



Screening for losers: Trade institutions and information

Jason S. Davis¹ 

Accepted: 24 November 2020 / Published online: 04 January 2021

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC part of Springer Nature 2021

Abstract

Trade law scholars have often argued that international institutions can serve a useful domestic political role by providing a constraint against domestic demands for protection. In this paper, I identify a new way in which such institutions and their particular features can be valuable to governments: namely, that they can provide useful information about domestic political groups. While governments are responsible for the administration of most legal trade-related actions, the information that governments need to determine which actions to pursue is often the private information of the firms and interest groups that are lobbying for these actions, and there are significant incentives for such groups to misrepresent this information. This paper uses a formal model to demonstrate that governments can use the multitude of legal options available to them to screen between domestic groups for those with the strongest cases; a selection process which can help to explain, amongst other things, why trade remedies tend to be structured around meeting criteria instead of as “efficient breaches” requiring compensation and why disputes pursued via the WTO have such a high rate of success (approximately 90% for cases that reach the panel stage).

Keywords Trade · International institutions · Game theory · Trade remedies · Information · Politics · Interest groups · Screening · WTO

1 Introduction

In determining which industries to protect from trade competition, governments are faced with difficult tradeoffs in an environment of incomplete information. While governments would like to protect politically important groups who are threatened by trade competition, the cost such protection imposes on downstream industries and

✉ Jason S. Davis
jasonsd@sas.upenn.edu

¹ Browne Center for International Politics, University of Pennsylvania, 133 South 36th Street, Room 317, Philadelphia, PA, 19104, USA

consumers creates a significant political downside to such actions. As a consequence, governments are often best served by protecting only a subset of groups that are harmed by trade competition, such as those that are harmed the most severely, or those that are facing “unfair” competition from firms abroad.

However, in order to tailor protection to these groups, governments need to be able to identify which they are, which is often easier said than done! The degree of injury that a firm or industry faces is generally not readily observable by the government, and given the complexity of trade law and the multitude of actors involved, governments are also rarely able to identify all violations of trade law by themselves. Instead, this information is generally *private* to the firms and industries who are directly impacted by imports, or by the compliance of foreign countries and firms with international legal commitments. As former US Trade Representative Michael Froman described it in an interview:

One of the biggest challenges on the enforcement side is that you need information – government doesn’t have all the information at its disposal, particularly to understand what the injury has been to a US company or US industry. So you need the cooperation and the active participation of US industry to put together these enforcement cases.¹

Further complicating the situation is this: firms and industries benefit unconditionally from protection of their goods from foreign competition, so there is limited incentive for them to be honest if they are not significantly injured by imports. Similarly, because firms benefit unconditionally from any changes to foreign policy that will boost their goods’ competitiveness, they have an incentive to misrepresent the legality of any policies that they find unfavorable when lobbying the government. Governments, however, may only want to invest political capital and financial resources in the cases which involve truly unfair practices on the part of foreign actors. Thus, a question arises: how can the relevant interest groups credibly convey these characteristics of their situation in order to allow the government to overcome their selection problem?

This paper presents a formal model in which *trade institutions* can help to facilitate this transfer of information. Trade institutions often provide many options for supporting domestic industries, from several kinds of “trade remedies”, which allow for temporary protection of industries that are suffering injury as a result of trade competition (see, for instance, safeguard measures under Article XIX of the GATT or antidumping actions under Article VI), to procedures for challenging the illegal practices of other countries. However, these institutions will often independently assess the validity of such claims when faced with a dispute (e.g. Dispute Settlement proceedings in the WTO). Given that institutions and instruments differ in their standards for granting or challenging claims, an interest group’s selection of one over another can credibly reveal information about the group’s type.

¹Trade Talks Podcast <https://www.piie.com/experts/peterson-perspectives/trade-talks-episode-93-us-trade-policy-trump-ambassador-michael-froman>

This is possible because with a high enough probability of a claim being rejected or overturned, the expected value of pursuing that claim for an interest group or firm can be lower than the costs they would need to pay for lobbying and legal costs. Thus, institutions can structure the choice environment such that it is only incentive compatible for the firms with the strongest cases to pursue certain forms of government action. In other words: the constraints imposed by international institutions can have the effect of keeping firms and industries honest, by making dishonesty less profitable.

Consequently, this paper's model can improve our understanding of the use of trade institutions by states in a number of ways. First, it can help to explain why states and firms choose particular institutions or legal mechanisms over others when pursuing actions that could feasibly fall under several umbrellas. Second, it can help to explain the particularities of how institutions and trade remedies are structured - including why we observe a system in which states must meet specific criteria to invoke flexibility privileges, instead of a system of "compensation" to aggrieved parties. Third, it provides a new, domestic-based explanation for how international institutions can be useful to governments; namely, that they can use the threat of international arbitration to sort through a situation otherwise marred by information asymmetries to better select which legal cases to pursue, and which actors to support with protection.

2 Forum shopping

Given the importance of trade institutions - especially the WTO - in the international legal landscape, political scientists, economists, and legal scholars have devoted significant attention to unpacking the use of dispute settlement and trade remedies by governments. An important strand of this literature is the subset that addresses forum-shopping in international trade (Busch 2007; Davis 2009). The rapid proliferation of preferential trade agreements in recent years - from 70 in 1990 to over 700 today (Dür et al. 2014; Baccini 2019) - has led to the peculiar situation where trade between countries is often governed by several overlapping institutions, such that complainants may have to choose between forums when lodging a complaint.

Moreover, these forums can differ significantly in the way they resolve disputes. For instance, while both the North American Free Trade Agreement (NAFTA) and the WTO have dispute resolution proceedings (NAFTA Chapter 19 & 20 and the DSU respectively), the former tends to draw panels of those with domestic judicial expertise (this was developed under pressure from the US Congress to ensure that panelists would have an in-depth familiarity with US Administrative law), while the latter is weighted more towards those with expertise in international trade law and economics (Howse 1998). This can lead to differences in how similar cases would be adjudicated, given that trade law cases often rest on technical determinations of "material injury" and "dumping" that are necessarily made by economists and statisticians. For instance, in the somewhat unusual case of the US-Canada Softwood Lumber dispute, where aspects of the dispute were brought to both the WTO and NAFTA, a

WTO panel ruled that a threat of material injury to US industries was present, while a NAFTA panel ruled precisely the opposite (Pauwelyn 2006).

If forums differ in how they adjudicate disputes, and if states have a choice about which forum to use when pursuing a claim, then “forum-shopping” becomes inevitable, whereby states and firms choose between different forums strategically. The political science literature on this question has sought to explain these decisions.

Busch (2007) identifies several reasons why a state might prefer one forum over another, including timeliness of dispute resolution, available remedies, etc. but focuses on one in particular: precedent (Busch 2007). If the precedent set by a case is likely to be featured in future disputes, a country selecting an institution may trade off the likelihood of success in a particular case against how important the precedent is likely to be in future disputes with third parties; institution choice may then be driven by whether a country wants to set a regional or global precedent.

There remain outstanding legal and empirical questions about the degree to which precedent exists in international trade law; while courts may rely on previous rulings when developing their reasoning, they are not bound by *stare decisis*, and it has often been the US position in disputes that previous Appellate Body rulings should have no impact on future rulings.² In practice, however, empirical evidence from political scientists has been generally supportive of the impact of a kind of “informal” precedent (Kucik and Pelc 2014; Pelc 2014).

Without drawing any definitive conclusions on this open area of inquiry, this paper provides a different explanation for why states, directed by interest groups, might select institutions that give them a lower likelihood of success. In particular, interest groups might request pursuit of a dispute at an institution with rigorous evaluative standards as a way of signaling credibly the strength of their legal case. For most of these dispute resolution forums, country-level governments are the only actors with standing to pursue disputes, which sets up the informational problem that is this paper’s primary subject of inquiry, as states seek to determine which disputes to pursue, but private firms and interest groups possess the information required to best make those decisions. Thus, this paper’s model suggests that forum choice can be one way of resolving this information problem.

3 Informational lobbying and trade

Another important, relatively nascent literature addresses informational lobbying with respect to trade liberalization, outlining how firms can use costly lobbying to signal the strength and value of potential cases (Brutger 2018; Betz 2018). Like Brutger (2018), this paper argues that firms have private information about the strength of their cases that can be difficult to reveal credibly, but this paper posits a different (and complementary) mechanism by which groups can overcome this credibility problem. Specifically, while Brutger focuses on the importance of firm contributions to litigation costs for WTO case initiation, this paper focuses on the role of the

²See Panel Report, US-Zeroing (Korea)

institutional environment in which firms make choices, demonstrating that the options available to firms and interest groups can determine what information is conveyed in the lobbying process.

4 The value of institutions

A broader literature in political science discusses how international institutions and international law can be helpful to national governments. The “first wave” of this literature (e.g. Keohane 1984; Goldstein et al. 2000; Koremenos et al. 2001; Koremenos 2001) provided arguments for the utility of institutions in the face of realist critiques suggesting that institutions should not matter (Mearsheimer 1994). These first wave theorists often identified “information” as a potential benefit of institutions, but focused almost exclusively on how institutions can help to provide information about other states by, for instance, monitoring compliance.³

More recently, the literature has come to address how institutions can be useful for solving domestic political problems. Within the trade literature, there are three arguments that have been prominent: (1) that trade institutions can serve as a useful “tying hands” mechanism for governments that want to enact reforms in the face of domestic opposition (Mansfield and Pevehouse 2006; Baccini and Urpelainen 2014; Kucik and Pelc 2016; Pelc 2016); (2) that institutions can help to empower certain domestic groups (e.g. exporters) who might otherwise be underweighted in the policy process (Davis 2005; Dai 2007; Rickard 2010; Baccini and Urpelainen 2014; Betz 2018); (3) that institutions can credibly signal useful information about leaders to domestic constituents (Mansfield et al. 2002; Mansfield and Milner 2012).

This paper posits a new reason why international institutions can be helpful; namely, that they allow governments to credibly obtain private information about interest groups so as to better allocate protection and other forms of political support. This fits well with an approach that suggests that governments may use agreements with foreign countries as much to address their internal politics as their external relations, but is fundamentally distinct from existing work in its focus on information transfer *from* domestic groups *to* the government, rather than the other way around.⁴

5 Flexibility provisions

Trade agreements generally allow states to temporarily suspend certain obligations under specific circumstances. These have been referred to by Koremenos et al. as “flexibility provisions”; i.e. those provisions that allow members to “escape” temporarily from obligations under the agreement, usually in response to some unanticipated shock (Koremenos et al. 2001). “Safeguard measures”, as they are often

³Baccini and Kim (2012) empirically explore how this state-level logic applies to PTAs.

⁴These two mechanisms are not in tension; indeed, both kinds of information transfer may very well be important to explaining the value of institutions. Governments may care both about signaling their type to their constituents, and extracting information from domestic interest groups.

called, exist under both NAFTA and the WTO; NAFTA has measures under Chapter 8, and the WTO has measures under GATT Article XIX (Trebilcock and Howse 2005). Moreover, there are certain measures that have been interpreted as being de facto flexibility provisions even if they appear in principle to target unfair trade practices; for instance, it has been argued that anti-dumping (AD) laws are a form of flexibility provision (Kucik and Reinhardt 2008). Countervailing duties (CVDs) are the main other form of trade remedy, and are formally a way of responding to prohibited or actionable subsidies of other countries, but they may be used instead as a flexibility provision (particularly given that states have the option to challenge subsidies via the DSU).

The political science research on flexibility provisions has tended to suggest that they are a means of making trade agreements more “stable”, by allowing parties to the agreement a “safety valve” in cases of heightened domestic political pressure for protection (Rosendorff and Milner 2001; Koremenos 2001; Rosendorff 2005). These arguments outline an “efficient breach” story, whereby states are required to pay some cost when making use of flexibility measures in order to ensure such measures are only used in circumstances where the benefits of temporarily leaving the agreement exceed the costs to other parties (Rosendorff and Milner 2001, p. 831).

However, this literature does not provide a clear sense of why an institution would include multiple trade remedies; indeed, Rosendorff (2005) simply states that the different means “have the same effect of allowing temporary relief when the local industry comes under pressure from foreign competitors” (Rosendorff 2005 p. 396). In contrast, this paper suggests that having different instruments for temporary protection with differing probabilities of being overturned and differing benefits allows governments to match higher levels of protection to those with the strongest cases.

Moreover, the efficient breach story of this literature is not especially consistent with the way that flexibility provisions are actually administered. As Pelc notes, “compensation following escape was only widespread in the 1950s” (Pelc 2011, p. 349). Instead, trade remedies have come to be governed by “appeals to exception”, in which states need to justify their temporary departure from prior legal commitments by arguing that they meet certain criteria, such as “severe injury” in the face of “unforeseen circumstances” (Pelc 2011, p. 350). Unlike efficient breach’s “cost of use” mechanism for discouraging overuse of trade remedies, this criteria-based system requires institutions to independently evaluate whether or not states’ appeals to trade remedies are justified.

Pelc also posits an informational explanation for this shift in governance, arguing that “members have a strategic incentive to portray any instance where they face some domestic pressure for protection as constituting true exigency arising from severe and unforeseeable circumstances”, suggesting that a criteria-based system with monitoring and enforcement can provide incentives for states to honestly reveal information (Pelc 2011, p. 355). This paper’s argument is in the same spirit, but differs in a number of important respects: (1) it suggests that private firms and interest groups, not states, are the actors that possess this private information about the degree to which criteria are met; (2) it argues that governments may also want to constrain their use of escape clauses to instances that meet the outlined criteria, but might struggle to

do so because of the information asymmetries that exist with these domestic actors. Thus the model discusses *intra*state information revelation, instead of the *inter*state information revelation discussed by Pelc.⁵

More broadly, the idea that plaintiffs might have private information about the strength of their claims that is revealed in the legal process is not a new one to the law and economics literature (Bebchuk 1984; Reinganum and Wilde 1986), and the concept has even been applied to the study of international courts (Gilligan et al. 2010). However, this paper's particular focus on the private information of interest groups in trade politics, and the information asymmetries with state-level governments that are the primary agents responsible for the pursuit of trade-related cases, differentiates it from this other work.

6 The argument

The argument of this paper is that trade institutions can be leveraged by governments to credibly obtain private information from domestic groups so as to better allocate protection in a politically efficient manner, and in order to identify the trade law cases with the most merit. To see how this works, consider what the choice environment would look like for interest groups *without* the constraints that these institutions impose. In this environment, appealing to the government for support would be relatively costless, leaving groups with no incentive *not* to suggest that they are significantly injured from foreign imports, or that their international competitors are getting an unfair leg up from policies implemented by foreign states. The worst that could happen is that they would not obtain the support they requested, leaving them no worse off.

In contrast, by requiring governments to abide by legal commitments or meet specific criteria to temporarily suspend such commitments, and by subjecting these choices to the possibility of international arbitration, international institutions create more significant upfront costs for interest groups to petition for this kind of support from governments. Moreover, and crucially, they also make it *relatively less* attractive for those with weaker cases to pay these costs, given that such interest groups would know any support they obtain would have a higher probability of being rejected or overturned in the arbitration process. This creates a “wedge” that allows for screening between groups in a way that would not be possible without these constraints; in this way, institutional features like dispute settlement and criteria for use of flexibility measures can be helpful to governments both as a means of constraining abuses by foreign states, *and* as a means of ameliorating an internal informational problem that affects their ability to manage their domestic political situation.

⁵In a more recent paper, Pelc and Urpelainen (2015) look to explain why efficient breach is more common in investment agreements than in trade agreements using a bargaining model of domestic groups and the government. Their model suggests a similar principal-agent dynamic in the design and implementation of trade institutions to the one I've outlined; this paper's model provides new insights by focusing on the private information of domestic groups that is endemic to this bargaining dynamic, producing (for instance) a novel explanation for the criteria-based system of governance for trade remedies.

This relies on the proposition that firms and interest groups have private information that is unobservable by the government, but there are several theoretical and empirical reasons to believe that this is true. To start, if we consider the kind of information that is usually part of these cases – e.g. the degree of injury that a firm or industry faces, the extent to which this is causally related to international competition, or specific details about how prices charged by foreign competitors relate to their underlying costs of production – it seems fairly obvious that this would be the sort of thing that firms would know as part of their normal business practices, but governments would either be unable to obtain (as with proprietary information held by firms), or would be unwilling to expend the resources in order to collect it.

This claim is reinforced by the fact that the agencies tasked with administering trade law are financially constrained; for instance, the Office of the United States Trade Representative (USTR), which is tasked with pursuing any claims via the DSU, has a budget of approximately \$50 million, much of which is allocated towards funding trade negotiations instead of monitoring domestic firm performance (USTR 2015). Similarly, the United States International Trade Commission (USITC), which is tasked with investigating injury in AD, CVD, and safeguards cases has an annual budget of approximately \$85 million, of which approximately \$25 million is spent on the administration of trade remedies (USITC 2016). The Commerce Department, which is responsible for making determinations of dumping or unfair subsidies, has a budget of approximately \$80 million for “enforcement and compliance” of AD/CVD, and has in fact had to request an additional \$8 million in the 2018 budget in order “to develop factual information and legal justification to self-initiate U.S. antidumping duty (AD) and countervailing duty (CVD) investigations”, suggesting that financial constraints have limited their capacity to do this in the past (Ross 2018, p. 42).

Moreover, we have the first-hand accounts of trade officials and lawyers, who have often attested to the information asymmetry problem outlined by this paper (see, for instance, interviews in Brutger 2018). Indeed, former USTR Michael Froman (quoted earlier) volunteered that this was one of the key things that “made the job all that more difficult, when you didn’t have the information to put together the cases yourself”.⁶

The mechanism outlined in this paper also requires that the institutional structures reveal information about the firms and interest groups in question; otherwise, they would not help to create this wedge between the good cases and the bad. I argue that this is the case for two main reasons. First, if a dispute is initiated (either by a domestic firm or by a foreign firm challenging a trade remedy), the case will often reduce to technical determinations of fact by economists and statisticians, often with further factual disclosures to the panel by firms on the opposite side of the case.⁷ Institutions allow governments to harness the information from these actors *even if a dispute does not ultimately occur*, because interest groups will be aware that their

⁶Trade Talks Podcast <https://www.piiie.com/experts/peterson-perspectives/trade-talks-episode-93-us-trade-policy-trump-ambassador-michael-froman>

⁷Johnson (2015) describes how information revelation occurs for environmental cases that proceed to WTO panels, noting that “WTO agreements specify the kinds of private information a trade-restricting state ought to possess, and the WTO dispute settlement process elicits the revelation of that information if another state complains” Johnson (2015, p. 213).

claims could be subject to this technical scrutiny when they choose whether or not to pursue them.

Second, for trade remedies, if we assume that foreign governments are operating within a similar strategic situation with their own interest groups, then we would expect that they will only initiate disputes which they think have a high probability of succeeding. As a consequence, dispute initiation reflects the aggregated information of both foreign states and foreign firms, in a fashion that is predicated on the institution being *international*.⁸ Thus, weak cases are both more likely to be challenged, and (not independently) more likely to be overturned when challenged. The combination of these two things reflects the “probability of success” when a government implements a trade remedy, in a way that is directly related to the strength of a group’s case.

The paper’s argument also assumes that firms and interest groups are the primary actors pursuing trade remedies and dispute settlement, while governments play the more passive role of accepting or rejecting their overtures; a characterization that receives a good deal of empirical support. For instance, in the United States, the vast majority of trade remedy cases have been initiated by workers, firms, or industry associations; 2003 out of 2022 since 1980 to be precise, or approximately 99.1%.⁹ In these trade remedy cases, governments either formally determine whether to pursue a case once a determination has been made by the USITC (as with safeguards), or have a significant degree of influence over the process by way of the Commerce Department ruling on dumping or prohibited/actionable subsidies by foreign countries. Thus, the process looks exactly as described: firms and interest groups petition for protection via the trade remedy of their choice, and governments choose whether or not to accept their request, subject to a plausibility check of injury by the USITC.

The issue is a little more subtle when it comes to dispute settlement, given that usually states are the only actors with standing to initiate disputes. However, even in these cases, the evidence suggests that governments generally only initiate disputes in response to lobbying from domestic firms and interest groups. Davis and Shirato (2007) show that in Japan, “the WTO disputes governments choose to pursue largely reflect the variation in industry demand” (Davis and Shirato 2007, p. 274). Ryu and Stone (2018) provide further statistical evidence of the importance of firm contributions in the US, demonstrating that political contributions by affected firms increase substantially prior to the initiation of disputes. Betz (2018) also provides examples of interest group driven disputes (Betz 2018, p. 641-642).

⁸Could the first mechanism of information revelation - decisions by panels (or their threat) - be replicated by a domestic institution? This is theoretically possible, but: (1) it would be significant more costly to have each state construct their own comparable institution; (2) there would be greater potential that any such agency could be captured by domestic political interests - indeed, some have argued that the USITC and Department of Commerce determinations for trade remedies have exhibited exactly this kind of bias (Hansen 1990; Hansen and Prusa 1997); (3) some countries may simply not have access to the level of trade law and economics expertise required for panel rulings to be very informative, and in any event an international institution’s ability to capitalize on a larger pool of expertise is likely to give it an edge.

⁹Chad Bown in The Washington Post, April 21 2018.

Finally, this paper's argument assumes that governments care about these unobservable features of the situation – injury, unfair competition, etc. – in addition to more observable features of political influence like organized lobbying, political geography, etc.¹⁰ This paper is not arguing that these other features do not matter – instead, what this paper provides is a model of the situation with these characteristics held fixed. One could easily imagine a scenario where, say, political geography favors one firm over another, leading that firm to be able to obtain protection with less need to demonstrate significant injury, or where a certain interest group is sufficiently disfavored that the government would prefer not to provide them with support regardless of the merits of their situation. This paper abstracts away from these features to focus on the screening problem between similarly situated firms and interest groups, all of whom the government cares enough about to want to support should their cases have sufficient merit but not otherwise.

The model proceeds as follows. First, a baseline case is presented, in which it is posited that there are two mechanisms which provide perfectly substitutable benefits to firms and interest groups (e.g. pursuing a repeal of a subsidy via dispute settlement is equivalent to getting a countervailing duty imposed on foreign goods). This provides a benchmark which clarifies that even in this scenario, firms and interest groups may choose institutions that are strictly worse for them as a way of signalling private information. This version of the model is used to examine the question of institutional design by evaluating the conditions under which the constraints on government behavior imposed by international institutions can actually lead to higher welfare for governments.

The model then introduces varying benefits across institutions, and considers the possibility of multiple institutions which can be pursued simultaneously by interest groups and firms. The main contribution of this extension is to demonstrate the robustness of the screening role of institutions; within this framework, it is shown that institutional constraints can reveal information about groups even if what we observe is every petition for support being accepted by the government via multiple forums and mechanisms. This also helps explicate a role for having multiple trade remedies with different evaluative standards – namely, it can be a way of matching higher levels of protection/support to those with the strongest cases.

This model's analysis is thus useful for understanding case selection, forum shopping, and perhaps most importantly, the design and use of institutions. In some ways, it combines two arguments that are common to the existing literature: (1) that institutions provide information; (2) that institutions can play a role in managing domestic politics. By showing how institutions can be leveraged to obtain information to manage domestic politics, our understanding of their role and design is further enriched.

¹⁰Work focusing on these other observable features includes (Grossman and Helpman 1994; Gilligan 1997; Bombardini 2008; Kim 2017) on lobbying; Mansfield et al. (2000) and Milner and Kubota (2005) on political institutions (particularly democracy); McGillivray (2004) and Kim and Margalit (forthcoming) on political geography.

7 Model

7.1 Set-Up

In this model, there are two players: Government (G) and an interest group (I). The interest group is lobbying for trade protection, and has private information about their degree of injury θ , with interest group types distributed $\theta \sim f(\theta)$ with support on $\Theta = [0, w]$. Assume for simplicity that $f(\theta)$ is absolutely continuous. Governments want to protect the most strongly injured groups (i.e. those with high θ) but not weakly injured groups (those with low θ). Thus, interest groups always have an incentive to tell the government that they are severely injured in order to try to obtain the most protection. This can be generalized by thinking of θ as more broadly representing the strength of a group's legal case.

Now suppose that I can choose between two institutional mechanisms when pursuing protection, and the more stringent mechanism (denoted STR) gives a strictly lower probability of success than the other more permissive mechanism (PER) – as examples, this could be a choice between dispute settlement at the WTO or a trade remedy (like countervailing duties), or between two trade remedies, one of which has more stringent standards.¹¹ The government then observes at which mechanism the request is made, and decides whether to grant it.

If protection is pursued via STR, then it “succeeds” with probability $\pi_S(\theta)$. If protection is pursued via PER, then it is upheld with probability $\pi_P(\theta)$. Both $\frac{\partial \pi_S}{\partial \theta} > 0$ and $\frac{\partial \pi_P}{\partial \theta} > 0$, which captures the idea that higher types (i.e. those with stronger cases) have a higher chance of success via either legal mechanism, but $\pi_S(\theta) < \pi_P(\theta)$, $\forall \theta \in \Theta$ to reflect the fact that STR is the more “stringent” of the two mechanisms.¹²

Government obtains $g(\theta)$ from protecting an interest group, with $\frac{\partial g}{\partial \theta} > 0$, representing that they prefer to provide protection to higher types. Note that $g(\theta)$ can be either positive or negative. Government obtains a payoff of zero from either rejecting an interest group's request, or if the request for protection is overturned in adjudication (leading to no protection).

This approach abstracts from any other characteristics - private benefits of lobbying contributions, political geography, etc. - that might matter to Government but are not related to an interest group's type. A straightforward extension would include some other parameter in this function that could shift $g(\theta)$ up or down depending on these characteristics. This would have the effect of creating different θ cutoffs for interest groups who differ on these characteristics, but would not fundamentally change the results; this model should be taken as providing an analysis of what happens holding these characteristics fixed.¹³

¹¹The applications sections of this paper discusses these kinds of comparisons in more detail.

¹²Note that the existence of derivatives of the probability functions implies those functions are continuous across their domains in θ . In this paper, all functions of θ will be continuous.

¹³When might a linear shift be insufficient? One could imagine circumstances where observable features of political influence interact with unobservables; many such interactions could be treated as simply changing the shape of $g(\theta)$ in a way that retains a similar positive monotonic order in θ , resulting in different

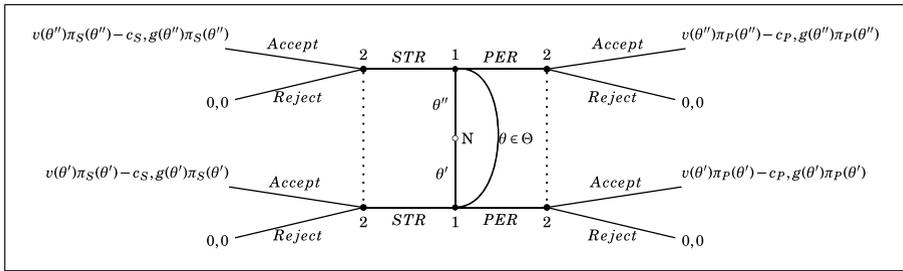


Fig. 1 Institutional selection model

Interest groups obtain payoffs of $v(\theta)$ if they receive protection, with $\frac{\partial v}{\partial \theta} > 0$, reflecting the fact that protection is more important to them if they are strongly injured. They experience fixed costs $c_S > 0$ if Government pursues their claim via STR and fixed costs $c_P > 0$ if Government pursues their claim via PER. So pursuing a claim is costly for the group, and may only be profitable if the chance of succeeding is sufficiently high. The model also assumes that $c_S \geq c_P$ for simplicity. Industries obtain a payoff of zero if their request is denied in any case. This leads to the game tree found in Fig. 1.

As can be seen in Fig. 1, the firm observes their type as drawn from the support Θ , and then choose whether to pursue STR or PER. θ', θ'' are arbitrary draws from the type distribution $f(\theta)$. Government does not observe type directly, but observes whether or not STR or PER was pursued before choosing whether or not to Accept or Reject the claim. If they Reject, in any case the payoff is zero to both parties. If they Accept, payoffs are determined as outlined above, as a function of I 's type.

7.2 Equilibrium analysis: Pooling

Throughout the equilibrium analysis, I assume that pursuing a claim for protection via PER is profitable for all types (i.e. $v(\theta) - c_P > 0, \forall \theta \in \Theta$). A simple extension to the model would allow a group to choose not to pursue a claim at all and receive a payoff of 0, or to pursue unilateral protection outside of any international legal institution and avoid any legal costs (unilateral protection can be treated as a degenerate case where $\pi_P(\theta) = 1, \forall \theta \in \Theta$ and $c_P = 0$). One can simply keep in mind that unilateral protection or not pursuing protection is always an option, and note that this model applies to instances in which all groups can gain by having their claim pursued via at least one mechanism.

cutoffs while leaving the analysis largely unchanged. However, it is possible to conceive of cases where this approach would not be sufficient. For instance, some firm-level theories of trade predict greater levels of political influence for the largest, most productive firms (see Bombardini 2008), who might also be more resilient to import competition - this would imply that greater injury and influence could be inversely related, in a way that would complicate the model's predictions. However, one might also expect such large firms to focus more on pursuing legal cases that affect their exports than on pursuing protection, which would again align unobservable case strength and influence. While exploring these interactions would be a valuable and informative area of inquiry, this paper abstracts away from these considerations in the interest of focusing attention on the core screening dynamic that is its main subject.

I also assume for simplicity that there $\exists \tilde{\theta} \in \Theta$ such that $v(\tilde{\theta}) - c_P \geq 0$. In words, there exist at least some interest groups that would prefer to have a claim via STR pursued than to have that claim rejected and receive a payoff of zero. Absent this, STR would be strictly dominated by PER for all interest group types, in which case the model could not be expected to provide much insight.

Several pooling equilibria are possible in this model. For instance, it is possible to sustain equilibria where G protects all groups and all groups pursue protection via PER irrespective of type. This is described in the following proposition:

Proposition 1 *Pooling equilibria exist where all interest groups pursue protection via PER and Government accepts all claims (call this conjecture “ALLPER”) if the following condition holds:*

$$\mathbb{E}[g(\theta)|ALLPER] = \int_0^w g(\theta)\pi_P(\theta)f(\theta)d\theta \geq 0$$

Proof in [Appendix](#). Intuitively, the above condition means that the percentage of interest groups that are strongly injured is high enough that it is still better for Government to pursue protection even if there is no way to distinguish between groups of different types. This allows for equilibria in which all group types pursue the least stringent institution, and Government chooses to pursue all claims. As this is I 's best outcome (regardless of type), these equilibria can be sustained by any distribution of off-equilibrium path beliefs.

It is also possible to have pooling where all types pursue protection via STR under a more restrictive set of conditions. This is described in the following proposition:

Proposition 2 *A pooling equilibrium exists where all interest groups pursue protection via STR and Government accepts all claims (call this conjecture “ALLSTR”) if the following conditions hold:*

$$\mathbb{E}[g(\theta)|ALLSTR] = \int_0^w g(\theta)\pi_S(\theta)f(\theta)d\theta \geq 0 \tag{1}$$

$$v(\theta) - c_S > 0, \forall \theta \in \Theta \tag{2}$$

and, Government must have off-equilibrium path beliefs $q \sim p(q)$ such that:

$$\int_0^w g(q)\pi_P(q)p(q)dq \leq 0 \tag{3}$$

Proof in [Appendix](#). Taking these conditions in turn: (1) simply replicates the pooling condition from Proposition 1, but for STR, ensuring that that the type distribution is sufficiently positively weighted to make accepting all claims better than rejecting all of them; (2) ensures that all interest group types prefer to pursue a claim via STR if it will be accepted, rather than choosing STR and having their claim rejected (resulting in a payoff of 0); (3) ensures that upon observing a group pursuing PER, Government believes that it is likely enough that the deviating type is weakly injured that they do not wish to protect that deviator. (3) is needed to ensure that interest groups are not tempted to switch to the less stringent institution.

One can also obtain pooling equilibria where all types choose either PER or STR and Government never protects. This is described in the following proposition:

Proposition 3 *Pooling equilibria exist where either: (i) all interest groups pursue protection via PER and are rejected by Government;*

$$\mathbb{E}[g(\theta)|ALLPER] = \int_0^w g(\theta)\pi_P(\theta)f(\theta)d\theta \leq 0$$

with off-equilibrium path beliefs $q \sim p(q)$ such that:

$$\int_0^w g(q)\pi_S(q)p(q)dq \leq 0$$

Or where (ii) all interest groups pursue protection via STR and are rejected by Government, if:

$$\mathbb{E}[g(\theta)|ALLSTR] = \int_0^w g(\theta)\pi_S(\theta)f(\theta)d\theta \leq 0$$

with off-equilibrium path beliefs $q \sim p(q)$ such that:

$$\int_0^w g(q)\pi_P(q)p(q)dq \leq 0$$

Proof in [Appendix](#). This proposition reverses the relevant pooling conditions from Propositions 1 and 2 to ensure that Government does not have an incentive to Accept upon observing a claim, then sets off the equilibrium path beliefs such that government also prefers not to protect deviators who pursue a claim via the other institution. Thus, in these equilibria, the institution is entirely unused, and Government does not allocate protection to any groups.

All of these pooling equilibria share the characteristic that they are *uninformative*, in the sense that if these equilibria apply, the institutions provide no new information to Government about the types of petitioning interest groups. While these equilibria are important, and likely apply in certain cases, this paper’s added value is primarily in describing the situations in which institutions can be leveraged by Government to extract information from groups that would otherwise not be revealed.

7.3 Separating equilibria

Given this orientation, this paper’s primary focus will be on separating equilibria; i.e. those instances where interest groups’ selection of various institutions can help to reveal information about their type. To find these, we proceed as follows.

In any separating equilibrium, we can establish a cutpoint \bar{w} above which a group selects STR and below which they select PER. The only pure strategy that governments can adopt that would induce separation is

$$\sigma_G = (Accept|STR, Reject|PER) = \begin{cases} Accept & \text{if } I \text{ chooses STR} \\ Reject & \text{if } I \text{ chooses PER} \end{cases}$$

Otherwise, PER weakly dominates for the interest group (given that $\pi_S(\theta) < \pi_P(\theta)$). Stated intuitively, if Government adopts any strategy other than accepting only the claims pursued via the more stringent institution, groups will never have an incentive to choose the “harder test”, because Government would not be providing them any benefits over choosing the “easy test”.

Assuming Government adopts this strategy, we can now consider the interest group’s incentives conditional on this, denoting the group’s expected utility function U_I . We derive the cutpoint \bar{w} by determining where $U_I(STR) = U_I(PER)$, with $U_I(PER) = 0$ (given that their claim will simply be rejected by the government), and $U_I(STR) = v(\theta)\pi_S(\theta) - c_S$. Setting these equal to each other, we get:

$$\begin{aligned}
 U_I(STR) &= U_I(PER) = v(\theta)\pi_S(\theta) - c_S = 0 \\
 &\Leftrightarrow \pi_S(\theta)v(\theta) = c_S
 \end{aligned}$$

This implicitly defines a cutpoint \bar{w} , if such a cutpoint exists. To ensure its existence, simply assume that $\exists \theta \in \Theta$ such that $U_I(STR) < U_I(PER)$, and $\exists \theta \in \Theta$ such that $U_I(STR) > U_I(PER)$. This implies that there are some types that are low enough that it is not incentive compatible for them to choose STR, and some high enough that it is incentive compatible; a necessary condition for the analysis of this paper to have any traction.

Given this, we can define Government’s utility function as $U_G(Reject) = 0$ and:

$$\begin{aligned}
 U_G(Accept|STR) &= \int_{\bar{w}}^w [g(\theta)\pi_S(\theta) + (1 - \pi_S(\theta))(0)]f(\theta)d\theta \\
 &= \int_{\bar{w}}^w g(\theta)\pi_S(\theta)f(\theta)d\theta \\
 U_G(Accept|PER) &= \int_0^{\bar{w}} [g(\theta)\pi_P(\theta) + (1 - \pi_P(\theta))(0)]f(\theta)d\theta \\
 &= \int_0^{\bar{w}} g(\theta)\pi_P(\theta)f(\theta)d\theta
 \end{aligned}$$

This allows us to construct a separating equilibrium where the strongest types select into pursuing claims via the more stringent institution, and the weaker types select into pursuing claims via the less stringent institution, with Government accepting all claims via the more stringent institution, and rejecting all claims via the less stringent institution. This is summarized in the following proposition:

Proposition 4 *A separating equilibrium exists where:*

$$\begin{aligned}
 \sigma_I &= \begin{cases} STR & \text{if } \theta > \bar{w} \\ \text{Either } STR \text{ or } PER & \text{if } \theta = \bar{w} \\ PER & \text{if } \theta < \bar{w} \end{cases} \\
 \sigma_G &= \begin{cases} \text{Accept} & \text{if } I \text{ pursues } STR \\ \text{Reject} & \text{if } I \text{ pursues } PER \end{cases}
 \end{aligned}$$

So long as:

$$U_G(\text{Accept}|\text{STR}) \geq 0 \geq U_G(\text{Accept}|\text{PER})$$

Proof follows immediately from preceding discussion. Consequently, in this equilibrium, the “hard test” of STR allows the Government to screen between strongly and weakly injured groups. This holds so long as Government prefers to Accept the claims by types screened to the harder test, but prefers to Reject the claims by types screened to the weaker test.

However, it is worth noting that depending on the position of the cutpoint, it is likely that Government will end up accepting some claims that it would prefer to reject, or rejecting some claims that it would prefer to accept. This is summarized in the following corollary:

Corollary 1 *With the exception of the case where $g(\bar{w}) = 0$, in any separating equilibrium Government will either protect some types that they would prefer not to (i.e. there will be some subset $\Theta_L \subset [\bar{w}, w]$ such that $\forall \theta_L \in \Theta_L, g(\theta_L) < 0$) OR Government will fail to protect some types that they would prefer to (there will be some subset $\Theta_H \subset [0, \bar{w}]$ such that $\forall \theta_H \in \Theta_H, g(\theta_H) > 0$).*

Proof in [Appendix](#). Thus, while institutions allow for some degree of strategic information transfer in the case of a separating equilibrium, there will almost always be some information that Government would prefer to have that will remain unrevealed.

7.4 A degenerate case: Considering institutional design

As mentioned earlier, a degenerate case of the model is where an interest group is choosing between pursuing a claim via an international institution or via unilateral protection from the government, which in this model would be where:

$$\pi_P(\theta) = 1, \forall \theta \in \Theta \text{ and } c_P = 0$$

The mathematics of this situation are simply what is obtained when one applies these values to the model, but the substantive interpretation is different. In this case, we are not talking about selecting between institutional mechanisms, but about why a firm might choose to pursue a claim via an international institution at all, given that there is a chance that this claim might be rejected. The model suggests that even if governments would most prefer to protect all strongly injured firms without having to deal with the uncertainty of going through an international institution, groups may still pursue protection via these institutions if it can help screen between groups. Thus, this degenerate case focuses one’s attention on a potentially important reason why governments might agree to institutions with external arbitration; namely, that such arbitration (or the threat of it) may provide governments with information that allows them to better select groups to protect in order to satisfy their domestic objective function.

This can also help to provide insight into the important question of institutional design. First, we can consider Government’s welfare under different equilibria in the

degenerate case. A pooling equilibrium on unilateral protection is what you would have if there was no international institution through which to screen cases, and the outcome in this scenario would hinge on whether you have:

$$\int_0^w g(\theta) f(\theta) d\theta \geq 0$$

With this condition following from Proposition 1. If this condition holds, all groups would apply for protection and receive it. If it does not, all groups would apply for protection and would be rejected. The utility to Government in a world without institutions that can independently evaluate and overturn claims is thus:

$$\max \left\{ \int_0^w g(\theta) f(\theta) d\theta, 0 \right\}$$

In contrast, under the separating equilibrium, groups with higher types self-select into the institutional/legal mechanism for pursuing protection, while others pursue unilateral protection and are rejected. Thus, the utility to government is:

$$\int_{\bar{w}}^w g(\theta) \pi_S(\theta) f(\theta) d\theta$$

Which is greater than zero by the conditions outlined in Proposition 4, and thus higher than what Government gets under the pooling equilibrium in which no firm is protected. This leads to the following proposition.

Proposition 5 *Government is better off in a separating equilibrium induced by an international institution than they would be if an institution did not exist whenever:*

$$\int_{\bar{w}}^w g(\theta) \pi_S(\theta) f(\theta) d\theta > \int_0^w g(\theta) f(\theta) d\theta$$

Proof follows immediately from preceding discussion. We can further unpack the different components of this condition to get some insight into when having an institution will be preferred by Government. We can rewrite the condition as follows:

$$\begin{aligned} & \int_{\bar{w}}^w g(\theta) \pi_S(\theta) f(\theta) d\theta > \int_0^w g(\theta) f(\theta) d\theta \\ \Leftrightarrow & \int_{\bar{w}}^w g(\theta) \pi_S(\theta) f(\theta) d\theta > \int_0^{\bar{w}} g(\theta) f(\theta) d\theta + \int_{\bar{w}}^w g(\theta) f(\theta) d\theta \\ \Leftrightarrow & \underbrace{\int_{\bar{w}}^w g(\theta) \pi_S(\theta) f(\theta) d\theta}_{\alpha} - \underbrace{\int_{\bar{w}}^w g(\theta) f(\theta) d\theta}_{\beta} > \underbrace{\int_0^{\bar{w}} g(\theta) f(\theta) d\theta}_{\Delta} \end{aligned}$$

First, note that it is not immediately clear whether α or β is greater, since it may be the case that $g(\theta)$ is negative for some values of $\theta \in [\bar{w}, w]$ (see Corollary 1). This can be thought of as an added benefit to Government; perhaps there are some cases they end up pursuing, even in a separating equilibrium, which they would rather have an international institution overturn, because such cases were just “mixed up” with the good cases in the separating equilibrium.

However, for simplicity, let's consider a situation where $g(\theta) > 0$, $\forall \theta \in [\bar{w}, w]$. In this case, $\alpha < \beta$, so $\alpha - \beta < 0$. However, it is also the case that $\Delta < 0$ by the implications of the construction of the separating equilibrium, described in Proposition 4; otherwise Government would not reject upon observing a request for unilateral protection. Thus the trade-off here for government becomes the following: does having an institution lead to enough "good" cases being overturned that it's worse than the cost of giving protection to more of the "bad" types?

This gives some rationale for why governments might set up international institutions with binding arbitration procedures that assess a lot of information to make technical determinations of fact, but which also tend to skew towards leaving protectionist claims unchallenged. The flexibility to protect certain groups is important to governments (the no protection equilibrium is worse than any screening equilibrium), but it is also usually the case that protecting all groups makes Government worse off than if it was able to extract some degree of private information from those groups.

While the model could help explain the specific features that governments choose to include when designing institutions, it is also not necessary to assume that this rationale was at work at the institutional design stage for it to be useful in understanding how the institutions actually function. For instance, while provisions allowing groups to petition for relief via trade remedies have existed in US law for many decades, their administration has shifted since the 1950s from a compensation-based efficient breach structure to one of meeting criteria in order to invoke such trade remedies (Pelc 2011). We would expect this kind of shift to be favored by governments if they can benefit from leveraging this threat of international arbitration to induce groups to separate, even if it means that some of their trade remedies end up getting overturned. Furthermore, the *persistence* of trade remedies as a tool used by governments, and their inclusion in new PTAs, suggests that trade remedies continue to be an equilibrium strategy for governments, and this paper's model can help to explain why.

7.5 Varying benefits across institutions/mechanisms

Up until this point, the model has assumed that the benefits to both players from protection are the same across institutions. This is useful for establishing a benchmark where the main reason for selecting a more stringent institution is the signaling value, but it is also worth considering what the impact of allowing these valuations to vary across institutions would be, given that this may more closely accord with reality for some comparisons.

In particular, let's consider a case where $v_S(\theta)$ and $v_P(\theta)$ are different, with $v_S(\theta) > v_P(\theta)$. This says that an interest group values a positive outcome from STR more highly than they value a positive outcome from PER. As an example, this could describe a case where an interest's group's preferred outcome is to have a policy overturned via the WTO, but they may settle for protection via a trade remedy because they have a higher likelihood of it being upheld.

For government, we can assign the opposite preferences, i.e. $g_S(\theta) < g_P(\theta)$. This is to capture the idea that Government may prefer to provide lower types with more limited forms of protection, but would be unwilling to pursue more significant

measures like disputes on their behalf via international institutions. This way of modeling Government creates additional strategic tension between Government and the interest group, given that Government would prefer to induce types pursuing STR to choose PER instead; however, since the interest group is the first mover, this has few implications for which equilibria survive sequential rationality. The (slightly) modified game tree is shown in Fig. 2.

In this version of the model, pooling equilibria are constructed in a similar fashion as before (in Propositions 1-3), with minor adjustments to the pooling conditions and restrictions on off equilibrium path beliefs to account for the varying benefits across institutions. Separating equilibria, however, can be substantively different.

One possible separating equilibrium is constructed almost identically to Proposition 4: i.e. if Government chooses a strategy of $\sigma_G = (Accept|STR, Reject|PER)$, the analysis is largely the same, though the position of the cutpoint might change. This is because despite the fact that $g_P(\theta) > g_S(\theta), \forall \theta \in \Theta$, it is still possible that in a separating equilibrium, the types being screened to PER are low enough that Government prefers not to pursue their claims.¹⁴

However, a new separating equilibrium also becomes possible with varying benefits: one in which Government’s strategy is $\sigma_G = (Accept|STR, Accept|PER)$, and groups separate based on their types because of the distinct benefits to the different institutions. In this case, the cutpoint is defined implicitly by the type where $U_I(STR) = U_I(PER)$, or where:

$$v_S(\theta)\pi_S(\theta) - c_S = v_P(\theta)\pi_P(\theta) - c_P$$

However, this cutpoint may or may not exist depending on the shape of the probability and benefit functions. We can ensure existence with some additional assumptions, outlined in the following lemma:

Lemma 1 *A cutpoint \bar{w} exists where $v_S(\theta)\pi_S(\theta) - c_S = v_P(\theta)\pi_P(\theta) - c_P$ if the following conditions hold:*

$$\begin{aligned} c_S &= c_P \\ \lim_{\theta \rightarrow w} \pi_S(\theta) &= 1 \\ \lim_{\theta \rightarrow w} v_P(\theta) &\neq \lim_{\theta \rightarrow w} v_S(\theta) \\ \frac{\partial v_S(\theta)\pi_S(\theta)}{\partial \theta} &> \frac{\partial v_P(\theta)\pi_P(\theta)}{\partial \theta} \end{aligned}$$

Proof in Appendix. Substantively, this means that the absolute highest types have a near certain probability of their claims being upheld, the costs of pursuing claims across institutions is the same, and the expected utility of pursuing STR is increasing faster in θ than the expected utility of pursuing PER.

Thus, under these assumptions, it makes sense for at least some group types above a particular threshold to select into STR over PER. We can thus establish a new separating equilibrium.

¹⁴Formally, this is the case if $\int_0^{\bar{w}} g_P(\theta)\pi_P(\theta) f(\theta)d\theta \leq 0$.

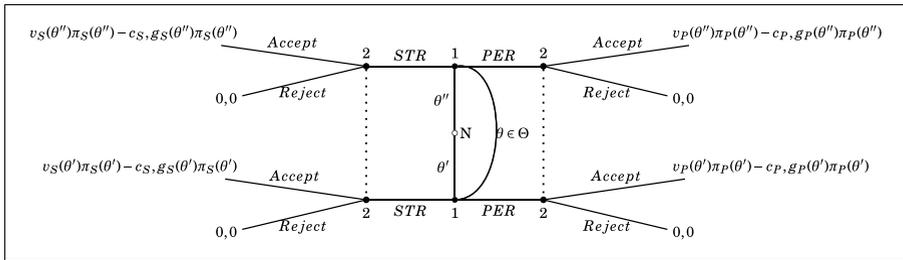


Fig. 2 Institutional selection model with varying benefits

Proposition 6 *A separating equilibrium exists where:*

$$\sigma_I = \begin{cases} STR & \text{if } \theta > \bar{w} \\ \text{Either STR or PER} & \text{if } \theta = \bar{w} \\ PER & \text{if } \theta < \bar{w} \end{cases}$$

$$\sigma_G = \begin{cases} \text{Accept} & \text{if I pursues STR} \\ \text{Accept} & \text{if I pursues PER} \end{cases}$$

So long as the conditions in Lemma 1 hold,¹⁵ in addition to the following conditions:

$$\int_0^{\bar{w}} g_P(\theta)\pi_P(\theta) f(\theta)d\theta \geq 0$$

$$\int_{\bar{w}}^w g_S(\theta)\pi_S(\theta) f(\theta)d\theta \geq 0$$

Proof in [Appendix](#). Intuitively, this simply means that Government prefers to Accept rather than Reject claims whether or not an interest group is choosing to pursue that claim via STR or PER. This becomes possible because of the varying benefits; in this case, they are willing to allocate different levels of support to different groups depending on how strongly injured they are.

What does all this mean substantively? If different institutions/mechanisms provide different benefits to interest groups and governments, it becomes possible to sustain an equilibrium that reveals information about group types in which no claims via either mechanism are rejected. In some cases, this may more closely accord with what we observe: for instance, most claims for countervailing duties are approved by governments¹⁶, and requests for dispute settlement are often pursued¹⁷, but it is not an identical set of groups that applies for each.

¹⁵The conditions of Lemma 1 are sufficient but not necessary for a separating equilibrium. A more thorough account of separating equilibria is included with the proof of Proposition 6.

¹⁶The Commerce Department has ruled in favor of claimants more than 80% of the time (USITC 2010 p. 4).

¹⁷How often? This is a tricky question to answer conclusively because we do not directly observe the universe of requests for dispute settlement, given that this process unfolds informally between firms and/or industrial interests and governments. However, Davis and Shirato (2007) look to address this selection problem by exploiting data from Japan which documents which policies of major trading partners they

7.5.1 Allowing pursuit of multiple mechanisms simultaneously

We can also consider the case where benefits vary across institutions/mechanisms, and interest groups can pursue more than one mechanism at the same time. This can reveal information about I 's type in much the same way as in the separating equilibria of previous versions of the model, but now we obtain different cutpoints for each institution, i.e. they are implicitly defined by:

$$v_P(\theta)\pi_P(\theta) = c_P$$

$$v_S(\theta)\pi_S(\theta) = c_S$$

If we call the cutpoint under PER \bar{w}_P and the cutpoint under STR \bar{w}_S , Government's best response to this cutpoint strategy is as follows:

$$\sigma_G(PER) = \begin{cases} \text{Accept} & \text{if } \int_{\bar{w}_P}^w g_P(\theta)\pi_P(\theta)f(\theta)d\theta > 0 \\ \text{Reject} & \text{if otherwise} \end{cases}$$

$$\sigma_G(STR) = \begin{cases} \text{Accept} & \text{if } \int_{\bar{w}_S}^w g_S(\theta)\pi_S(\theta)f(\theta)d\theta > 0 \\ \text{Reject} & \text{if otherwise} \end{cases}$$

This logic can easily be generalized to any countable set of institutional mechanisms, leading to the following proposition.

Proposition 7 *In a variant of the model where there exist an arbitrary set of institutional mechanisms Γ , and where an interest group can pursue claims via any of these mechanisms simultaneously, the following separating equilibrium exists:*

$$\sigma_I(\theta) = \begin{cases} \text{Pursue} & \text{if } v_j(\theta)\pi_j(\theta) \geq c_j, \forall j \in \Gamma \\ \text{Don't Pursue} & \text{if otherwise} \end{cases}$$

and

$$\sigma_G(j) = \begin{cases} \text{Accept} & \text{if } \int_{\bar{w}_j}^w g_j(\theta)\pi_j(\theta)f(\theta)d\theta \geq 0, \forall j \in \Gamma \\ \text{Reject} & \text{if otherwise} \end{cases}$$

Where each \bar{w}_j is determined by the point where:

$$v_j(\theta)\pi_j(\theta) = c_j$$

believe are WTO-non-compliant, and conclude that “the WTO disputes governments choose to pursue largely reflect the variation in industry demand” (Davis and Shirato 2007, p. 274), further arguing that the relatively low number of disputes initiated by Japan is in large part due to “low demand” (Davis and Shirato 2007, p. 275), while Davis (2012) argues that the United States is even more responsive to demands from industry for disputes. All of this provides support for my claim that firm and industrial demands for dispute settlement are regularly pursued by governments, with the key limiting factor that industries are sparing in those requests. Former USTR Michael Froman also suggests a similar dynamic in an interview, when he notes that one the main constraints in launching enforcement actions during his tenure was when an affected industry “was unwilling to put its head up or raise its hand” (Trade Talks Podcast, Episode 93), again suggesting that industries’ self-restraint was the key limiting factor for disputes, rather than governments rejecting demands from such industries.

Proof follows immediately from prior discussion. Thus, allowing interest groups to pursue multiple mechanisms simultaneously allows for an equilibrium in which some groups do exactly that, with Government accepting all claims via whatever subset of these mechanisms screen a sufficiently positively weighted distribution of interest group types. This accords well with what we sometimes observe; there are some instances where governments pursue multiple actions at the same time in response to interest group demands.¹⁸ Note, however, that this structure changes the cutpoints relative to a situation where government actions are mutually exclusive.

7.6 The role of the government as a gatekeeper

There is some variation in the degree to which governments serve as gatekeepers to these institutional mechanisms. For instance, the procedure for implementing anti-dumping measures and countervailing duties in the US formally allows no role for the president or politics in the process, as the trade remedies are triggered almost automatically upon affirmative USITC and Commerce Department rulings; however, the evidence largely suggests that politics can enter into these proceedings via the Commerce Department determinations (Busch et al. 2008, p. 6-7). Nonetheless, there is certainly variability in the degree to which governments exercise gatekeeping power over these mechanisms, so it is worth evaluating what the model suggests the impact of removing the government's role as gatekeeper should be, especially given that related domains often include dispute settlement mechanisms that allow firms to file disputes with states directly.¹⁹

Perhaps unexpectedly, the model suggests that there should be little impact to removing state-level gatekeepers, *as long as the institution is properly calibrated*. Essentially, what drives the selection process in this model is that the probability of success compared to the cost of pursuing a dispute is such that only higher types find it incentive compatible to pursue disputes, so as long as these probability and cost functions are properly designed, it should not matter whether the government has the ability to reject claims, because they do not have the private information required to determine which groups have legitimate cases anyways.

Where things get more complicated is when there are multiple overlapping institutions, each with varying probabilities of success and costs to pursuing disputes. In this environment, there only needs to be one institution in the menu of possible options that is poorly calibrated for things to become problematic from the standpoint of governments; if there exists an institution that is too permissive relative

¹⁸If, however, rejection from one mechanism leads to other actions also being overturned - for example, if a negative ruling in dispute settlement on subsidies leads to CVDs being removed - then this would more properly be thought of as an instance of the original version of the model, where groups choose whether to pursue a more stringent remedy knowing they have a higher probability of losing all remedies as a consequence. In this case, the benefit derived by the group from the more stringent remedy would include the value of the less stringent one that may be applied simultaneously.

¹⁹For instance, Investor-State Dispute Settlement (ISDS) mechanisms are common institutional mechanisms for dealing with issues like government expropriation.

to its costs, then low type firms will disproportionately use it to pursue weak legal cases.

In this sense, government gatekeeping provides a check on the institutional calibration process. If an institution is poorly calibrated, governments will simply reject the vast majority of claims that go through it, keeping it from becoming a serious issue. If, however, the institution is correctly calibrated, then it should be able to operate more or less autonomously.

Could governments have other reasons, besides screening, for wanting to retain their control over the international forum at which a dispute is lodged? If we assume that the institution is properly calibrated, then this could occur only if there are other factors besides case strength that lead the preferences of petitioning firms/industries to diverge from the preferences of states. The clearest possibility for this is likely the issue of precedent setting; if we assume informal precedent exists, a state may care about the impact of a regional or global precedent on future cases which will impact other firms/industries, which the petitioning industry in the proximate case under consideration may not be concerned with. Still, even in this example, one would imagine that other industries or firms that might be impacted by this precedent would be part of the initial lobbying efforts on the related case. It is also possible that there exist other diplomatic reasons why a government would prefer not to pursue even a strong legal case, though most available evidence suggests these concerns are usually secondary to the demands of industry (Davis and Shirato 2007; Davis 2012). All of this suggests that governments may be willing to give up some degree of gatekeeping control when they are persuaded an institution is sufficiently well-calibrated as to avoid granting too many weak cases, which could help to explain things like the (partial) delegation of authority over trade remedies to the USITC.

8 Applications

The model demonstrates that institutions have the ability to induce domestic groups to reveal private information in a fairly wide variety of circumstances. Indeed, even if the government does not appear to be rejecting any cases, there can be an underlying selection process induced by the differing stringencies of mechanisms that nonetheless allows the government to separate groups by type, so long as the benefits differ between these mechanisms.

Because much of the model describes choices made by groups with private information, there are limitations to the degree to which the model can be subjected to rigorous empirical evaluation; indeed, there is a sense in which being able to measure all the relevant characteristics would demonstrate that the theory was wrong. It is, however, worth considering what kinds of choices might allow for this kind of screening, and evaluating the degree to which these different choices align with the assumptions and overall predictions of the model. While this section cannot prove that the logic of the model applies, it can provide us with a guide to the kinds of situations for which the model may be a useful lens, in a way that can enrich our understanding of the design and use of institutions.

8.1 Different kinds of screening

8.1.1 Between international institutions: Forum shopping

One way in which screening might occur is between international institutions: if institutions differ in their likelihoods for approving certain claims, then the choice by a firm or interest group to lobby the government to pursue a particular dispute forum over another may be a credible signal. Assuming that all parties to a dispute are members of both institutions, the benefits of receiving a positive ruling from different institutions may be broadly similar for the interest group, so we might expect the strongest cases to be screened to the most stringent of the available institutions. However, assessing whether this occurs in practice is challenging, due to the overwhelmingly large number of PTAs with different legal standards that are not always easily placed in a “stringency hierarchy”, as well as difficulties in measuring “success” or “failure” in any legal case (oftentimes a disputant will receive a mixture of favorable and unfavorable rulings), etc.

However, in the case of United States dispute resolution via the WTO and NAFTA, the stylized facts appear to correspond with this screening equilibrium. The NAFTA dispute resolution process was developed under heavy influence from the US Congress, and the US is the largest and most powerful country in NAFTA by a significant margin, so one would expect NAFTA to be the institution most likely to return a ruling favorable to US interests - indeed, there are instances in which the US has advocated for dispute resolution to be moved from the WTO to NAFTA after proceedings had begun, as with the Tuna-Dolphin II case between the US and Mexico (Pauwelyn 2009). However, despite this, the US has a high success rate for cases via the WTO, while their success rate via NAFTA is generally much lower (Guzman 2002; Davis 2012; McRae and Siwec 2010). This accords well with the predictions of the screening equilibria: while NAFTA is arguably more favorable to the United States, firms with the strongest cases select into pursuing their disputes via the WTO.

8.1.2 Between dispute settlement and trade remedies

Another way in which screening might occur is between pursuing claims via dispute settlement or pursuing government support via some trade remedy. The cleanest example of this is subsidies. The WTO distinguishes two types of subsidies that are subject to challenge: prohibited and actionable, where prohibited subsidies are those that are never allowed under any circumstances (these include export targets, which are designed to distort trade), while actionable subsidies can be challenged if the complainant can demonstrate that the subsidy has had an adverse impact on their interests. WTO law also proscribes two legal mechanisms for dealing with an actionable subsidy: dispute settlement (with the goal of compelling the defendant to remove the subsidy or authorizing countermeasures), or countervailing duties, which in the US are administered by the USITC and Department of Commerce in accordance with a framework outlined by the WTO.

How do these two options compare in terms of the benefits for the interest group that lobbies for them? A CVD has very similar economic effects for a firm that is

concerned about import competition; in this case, the increased tariffs can counteract the price depressing effect of the subsidy. The situation is more complicated if the damages alleged pertain to hurting exporters – either in the subsidizing country’s market, or in some third country to which they both export. This suggests that whether this is a case of identical or varying benefits across institutions is context dependent.

More straightforwardly, dispute settlement gives a much lower chance of success, given that the majority of CVDs go unchallenged; the worst case scenario of a CVD is that it is challenged by a foreign country, in which case it would go to dispute resolution anyway, and the firm would be no worse off than if they had started with dispute settlement. This suggests a selection process in which we would expect only the strongest cases to be screened to dispute settlement, irrespective of whether or not the benefits between the two institutional mechanisms are identical.

A similar selection process could be at work with antidumping: a firm could lobby to have foreign antidumping measures challenged, or could engage in “retaliatory” antidumping, whereby they request antidumping measures be put in place for imports that they are competing with (this works only if the industry has both imports and exports from the country in question).²⁰ The stylized facts on this are largely consistent with the separating equilibria of the model: WTO complainants have an approximately 90% rate of success,²¹ while nearly every trade remedy that has been challenged by the WTO has been ruled inconsistent with the trade law in at least one respect (Bown 2005 p. 1).

8.1.3 Between different trade remedies

Trade institutions allow firms to pursue temporary protection via multiple instruments: safeguard measures, antidumping provisions, or countervailing duties. In many ways, these mechanisms are close substitutes for each other. CVDs and antidumping measures do technically differ from safeguard measures, in that the former apply to those accused of subsidies or dumping (and are thus explicitly discriminatory), while safeguard measures are required to apply in a nondiscriminatory manner to all countries. However, Bown (2013) suggests that in many cases, appropriately targeted antidumping duties will have economic effects that are very similar to those of a broader safeguard measure.

These mechanisms do, however, clearly vary in terms of what needs to be demonstrated in order to claim protection. For instance, both safeguard measures and

²⁰Blonigen and Bown (2003) provides evidence of this occurring.

²¹90% refers to the success rate for complainants in disputes that proceed to the panel stage (Davis 2012). However, approximately half of cases are mutually resolved in the pre-panel stage. For those cases that are settled without an official ruling, it is of course more difficult to measure the outcomes; Busch and Reinhardt (2003) attempt to code directly whether concessions were made at any point in the process, and find an approximately 82% success rate for developed countries obtaining full or partial concessions (Busch and Reinhardt 2003 p. 725). Moreover, a recent working paper (Lee and Wittgenstein 2017) that builds on Busch and Reinhardt (2003) but updates the data to include cases up to 2009 suggests an even starker situation; it finds that 98% of cases that are settled in the pre-panel stage result in full or partial concessions. While the particular numbers can be debated, it can be safely concluded that the success rate for cases screened to the WTO is very high.

antidumping duties require proof of injury to a firm, but antidumping measures require additional evidence that goods are being dumped at lower prices in the domestic market. If antidumping provisions have more stringent requirements, we might expect screening to occur whereby firms with stronger cases select into pursuing them.

The stylized facts appear to comport well with the separating equilibrium story. Many antidumping measures are approved (in the US, hundreds have been implemented since 1995) and only a small percentage (less than 10%) of these have been challenged via the WTO DSU (Bown 2015a). In contrast, safeguard measures have been employed by the United States only six times since 1995, of which four have been challenged and then found in violation of WTO law (Bown 2015b, c).

In a separating equilibrium with identical benefits, we would expect that screening would occur in which firms with stronger cases pursue antidumping, while those with weaker cases would choose to pursue safeguard measures and would then be rejected. What we observe is that very few firms formally apply for safeguards; I posit that this may be because applications to the USITC are not made in a vacuum, but in the shadow of prior lobbying activity (Hansen 1990). Firms already have a sense of the likelihood of their claim being approved by the government prior to filing a claim with the USITC; thus, the vast majority of such firms with weak cases have already been informally “pre-rejected” for safeguard provisions, and do not bother filing petitions.²² Moreover, even with this underlying pre-rejection process at work, past US presidents have still decided not to pursue the majority of cases that are formally lodged and pass the USITC’s determination of injury test; they rejected 21 out of 40 cases total from 1974–2016 (Bown and Joseph 2017).

The remaining cases that are pursued are those for which the United States has an overwhelming political interest in doing so irrespective of the strength of the case, as with the famous US steel tariffs of 2002.²³ In contrast, pursuing an antidumping claim can be a way of signaling unfair competition and injury credibly to the government, which may at least partially account for the greater use of antidumping and relatively low rates of such measures being declined or overturned.

It is worth discussing a few caveats to this characterization. Some have argued that safeguards are more “costly” to use, noting that they formally require “serious injury” instead of “material injury”, and noting that they used to require that compensation be provided to those countries that faced increased tariffs as a result of their use. However, safeguards were reformed with the advent of the WTO, and currently do not require compensation for any measures put in place for three years or less. It is also not entirely clear how the standards for assessing “material injury” are

²²This pre-filing rejection process as applied to CVDs is discussed openly by Commerce Department officials in *The Washington Post*, July 13 2003.

²³Indeed, in a conversation with Brazilian business leaders shortly after steel tariffs went into effect, former USTR Robert Zoellick admitted the tariffs had been implemented “to manage political support for free trade at home.” *New York Times*, March 14 2002. Moreover, Joshua Bolten, the White House Chief of Staff at the time, claimed in an interview with Christina Davis that “They knew when imposing the safeguard measure in March 2002 that it would be challenged with a WTO complaint (indeed eight members would file complaints against the measure), and also fully planned to end the measure” (Davis 2012, p. 42).

different from those for “serious injury”, given that neither Congress nor the GATT precisely defined what makes injury “serious”, with Congress providing only a list of characteristics that might be indicators (Sykes 2003, p. 7).

8.1.4 Between international institutions and unilateral protection

Perhaps most importantly, screening may also occur between firms pursuing protection via any potentially arbitrable mechanism embedded in some international institution versus pursuing protection unilaterally from the government. Any interest group could bypass the whole process of legal trade remedies and lobby the government directly for protection: this would have a 0% probability of being overturned, as there would be no opportunity for it to be legally challenged. This corresponds to the degenerate case described during the discussion of the model. In this case, screening occurs when firms subject themselves to the legal costs and possibility of being overturned associated with pursuing protection via means subject to binding arbitration: in a separating equilibrium, only those with the strongest cases should be willing to do so, and those that try to pursue unilateral protection would usually have their efforts denied.

This also appears to correspond with reality. As recent events have made clear, countries have always had a way of pursuing protection without fear of legal retaliation: security-based tariffs, which are explicitly allowed for under GATT/WTO law. In the United States, these are governed by Section 232, which does not require an assessment of injury by the USITC. In general, the GATT security clause was designed with almost no restrictions on what government could define as “security”, out of deference to state sovereignty, and has been described by trade law scholars as a “catch-all clause” that is “so broad, self-judging, and ambiguous that it can obviously be abused” (Jackson 1997 p. 230, Pelc 2016 p. 3). The clause is so broad that many trade lawyers have concluded that tariffs implemented under a security justification are unreviewable by WTO panels (Alford 2011). Indeed, in the Commerce Department ruling advising that steel tariffs be implemented under Section 232, there is not even an attempt to provide reasoning along traditional security lines; instead, security is expanded to mean “economic security”, with the Commerce Department arguing that establishing tariffs to ensure the long term economic health of the steel industry is important on these amorphous grounds (DOC 2018).

Moreover, Section 232 has almost never been used to provide protection to any groups, despite the fact that it has such broad legal potential for abuse. In fact, the last time it was invoked by the US was in 1986 by the Reagan administration, and that was under very specific circumstances involving broader negotiations with the affected parties.²⁴ Why then have governments historically exercised this high degree of restraint? This paper provides a compelling rationale: that the only groups that would pursue protection via this mechanism would be those that could not meet the criteria of any other mechanism, and thus usually those who least merited it.

²⁴May 21 1986, The New York Times.

This kind of screening directs our attention to questions of institutional design. Why might governments want to establish international institutions that bind them to using trade protection in only a restricted set of circumstances? This paper provides an important new explanation for these choices: that governments may be better able to allocate protection because of the information obtained through the screening device of international institutions. This potential benefit is demonstrated in the model, and has not been explored in the existing literature.

9 Conclusion

International institutions provide governments with a dizzying array of options for supporting domestic industries. Governments can choose where (i.e. at which international institution) to file trade disputes, whether to launch a trade dispute or make use of “flexibility measures” in a retaliatory fashion, and which flexibility measure (amongst several) to use to impose temporary protection. This paper has shown that because these institutions and mechanisms differ in the standards that must be met to invoke them, governments can use this multitude of options to screen between domestic groups for those with the strongest legal cases, where the strength of a case is private information that interest groups would otherwise not have an incentive to honestly reveal.

This selection process can help to explain, amongst other things, why parties pursuing disputes via the WTO have such a high rate of success (approximately 90% for cases that proceed to panels). Furthermore, it provides a rationale for why trade remedies have come to be governed by appeals to “criteria” instead of an efficient breach compensation system of “damages”. Specifically, while both criteria and damages would have the effect of constraining state-level overuse of escape mechanisms, only a criteria-based system can be leveraged by governments to manage the information asymmetries they experience with the domestic interest groups and firms who are petitioning them for support.

Consequently, this paper contributes to the literature on how international institutions can be useful to governments for domestic political reasons by demonstrating a new mechanism through which they can be valuable. While the trade literature has addressed how institutions can be useful domestic commitment devices for governments, and how they can be leveraged to credibly signal information about governments to their constituents, this paper shows how institutions (and specifically the threat or practice of external arbitration) can be used to facilitate credible information transfer from domestic political groups. Thus, the paper contributes to our broad understanding of the areas of institutional selection and design, both within the domain of trade politics, and plausibly in other domains that share similar features.

Acknowledgments Many thanks to Marc Busch, Alan Deardorff, Rob Franzese, Barb Koremenos, Elizabeth Menninga, Jim Morrow, Iain Osgood, Joe Ornstein, Jennifer Tobin, and the reviewers at Review of International Organizations for giving detailed and helpful feedback on prior drafts of this paper. Thanks also to the participants in the Formal Models in International Relations Conference at USC in 2016 for their comments on a much earlier draft of this paper.

Appendix A: Shifts in protectionist sentiment

Since the election of Donald Trump in 2016, there has been a significant shift in the way that trade remedies and trade institutions have been used by the US government,²⁵ in a way that seems largely inconsistent with prior practice, and which threatens to upend the stability of international institutions like the WTO.²⁶ While at first glance these changes might seem inconsistent with the screening story outlined in this paper, the model can in fact provide significant insight into the situation by treating the changes as the result of an upward shift in protectionist sentiment.

Specifically, the model would treat a significant upward shift in protectionist sentiment in the government as a shift upward in $g(\theta)$, where this is defined as a move to some $g^+(\theta)$ such that:

$$\forall \theta \in \Theta, g^+(\theta) \geq g(\theta)$$

and

$$\exists \Theta' \subset \Theta \text{ with positive Lebesgue measure such that } g^+(\theta') > g(\theta'), \forall \theta' \in \Theta'$$

This just means that there exists some non-measure-zero subset of the type space such that $g(\theta)$ has increased over that subset; intuitively, Government gets higher utility for some potential types of firms under $g^+(\theta)$ then under $g(\theta)$.²⁷ Thus, we can consider the comparative statics exercise of assessing what happens in the model with this upward shift in $g(\theta)$. To start, we have the following proposition.

Proposition 8 *A shift upward in $g(\theta)$ makes a pooling outcome where every firm gets protection more likely by increasing the likelihood that the conditions of Propositions 1 or 2 will be met.*

Proof later in the [Appendix](#). Thus the model's predictions fit well with what we have observed during the Trump administration, i.e. a situation where virtually every petition by an interest group has been pursued by the government after an upwards shift in protectionist sentiment.²⁸

Perhaps even more importantly, we can also consider what impact an upward shift in protectionist sentiment would have on the value placed by the government on the *institution itself*. Recall from Proposition 5 that a government prefers institutional

²⁵For instance, the Trump Administration had launched 162 CVD and antidumping investigations as of May 2019 – a 224% increase over the same period during the Obama Administration. Los Angeles Times, May 17 2019.

²⁶The use of Section 232 security exemptions to protect steel, aluminum, and (possibly) automobiles has been singled out by many as a particular threat to the stability of the international trade regime.

²⁷This is essentially statewide dominance of $g^+(\theta)$ over $g(\theta)$.

²⁸As examples, historically, safeguard measures have been pursued by US governments in less than 50% of the instances in which the USITC gave the government the opportunity to impose them, and Section 232 has been used only twice out of 14 investigations (Bown and Joseph 2017). As of the time this was written, the Trump administration had pursued both safeguards cases that had gone through the USITC (on washing machines and solar panels), had implemented Section 232 tariffs on steel and aluminum, and had launched a Section 232 investigation into autos and auto parts.

regulation to a world of unilateral protection if:

$$\int_{\bar{w}}^w g(\theta)\pi_S(\theta)f(\theta)d\theta > \int_0^w g(\theta)f(\theta)d\theta$$

If $g(\theta)$ increases, the downside risk entailed in $\pi_S(\theta)$, where institutions reject cases determined by the government to be worth pursuing, becomes more important than the benefits obtained from screening out low types - particularly given that fewer types (if any) are likely to fall below the threshold where $g(\theta) < 0$. This leads to the following proposition.

Proposition 9 *An upward shift in protectionist sentiment makes Government more likely to prefer the outcome obtained without an institution to an institution-induced separating equilibrium.*

Proof later in the [Appendix](#). In other words, an upward shift in protectionist sentiment makes the government less likely to value the institution, and consequently more likely to risk its collapse, because the revealed information becomes relatively less valuable.

Proof of Proposition 1 Proposition 1 encompasses two pooling Perfect Bayesian Nash equilibria (PBNE), each of which is conditional on different off-equilibrium path beliefs. Consider first the following conjecture, where Government G and the interest group I pursue the following strategies σ_G and σ_I respectively:

$$\sigma_G = \begin{cases} Accept & \text{if } I \text{ pursues PER} \\ Reject & \text{if } I \text{ pursues STR} \end{cases}$$

$$\sigma_I = \text{PER}, \forall \theta \in \Theta$$

This is incentive compatible for all θ types of I by earlier assumption; at least one institution is assumed to be profitable. For Government, Accept is better than Reject if:

$$\int_0^w g(\theta)\pi_P(\theta)f(\theta)d\theta \geq 0$$

Because in this conjecture, all types choose PER. Reject is better than Accept upon observing STR when off-equilibrium path beliefs $q \sim p(q)$ are such that:

$$\int_0^w g(q)\pi_P(q)p(q)dq \leq 0$$

However, if we reverse this condition, G 's strategy must change to *Accept|STR*. However, this does not change I 's best response: since $\pi_S(\theta) < \pi_P(\theta) \forall \theta \in \Theta$ and $c_S > c_P$ by assumption, $v(\theta)\pi_S(\theta) - c_S < v(\theta)\pi_P(\theta) - c_P$, which ensures that *PER* remains I 's best response. Thus, a new equilibrium holds where:

$$\sigma_G = \begin{cases} Accept & \text{if } I \text{ pursues PER} \\ Accept & \text{if } I \text{ pursues STR} \end{cases}$$

$$\sigma_I = \text{PER}, \forall \theta \in \Theta$$

□

Proof of Proposition 2 Consider the conjecture:

$$\sigma_G = \begin{cases} \text{Reject} & \text{if } I \text{ pursues PER} \\ \text{Accept} & \text{if } I \text{ pursues STR} \end{cases}$$

$$\sigma_I = \text{STR}, \forall \theta \in \Theta$$

If I pursues PER, they are rejected and receive a payoff of 0. So they choose STR if $v(\theta) - c_S \geq 0$, which is true $\forall \theta \in \Theta$ by condition 2 of the proposition.

Similar to Proposition 1, Government receives a payoff of:

$$\int_0^w g(\theta)\pi_S(\theta)f(\theta)d\theta$$

for Accept, which is ≥ 0 (and thus is preferable to rejecting) by condition 1 of the proposition. Thus, all we need to ensure this is a PBNE is to set off equilibrium path beliefs $q \sim p(q)$ such that Government prefers to reject when they observe PER , which is ensured condition 3 of the proposition, i.e.:

$$\int_0^w g(q)\pi_P(q)p(q)dq \leq 0 \quad \square$$

Proof of Proposition 3 Each of these pooling equilibria rely on Government rejecting any deviations by I to another institution other than the one conjectured; ensuring this is simply a matter of setting the correct off-equilibrium path beliefs, as outlined in the proposition. Under these circumstances, I is indifferent between institutions, receiving a payoff of 0 in either case. Then, all that remains to ensure a PBNE is for Government to prefer to Reject rather than Accept given that all types are pursuing claims via that institution; the conditions ensuring this are also outlined in the proposition. Thus, we have two pooling equilibria, one under the conditions outlined in Proposition 3 part (i):

$$\sigma_G = \begin{cases} \text{Reject} & \text{if } I \text{ pursues PER} \\ \text{Reject} & \text{if } I \text{ pursues STR} \end{cases}$$

$$\sigma_I = \text{PER}, \forall \theta \in \Theta$$

And one under the conditions outlined in Proposition 3 part (ii):

$$\sigma_G = \begin{cases} \text{Reject} & \text{if } I \text{ pursues PER} \\ \text{Reject} & \text{if } I \text{ pursues STR} \end{cases}$$

$$\sigma_I = \text{STR}, \forall \theta \in \Theta \quad \square$$

Proof of Corollary 1 Consider any \bar{w} where $g(\bar{w}) \neq 0$. If $g(\bar{w}) < 0$, then since $g(\theta)$ is continuous and monotonically increasing, and since there must exist $\hat{\theta}$ such that $g(\hat{\theta}) > 0$ (otherwise it could not be that $U_G(\text{Accept}|\text{STR}) \geq 0$), there must exist some $\tilde{w} > \bar{w}$ such that $g(\tilde{w}) = 0$. Furthermore, it must be the case that $\forall \theta \in (\bar{w}, \tilde{w}), g(\theta) < 0$. This set, Θ_L in Corollary 1, represents types of firms receiving Government protection that a perfectly informed Government would turn down. Symmetrically, if $g(\bar{w}) > 0$, there must exist $\tilde{w} < \bar{w}$ such that $g(\tilde{w}) = 0$, implying that $\forall \theta \in (\tilde{w}, \bar{w}), g(\theta) > 0$. This set, Θ_H in Corollary 1, represents types of firms

that *do not* receive Government protection that a perfectly informed Government would protect. □

Proof of Lemma 1 We are comparing the following two values:

$$U_I(STR) = v_S(\theta)\pi_S(\theta) - c_S$$

$$U_I(PER) = v_P(\theta)\pi_P(\theta) - c_P$$

Since $\pi_P > \pi_S$ and probabilities are bounded above by one, $\lim_{\theta \rightarrow w} \pi_S(\theta) = 1$ implies that $\lim_{\theta \rightarrow w} \pi_P(\theta) = 1$ by squeeze theorem. Thus by applying properties of limits, we can compute the following:

$$\lim_{\theta \rightarrow w} U_I(STR) = (1)\lim_{\theta \rightarrow w} v_S(\theta) - c_S$$

$$\lim_{\theta \rightarrow w} U_I(PER) = (1)\lim_{\theta \rightarrow w} v_P(\theta) - c_P$$

Since c_P and c_S are identical, this suggests that as $\theta \rightarrow w$, $U_I(STR) > U_I(PER)$, since $v_S(\theta) > v_P(\theta)$, $\forall \theta \in \Theta$. Thus, since we have earlier assumed that there exists $\hat{\theta}$ such that $U_I(STR|\hat{\theta}) < 0$, which implies that $U_I(PER|\hat{\theta}) > U_I(STR|\hat{\theta})$, by the continuity in θ of v_P and v_S and the intermediate value theorem, there must exist some θ such that $U_I(STR) = U_I(PER)$.

However, in order to establish that this point \bar{w} is a cutpoint, we must further establish that all types above that point prefer *STR* and all types below that point prefer *PER*. To ensure this, consider that *I* prefers *STR* over *PER* whenever:

$$v_S(\theta)\pi_S(\theta) - c_S - v_P(\theta)\pi_P(\theta) + c_P > 0$$

Which if $c_P = c_S$,

$$\Leftrightarrow v_S(\theta)\pi_S(\theta) - v_P(\theta)\pi_P(\theta) > 0$$

The final condition of Lemma 1 ensures that this expression is strictly monotonically increasing in θ ; consequently, the inequality is satisfied for all θ types above \bar{w} and not satisfied for all θ types below \bar{w} . Thus \bar{w} is a cutpoint. □

Proof of Proposition 6 This proof largely follows from the discussion in text and the Proof for Lemma 1. Lemma 1 establishes that *I* will adopt the strategy outlined in Proposition 6 in response to Proposition 6’s conjectured strategy by Government. The additional conditions in Proposition 6 ensure that Government’s strategy is a best response to *I*’s cutpoint strategy, by stating that the payoff to Government of accepting claims by the subset of types screened to either institution is still higher than what is obtained by rejecting all claims to that institution.

However, some discussion of the role of Lemma 1 is warranted. Without the conditions of Lemma 1, a separating equilibrium is still possible, but it has a somewhat less clean interpretation. Consider that without the monotonicity assumption from Lemma 1, there need not be a cutpoint above which types select into the more stringent institution; indeed, while higher types will have higher valuations from *STR* and higher probabilities of success than lower types, it would be possible that their probability of success and valuations might increase faster for *PER*, leading to a peculiar

situation in which higher types might select into the less stringent institution. In this case, instead of a cutpoint strategy, we can construct the following strategy for I :

$$\sigma_I = \begin{cases} STR & \text{if } v_S(\theta)\pi_S(\theta) - c_S \geq v_P(\theta)\pi_P(\theta) - c_P \\ PER & \text{if } v_S(\theta)\pi_S(\theta) - c_S < v_P(\theta)\pi_P(\theta) - c_P \end{cases}$$

Noting that depending on the shape of the probability and benefit functions, these two disjoint sets could be any union of subsets of the type space. If we call the STR subset Θ_S and the PER subset Θ_P , we can consider the following strategy by Government:

$$\sigma_G = \begin{cases} \text{Accept} & \text{if } I \text{ pursues } STR \\ \text{Accept} & \text{if } I \text{ pursues } PER \end{cases}$$

Which will be a best response whenever the following conditions hold:

$$\int_{\Theta_P} g_P(\theta)\pi_P(\theta) f(\theta)d\theta \geq 0$$

$$\int_{\Theta_S} g_S(\theta)\pi_S(\theta) f(\theta)d\theta \geq 0$$

Thus a separating equilibrium can be constructed if the above conditions hold without relying on Lemma 1. This separating equilibrium does reveal information about the type of I to Government, but in a somewhat less easily interpretable fashion. Nonetheless, the equilibrium described will only hold if a sufficiently positively weighted distribution of types is screened to STR to overcome its relatively low chances of success compared to PER and Government’s preference for PER over STR in this variant of the model. \square

Proof of Proposition 8 Consider the pooling conditions from Propositions 1 and 2 respectively.

$$\mathbb{E}[g(\theta)|AllPER] = \int_0^w g(\theta)\pi_P(\theta) f(\theta)d\theta \geq 0$$

$$\mathbb{E}[g(\theta)|AllSTR] = \int_0^w g(\theta)\pi_S(\theta) f(\theta)d\theta \geq 0$$

We have defined an upward shift in protectionist sentiment as a shift to $g^+(\theta)$ such that $g^+(\theta) \geq g(\theta), \forall \theta \in \Theta$, with some positive Lebesgue measure subset Θ' such that $g^+(\theta') > g(\theta'), \forall \theta' \in \Theta'$. We can partition Θ into two sets: Θ' and Θ'' , where $g^+(\theta'') = g(\theta''), \forall \theta'' \in \Theta''$. Thus, for both pooling conditions, we can rewrite the relevant integrals, for either institution z as:

$$\mathbb{E}[g(\theta)|z] = \underbrace{\int_{\Theta'} g(\theta')\pi_z(\theta') f(\theta')d\theta'}_{\alpha} + \underbrace{\int_{\Theta''} g(\theta'')\pi_z(\theta'') f(\theta'')d\theta''}_{\beta}$$

Which we can compare to the following after a shift in protectionist sentiment:

$$\mathbb{E}[g^+(\theta)|z] = \underbrace{\int_{\Theta'} g^+(\theta')\pi_z(\theta') f(\theta')d\theta'}_A + \underbrace{\int_{\Theta''} g^+(\theta'')\pi_z(\theta'') f(\theta'')d\theta''}_B$$

Because $g^+(\theta'') = g(\theta'')$, $\forall \theta'' \in \Theta''$, it must be the case that $\beta = B$. Similarly, since $g^+(\theta') > g(\theta')$, $\forall \theta' \in \Theta'$, it must be the case that $A > \alpha$, if either is nonzero. Furthermore, since Θ' has positive Lebesgue measure, at least one must be nonzero. Thus we have shown that:

$$\mathbb{E}[g^+(\theta)|z] > \mathbb{E}[g(\theta)|z]$$

Which means that the pooling conditions of Propositions 1 and 2 are more likely to be met after an upward shift in protectionist sentiment. □

Proof of Proposition 9 From the text, note that an institution-induced separating equilibrium is preferred to no institution whenever:

$$U_G(\text{Institution}) = \int_{\bar{w}}^w g(\theta)\pi_S(\theta)f(\theta)d\theta > \int_0^w g(\theta)f(\theta)d\theta = U_G(\text{No Institution})$$

Now, in a similar fashion to the Proof of Proposition 8, partition Θ into Θ' and Θ'' . We want to see which side of the inequality changes more with a shift to $g^+(\theta)$. Following Proposition 8, the integrals will be the same over Θ'' , thus we can compare:

$$\begin{aligned} \Delta U_G(\text{Institution}) &= \int_{\Theta'} g^+(\theta')\pi_S(\theta')f(\theta')d\theta' - \int_{\Theta'} g(\theta')\pi_S(\theta')f(\theta')d\theta' \\ &= \int_{\Theta'} [g^+(\theta') - g(\theta')] \pi_S(\theta')f(\theta')d\theta' \end{aligned}$$

$$\begin{aligned} \Delta U_G(\text{No Institution}) &= \int_{\Theta'} g^+(\theta')f(\theta')d\theta' - \int_{\Theta'} g(\theta')f(\theta')d\theta' \\ &= \int_{\Theta'} [g^+(\theta') - g(\theta')]f(\theta')d\theta' \end{aligned}$$

Since $\pi_S(\theta') \leq 1$, $\forall \theta' \in \Theta'$, and since there must exist $\theta' \in \Theta'$ such that $\pi_S(\theta') < 1$, given that $\pi_S(\cdot)$ is strictly monotonically increasing, $\Delta U_G(\text{No Institution}) > \Delta U_G(\text{Institution})$. Or, in words, an upwards shift in protectionist sentiment has a more significant positive impact on Government’s payoff in the “no institution” equilibrium than in a separating equilibrium obtained under an institution, and thus this upwards shift in sentiment makes the institution relatively less attractive. □

References

Alford, R.P. (2011). The self-judging WTO security exception. *Utah Law Review*, 2011, 697.

Baccini, L. (2019). The economics and politics of preferential trade agreements. *Annual Review of Political Science*, 22, 75–92.

Baccini, L., & Kim, S.Y. (2012). Preventing protectionism: International institutions and trade policy. *The Review of International Organizations*, 7(4), 369–398.

Baccini, L., & Urpelainen, J. (2014). International institutions and domestic politics: Can preferential trading agreements help leaders promote economic reform?. *The Journal of Politics*, 76(1), 195–214.

Bebchuk, L.A. (1984). Litigation and settlement under imperfect information. *The RAND Journal of Economics*, 15(3), 404–415.

Betz, T. (2018). Domestic institutions, trade disputes, and the monitoring and enforcement of international law. *International Interactions*, 44, 04.

- Blonigen, B.A., & Bown, C.P. (2003). Antidumping and retaliation threats. *Journal of International Economics*, 60(2), 249–273.
- Bombardini, M. (2008). Firm heterogeneity and lobby participation. *Journal of International Economics*, 75(2), 329–48.
- Bown, C.P. (2005). Trade remedies and world trade organization dispute settlement: Why are so few challenged?. *The Journal of Legal Studies*, 34(2), 515–55.
- Bown, C.P. (2013). How different are safeguards from Antidumping? Evidence from U.S. trade policies towards steel. *Review of Industrial Organization*, 42, 449–481.
- Bown, C.P. (2015a). Global Antidumping database (Report). The world bank. Retrieved from <http://econ.worldbank.org/ttbd/gad/>.
- Bown, C.P. (2015b). Global dispute database (Report). The world bank. Retrieved from <http://econ.worldbank.org/ttbd/dsud/>.
- Bown, C.P. (2015c). Global safeguard database (Report). The world bank. Retrieved from <http://econ.worldbank.org/ttbd/gsgd/>.
- Bown, C.P., & Joseph, J. (2017). *Solar and washing machine safeguards in context: The history of US Section 201 use (Report)*. Washington: Peterson Institute for International Economics.
- Brutger, R. (2018). Litigation for sale: Private firms and WTO dispute escalation.
- Busch, M.L. (2007). Overlapping institutions, forum shopping, and dispute settlement in international trade. *International Organization*.
- Busch, M.L., Raciborski, R., Reinhardt, E. (2008). Does the Rule of Law Matter? The WTO and US Antidumping investigations.
- Busch, M.L., & Reinhardt, E. (2003). Developing countries and general agreement on tariffs and Trade/World trade organization dispute settlement. *Journal of World Trade*, 37, 719.
- Dai, X. (2007). *International institutions and national policies*. Cambridge: Cambridge University Press.
- Davis, C.L. (2005). *Food fights over free trade: how international institutions promote agricultural trade liberalization*. Princeton: Princeton University Press.
- Davis, C.L. (2009). Overlapping institutions in trade policy. *Perspectives on Politics*, 7(1), 25–31.
- Davis, C.L. (2012). *Why adjudicate? enforcing trade rules in the WTO*. Princeton: Princeton University Press.
- Davis, C.L., & Shirato, Y. (2007). Firms, governments, and WTO adjudication: Japan's selection of WTO disputes. *World Politics*, 59(2), 274–313.
- DOC. (2018). *The effect of imports on the national security (Report)*. Washington: Department of Commerce.
- Dür, A., Baccini, L., Elsig, M. (2014). The design of international trade agreements: Introducing a new dataset. *The Review of International Organizations*, 9(3), 353–375.
- Gilligan, M., Johns, L., Rosendorff, B.P. (2010). Strengthening international courts and the early settlement of disputes. *Journal of Conflict Resolution*, 54(1), 5–38.
- Gilligan, M.J. (1997). Lobbying as a private good with intra-industry trade. *International Studies Quarterly*, 41(3), 455–474.
- Goldstein, J., Kahler, M., Keohane, R.O., Slaughter, A.-M. (2000). Introduction: legalization and world politics. *International Organization*, 54(3), 385–399.
- Grossman, G.M., & Helpman, E. (1994). Protection for Sale. *The American Economic Review*, 84(4), 833–850.
- Guzman, A. (2002). The political economy of litigation and settlement at the WTO (Research Paper). Public law and legal theory.
- Hansen, W.L. (1990). The international trade commission and the politics of protectionism. *American Political Science Review*, 84, 01.
- Hansen, W.L., & Prusa, T.J. (1997). The economics and politics of trade policy: an empirical analysis of ITC decision making. *Review of International Economics*, 5(2), 230–245.
- Howse, R. (1998). Settling trade remedy disputes: When the WTO forum is better than the NAFTA. CD Howe communique.
- Jackson, J.H. (1997). *The world trading system: Law and policy of international economic relations*. Cambridge: MIT Press.
- Johnson, T. (2015). Information revelation and structural supremacy: The world trade organization's incorporation of environmental policy. *The Review of International Organizations*, 10(2), 207–229.
- Keohane, R.O. (1984). *After hegemony: Cooperation and discord in the world political economy*. Princeton: Princeton University Press.

- Kim, I.S. (2017). Political cleavages within industry: Firm-Level lobbying for trade liberalization. *American Political Science Review*, 111(1), 1–20.
- Kim, S.E., & Margalit, Y. (forthcoming). *Tariffs As electoral weapons: The political geography of the U.S.-China trade war*. China: International Organization.
- Koremenos, B. (2001). Loosening the ties that bind: a learning model of agreement flexibility. *International Organization*, 55, 02.
- Koremenos, B., Lipson, C., Snidal, D. (2001). The rational design of international institutions. *International Organization*, 55, 04.
- Kucik, J., & Pelc, K.J. (2014). Can international legal rulings Deter? Financial markets say yes.
- Kucik, J., & Pelc, K.J. (2016). Over-commitment and Backsliding in international trade. *European Journal of Political Research*, 55, 02.
- Kucik, J., & Reinhardt, E. (2008). Does flexibility promote cooperation? an application to the global trade regime. *International Organization*, 62, 03.
- Lee, J., & Wittgenstein, T. (2017). Weak vs. Strong Ties: Explaining early settlement in WTO Disputes (Tech. Rep. No. 7). University of Hamburg, Institute of Law and Economics. Retrieved from <https://ideas.repec.org/p/zbw/ilewps/7.html>(PublicationTitle:ILEWorkingPaperSeries).
- Mansfield, E.D., & Milner, H.V. (2012). *Votes, Vetoes, and the political economy of international trade agreements*. Princeton: Princeton University Press.
- Mansfield, E.D., Milner, H.V., Rosendorff, B.P. (2000). Free to trade: Democracies, Autocracies, and international trade. *American Political Science Review*, 94(2), 305–321.
- Mansfield, E.D., Milner, H.V., Rosendorff, B.P. (2002). Why democracies cooperate more: Electoral control and international trade agreements. *International Organization*, 56(3), 477–513.
- Mansfield, E.D., & Pevehouse, J.C. (2006). Democratization and international organizations. *International Organization*, 60(1), 137–167.
- McGillivray, F. (2004). *Privileging industry: The comparative politics of trade and industrial policy*. Princeton: Princeton University Press.
- McRae, D., & Siwec, J. (2010). In Garcia, A.O. (Ed.) *NAFTA dispute settlement: Success or failure? In America*. Mexico City: Corporacion Industrial Grafica.
- Mearsheimer, J.J. (1994). The false promise of international institutions. *International Security*, 19(3), 5–49.
- Milner, H.V., & Kubota, K. (2005). Why the move to free Trade? Democracy and trade policy in the developing countries. *International Organization*, 59(1), 107–143.
- Pauwelyn, J. (2006). Editorial comment: Adding sweeteners to softwood lumber: The WTO-NAFTA ‘Spaghetti Bowl’ Is cooking. *Journal of International Economic Law*, 9(1), 197–206.
- Pauwelyn, J. (2009). Mexico secures WTO Tuna-Dolphin panel; U.S. Seeks move to NAFTA. *Inside U.S Trade*, 24, 2009.
- Pelc, K. (2011). Seeking escape: The use of escape clauses in international trade agreements. *International Studies Quarterly*, 53, 02.
- Pelc, K. (2014). The politics of precedent in international law: a social network application. *American Political Science Review*, 108, 03.
- Pelc, K. (2016). *Making and bending rules: The design of exceptions and escape clauses in trade law*. Cambridge: Cambridge University Press.
- Pelc, K.J., & Urpelainen, J. (2015). When do international economic agreements allow countries to pay to breach?. *The Review of International Organizations*, 10(2), 231–264.
- Reinganum, J.F., & Wilde, L.L. (1986). Settlement, Litigation, and the allocation of litigation costs. *The RAND Journal of Economics*, 17(4), 557–566.
- Rickard, S.J. (2010). Democratic differences: Electoral institutions and compliance with GATT/WTO agreements. *European Journal of International Relations*, 16(4), 711–729.
- Rosendorff, B.P. (2005). Stability and Rigidity: Politics and design of the WTO’s dispute settlement procedure. *American Political Science Review*, 99(03), 389–400.
- Rosendorff, B.P., & Milner, H.V. (2001). The optimal design of international trade institutions: uncertainty and escape. *International Organization*, 55, 04.
- Ross, W.L. (2018). *Budget in brief fiscal year 2018 (Report)*. Washington: Department of Commerce.
- Ryu, J., & Stone, R.W. (2018). Plaintiffs by Proxy: A firm-level approach to WTO dispute resolution. *The Review of International Organizations*, 13(2), 273–308.
- Sykes, A. (2003). The safeguards mess: A Critique of WTO Jurisprudence. Law and Economics working papers. Retrieved from https://chicagounbound.uchicago.edu/law_and_economics/571.

- Trebilcock, M.J., & Howse, R. (2005). *The regulation of international trade*, 3rd edn. New York: Routledge.
- USITC. (2010). *Import injury investigations case statistics FY 1980-2008 (Report)*. Washington: United States International Trade Commission.
- USITC. (2016). *Budget justification fiscal year 2016 (Report)*. Washington: United States International Trade Commission.
- USTR. (2015). *Fiscal year 2015 (Budget (Report))*. Washington: Office of the United States Trade Representation.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.