade). Thus asymmetric information alone cannot explain why it would deviate.

This paper takes advantage of some of the unique aspects of the market for tariff suspensions to overcome these issues and provide clear evidence on the role of information. First, tariff suspensions and associated lobbying activities operate at essentially the firm level, which allows us to side-step most of the difficulties in measuring political organization. Second, the main obstacle to uncovering the informational aspects of lobbying is that lobbying activity is usually measured in terms of expenditures, which can just as easily be interpreted as having a direct influence on policymakers or as being a signal of information. In market for tariff suspensions, however, the government actively solicits information from potentially affected parties, making the transmission of the solicited information essentially free. An additional advantage of considering tariff suspensions is there are no international constraints on reducing tariffs. Thus, we do not have to address the international dimension.

A tariff suspension originates with a member of Congress sponsoring an individual suspension bill – which applies to a single product – at the request of a "proponent" firm. Proponents are firms operating in the U.S. that import intermediate inputs that are subject to tariffs. The bills are then referred either to the House Ways and Means Subcommittee on Trade or the Senate Finance Committee, depending on where the bill was introduced, and also to the U.S. International Trade Commission (USITC). USITC estimates the potential tariff revenue loss if the suspension is granted and conducts a survey of domestic producers of similar inputs to determine if there is any opposition to the measure. The reason for this investigation is ostensibly to determine if

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<sup>&</sup>lt;sup>7</sup> There are other contexts in which the government solicits information from firms on trade policy, such as Congressional hearings on trade agreements or the USTR's sectoral advisory committees. However, gaining access to these fora may be more costly to firms, whereas information on tariff suspensions is solicited through questionnaires.

the tariff suspension meets the criteria for inclusion in an MTB. That is, "it must (1) raise no objection, (2) cost under \$500,000 per [in lost tariff revenue] year, and (3) be administrable [by U.S. Customs]." However, it is ultimately up to the congressional committees to decide which of the suspension bills to include in the final MTB, as the full Congress passes MTBs by unanimous consent. Of the over 1400 suspension bills introduced into the four U.S. Congresses spanning 1999-2006, about four out of five were finally included in the MTBs and thus passed. The rest were unsuccessful.

All of this raises a number of questions. How consistently do the committees weed out suspensions that are opposed by domestic competitors, and why would they do so? Is objection alone effective or does money play a role? If money matters, does proponent money matter as much as opponent money? These are the questions our paper attempts to answer.

Because the bills are so disaggregated at the individual product level with specific proponent firms, it allows for a firm-level analysis of lobbying expenditures, unlike most of the literature, which focuses on industry-level contributions by Political Action Committee (PAC). We develop a novel firm-level lobbying dataset using the information from the Center for Responsive Politics in Washington D.C. and Senate Office of Public Records (SOPR), which allows us to identify lobbying expenditures at the firm level *by targeted policy area*. We are thus able to use information on business lobbying expenditures that are specifically channeled towards shaping policies related to the tariff

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<sup>&</sup>lt;sup>8</sup> "Miscellaneous Tariff Bill (MTB) Process," memo of House Ways and Means Committee. http://waysandmeans.house.gov/media/pdf/110/mtb/MTB%20Process.pdf

This provides the stated rationale for the no-objection criterion: "because the MTB is passed by unanimous consent, its provisions must be non-controversial." Grassley-Baucus "Dear Colleague" letter to the Senate, April 21, 2006. <a href="http://finance.senate.gov/press/Gpress/2005/prg042506.pdf">http://finance.senate.gov/press/Gpress/2005/prg042506.pdf</a>. The rationale for the revenue criterion appears to be that \$500,000 is the threshold above which the Congressional Budget Office makes public the revenue implications of an individual tax provision. Provisions below this threshold are grouped together and only the sum total is reported.

suspension bill. This represents a significant improvement in the quality of the data relative to PAC contributions. First, PAC contributions represent only a small fraction (10%) of targeted political activity, the remainder being made up by lobbying expenditures. Second, PAC contributions cannot be disaggregated by issue and, thus, cannot be easily linked to a particular policy.

What we find is that indeed lobbying expenditures by both proponent firms and opponent firms sway (in opposite directions) the probability that a suspension is granted. In addition, verbal opposition, with no lobbying expenditures, significantly reduces the probability of a suspension. Thus, it would appear that costless communication, or "cheap talk", matters for trade policy. In what follows, we develop in Section 2 a simple model that augments the PFS model to include costless communication. This is followed by a description of the data in Section 3. Section 4 presents an empirical investigation of some of the implications of the model. Section 5 concludes.

# 2. The Model

Consider a partial equilibrium model, in which a single imported good is used as an intermediate input into the production of a domestically produced final good.<sup>10</sup> The imported good is subject to a positive tariff; however, the government has the power to exempt the good from duty at the request of the final producer. We shall take the tariff level as given (possibly a function of domestic and international conditions prevailing at the time of the most recent trade round) and the government's suspension decision as

<sup>&</sup>lt;sup>10</sup>Gawande, Krishna and Olarreaga (2005) also consider a variant of the PFS model with vertically related products. Their model conforms more closely to PFS, in that lobbying occurs at the sector level and information is perfect.

binary. The suspension is denoted  $s \in \{1,0\}$ , where s = 1 if the suspension is granted and s = 0 if it is rejected.

There are two firms in the home country, the proponent (P), which imports the intermediate good and either produces the final good itself or sells it to final producers, and a potential opponent (O), which can be thought of as producing a product *similar* to the one being imported. This product may be a substitute for the import, in which case O would be harmed by a tariff suspension, or it could be unrelated to the imported good, in which case O would be unharmed by the suspension. Henceforth, we refer to the potential opponent firm as simply "the opponent," recognizing that whether this firm is actually opposed to the suspension or not depends on parameters.

Let  $\alpha$  denote the cost of the suspension to the opponent, and let the benefit of the suspension to the proponent be normalized to unity. We assume  $\alpha$  is the private information of the opponent and can take on three possible values:  $\alpha = 0$  with probability p,  $\alpha = \alpha_L$  with probability  $(1-p)\theta$ , and  $\alpha = \alpha_H$  with probability  $(1-p)(1-\theta)$ , were  $\alpha_H > \alpha_L > 0$ . The government and the proponent know the distribution of  $\alpha$  but not its realized value.

The firms are assumed to make payments to the government in an effort influence its suspension decision. We take payments to mean not just direct payments to the government, but any of a broad array of favors valued by politicians. Following Grossman and Helpman (1994), we allow payments to be contingent on the government's

defense appropriations. Former Rep. Bob Livingston (R-La.), who was once days away from becoming Speaker of the House, drummed up \$1.14 million in business in his first year as an independent lobbyist."

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<sup>&</sup>lt;sup>11</sup> For instance, politicians can receive gifts from lobbyists, like dinners and trips. In addition, often politicians are promised that, at the end of their career, they will become themselves active lobbyists, in which case they are able to earn substantial rewards. According to the CRP website, "Lobbying firms were still able to find 129 former members of Congress willing to lobby on everything from postal rates to defence appropriations. Former Pap. Bob Livingston (P. La.), who was once days every from becoming

policy choice. Thus, let  $C_i(s)$  for i = P, O denote firm i's payment schedule, specifying a payment level for each government suspension decision. Profits net of payments are therefore,

$$\pi_P = s - C_P(s) \tag{1}$$

$$\pi_O = -\alpha s - C_O(s) \tag{2}$$

We posit a government objective function of the form,

$$G(s) = -(\gamma + \beta \alpha)s + C(s)$$
(3)

where  $\gamma$ ,  $\beta > 0$  are common knowledge, and  $C(s) = C_P(s) + C_O(s)$ . That is, we assume that the government benefits from payments but otherwise loses from granting the suspension, and the size of the loss increases with the loss of the opponent. It is clear from (3) that  $\gamma$  is the minimum total payment the government would need to grant the suspension if  $\alpha = 0$ . We shall refer to this as the government's "natural bias" against the suspension.

We do not attach any one interpretation to  $\gamma$ . It could include components of social welfare (other than the opponent's loss, which is already accounted for), such as the loss of tariff revenue, the gain to the proponent, or gains in consumer surplus, which might occur if proponent passes on some savings from the suspension to consumer prices. It could also include political factors, such as a loss of reputation associated with granting "earmarks" to individual firms or concern about violating norms within the legislature. 12

(Jones, 2007).

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<sup>&</sup>lt;sup>12</sup>Reputation concerns seem quite relevant for tariff suspensions. During the 2008 Presidential election, for example, Republican candidate John McCain touted his refusal to sponsor tariff suspension bills, as part of a principled stance against earmarks, while Barack Obama and Hillary Clinton were reported to have sponsored many such bills (USA Today, February 25, 2008). As part of broader earmark reform, new rules were instituted in the 110<sup>th</sup> Congress requiring legislators to disclose the beneficiaries of tariff suspensions

The assumption of  $\gamma > 0$  is somewhat at odds with Grossman and Helpman (1994), which assumes a small open economy and a government that cares only about welfare and contributions. In such a model, suspending the tariff would cause a welfare gain ( $\gamma < 0$ ). Thus, if we wish to interpret  $\gamma > 0$  solely in welfare terms, we would need an additional distortion such as a terms of trade loss or an externality of some kind. Whatever the interpretation, the effect of  $\gamma > 0$  is simply to ensure that the suspension cannot succeed without at least some proponent spending.<sup>13</sup>

The timing of the game is as follows. In the first stage, the proponent requests a tariff suspension and offers a payment schedule. In the second stage, the opponent responds by sending a message m to the government and offering its payment schedule. The government updates its priors based on O's response and chooses s to maximize the expected value of (3). A solution to this game will be a Perfect Bayesian Equilibrium.

### 2.1 Preliminaries

Without loss of generality, we can restrict attention to equilibria in which the opponent's message is binary. That is, it either opposes the suspension (m = "oppose") or does not oppose it (m = "support"). Furthermore, we assume that whenever the opponent is indifferent between the two messages, it supports if  $\alpha = 0$  and opposes if  $\alpha > 0$ . It follows that, in equilibrium, the opponent will indeed oppose the suspension if and only if  $\alpha > 0$ . This is because a positive type (an opponent with positive  $\alpha$ ) can never increase the chances of defeating the suspension by mimicking the behavior of the zero type.

<sup>&</sup>lt;sup>13</sup> Our model could accommodate  $\gamma < 0$ ; however, if  $\gamma + \beta \alpha < 0$ , then the opponent would have to outspend the proponent in any equilibrium in which the suspension defeated, which is contrary to what we observe.

A second property of equilibrium is that, if either firm makes a positive payment, it does so only in exchange for its preferred policy. That is,  $C_P(0) = 0$  and  $C_O(1) = 0$ . Henceforth, we let  $C_P$  and  $C_O$  denote the levels of payments offered in exchange for the preferred policy of P and O, respectively. Thus, the equilibrium decision rule of the government is to grant the suspension (s = 1) whenever,

$$C_P - \gamma > C_O + E(\alpha \mid m, C_O)\beta \tag{4}$$

and reject the suspension (s=0) otherwise, where  $E(\alpha \mid m, C_O)$  is the expected value of  $\alpha$ , conditional on the observed behavior of the opponent. This must satisfy Bayes' rule where applicable. Where Bayes' rule is not applicable (i.e., where the opponent makes an offer that occurs with zero probability in equilibrium), we assume  $E(\alpha \mid \text{support}, C_O) = 0$  and  $E(\alpha \mid \text{oppose}, C_O) = \overline{\alpha}$ , where  $\overline{\alpha} = \theta \alpha_L + (1 - \theta) \alpha_H$ . In other words, the government ignores the information content of  $C_O$  and updates its priors solely on m.<sup>14</sup>

# 2.2 Opponent Payments

In this section we consider the behavior of the opponent firm in the second stage of the model, taking as given the level of the proponent's payment. Since the behavior of the zero type has already been dealt with, we focus this section on the case of  $\alpha > 0$ .

We start by defining the function,

$$\tilde{C}_O(\alpha, C_P) \equiv \max[0, C_P - \gamma - \alpha\beta]$$

which is the minimum offer the opponent would need to make to defeat the suspension if the government believes the firm to be of type  $\alpha$  and the proponent offers  $C_P$ . Note that  $\tilde{C}_O(\alpha, C_P)$  is weakly decreasing in  $\alpha$  and weakly increasing in  $C_P$ . That is, given the

<sup>&</sup>lt;sup>14</sup> Justification for this assumption is discussed in the proof of proposition 1. See appendix I.

proponent payment, the higher the type the government believes the opponent to be the less the opponent has to offer to defeat the suspension.

The following proposition describes the offer of the opponent for each proponent offer:

# **Proposition 1: Opponent's Best Response Offers.** Given any $C_P$ and $\alpha > 0$ ,

A. If  $\tilde{C}_O(\overline{\alpha}, C_P) < \alpha_L$ , the opponent offers  $C_O = \tilde{C}_O(\overline{\alpha}, C_P)$ .

B. If  $\tilde{C}_O(\overline{\alpha}, C_P) > \alpha_L$  and  $\tilde{C}_O(\alpha_H, C_P) < \alpha_H$ , the opponent offers

$$C_O = \begin{cases} 0 & \text{if } \alpha = \alpha_L \\ \max[\alpha_L, \tilde{C}_O(\alpha_H, C_P)] & \text{if } \alpha = \alpha_H \end{cases}.$$

C. If  $\tilde{C}_O(\alpha_H, C_P) > \alpha_H$ , the opponent offers  $C_O = 0$ .

# **Proof in Appendix**

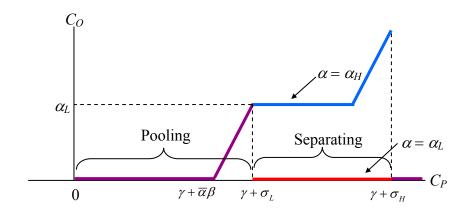
The content of Proposition 1 is summarized graphically in Figure 1. It shows the opponent offer as a function of  $C_P$ . The condition for Proposition 1A can be written as,

$$C_{P} < \gamma + \sigma_{I} \tag{5}$$

where  $\sigma_L \equiv \alpha_L + \overline{\alpha}\beta$ . The term  $\sigma_L$  represents the maximum influence that a low type opponent can exert on the government. It is the sum of  $\alpha_L$ , which is the largest offer a low type could profitably make, and  $\overline{\alpha}\beta$ , which is the expected loss to the government from granting the suspension, when it is uninformed about the opponent's type. If condition (5) holds, then a low type opponent can defeat the exemption, and given that the low type can win, there is no incentive for the high type to distinguish itself by offering more. Thus, the two types of opponent make the same offer, which is just enough to defeat the suspension. Further, if  $C_P < \gamma + \overline{\alpha}\beta$ , this amount is zero, meaning

that the opponent defeats the suspension with certainty without offering anything – protection for free.

FIGURE 1: OPPONENT'S BEST RESPONSE OFFERS



The pooling equilibrium is no longer sustainable if the level of the proponent's offer satisfies,

$$\gamma + \sigma_L < C_P < \gamma + \sigma_H \tag{6}$$

where  $\sigma_H \equiv \alpha_H(1+\beta)$ . With  $C_P > \gamma + \sigma_L$ , the opponent's offer necessary to defeat the suspension, given that the government is uncertain about the opponent's type, is too high to be worth it for the L-type opponent. Thus, the L-type offers zero and the suspension succeeds, even though the opponent opposes it. With  $C_P < \gamma + \sigma_H$ , the H-type opponent can defeat the proposal by offering  $\tilde{C}_O(\alpha_H, C_P)$ , provided it can avoid being mimicked by the L-type. Thus, by offering  $\alpha_L$  or  $\tilde{C}_O(\alpha_H, C_P)$ , whichever is greater, it defeats the suspension. Overall, the suspension is defeated with probability  $(1-p)(1-\theta)$ , which is the probability that the opponent is of type H.

Finally, if the proponent's offer is large as to lie outside of the range (6), the suspension always succeeds, and the opponent does not bother to offer anything at all.

# 2.3. Proponent Payments

Having characterized the behavior of the opponent, we now consider the proponent firm. The proponent faces a choice between four mutually exclusive options:

- 1) Offer nothing. In this case, the suspension is defeated, even when the opponent does not oppose it, and  $\pi_P = 0$ .
- 2) Offer enough so that the suspension succeeds only when the opponent does not oppose it. The minimum offer necessary to achieve this outcome is  $\gamma$  and corresponding profit is  $\pi_P = p(1-\gamma)$ . This option is superior to offering nothing if and only if  $\gamma < 1$ .
- 3) Offer enough so that the suspension succeeds only when the opponent offers zero. The minimum offer necessary to achieve this outcome is  $C_P = \gamma + \sigma_L$ , with corresponding profit of  $\pi_P = [p + (1-p)\theta][1-\gamma \sigma_L]$ . This option is superior to the first and second options if and only if,

$$\gamma + \sigma_L \left( \frac{p + (1-p)\theta}{(1-p)\theta} \right) < 1. \tag{7}$$

The second term in (7) measures the expected additional cost to the proponent of overcoming an L-type opponent, discounted by the increase in the probability of a successful suspension.

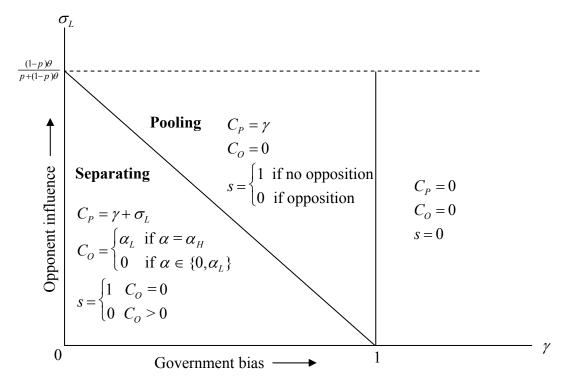
4) Offer enough to guarantee that the suspension succeeds regardless of the opponent's type. The minimum offer necessary for this outcome is  $C_P = \gamma + \sigma_H$ , with

corresponding profit of  $\pi_P = 1 - \gamma - \sigma_H$ . Clearly, this final option can only be optimal if  $\alpha_H$  is sufficiently low. If instead we assume,

$$\alpha_H > \frac{1}{1+\beta} \tag{8}$$

then this case is ruled out. This ensures that the most extreme opponent can defeat

FIGURE 2: EQUILIBRIUM CONTRIBUTIONS AND SUSPENSION POLICY



any suspension. For expositional purposes, we assume this for the remainder of the paper.

These results are summarized in figure 2, showing the equilibrium payments and suspension policies, for different combinations of  $\gamma$  and  $\sigma_L$ . If  $\gamma > 1$ , the government is highly biased against the suspension. In this case, no firm offers anything, and the suspension fails regardless of the message of the opponent. If the government bias is less severe, the proponent offers  $\gamma$ , the opponent offers zero, and the suspension succeeds only

if the opponent does not oppose it, which occurs with probability p. When both the government bias and the opponent's influence are weak, the proponent offers  $\gamma + \sigma_L$ , and the opponent offers  $\alpha_L$  if  $\alpha = \alpha_H$  and zero if  $\alpha = \alpha_L$ . The suspension succeeds unless the opponent opposes it and offers  $\alpha_L$ . Thus, while the unconditional probability the suspension succeeds is  $p + (1-p)\theta$ , the probability conditional on opposition is  $(1-p)\theta$ , and the probability conditional on a positive opposition offer is zero.

Overall, the model makes several testable predictions about the effects of observables on the probability of suspension. The first is that a positive proponent offer generally increases the probability that a tariff suspension is granted; however, whether or not such an offer is made is endogenous. Second, it is not necessarily the case that the proponent offer is higher in the separating than in the pooling equilibrium, as these magnitudes depend on parameters, which are different in the two regions. Along the border of the regions, however, moving from the pooling to the separating equilibrium coincides with a jump in proponent spending and an increase in the unconditional probability of suspension. This highlights the importance of controlling for government bias and opponent influence when attempting to discern the effect of proponent spending on the probability of suspension. Third, verbal opposition itself, even without opponent spending, reduces the probability of suspension. Fourth, a positive offer by the opponent, though relatively rare, is always effective at defeating the suspension. <sup>15</sup> Finally, anything that increases opponent influence or government bias against the suspension decreases the probability of suspension.

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<sup>&</sup>lt;sup>15</sup> The magnitude of the offer does not matter in the model, though this is probably an artifact of assuming only two opponent types.

# 3. Data

In this section we first provide background information on tariff suspensions. Next, we describe the dataset on lobbying expenditures and compare it with contributions from Political Action Committees (PACs). Finally, we present summary statistics for the main variables used in the empirical analysis.

# 3.1. Tariff suspensions

The data on tariff suspensions is collected from two sources: the USITC bill reports on each proposed tariff suspension and the U.S. Harmonized Tariff Schedule maintained by the USITC. Within every Congress, representatives and senators propose tariff suspension bills on behalf of various proponent firms. The bills address very specific products. For example, in the 109<sup>th</sup> Congress, Senator DeMint sponsored a bill on behalf of proponent firm Michelin to eliminate the tariff on "sector mold press machines to be used in production of radial tires designed for off-the-highway use with a rim measuring 63.5 cm or more in diameter" (S. 2219). Once the tariff bills are referred by formal memorandum to the Committee on Ways and Means of the House or the Committee on Finance of the Senate, the USITC compiles a report on the bill. This study focuses on the  $106^{th}$  (1999-2000),  $107^{th}$  (2001-2002),  $108^{th}$  (2003-2004), and  $109^{th}$  (2005-2006) Congresses.

USITC produces a separate report for every suspension bill introduced in each Congress.<sup>16</sup> The reports include information about the proponent firm, estimates of expected tariff revenue loss, dutiable imports, and current tariff rates.<sup>17</sup>

<sup>&</sup>lt;sup>16</sup> The bill reports are posted on the ITC website (for example, see http://www.usitc.gov/tata/hts/other/rel\_doc/bill\_reports/109c.htm for reports covering the 109<sup>th</sup> Congress). <sup>17</sup> Please see Figure A1 for an example of the USITC bill report prepared for the 109<sup>th</sup> Congress.

information about firm opposition, the USITC sends questionnaires to possible producers and purchasers of the good in question. From the responses to the questionnaires, the USITC notes if the firms are current or future producers of the product and whether they oppose the tariff suspension bill. Therefore, information in the reports about domestic opposition to the bill and domestic production of the good is mostly dependent upon the information provided by surveyed firms, many of whom do not respond. Non-response suggests that the firms are not sufficiently opposed to the legislation to expend the resources necessary to respond to the USITC.

The bill report format changes throughout the time period in question. For the  $106^{th}$  and the  $107^{th}$  Congress bill reports, the USITC indicates whether surveyed firms submitted responses and based on this information indicates whether there is any domestic production of the product. Economic intuition suggests that a domestic producer would be opposed to the bill if it bothered to respond, as they would not want to compete with a cheaper imported product. Therefore, for the  $106^{th}$  and  $107^{th}$  Congresses (about 25% of our total sample), we assume that firms indicating current or future domestic production also oppose the suspension. In the  $108^{th}$  and the  $109^{th}$  Congress, the reports change slightly to include whether specific firms noted opposition to the measure.

To ascertain whether the tariff suspension bills have been enacted into law, we use the U.S. Harmonized Tariff Schedule (HTS). Each product on which a suspension is granted is removed from its normal eight-digit HTS product category and assigned a temporary eight-digit number, beginning with 99, and listed in Chapter 99 of the HTS. This chapter is updated annually. We therefore search Chapter 99 in the years following

the passage of an MTB to determine which suspension bills were successful. If the product specified in a suspension bill is not found, we assume the bill failed.

Congress generally passes the trade bills in the form of a single MTB for each congress. In the 106<sup>th</sup> Congress, they enacted two bills into law, the Miscellaneous Trade and Technical Corrections Act of 1999 (H.R. 435) and the Trade Suspensions Act of 2000 (H.R. 4868). Therefore, we use the HTS for 2002 to check which bills passed.<sup>18</sup>

The 107<sup>th</sup> Congress presented a problem, as Congress did not successfully pass an MTB that session. The Miscellaneous Trade and Technical Corrections Act of 2002, sponsored by Representative Philip M. Crane (IL-8), was never enacted into law. However, in the 108<sup>th</sup> Congress, Rep. Crane sponsored another bill entitled the Miscellaneous Trade and Technical Correction Act of 2004 (H.R. 1047), which was enacted into law. All of the bills in the 107<sup>th</sup> Congress addressed different products from the 108<sup>th</sup> Congress. Therefore, we did not have to worry about duplicative bills spanning the two Congresses. We use the HTS of 2006 for these two Congresses.

Finally, we use the HTS of 2008 for the 109<sup>th</sup> Congress. Although the Miscellaneous Trade and Technical Act of 2006 never became law, most of the duty suspensions can be found at the end of the Tax Relief and Health Care Act of 2006 (H.R. 6111), which did become public law.

# 3. 2. Lobbying expenditures

<sup>&</sup>lt;sup>18</sup> Using HTS to ascertain whether the tariff suspensions were granted is more effective than combing through passed trade bills. This is because the language in the HTS more closely matches the language in the bill reports, making coding easier, and it is unclear whether or not the large trade bills include all of the tariff suspensions passed.

We use a novel dataset on lobbying expenditures at the firm level in order to construct a measure of the payments firms make to influence tariff suspensions. We compile the dataset using the websites of the Center for Responsive Politics (CRP) and the Senate's Office of Public Records (SOPR) in Washington D.C., which provide information on semi-annual lobbying disclosure reports. We use data from the reports covering lobbying activity that took place from 1999 through 2006.

With the introduction of the Lobbying Disclosure Act of 1995, individuals and organizations have been required to provide a substantial amount of information on their lobbying activities. Starting from 1996, all lobbyists must file semi-annual reports to the Secretary of the SOPR, listing the name of each client (firm) and the total income they have received from each of them. At the same time, all firms with in-house lobbying departments are required to file similar reports stating the *total* dollar amount they have spent. Importantly, legislation requires the disclosure not only of the total dollar amounts actually received/spent, but also of the issues for which lobbying is carried out. Table A1 shows a list of 76 general issues at least one of which has to be entered by the filer. The report filed by a firm producing chemicals, 3M Company, for the period January-June 2006, is shown in Figure A2. The firm spent \$985,000 over the specified period in lobbying activities. The federal agencies contacted by the firm include the Department of Commerce and the Office of the US Trade Representative. It lists "trade" as an issue it

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<sup>&</sup>lt;sup>19</sup> According to the Lobbying Disclosure Act of 1995, the term *lobbying activities* refers to lobbying contacts and efforts in support of such contacts, including preparation and planning activities, research and other background work that is intended, at the time it is performed, for use in contacts, and coordination with the lobbying activities of others.

lobbies for. Importantly, it also lists "duty suspension" as a specific issue with which the lobbying activities are associated. <sup>20</sup>

Annual lobbying expenditures and incomes (of lobbying firms) are calculated by adding mid-year and year-end totals. The lobbying expenditures of a firm associated with issues relevant to the tariff suspension bills are calculated using a two-step procedure. First, we consider those firms which list trade or any other issue pertaining to the bill in their lobbying report.<sup>21</sup> In particular, the list of 76 general issues specified by the SOPR which a firm has to choose from when it files its lobbying report (see Table A1) includes some of the industries affected by the tariff suspensions (for example, chemical and textiles).<sup>22</sup> Therefore, a firm lobbying policymakers in favor or against the tariff suspension might write down "trade" in its report or, alternatively, "chemical", textile", etc. Second, we split the total expenditure of each firm equally between the issues they lobbied for and consider the fraction accounted for by trade or any other issue pertaining to the bill. So for example, if the firm lobbies on six issues, which include, among others, trade and chemical – and the suspension under scrutiny is for a chemical product – then we use one third of the firm's total lobbying expenditure.

Finally, we merge information on each tariff suspension bill's proponent and opponent firms with the firm-level dataset on lobbying expenditures. We sum each firm-level lobbying expenditures over the two years that Congress was in session. Finally, if a (proponent or opponent) firm is not in the lobbying dataset, it implies that the firm did

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<sup>&</sup>lt;sup>20</sup> Unfortunately the reports do not give information on how the total dollar amount spent by a firm (or received by a lobbying company) is split across different general or specific issues. Therefore, we will assume that issues receive equal weight.

The lobbying dataset from 1999-2006 comprises an unbalanced panel of a total of 15,310 firms/associations of firms, out of which close to 30% list trade or any other issue pertaining to the bill.

<sup>&</sup>lt;sup>22</sup> The majority of the bills (close to 70%) addresses chemical products. Beyond chemicals, bills address a wide spectrum of intermediate goods, including but not limited to fabrics and fibers, shoes, airplane parts, bicycle parts, camcorders, foodstuff, and sports equipment.

not make any lobbying expenditures. Thus, merging the tariff suspension and lobbying datasets allows us to explicitly classify politically unorganized firms. This is in contrast with prior studies (e.g. Goldberg and Maggi, 1999 and Gawande and Bandopadhyay, 2000) based on industry-level data, which use a threshold variable to denote political organization, because all sectors' lobbying expenditures are greater than zero. However, since our study is disaggregated to the firm level, we do not need to use a threshold indicator variable, as many firms do not incur lobbying expenditures on trade or other issues related to the bill.

# 3.3. Comparison between lobbying expenditures and contributions from Political Action Committees (PACs)

In addition to carrying out lobbying activities, special interest groups in the United States can legally influence the policy formation process by offering campaign finance contributions. Campaign finance contributions and, in particular, contributions by PACs have been the focus of the bulk of the literature (see for example Snyder 1990, Goldberg and Maggi 1999, Gawande and Bandyopadhyay 2000). However, given the existing limits on the size of PAC contributions, they are not the most important route by which interest groups' money can influence policy makers. In particular, it has been pointed out that lobbying expenditures are of "... an order of magnitude greater than total PAC expenditure" (Milyo, Primo, and Groseclose 2000). Hence, it is surprising that so few empirical papers have looked at the effectiveness of lobbying expenditures in

shaping policy outcomes. To the best of our knowledge, the only exceptions are de Figueiredo and Silverman (2006) and Facchini, Mayda and Mishra (2008).<sup>23</sup>

As shown in Table 1, between 1999 and 2006, interest groups have spent on average about 4.2 billion U.S. dollars per political cycle on targeted political activity, which includes lobbying expenditures and PAC campaign contributions.<sup>24</sup> Lobbying expenditures represent by far the bulk of all interest groups money (close to ninety percent). Therefore, there are two advantages in using lobbying expenditures rather than PAC contributions to capture the intensity of the activity of pressure groups. First, PAC contributions represent only a small fraction of interest groups' targeted political activity (10 percent), and any analysis of the role of lobbies in shaping policy based on only these figures could be misleading. Second, linking campaign contributions to particular policy issues is very difficult and often requires some ad-hoc assumptions. For instance, in their pioneering work on the estimation of Grossman and Helpman (1994) protection for sale model, Goldberg and Maggi (1999) have used minimum PAC expenditure thresholds to identify whether a sector was organized or not from the point of view of trade policy determination. The availability of direct information on the main purposes of the lobbying activity provides a clear advantage in linking lobbying expenditures to actual outcomes.

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<sup>&</sup>lt;sup>23</sup> De Figueiredo and Silverman (2006) find that, for a university with representation in the House or Senate appropriations committees, a 10% increase in lobbying yields a 3 to 4% increase in earmark grants obtained by the university. Facchini, Mayda and Mishra (2008) find robust evidence that immigration-related lobbying expenditures by firms in a sector positively affect the number of temporary work immigrant visas in that sector.

<sup>&</sup>lt;sup>24</sup> We follow the literature that excludes from targeted-political-activity *soft money* contributions, which went to parties for general party-building activities not directly related to federal campaigns; in addition, soft money contributions cannot be associated with any particular interest or issue (see Milyo, Primo, and Groseclose 2000 and Tripathi, Ansolabehere, and Snyder 2002). Soft money contributions have been banned by the 2002 Bipartisan Campaign Reform Act.

Figure 4 investigates the relationship between the two aspects of interest groups' activity. It is based on averages over the four election cycles and uses variation across industries (according to the CRP sector classification, which is similar to the SIC classification.<sup>25</sup>) In the left panel we construct a scatter plot of overall lobbying expenditures (i.e., lobbying expenditures on any issue) and PAC contributions, while in the right panel we have a scatter plot of lobbying expenditures associated with trade policy and other issues pertaining to the tariff suspension bill and PAC contributions. In the left panel, we find a very high positive correlation between total lobbying expenditures and PAC contributions across sectors. This result is consistent with the political science literature. It may suggest that PAC contributions are integral to groups' lobbying efforts by allowing them to gain access to policymakers (Tripathi, Ansolabehere, and Snyder 2002). In the right panel too, we find a positive correlation. Therefore, Figure 4 suggests that at the sectoral level, the variation in lobbying expenditures – on trade and other issues related to the bill – is correlated to the variation in PAC contributions.<sup>26</sup>

# 3.4. Summary Statistics

Summary statistics of the main variables used in the empirical analysis are presented in Table 2. The data shows that Congress passes tariff suspensions more often than not: 79% of the tariff suspension bills are passed. Therefore, the proponents have a fairly high success rate on bill passage. The fraction of bills with at least one opponent firm is quite low (17%). Moreover, 23% of the bills seek to extend previously passed

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<sup>&</sup>lt;sup>25</sup> For details on matching of firms to sectors by CRP, see a description of their methodology at http://www.opensecrets.org/lobby/methodology.php.

<sup>&</sup>lt;sup>26</sup> This is in contrast to Facchini, Mayda and Mishra (2008) who find zero correlation between PAC contributions and lobbying expenditures on immigration at the sectoral-level.

tariff suspensions. Also, 14% of the bills are submitted more than once during a given Congress. In this case, either the same proponent firm submits the bill to both the House and the Senate, or two different proponent firms submit different bills on the same product. Finally, the average tariff rate applied to products related to the bills, before the suspension is passed (or not), is 7%.

Most of the proponents, 67%, have lobbying expenditures specifically on trade or other issues related to the bill. On the other hand, only 5% of the bills have organized opposition, i.e. opponent firms which have spent money to lobby on trade or other issues related to the bill. It is not surprising that opponent firms make lobbying contributions less often than the proponent firms. Many proponent firms probably use lobbying firms or spend resources in order to convince congressman to sponsor the bill. On the other hand, opposing firms can simply submit the USITC questionnaire expressing their opposition to the legislation.

Before proceeding to a formal regression analysis, Table 3 shows simple bivariate correlations between the probability of suspension and indicators for whether the bill has an opponent, an organized opponent and an organized proponent. The bivariate regression coefficients suggest that (i) bills with an opponent (whether organized or unorganized) have significantly lower probability of the suspension being granted relative to bills with no opposition (ii) an opponent which lobbies, is also effective in defeating suspensions, though it seems that there is not much added effect beyond "cheap talk" or simply noting opposition and (iii) proponent lobbying increases the chances of the suspension being granted. The rest of the paper will focus on establishing the robustness of these simple correlations.

# 4. Empirical Analysis

# 4.1 Empirical Strategy

In this section we investigate some of the implications of our model. The first is that, all else equal, an organized proponent (one who spends money on trade lobbying) is more effective than an unorganized proponent in securing a tariff suspension. Second, verbal opposition itself, even without opponent spending, reduces the probability of a suspension. Third, spending by the opponent, though relatively rare, is always effective at defeating the suspension.

We specify the basic regression equation as follows:

$$Pr(Suspension = 1)_{i,t} = a + \alpha D_{i,t}^{opp} + \beta D_{i,t}^{org,opp} + \gamma D_{i,t}^{org,prop} + \delta X_{i,t} + \eta_s + v_t + \varepsilon$$
 (10)

where i and t denote the bill and Congress, respectively. Pr(Suspension = 1) is the probability that the suspension requested in the bill is granted;  $D_{i,t}^{opp}$  is a dummy which is equal to 1 if the bill has at least one opponent firm;  $D_{i,t}^{org,opp}$  is a dummy which is equal to 1 if the bill has an opponent firm which is politically organized, i.e. an opponent firm which lobbies on trade or any other issue pertaining to the bill;  $D_{i,t}^{org,prop}$  is a dummy which is equal to 1 if the proponent firm of the bill is politically organized, i.e. it lobbies on trade or any other issue pertaining to the bill.  $X_{i,t}$  denotes the vector of additional controls at the bill-congress level. The control variables include the (log of the) estimated tariff revenue loss, the pre-suspension tariff rate, a dummy which is equal to 1 if the bill is an extension of a previous bill and, finally, a dummy which is equal to 1 if the bill is presented both in the House and Senate. Equation (10) is estimated using a linear

probability model with HTS section and Congress fixed effects (denoted, respectively, by  $\eta_s$  and  $v_t$ ).<sup>27</sup>

In addition to (10), we also estimate a regression model with the levels of lobbying expenditures of the proponents and opponents (rather than dummies for whether they are organized). The regression equation in levels is specified as follows:

$$Pr(Suspension = 1)_{i,t} = \alpha D_{i,t}^{opp} + \beta \log(L_{i,t}^{opp}) + \gamma \log(L_{i,t}^{prop}) + \delta X_{i,t} + \eta_s + v_t + \varepsilon$$
(11)

where  $L_{i,t}^{opp}$  and  $L_{i,t}^{prop}$  denote the total lobbying expenditures for trade or other issues related to the bill of the opponents and proponent firms, respectively.

Regressions (10) and (11) are likely to be affected by both endogeneity and selection issues. We will first discuss endogeneity and, next, selection.

All three of our main variables  $[D_{i,t}^{opp}, D_{i,t}^{org,opp}, D_{i,t}^{org,prop}]$  in regression (10) and  $D_{i,t}^{opp}, L_{i,t}^{opp}, L_{i,t}^{opp}]$  in regression (11) are likely to be endogenous. The estimates could be inconsistent due to reverse causality concerns. For example, if the ex-ante expected probability of passage of a tariff suspension bill is high – for some reason we do not account for in the right-hand-side of the equation – upstream firms may decide not to come forward and oppose the bill, expecting a small impact of their opposition and, at the same time, not wanting to incur the cost of opposition (for instance, a cost could be the possibility of upsetting the proponent firm, which might itself act as an opponent firm in some other tariff bill, where upstream firms are involved as proponents). Similarly, if the probability of success of a bill is high, opponent firms may decide it is not worthwhile to invest (or to invest a lot) in lobbying expenditures to try to block it. These reverse-

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<sup>&</sup>lt;sup>27</sup> The results in the paper are robust to estimating Equation (10) by probit. However, we prefer the linear probability model since fixed-effects estimation of a probit model may lead to inconsistent estimates, due to the so called *incidental parameter problem* (Chamberlain 1984).

causality effects would imply a negative correlation between the unobserved component of the probability of the bill being passed and  $D_{i,t}^{opp}$ ,  $D_{i,t}^{org,opp}$ ,  $L_{i,t}^{opp}$ ; hence exaggerate the magnitude of the (negative) estimated effects. Finally, the decision of a proponent firm to invest (and how much) in lobbying expenditures could also be related to expectations regarding its probability to pass, and bias the estimated coefficient on  $D_{i,t}^{org,prop}$ ,  $L_{i,t}^{prop}$ . Selection concerns are related to the fact that, by construction, we only observe bills which are introduced in the Congress. Whether a bill is introduced may be systematically correlated with unobservables that affect the probability of suspension being granted. In addition, it also depends on a host of factors which are likely to be correlated with our regressors of interest. Bills which are introduced less may be less likely to face opposition, or have high lobbying expenditures by opponents. Proponents may simply refrain from introducing a bill because it expects the bill will be opposed, or expects that the opponent will spend money. Alternatively, there could be possible collusion between proponent and potential opponent firms. This would imply a negative correlation between the probability of selection (and the unobservables affecting the probability of suspension) and  $D_{i,t}^{opp}$  and imply a selection bias.

To address the endogeneity and selection problems described above, we use the following three instruments for the main three regressors. First, we construct a variable which measures the number of firms contacted by the ITC, who represent potential opponents of the bill (in other words, potential competitors producing the same product as the bill under question). The higher this number, the more likely it is that the tariff suspension will be opposed, for the following two reasons: first, assuming that each contacted firm opposes the bill with a given probability, the more firms are contacted, the

more likely it is that at least one of them will be against the tariff suspension; second, and most importantly, in a market with several domestic producers, it will be harder for the proponent firm to buy them off – i.e. convince them not to come forward – for example in a situation of collusion. Therefore, we expect the number of contacted firms to be positively correlated with the endogenous regressor  $D_{i,i}^{opp}$  (first-stage). At the same time, it is unlikely that the success of the bill depends on the number of contacted firms independently from whether the tariff suspension is opposed (exclusion restriction). What is relevant from the point of view of decision makers is whether the bill negatively impacts upstream domestic firms, which is the case only if the latter ones say so by voicing their opposition.<sup>28</sup> To conclude, the number of contacted firms is a plausible instrument which allows us to address the endogeneity of  $D_{i,i}^{opp}$ . It also makes it possible to address the selection bias given that the number of contacted firms should not be directly correlated with whether the bill is introduced or not.

To construct instruments for whether the opponent firm(s) and the proponent firm are politically organized ( $D_{i,t}^{org,opp}$ ,  $D_{i,t}^{org,prop}$ ), we use firm-level data on lobbying activity. In particular, for each firm which spends lobbying money on trade or other issues related to the bill, we consider whether or not it lobbies for other issues (i.e. issues unrelated to the bill). A firm which lobbies for other issues is likely to have an established relationship with a lobbying firm or, alternatively, to have an in-house lobbying department. In both cases, the firm would have closer contacts with the Federal government or agencies and it would be easier for the firm to channel lobbying money to influence decisions regarding

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<sup>&</sup>lt;sup>28</sup> In addition, the lists of contacted firms are compiled by ITC staff who are not close to the top of the hierarchy, hence are not likely to be related to decisions made by the Congress regarding the passage of the bills.

the tariff suspension bill. Thus, we expect to find strong first-stage relationships. At the same time, there is no reason why the lobbying activity of the firm on other issues should have a direct impact on the probability of passage of the tariff suspension (exclusion restriction). Thus, the indicator of whether the (opponent or proponent) firm lobbies on other issues plausibly allows us to address endogeneity. It also makes it possible to address selection issues given that this variable should not be directly correlated with whether the bill is introduced or not.

Finally, for the measure of political organization in levels  $(L_{i,t}^{opp}, L_{i,t}^{prop})$ , we use as instruments the *number* of other issues the opponent firm(s) and the proponent firm lobby for, respectively.

# 4.2 Empirical results

# 4.2.1 OLS benchmark results

We first estimate the model using ordinary least squares with section HTS dummy variables and dummy variables for the different sessions of Congress. Table 4 presents our main results. We find a strong, negative and significant (at the 1% level) impact of opposition on the probability of passage of the tariff suspension bill. This result is robust across specifications, in particular it is not affected by whether we measure political organization using a dichotomous or a continuous variable (compare columns (1)-(2) to columns (3)-(4)). Notice that the estimate of the coefficient of  $D_{i,i}^{opp}$  captures the impact of opponent firm(s) which are not politically organized. The fact that it is negative and significant is not consistent with the PFS model of Grossman and Helpman (1994). The model predicts that if the domestic producers of the good do not lobby, policy makers set

a negative tariff, or an import subsidy. In the case of tariff suspension bills, t=0 is the lower bound, so in the PFS model we would expect the suspension to be granted (or at least to increase the probability of suspension). In contrast, according to our estimate in column (1), unorganized opposition reduces the probability of suspension by 57.3 percentage points. Therefore, tariff suspensions do not fit well into a pure PFS model. Rather, they are more consistent with a model that incorporates informational lobbying, like the one we have developed in this paper. The coefficient of  $D_{i,t}^{opp}$  can be interpreted to measure of the impact of informational lobbying. The fact that it is negative and significant tells us that simply noting opposition does impact the passage of a bill.

Our results also show that  $D_{i,i}^{org,opp}$  — the political organization of the opponent firm(s) — is effective at reducing the likelihood that the tariff suspension passes. This estimate is significant at the 1% level, using either the dichotomous measure or the level of lobbying expenditures. The coefficient on organized opposition (-19.6 percentage points in column (1)) captures the additional effect of opponent lobbying on the probability of the legislation's passage. Therefore, a bill with a firm noting opposition, that also lobbies, is 76.9 percentage points less likely to pass. Although the difference between unorganized opposition and organized opposition is small (say relative to the effect of unorganized opposition), it is nonetheless significant. The negative and statistically significant coefficient on  $D_{i,i}^{org,opp}$  suggests that opposition lobbying expenditures do impact the bill's passage. Therefore, a model incorporating elements of both *quid pro quo* lobbying and informational lobbying best captures these results.

On the other hand, and surprisingly, the OLS estimates show no significant impact of political organization by the proponent firm, no matter how it is measured (dichotomous and level variables).<sup>29</sup>

Finally, notice that the (log of the) estimated tariff revenue loss has no impact on the probability of success of the suspension. On the other hand, the pre-suspension tariff rate, the indicator variable of whether the bill is an extension and the dummy for whether the bill has been introduced both in the House and Senate all have a positive impact on the likelihood of passage of the legislation.

# 4.2. IV results

Table 5 presents the results of IV estimation, using the instruments described in Section 4.1. Table 6 shows the first-stage estimates, which suggests that the instruments are very strong. According to regression (1a), Table 6, whether a bill is opposed is positively and significantly correlated (at the 1% level) with the (log) number of potential opponent firms. Similarly, column (1b) shows that political organization of opponent firms on trade and other issues related to the bill is positively and significantly correlated (at the 1% level) with whether opponent firms lobby on other issues. Regression (1c) shows a similar result for the instrument of political organization of the proponent firm, which is positively and significantly correlated (at the 1% level) with whether the proponent firm lobbies on other issues. All these results are unchanged (in terms of sign and significance level) when we add the control variables in regressions (2a)-(2c).

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<sup>&</sup>lt;sup>29</sup> This result will be reversed when we address endogeneity and selection issues with the IV strategy.

According to regressions (3b) and (4b), the (log) number of issues – other than trade or other issues related to the bill – for which the opponent firm lobbies is a positive and significant determinant (at the 1% level) of (log) lobbying expenditures by the opponent firm on trade and other issues. A similar relationship holds for the proponent firm (see regressions (3c) and (4c)). To conclude, the first-stage results are very strong, as also confirmed by the first-stage F statistics for excluded instruments reported at the end of Table 5.

The second-stage results confirm most of the OLS results. Both unorganized and organized opposition have a negative and significant impact on the likelihood of passage of the tariff suspension bill. In addition, proponent firm's political organization, has a positive and significant impact, as predicted by the theoretical model. All these findings are confirmed when we use the level of lobbying expenditures to measure the extent of political organization of opponent and proponent firms. The magnitude of the estimated coefficients on both organized opponents and proponents is higher in the IV regressions compared to the OLS, possibly suggesting a positive (negative) correlation between the unexplained probability of exemption and opponent (proponent) lobbying. Bills with a higher ex-ante expected probability of exemption are likely to be associated with a higher (lower) degree of opponent (proponent) political organization. Finally, the results on the control variables are qualitatively unchanged.

To summarize the results, both the OLS and the instrumental variable regressions confirm the key predictions of the theoretical model: (i) verbal opposition itself, even without lobbying, reduces the probability of suspension, (ii) greater political organization or higher lobbying expenditures by the proponent is associated with a higher probability

of suspension and (iii) greater political organization or higher lobbying expenditures by the opponent, though relatively rare, is effective at defeating the suspension.

# **4.3 Direction of Future Work**

We would like to test the robustness of our results in a number of ways. First, as mentioned in Section 3.1, lobbying expenditures represent the bulk of total targeted political activity (accounting for up to 90% of it) with the remaining portion (only approximately 10%) being made up by PAC campaign contributions (see Table 1). In addition, as shown in Figure 4, at the sectoral level, lobbying expenditures (on trade and other issues related to the bill) and PAC contributions are positively and significantly correlated. Thus, we believe that by using lobbying expenditures data we are accounting for most of the variation in lobbying activity. However, to make our results even more robust, we are in the process of collecting firm-level PAC campaign contributions, which will allow us to fully control for the impact of lobbying activity. Second, we would like to merge our data set with information at the firm level from Compustat. This will make it possible to account for characteristics of each proponent and opponent firm (such as production, employment, skill composition, etc) which might affect the outcome of the tariff suspension legislation. Finally, we intend to use additional information in the tariff suspension reports, such as on the size of the tariff suspension (not all tariff suspensions are full, some are partial).

### 5. Conclusions

We have developed a model which incorporates *quid pro quo* and informational lobbying. According to the model, all else equal, an organized proponent (i.e., a proponent who spends money on trade lobbying) is more effective than an unorganized one in securing a tariff suspension. In addition, verbal opposition itself, even without opponent spending, reduces the probability of a suspension. Finally, spending by the opponent, though relatively rare, is always effective at defeating the suspension.

We have empirically tested these predictions using data on US tariff suspensions and firm-level information on trade lobbying expenditures. Our results are consistent with theory and are robust to addressing reverse causality, endogeneity and selection concerns using an IV estimation strategy. To the best of our knowledge, our estimates provide the first systematic empirical evidence on the informational channel – through which interest groups influence the formation of trade policy. We are also the first ones to analyze the determinants of the political economy of US trade policy *at the firm level*.

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## Appendix I

## **Proof of Proposition 1:**

A. If both types spend  $\tilde{C}_O(\overline{\alpha}, C_P)$ , the government's posterior expectation of  $\alpha$  is  $\overline{\alpha}$ . By definition, this is the minimum contribution that ensures the suspension is defeated. If  $\tilde{C}_O(\overline{\alpha}, C_P) < \alpha_L$  then both types would prefer spending this amount to allowing the suspension to succeed. Thus a pooling equilibrium exists; moreover, it is robust to any off-equilibrium beliefs (our assumption on off-equilibrium beliefs is not needed). If  $\tilde{C}_O(\alpha_L, C_P) < \alpha_L$ , then the L-type firm can profitably defeat the suspension even if the government knows its type, which implies that any equilibrium involving different contributions by the H and L types must involve the L-type offering  $\tilde{C}_O(\alpha_L, C_P)$  and defeating the suspension with certainty. However, this would imply that one type could gain by mimicking the other, and thus a separating equilibrium is ruled out. The pooling equilibrium is therefore unique.

If  $\tilde{C}_O(\alpha_L,C_P)>\alpha_L>\tilde{C}_O(\overline{\alpha},C_P)$ , the separating equilibrium is ruled out by the assumption of  $E(\alpha \,|\, oppose,C_O)=\overline{\alpha}$  off the equilibrium path. Without this assumption, a separating equilibrium could be supported if the government assigns to any  $C_O\in(0,\alpha_L)$  a sufficiently high posterior probability to the firm being the L-type. The trouble with such beliefs, however, is that if the deviation were profitable, it would be equally profitable for both types, and thus there is no apparent justification for assigning a high probability to the L-type. This justifies our use of  $E(\alpha \,|\, oppose,C_O)=\overline{\alpha}$ .

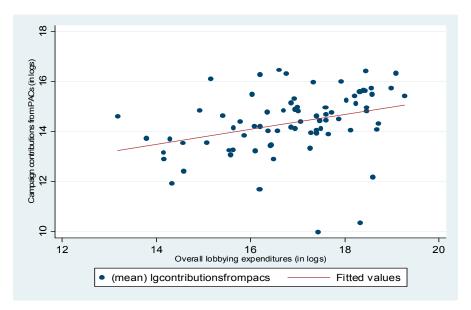
B. If  $\tilde{C}_O(\overline{\alpha}, C_P) > \alpha_L$  and  $\tilde{C}_O(\alpha_H, C_P) < \alpha_H$ , the *H*-type can always profitably spend enough to defeat the suspension, but the *L*-type cannot when  $E(\alpha \mid 0, C_O) = \overline{\alpha}$ . Thus, a pooling equilibrium cannot exist. Instead, there exists a separating equilibrium. In this

equilibrium the H-type firm offers a contribution of  $\max[\alpha_L, \tilde{C}_O(\alpha_H, C_P)]$ , which ensures defeat of the suspension, is profitable for the H-type, and is too high for the L-type firm to profitably mimic.

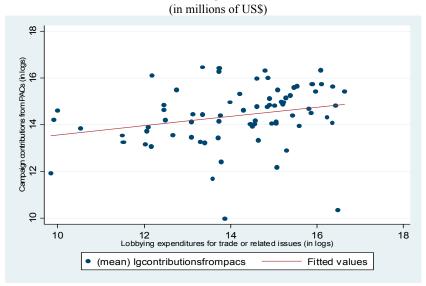
C. If  $\tilde{C}_O(\alpha_H, C_P) > \alpha_H$ , the firm cannot profitably spend enough to ensure the defeat of the suspension, regardless of type or beliefs. Thus, both types spend zero. **QED** 

Figure 4. Scatter Plots between Lobbying Expenditures and Campaign Contributions from Political Action Committees (PACs)

Campaign contributions from PACs and overall lobbying expenditures (in millions of US\$)



Campaign contributions from PACs and lobbying expenditures on trade and other issues related to tariff suspension bills



Notes. The data on campaign contributions and lobbying expenditures are averaged over four election cycles -- 1999-2000, 2001-02, 2003-04 and 2005-06. The correlation between (log) contributions from PACs and (log) overall lobbying expenditures (top panel) is 0.296 (robust standard error=0.095; p-value=0.003); the correlation between (log) contributions from PACs and (log) lobbying expenditures for trade is 0.197 (robust standard error=0.086; p-value=0.026).

Table 1. Targeted Political Activity Lobbying Expenditures and Campaign Contributions

In millions of US Dollars

Election cycle	1999-2000	2001-02	2003-04	2005-06
Overall lobbying exp	2972	3348	4081	4747
Of which exp for trade and other issues related to tariff suspension bills	233	251	313	340
Contributions from PACs	326	348	461	509
Total targeted political activity	3298	3696	4542	5256

Source. Center for Responsive Politics

**Table 2. Summary Statistics** 

Variable	Observations	Mean	Std. Dev.	Min	Max
Oummy=1 if the suspension is granted	1,408	0.79	0.41	0.00	1.00
Oummy=1 if the bill has an opponent	1,408	0.17	0.37	0.00	1.00
Dummy=1 if the bill has an organized opponent	1,408	0.05	0.21	0.00	1.00
Oummy=1 if the bill has an organized proponent	1,408	0.67	0.47	0.00	1.00
stimated tariff revenue loss (in US dollars)	1,408	377,679	1,156,643	1.00	20,300,000
og (estimated tariff revenue loss)	1,408	11.51	1.79	0.00	16.83
re-exemption tariff rate	1,408	0.07	0.05	0.00	1.32
Dummy=1 if the bill is an extension	1,408	0.23	0.42	0.00	1.00
Dummy=1 if the bill is presented both in House and Senate	1,408	0.14	0.35	0.00	1.00
obbying expenditures by opponent on trade/related issues	1,408	28,451	207,034	1	3,808,159
og (lobbying expenditures by opponent on trade/related issues)	1,408	0.67	2.82	0.00	15.15
obbying expenditures by proponent on trade/related issues	1,408	329,345	506,438	1	6,075,000
og (lobbying expenditures by proponent on trade/related issues)	1,408	8.39	5.96	0.00	15.62
nstrumental variables					
Tumber of potential opponent firms	1,408	11.20	9.06	0.10	69.00
og(number of potential opponent firms)	1,408	2.14	0.79	-2.30	4.23
Dummy=1 if opponent lobbies on issues other than trade (or any other					
ssue closely related to the bill)	1,408	0.05	0.22	0.00	1.00
Dummy = 1 if proponent lobbies on issues other than trade (or any					
ther issue closely related to the bill)	1,408	0.59	0.49	0.00	1.00
Sumber of issues other than trade or any other issue closely related to					
ne bill for which the opponent lobbies)	1408	0.43	1.85	0.10	24.00
og(number of issues other than trade or any other issue closely					
elated to the bill for which the opponent lobbies)	1408	-2.11	0.86	-2.30	3.18
Sumber of issues other than trade or any other issue closely related to					
ne bill for which the proponent lobbies)	1408	4.39	5.15	0.10	24.00
og(number of issues other than trade or any other issue closely					
elated to the bill for which the proponent lobbies)	1408	0.05	2.08	-2.30	3.18

Table 3-- Suspensions and Lobbying -- Simple Correlations

Dependent variable: Dummy=1 if the suspension is granted

	[1]	[2]	[3]
Dummy=1 if the bill has an opponent	-0.674*** [0.029]		
Dummy=1 if the bill has an organized opponent		-0.686*** [0.042]	
Dummy=1 if the bill has an organized proponent			0.047** [0.024]
Number of observations R-squared	1408 0.38	1408 0.13	1408 0.00

Standard errors denoted in parentheses are robust to heteroskedasticity. \*\*\*, \*\* and \* represent statistical significance at 1, 5 and 10 percent respectively.

Table 4-- Suspensions and Lobbying -- Ordinary Least Squares

Dependent variable: Dummy=1 if the suspension is granted

	[1]	[2]	[3]	[4]
Dummy=1 if the bill has an opponent	-0.573***	-0.565***	-0.588***	-0.580***
	[0.041]	[0.041]	[0.040]	[0.040]
Dummy=1 if the bill has an organized opponent	-0.196***	-0.207***		
	[0.054]	[0.052]		
Dummy=1 if the bill has an organized proponent	0.019	0.012		
	[0.019]	[0.019]		
Log (lobbying expenditures by opponent)			-0.013***	-0.014***
			[0.004]	[0.004]
Log (lobbying expenditures by proponent)			0.002	0.002
			[0.002]	[0.002]
Log (estimated tariff revenue loss)		0.000		0.000
		[0.005]		[0.005]
Pre-exemption tariff rate		0.227*		0.221*
		[0.120]		[0.119]
Dummy=1 if the bill is an extension		0.065***		0.065***
		[0.017]		[0.017]
Dummy=1 if the bill is presented both in House and Senate		0.068**		0.065**
		[0.028]		[0.028]
Number of observations	1408	1408	1408	1408
R-squared	0.41	0.42	0.41	0.42

Standard errors denoted in parentheses are robust to heteroskedasticity. \*\*\*, \*\* and \* represent statistical significance at 1, 5 and 10 percent respectively. All regressions control for year and industry (HTS section codes) fixed effects.

Table 5-- Suspensions and Lobbying --Instrumental Variables Regressions

Dependent variable: Dummy=1 if the suspension is granted

	[1]	[2]	[3]	[4]
Dummy=1 if the bill has an opponent	-0.337* [0.198]	-0.328* [0.189]	-0.369** [0.183]	-0.358** [0.176]
Dummy=1 if the bill has an organized opponent	-0.422** [0.195]	-0.426** [0.185]		
Dummy=1 if the bill has an organized proponent	0.067** [0.027]	0.062** [0.027]		
Log (lobbying expenditures by opponent)			-0.029** [0.013]	-0.029** [0.013]
Log (lobbying expenditures by proponent)			0.006*** [0.002]	0.006*** [0.002]
Log (estimated tariff revenue loss)		-0.002 [0.005]		-0.002 [0.005]
Pre-exemption tariff rate		0.339** [0.153]		0.323** [0.146]
Dummy=1 if the bill is an extension		0.066*** [0.018]		0.067*** [0.018]
Dummy=1 if the bill is presented both in House and Sena	te	0.070** [0.029]		0.066** [0.029]
Number of observations R-squared	1408 0.38	1408 0.39	1408 0.39	1408 0.39
Instrumental variables				
	Log (number of potential op firms	ponent	Log (number of poten	ntial opponent
	Dummy=1 if opponent lobbi other than trade (or any othe related to the bill)		Log(number of issues or any other issue clo bill for which the opp	sely related to the
	Dummy =1 if proponent lob other than trade (or any othe related to the bill)		Log(number of issue or any other issue clo bill for which the pro	sely related to the
First-stage F (opponent) First-stage F (organized opponent) First-stage F (organized proponent)	386.9 221.3 453.0	370.7 213.3 492.5	211.5	202.0
First-stage F (organized proponent) First-stage F (opponent lobbying expenditures) First-stage F (proponent lobbying expenditures)	400.0	774.3	477.3 773.8	473.2 815.0

Standard errors denoted in parentheses are robust to heteroskedasticity. \*\*\*, \*\* and \* represent statistical significance at 1, 5 and 10 percent respectively. All regressions control for year and industry (HTS section codes) fixed effects. The first-stage regressions are shown in Table 6. Dummies for whether the bill has an opponent; organized opponent and proponent; and their lobbying expenditures respectively, are treated as endogenous.

Table 6-- Suspensions and Lobbying --First Stage Instrumental Variables Regressions

	[1a]	[1b]	[1c]	[2a]	[2b]	[2c]	[3a]	[3b]	[3c]	[4a]	[4b]	[4c]
Dependent variable:	Dummy=1 if the bill has an opponent	Dummy=1 if the bill has an organized opponent	Dummy=1 if the bill has an organized proponent		Dummy=1 if the bill has an organized opponent			Log (lobbying expenditures by opponent)			Log (lobbying expenditures by opponent)	Log (lobbying expenditures by proponent)
log (number of potential opponent firms)	0.085*** [0.014]	0.016*** [0.006]		0.085*** [0.014]	0.014** [0.006]	0.020* [0.011]	0.084*** [0.015]	0.123** [0.049]	0.215 [0.134]	0.084*** [0.015]		0.295** [0.135]
Dummy=1 if the bill has an opponent which lobbies on other issues	0.815*** [0.024]	0.867*** [0.038]		0.809*** [0.025]	0.868*** [0.038]	-0.087** [0.042]						
Dummy=1 if the bill has a proponent which lobbies on other issues	-0.005 [0.015]	0.026*** [0.008]		-0.005 [0.016]	0.024*** [0.008]	0.728*** [0.019]						
Log (number of other issues for which the opponent lobbies)							0.200*** [0.008]	2.837*** [0.084]	-0.307*** [0.109]	0.198*** [0.008]		-0.313*** [0.110]
Log (number of other issues for which the proponent lobbies)							-0.004 [0.004]	0.088*** [0.021]	2.289*** [0.048]	-0.004 [0.004]		2.304*** [0.047]
Log (estimated tariff revenue loss)				0.004 [0.004]	-0.004* [0.002]	-0.006 [0.005]				0.004 [0.004]		0.002 [0.060]
Pre-exemption tariff rate				-0.142 [0.141]	0.322* [0.193]	-1.054*** [0.160]				-0.114 [0.143]		-10.828*** [1.898]
Dummy=1 if the bill is an extension				-0.024 [0.015]	-0.011** [0.005]	0.065*** [0.022]				-0.021 [0.016]		0.866*** [0.251]
Dummy=1 if the bill is presented both in House and Senate				-0.004 [0.024]	0.028*** [0.011]	0.093*** [0.026]				-0.003 [0.025]		0.965*** [0.304]
Number of observations R-squared	1408 0.46	1408 0.70		1408 0.46	1408 0.70	1408 0.60	1408 0.44	1408 0.77	1408 0.64	1408 0.45		1408 0.65

Standard errors denoted in parentheses are robust to heteroskedasticity. \*\*\*, \*\* and \* represent statistical significance at 1, 5 and 10 percent respectively. All regressions control for year and industry (HTS section codes) fixed effects.

Table A1. List of Issues

	Table A1. List of Issues
Code	Issue
ACC	Accounting
ADV	Advertising
AER AGR	Aerospace Aerospace
ALC	Agriculture Alcohol & Drug Abuse
ANI	Animals
APP	Apparel/Clothing Industry/Textiles
ART	Arts/Entertainment
AUT	Automotive Industry
AVI	Aviation/Aircraft/ Airlines
BAN	Banking
BNK	Bankruptcy
BEV	Beverage Industry
BUD CHM	Budget/Appropriations Chemicals/Chemical Industry
CIV	Civil Rights/Civil Liberties
CAW	Clean Air & Water (Quality)
CDT	Commodities (Big Ticket)
COM	Communications/ Broadcasting/ Radio/TV
CPI	Computer Industry
CSP	Consumer Issues/Safety/ Protection
CON	Constitution
CPT	Copyright/Patent/ Trademark
DEF DOC	Defense District of Columbia
DIS	District of Columbia Disaster Planning/Emergencies
ECN	Disaster Fraining Enleggencies Economics/Economic Development
EDU	Education
ENG	Energy/Nuclear
ENV	Environmental/Superfund
FAM	Family Issues/Abortion/ Adoption
FIR	Firearms/Guns/ Ammunition
FIN	Financial Institutions/Investments/ Securities
FOO	Food Industry (Safety, Labeling, etc.)
FOR FUE	Foreign Relations Fuel/Gas/Oil
GAM	Gaming/Gambling/ Casino
GOV	Government Issues
HCR	Health Issues
HOU	Housing
IMM	Immigration
IND	Indian/Native American Affairs
INS	Insurance
LBR LAW	Labor Issues/Antitrust/ Workplace Law Enforcement/Crime/ Criminal Justice
MAN	Law Enforcement Chillian Justice Manufacturing
MAR	Marine/Maritime/ Boating/Fisheries
MIA	Media (Information/ Publishing)
MED	Medical/Disease Research/ Clinical Labs
MMM	Medicare/Medicaid
MON	Minting/Money/ Gold Standard
NAT	Natural Resources
PHA POS	Pharmacy Postal
RRR	rostai Railroads
RES	Real Estate/Land Use/Conservation
REL	Religion
RET	Retirement
ROD	Roads/Highway
SCI	Science/Technology
SMB	Small Business
SPO	Sports/Athletics
TAX TEC	Taxation/Internal Revenue Code Telecommunications
TOB	Tobacco
TOR	Torts
TRD	Trade (Domestic & Foreign)
TRA	Transportation
TOU	Travel/Tourism
TRU	Trucking/Shipping
URB	Urban Development/ Municipalities
UNM	Unemployment
UTI VET	Utilities Veterans
WAS	veterans Waste (hazardous/ solid/ interstate/ nuclear)
WEL	Welfare

Source: Senate's Office of Public Records (SOPR)

# Figure A1. Sample Bill Report

#### UNITED STATES INTERNATIONAL TRADE COMMISSION Washington, DC 20436

# MEMORANDUM ON PROPOSED TARIFF LEGISLATION of the 109<sup>th</sup> Congress <sup>1</sup>

[Date approved: August 1, 2005]<sup>2</sup>

Bill No. and sponsor: S. 698 (Mr. Lautenberg)

Proponent name, location: Rhodia Inc.

259 Prospect Plains Road, CN 7500 Cranbury, New Jersey 08512-7500

Other bills on product (109th Congress only): H.R. 1392

Nature of bill: Temporary duty suspension through December 31, 2007.

Retroactive effect: None.

Suggested article description(s) for enactment (including appropriate HTS subheading(s)):

Mixtures of N-[2-(2-Oxo-1-imidazolidinyl)ethyl]methacrylamide (CAS No. 3089-19-8), methacrylic acid (CAS No. 79-41-4), and water (CAS No. 7732-18-5) (provided for in subheading 3824.90.91).

Check one: X Same as that in bill as introduced

\_\_\_ Different from that in bill as introduced (explain differences in Technical

comments section)

### $\label{lem:product} \textbf{Product information, including uses/applications and source(s) of imports:}$

The product is used primarily to make polymer resins that are incorporated into architectural coatings. The product is imported from France.

<sup>1</sup> Industry analyst preparing report: Jack Greenblatt (202-205-3353); Tariff Affairs contact: Dave Michels (202-205-3440).

<sup>&</sup>lt;sup>2</sup> Access to an electronic copy of this memorandum is available at <a href="http://www.usitc.gov/tata/hts/other/rel">http://www.usitc.gov/tata/hts/other/rel</a> doc/bill reports/index.htm

### Estimated effect on customs revenue:

		HTS subheadi	ng: <u>3824.90.91</u>		
	2005	2006	2007	2008	2009
Col. 1-General rate of duty (AVE) <u>1</u> /	5.0%	5.0%	5.0%	5.0%	5.0%
Estimated value dutiable imports	\$3,300,000	\$3,300,000	\$3,300,000	\$3,300,000	\$3,300,000
Customs revenue loss	\$165,000	\$165,000	\$165,000	\$165,000	\$165,000

<sup>1/</sup> The AVE is the ad valorem equivalent of a specific or compound duty rate expressed as a percent, using the most recent import data available.

Source of estimated dutiable import data: Industry estimates. The Customs revenue loss estimates provided in the above table assumes that the duty suspension will be renewed in 2008 and 2009.

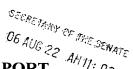
### Contacts with domestic firms/organizations (including the proponent):

Name of firm/organization	Date contacted	US production of same or competitive product claimed?	Submission attached?	Opposition noted?
			(Yes/No)	
Rhodia (proponent) Preston Gates, Rick Valentine (202) 661-3802	6/6/2005	No	No	No
Rohm & Haas Hank Stoebenau 215-628-4919	6/7/2005	Yes	Yes	Yes
Perstorp Polyols, Inc. Mai Pham 202-293-8144	6/7/2005	No	No	No
Bayer Corp. Karen Niedermeyer 412-777-2058	6/6/2005	No	No	No
Avecia Limited (Crowell & Moring) Ms. Melissa Coyle 202-624-2500	6/6/2005	No	No	No
Solutia, Inc. Mary Woodward 314-674-7211	6/7/2005	No	No	No

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Clerk of the House of Representatives
Legislative Resource Center
B-106 Cannon Building
Washington, DC 20515

Secretary of the Senate
Office of Public Records
232 Hart Building
Washington, DC 20510



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