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# The Forgotten Disputes: Anti-Dumping and Trade Conflict at the WTO

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*Past research on trade disputes has demonstrated that formal disputes under the World Trade Organization's (WTO) Dispute Settlement Mechanism (DSM) are largely democratic affairs. In the less formal anti-dumping process, this paper argues that the logic of two-level institutional effects will be different from that observed in the more formal DSM disputes. Democratic states targeted in anti-dumping cases are more likely to retaliate in response to the economic harm, in turn raising the cost of targeting democratic states. This paper demonstrates that the more democratic a state's domestic institutions, the less likely that state is to be targeted with anti-dumping measures.*

## Introduction

In 2009 as the world was caught in the throes of a global economic meltdown with the media and political leaders raising the specter of a new Great Depression and crying for action, newly elected US President Barack Obama fired a significant salvo of protectionism against China. The logic of this action was clear. Trade unions make up a key part of the Democratic winning coalition and he was in the process of forcing painful concessions from these same unions on issues related to the automobile industry. Domestic policy action favoring the trade union movement in the US was unlikely to receive rapid action in the Congress given the priorities during the emergency. So what is a President to do? President Obama turned to international trade rules, imposing anti-dumping measures on a range of products, mainly from China. While this was widely seen in the international business community as a dangerous step to protectionism, the President was taking a step that has become the norm in the United States: using international trade rules to purchase the loyalty of politically significant groups while minimizing the disruption to the international trade system.

Since the end of the Second World War the international trade system has been managed by a global trade regime established by the United States with the cooperation of the other advanced industrial states. The General Agreement on Tariffs and Trade (GATT) and its successor the World Trade Organization (WTO) have governed a system of rules that has prevented a slide towards protectionism on a global basis along the lines of the one that took place in the 1930's. As clearly protectionist as the Obama Administrations actions were, they demonstrated a commitment to act within the rules of the trade system even when violating the spirit of these

same rules. The actions of the Obama Administration parallel similar actions undertaken by both of his predecessors under the WTO as well as actions taken under the different rule structures of the GATT (Blonigen and Bown 2002; Hudec 1993; Ryan 1995).

The recourse to anti-dumping measures presents an interesting challenge to those interested in the management of trade conflict. Most research on GATT and WTO disputes has focused on the formal panel disputes under the Dispute Settlement Mechanism (DSM) (Busch 2000; Dixon 2007; Hudec 1993; Reinhardt 2001; Reinhardt and Busch 2002; Sherman 2002). This research and others (Davis 2012) have demonstrated the strong influence of democracy on dispute settlement at the WTO. DSM disputes are formal, legal processes that take place in a relatively constrained context which parallels in key ways the domestic legal process in democratic states. Anti-dumping (AD) disputes are qualitatively different. Anti-dumping claims argue that the industries of another country are selling products in export markets at below the cost of production. Anti-dumping measures are permitted as a means of offsetting the artificially low cost in the export market. AD disputes can be taken to the DSM, but the AD investigations are determined strictly by the member state initiating the investigation (Czako, Human, and Miranda 2004). This makes AD disputes much less formal, less expensive, and less subject to the legal constraints of the WTO. Given the significant differences in formal procedure, this raises a question: Does the influence of democratic institutions that is observed in DSM disputes hold when looking at disputes in the AD process?

DSM disputes reflect a small portion of the trade conflict management that takes place at the WTO. This paper seeks to extend our understanding of this behavior by expanding the study of the impact of democratic institutions into a lower level of trade conflict. The results presented in this article demonstrate that democratic domestic institutions have a significant effect even in lower level disputes under the WTO system.

## **Trade Conflict at the WTO**

Contrary to popular thinking, the WTO is not a free trade organization. It is a "free-er" trade organization. The tens of thousands of pages of WTO law and jurisprudence do not exist to say "all members must trade freely". The WTO is a complex institution for determining how trade will be managed in a complex and interdependent world. The WTO creates a set of minimal rules that all states must follow as members. These rules are

designed to create a ceiling for trade restrictions that limits the degree to which member states can restrict trade with other member states (WTO 2008).

This distinction is important for a variety of reasons. For the purposes of understanding the nature of trade conflict at the WTO it is important to remember that the system is a complex network of institutional compromises, vague legal frameworks, and fuzzily worded rules. The result is what could be termed a “fog of law” in which there is a great deal of room in which states can claim compliance with the rules of the trade regime while actually engaged in significant violations of those same rules. This creates significant space for the existence of conflicts over interpretation of the rules of the regime. In practice the legal framework of the WTO acts as an institutional flexibility mechanism (Koremenos 2005), permitting members to engage in temporary defections from the system when domestic politics demands it, returning to compliance when another member state elects to call them to account and threatens enforcement action. The WTO institutions thus provide members with a system in which long-term, general compliance is the norm for the member states. Simultaneously, members also engage in significant temporary defection on specific issues as their domestic political systems, economic conditions, and other constraints demand it. When the cheating behaviors of a member are trivial or do not harm key constituencies in other member states, that member can go on cheating indefinitely. When the cheating harms another member sufficiently, the harmed member has the option of forcing compliance via the various dispute settlement institutions of the WTO system.

Trade conflict at the WTO can take a number of forms within the legal framework of the organization. The formal, legal process of dispute adjudication is the Dispute Settlement Mechanism (Palmer and Mavroidis 2004; WTO 2004). The DSM is a quasi-judicial process in which a panel of experts in international trade law hear evidence and render a decision regarding the validity of the plaintiff's complaint. An appeals process is included and the member states may engage in a number of legal efforts to ensure procedural fairness. In the end, a party that can demonstrate both a rule violation and harm can be authorized by the panel to undertake enforcement action in the form of countervailing trade restrictions (WTO 2004; 2013b).

The DSM process thus has a number of features that mirror domestic dispute resolution in democratic states: an impartial third-party adjudicator,

a right of due process, and a definitive ruling that is technically binding on both parties. Where the DSM differs significantly from the domestic process is that the enforcement of the ruling is left to the plaintiff. The ability of a plaintiff to enforce a decision requires trade that is both significant enough and symmetric enough that countervailing duties can be applied without imposing more harm to the plaintiff than to the guilty party. This is a significant difference and one that limits the applicability of the DSM.

The anti-dumping process is much simpler and does not have the quasi-judicial elements of the DSM process. In the AD process, a state merely reports that it has initiated an investigation into the policies of another member state. This investigation seeks to determine if dumping is taking place. If dumping is determined to have occurred, the member state may choose to apply safeguards measures, countervailing duties to offset the harm of the dumping. In the case of the application of measures the member state must simply inform the WTO that the measures have been imposed and provide a report of the investigation that led to the measures (Czako, Human, and Miranda 2004).

The concept of “dumping” is an important part of international trade rules. Dumping is the case in which a company sells a product in an export market for less than the price of production in its home market. An example would be if a company in the People’s Republic of China sold a bicycle in the United States for \$150 that cost \$175 to produce in the PRC. This sounds deceptively simple. The problems arise when one calculates the cost of production. There are no universal rules for calculating the cost of production in the home market. This effectively means that a country can use virtually any calculation they like in judging whether or not dumping is taking place in the investigation stage of the process. WTO rules provide a somewhat more detailed framework for what constitutes dumping, but leave the means of calculation of costs at the discretion of the members (Czako, Human, and Miranda 2004).

In principle the anti-dumping measures are only permitted to impose duties that counteract the effects of the dumping. The duties imposed through the AD process should only be sufficient to make up the damage done by the illegal policy actions of the dumping country.

On the surface, these look like lower-level versions of the DSM disputes. This apparent similarity is deceptive. Actual cases of systematic dumping are virtually non-existent. In most cases, the vague nature of the rules on

calculating the cost of production allow states to argue that virtually any product is being “dumped” in their markets using creative mathematics. Regardless of actual market conditions a member can calculate the cost of production in such a way as to “discover” that the other state is engaged in dumping.

The AD disputes are subject to appeal. The determination of dumping and the decision to impose countervailing duties can be taken to the DSM for adjudication. The state targeted in the AD dispute may launch a DSM dispute to force the removal of the countervailing duties. Thus the AD disputes can feed into the DSM system.

Examples of the use of AD measures in service of political interest abound. Most notorious in the American context is the sudden discovery by the administration of George W. Bush that nearly every steel producer in the world was dumping steel in the US market in 2002. The imposition of tariffs on steel to counter the alleged dumping was clearly for domestic political purposes and the harmed states immediately launched a dispute under the DSM. The WTO ruled in 2003 that the tariffs were illegal and the Bush Administration withdrew its tariffs near the end of 2003 when threatened with retaliatory tariffs by the EU.

DSM disputes and AD disputes thus both represent conflicts of interest within the WTO system, but with very different institutional forms and incentives. The DSM parallels the procedure of a legal proceeding in its adjudications. The AD system is largely based on the preferences of the investigating state. While the DSM has provided some fruitful research on the role that domestic institutions play in determining the propensity to engage in these disputes, relatively little work has been done on the relationship between domestic institutions and the AD system.

### **Prior Research on Democratic Institutions and the GATT/WTO**

There is surprisingly little research exploring the relationships between domestic institutions and trade conflict across the full range of GATT/WTO membership. Most of the literature focuses on the role in the regime of individual states. A smaller literature tackles the workings of democracy, but with a small number of case studies. Only a handful of investigations have tackled the question of the role of institutions on a large scale. Even in this literature the focus is nearly entirely on the DSM dispute system.

Davis (2012) has demonstrated a strong link between democratic states and the preference for adjudication in the WTO system. Her work focuses on the role that international adjudication can play in resolving the commitment problem in trade relations. Adjudication permits states to make credible commitments and to hold others to their obligations. Adjudication can also shorten the time necessary to reach a settlement between two parties. Davis uses the United States and Japan as her two primary case studies but demonstrates a strong logical link that is generalizable across the WTO membership. Democratic states have a strong incentive to consider international adjudication as a means of responding to domestic interests.

Cass (2005) argues that the change from the GATT to the WTO and the subsequent evolution of practice within the WTO represents a process of constitutionalization that reflects an attempt to create a legitimate system of rule enforcement at the international level. The process of constitutionalization reflects the shared interests of the states promoting the use of the DSM as a means to enforce the rules of the system as they see them. The development of legitimacy within the dispute settlement process aids in the creation of a stable set of accepted international rules. While Cass argues that this logic is overly optimistic, her discussion supports a system in which states that value the rule of law have a strong incentive to use international mechanisms that follow the form of the rule of law.

An extensive literature on the behavior of democratic states in militarized conflict exists. The democratic peace literature notes that democratic states do not engage in militarized conflict with other democratic states in a range of contexts (Bueno de Mesquita et al. 2002; Dixon 1994; Hensel, Goertz and Diehl 2000; Oneil and Russet 1999). The normative explanation of the democratic peace argues that normative affinity for procedural conflict resolution reduces the likelihood that democratic states will turn to militarized conflict when dealing with other democratic states (Dixon 1993). The Kantian Peace explanation highlights the role that international organizations play as a mechanism for conflict management (Oneil and Russet 1999). The WTO is a mechanism for conflict management that is normatively aligned with democratic procedure and provides international conflict resolution. As such, it is a likely venue for democratic states seeking conflict resolution.

Research focused on the role of democracy in the decision to initiate disputes under the DSM demonstrates that democratic states are far more likely to initiate disputes (Busch and Reinhardt 2003; Dixon 2007; Josling



2003; Reinhardt 2001). The combination of high cost and normative consistency has made DSM disputes nearly entirely the purview of democratic states (Busch 2000; Dixon 2007; Reinhardt 2001). First observed under the GATT (Reinhardt 2001), the relationship between trade dispute propensity and democracy has held up under the WTO DSM (Dixon 2007). Dixon (2007) further demonstrates that the change from GATT to WTO institutions led to increased dispute propensity only among democratic states.

Previous work to date has demonstrated that the WTO system has a normative and practical attraction for democratic states. Democratic states face strong domestic pressure to enforce trade rules in support of local interests (Davis 2012). The evolution of the institutions at the international level has reinforced the normative affinity felt by democratic states (Cass 2005). While previous research strongly supports the greater propensity of democracies to launch disputes under the DSM, no research has attempted to explore this link in the context of lower level disputes that do not share the quasi-legal elements of the DSM.

## **Democracy and Anti-Dumping**

Central to this previous research on DSM disputes is the basic assumption that the initiation of a dispute has been directed at the enforcement of the rules of the system. In research regarding disputes under the DSM, initiations represent attempts to bring wayward states into compliance with the rules of the system.

The problem has been that DSM disputes do not tell us much about the prevailing level of non-compliance. In all of the cases brought under the DSM, we observe the harmed state's choice: launch a dispute or not. We do not observe the potential target's choice of whether to cheat or not to cheat. While this does not negatively impact the relevance of past research it has limited its applicability. This is particularly true in the study of the influence of regime type. Normative arguments suggest that democratic states should be more rule-compliant than non-democratic states. Institutional incentive arguments make the case for greater domestic pressure on democratic leaders to cheat. Democracies are targeted with much greater frequency than non-democracies in DSM disputes. Does this greater propensity to be targeted reflect more frequent cheating behavior by democracies or a belief that the democracies will be more likely to comply with legal rulings? There has been no way to know from the existing data.

AD disputes allow us to look at cheating actions not captured by the DSM disputes. The initiation of an AD investigation can be seen as an attempt to use the rules of the system to violate the norms of the system. AD investigations are a way of cheating on the large goals of the WTO while holding a fig-leaf of compliance over one's actions. In this sense, AD initiations can serve as a measure of cheating behavior by member states.

AD notifications are attractive compared to blatant cheating for a number of reasons. States can claim to be in full compliance with WTO rules until the DSM renders a decision to the contrary. Notification need not lead to measures if concessions can be wrung from potential targets. Even if measures are imposed, the initiating state will benefit from these policies while targeted states decide on their responses. Targeted states must pursue an expensive policy option (DSM disputes) to end the measures through the WTO procedures. As AD measures have a maximum life of five years, it may often be cheaper to simply live with the duties or negotiate bilateral concessions than to fight in the DSM. Further, states may engage in tit-for-tat investigations and measures without ever going to the DSM. AD investigations provide ample room to cheat within the rules of the WTO. Anti-dumping is fertile ground to study cheating behavior in the WTO in a way that is clearly measurable.

Anti-dumping notifications under the WTO include two separate stages. The first type of notification is the notification that an investigation has been initiated by a member state. Generally referred to as an "initiation" in the related WTO literature, this is the formal notification by a member that an investigation has begun into dumping by another state. The second type of notification is the notification that safeguard measures have been applied. This second notification reflects an escalation of the process in that it involves the implementation of countervailing duties against the targeted state.

Looking at raw numbers there are many more anti-dumping notifications than there are disputes under the DSM. As of December 2008, there were 3,427 initiations and 2,190 measures recorded at the WTO. This compares to 405 disputes under the DSM, 59 of which were related to anti-dumping measures. Given the different nature of the anti-dumping disputes is it understandable that there would be a great many more of them. AD notifications are cheap. Escalations to the impositions of measures are also relatively cheap. That only 59 of 2,190 cases were escalated to the DSM indicates that there is a low probability that cheating using anti-dumping

will lead to enforcement action by the targeted state. That over 1,200 cases saw investigations, but no imposition of measures suggests that the investigations frequently lead to compromises outside of the formal process at the WTO.

Table 1 provides a list of the top ten target states in disputes under the DSM and under the AD system. While both lists are similar, the differences are notable. The DSM list is dominated by the world's large trading states. The AD list includes several export driven economies that are not present on the DSM list. Indonesia, Thailand, and Chinese Taipei (Taiwan) appear on this list as targets. The AD list represents a more diverse slice of the WTO membership than does the DSM list.

**Table 1: Top 10 Members Targeted In Disputes at the WTO**

DSM Requests for Consultations				Anti-Dumping Notifications*		
Rank	Member	Number	% of Total	Member	Number	% of Total
1	USA	109	27	China, P.R.	677	20
2	EU	67	17	Korea, Rep.	252	7
3	India	20	5	USA	189	6
4	China, P.R.	17	4	China, Taipei	187	6
5	Argentina	16	4	Indonesia	145	4
6	Japan	15	4	Japan	144	4
7	Canada	15	4	Thailand	142	4
8	Brazil	14	3	India	134	4
9	Korea, Rep.	14	3	Russia	109	3
10	Mexico	14	3	Brazil	97	3
	Total:		74%	Total:		61%

\* Notification of the initiation of anti-dumping investigation

Given the differences between the DSM disputes and the anti-dumping disputes it is not clear that the impact of domestic institutions on dispute propensity observed at the DSM will hold in anti-dumping disputes. The lack of a clear adjudication mechanism works against the normative affinity of democratic states for the process.

To explore the impact of democracy at various levels of conflict, the closest parallels come from the study of violent conflict. In the democratic peace literature there is ample evidence of the pacific effect of democracy (Clark and Nordstrom 2005; Dixon 1994; Hensel, Goertz, and Diehl 2000; Pevehouse and Russett 2006; Schafer and Walker 2006). In international violent conflict, we observe that democracies do not fight wars against other democracies, but we also observe that democracies do not engage in lower

level militarized conflict with each other (Oneal and Russett 1999; Senese 1997). The democratic peace literature demonstrates that behavior in militarized conflict is consistent across higher and lower levels of conflict behavior. Democratic states simply do not act violently towards other democratic states. This consistency implies that the impact of democracy on varying levels of other forms of conflict may also be consistent.

To the limited extent that past research on trade disputes has drawn on research on militarized conflict, it has argued that the logic of the democratic peace should not be applied as democratic states are simply more conflict-prone over trade (Reinhardt 2000). While the militarized conflict literature is not a perfect parallel to the trade conflict literature, it can show how the logic of institutional effects impacts decisions across levels of conflict. The underlying institutional and normative logic of the democratic peace suggests that an aversion to violent conflict will remain across a range of levels of conflict (Bueno de Mesquita et al. 2002; Dixon 1994; Mansfield and Pevehouse 2003; Maoz and Russett 1993; Russett and Oneal 2001). An aversion to the normative or material impact of violence holds even when the level of conflict is low, thus making the impact of institutional structure similar across all levels of conflict.

In trade disputes, the central factor in institutional influence shares similarities with the democratic peace. Democratic institutions allow for broader representation in government. In the case of violent conflict this means that the broad range of parties harmed by conflict can make their voices heard in policy. In trade conflict, however, the parties that influence dispute behavior are narrower. The broad costs of protection are much smaller and less direct than the costs of armed conflict. While a broad cross-section of society will feel the impact of violent conflict, the direct impact of trade conflict will be noticed by a much smaller subset of the population. This implies that the cost/benefit analysis of trade conflict will be different from that of violent conflict: trade conflict is much more dependent on narrow interest group mobilization (Davis 2012).

Democratic leaders engage in trade conflict for reasons of political survival. If the domestic group is part of a leader's winning coalition, they stand a good chance of getting their policies implemented (Bueno de Mesquita 2003). In the ongoing creative destruction of the marketplace, economic interests are constantly being buffeted by change. When these groups suffer, they press political leaders for action. Here, it is important to consider the difference between AD and DSM disputes. AD disputes are a

decision to engage in partial and temporary defection from the rules of the system: to cheat for a short time in response to a demand from a domestic interest. The AD dispute is cheap and simple to implement, and the likelihood of retaliation is low. The DSM dispute is a decision to act to force a defector into compliance, a risky and time-consuming process that requires both a confidence in the legal case and confidence that the decision can be enforced. This means that while both AD and DSM disputes are a form of trade conflict, they represent very different forms of behavior in the WTO system.

As a result of these differences, the incentives created by democratic institutions will be different in the two dispute venues. In DSM disputes, the initiator must determine whether or not the cost of the dispute is justified given the potential benefits. Given the cost in time and resources, only significant interest groups are likely to be able to gain DSM disputes as a means of achieving their policy ends. The benefits must be high enough to justify the costs. In these cases, democratic states are more likely to have a key constituency that can press for policy action (Bueno de Mesquita 2003). Past research has demonstrated that the lowering of enforcement costs in the change from the GATT to the WTO led to more democratic states initiating disputes (Dixon 2007). This suggested that the cost of the dispute is an important part of DSM dispute initiation.

The use of an investigation as a costly signal suggests that most states, regardless of regime type would be likely to select this process. Even autocratic regimes would be able to use this process to protect their domestic interests while avoiding the reputational costs of outright cheating. The central cost elements for AD initiators are not the cost of the initiation itself, but the cost of the response from the targeted party. It is here that regime type plays a more powerful role. The driving force in making democracies more disputatious under the DSM is that they are more open to pressure from harmed constituents. If a member state chooses to target a democratic state with AD measures, it is more likely that the state will engage in costly retaliation in defense of its harmed industries. Non-democratic targets are less subject to pressure from interest groups for policy action. They will also have more opportunities for private payments to harmed parties if there is a compromise (Bueno de Mesquita et al. 2003). For democratic states in particular there will be a strong need to demonstrate resolve in the face of outside threats to key economic actors. This makes it more likely that democratic targets will engage in retaliation as political leaders seek to retain their supporters. In an AD dispute, democracies are riskier targets.

Political leaders in potential initiators will include this logic in their calculation of costs and benefits. Targeting a democracy is more costly, so greater democracy in the target state should be associated with reduced targeting by initiators. This logic should hold true for measures. Imposition of measures will have a greater risk of retaliation if the target is a democratic state.

For democratic states contemplating using the AD system, there are a number of considerations. Democratic leaders will contemplate AD disputes when their constituents demand action. When constituents demand action, democratic leaders must weigh costs and benefits of policy response just as autocratic leaders do. It will be more difficult for democratic leaders to compromise during the investigation stage. If an AD dispute is cost effective for democratic leaders, they will be more likely to carry it forward to the measures stage than their autocratic counterparts.

This logic implies that domestic institutions should impact both the initiation and targeting of AD disputes. Democratic states will make less attractive targets for AD disputes due to the greater likelihood of retaliation. In the decision to initiate an investigation, democracy will not significantly impact behavior. In the decision to impose measures, however, democratic states will be more likely to impose measures. This general logic leads us to a number of hypotheses regarding AD dispute behavior for democracies.

*Hypothesis 1:* Initiator democracy will not have a significant relationship to AD initiations.

*Hypothesis 2:* As the democracy score of the initiator rises, the likelihood that they will impose anti-dumping measures will increase.

*Hypothesis 3:* As the democracy of the target state rises, the likelihood of being targeted in anti-dumping investigations will decrease.

*Hypothesis 4:* As the democracy of the target state rises, the likelihood of being targeted in anti-dumping measures will decrease.

## Methods

To test the four hypotheses, a dataset was constructed containing directed dyads of all members of the WTO. This dataset includes all country pairs configured as initiator and target to permit the testing of the directional

hypotheses discussed above. The resulting dataset contains 22,425 country pairings reflecting all member state pairs from 1995-2009. To account for the varying entry dates of member states, a variable was calculated for the age of the dyad as of 2009. This measure is a simple count of the number of years the dyad has existed in the dataset. A summary of the statistics included in the models appears in Table 2.

**Table 2: Summary Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
<b>Initiations</b>	22425	0.143	1.795	0	120
<b>Measures</b>	22425	.091	1.268	0	90
<b>Initiator Democracy</b>	19889	3.698	6.374	-10	10
<b>Target Democracy</b>	19889	3.698	6.374	-10	10
<b>Age of Dyad</b>	22425	11.81021	3.509672	1	14
<b>Initiator Trade Dependence</b>	20088	.00000015	.00000384	0	.000357
<b>Target Trade Dependence</b>	20088	.00000015	.00000384	0	.000357
<b>Initiator GDP (log)</b>	22124	17.500	2.188	12.623	26.073
<b>Target GDP (log)</b>	22124	17.500	2.188	12.623	26.073
<b>Initiator Trade (log)</b>	17894	.561	3.817	-30.656	12.328
<b>Target Trade (log)</b>	17894	.561	3.819	-30.656	12.328

The data on anti-dumping disputes is based on the available summaries of anti-dumping initiations available from the WTO (WTO 2013). These summaries provide a total number of initiations and measures for pairs of member and observer states at the WTO. The summaries reflect the total number of initiations and measures in the period for which both states were members of the WTO. The first dependent variable is coded as the total number of initiations in the observed period. The second dependent variable is coded as the total number of measures in the observed period.

As the data from the WTO is aggregate data over the life of the pair of states within the WTO, this presents some challenges in the use of the variables of interest and in key controls. The inclusion of all member states and the procedure to aggregate the data across the years of membership represent significant methodological choices. The specifics of these decisions are discussed below along with the discussion of the respective variables.

Democracy data came from the Polity Project, version IV (Marshall and Jaggers 2000). The Polity scale is a measure of institutional democracy that ranges from a minimum scaled score of -10 (most autocratic) to +10 (most democratic). The standard scaled scores for both initiator and target were

included in the dataset. To aggregate the Polity scaled score, the weakest link rule was used (Goertz and Dixon 2006). The Polity score used in this dataset is the lowest observed Polity score in the period from 1995-2009.

Trade data was taken from the Correlates of War Project Trade Dataset version 2.0 (Barbieri et al. 2009). This data includes dyadic data for a significant number of states. Two trade measures were generated: Trade volume is the total volume of imports from the other state in the dyad. Trade dependence is the value of imports as a percentage of GDP. Data aggregation for the trade data was based on the average value of the trade in the years observed. GDP data was drawn from the Penn World Tables, Version 6.3 (Heston et al. 2009). The aggregation is the average current GDP over the life of the dyad. Trade volume and GDP are logged in the models to make the standard adjustments for the non-linear impact of these variables.

While the WTO is a global trade body, not all members within it have mutual trade and some dyads have only very small amounts of trade. In this dataset approximately 6% of the dyads have no trade at all. Handling dyads with no trade presents a number of choices in selecting the appropriate models. In principle there can be no AD dispute in cases where there is no trade. To handle this potential problem, a zero-inflated negative binomial regression model is used. This model includes two separate equations designed to account for the potential of certain zeros (Long 1997). In zero inflated models the "inflate" equation represents the likelihood that the dyad will be a certain zero, accounting for the impact of varying levels of trade (including the rare dyads with no trade) within the model (Greene 2003).

To test the hypotheses listed above two zero-inflated negative binomial regression models were estimated. The first model used the number of anti-dumping investigation initiations as the dependent variable and the second used the number of anti-dumping measures. Both models estimate the impact of the same range of variables in the main equation. In terms of the predictive value of a certain zero, the level of trade is a powerful predictor. As such the trade volume for both member states is used in the inflate equation for initiations and measures to account for dyads with no or low trade. In the models for measures, the inflate equation also includes the number of initiations. To impose measures generally requires an investigation be conducted, meaning that a non-zero value on initiations should be a strong predictor of non-zero values on measures. The results for both equations are included in Table 3.



**Table 3: Impact of Key Variables in Anti-Dumping Notifications (Zero-Inflated Negative Binomial Regression Models)**

Variable	Initiations		Measures	
	Coefficient	SD	Coefficient	SD
<b>Main Equation Results</b>				
Initiator Democracy	.012	.007	.014*	.006
Target Democracy	-.041**	.007	-.039**	.006
Age of Dyad	.0004	.014	-.035*	.014
Initiator Trade Dependence	-6573.872	4089.86	3236.602	2600.942
Target Trade Dependence	-4256.087	2424.734	-935.8046	1641.037
Initiator GDP (log)	.538**	.051	.241**	.028
Target GDP (log)	.547**	.042	.406**	.038
Constant	-21.640	1.600	-11.813	.909
<b>Inflate Equation Results</b>				
Initiator Total Trade (log)	-.526**	.073	-.062	.095
Target Total Trade (log)	-.108*	.053	.038	.083
Initiations	n/a	n/a	-7.554**	.558
Constant				
N	13,887		13,887	
$\chi^2$	287.69**		248.26**	
Log Likelihood	-3085.921		-1383.476	

\*  $p \leq .05$  \*\*  $p \leq .01$  Results in the main equation are negative binomial regression coefficients. Results in the inflate equation are the log-odds ratios for the presence of a certain zero.

**Results**

The results offer strong support for the hypotheses above. Hypothesis 1, that there would be no significant impact of democracy at the initiation stage, is supported by the results. The coefficient for initiator democracy is not statistically significant in the initiation model. The results for target democracy are statistically significant and negative, indicating support for hypothesis 2, the prediction that the likelihood of being targeted will decrease as the democracy score of the state rises. In the model using measures as the dependent variable, the results show that initiator democracy is statistically significant and positive, supporting the argument in hypothesis 3 that rising democracy is associated with a greater frequency of imposing measures. Target democracy is negatively signed and significant in the measures model, providing support for hypothesis 4. All four hypotheses are supported by the models, providing strong support for the theoretical linkages between domestic institutions and dispute behavior in anti-dumping.

Table 4 shows the substantive impact of democracy at various levels. The table displays the predicted average number of disputes in a dyad holding all other variables at their means. The mean predicted number of initiations per dyad is .299 for the model as a whole. The mean predicted number of measures per dyad is .150. Table 4 shows that the predicted number of initiations drops substantially as democracy scores increase. The predicted count for states at -10 on the democracy score (.456) is more than double that for states at +10 (.200), suggesting a strong substantive impact for the target state democracy score. The results for measures are similarly strong. The predicted count changes on a comparable scale with the predicted number of measures at -10 (.218) being slight greater than twice that predicted at +10 (.100). The change from the mean (3) to the maximum

**Table 4: Substantive Impact of Democracy**

Democracy Score	Target States				Initiator States	
	Initiations		Measures		Measures	
	Predicted Initiations	SD	Predicted Measures	SD	Predicted Measures	SD
-10	0.456287	0.065459	0.218138	0.022891	0.129596	0.012555
-9	0.437868	0.061159	0.209845	0.021043	0.131362	0.012161
-8	0.420192	0.057181	0.201867	0.019336	0.133153	0.011787
-7	0.40323	0.053509	0.194192	0.017764	0.134967	0.011438
-6	0.386953	0.050128	0.186809	0.016325	0.136807	0.011121
-5	0.371333	0.047023	0.179707	0.015013	0.138672	0.010844
-4	0.356344	0.044179	0.172875	0.013826	0.140562	0.010615
-3	0.341959	0.041583	0.166302	0.012761	0.142478	0.010442
-2	0.328155	0.039221	0.15998	0.011815	0.144419	0.010333
-1	0.314909	0.037079	0.153897	0.010985	0.146388	0.010298
0	0.302197	0.035144	0.148046	0.010268	0.148383	0.010343
1	0.289998	0.033402	0.142418	0.009660	0.150406	0.010474
2	0.278292	0.031839	0.137003	0.009155	0.152455	0.010694
3	0.267058	0.030442	0.131794	0.008746	0.154533	0.011005
4	0.256278	0.029198	0.126784	0.008427	0.15664	0.011408
5	0.245932	0.028092	0.121964	0.008187	0.158775	0.011899
6	0.236005	0.027111	0.117327	0.008017	0.160939	0.012476
7	0.226478	0.026242	0.112866	0.007906	0.163132	0.013135
8	0.217336	0.025473	0.108575	0.007844	0.165356	0.013872
9	0.208563	0.024792	0.104447	0.007820	0.167609	0.014682
10	0.200144	0.024187	0.100476	0.007826	0.169894	0.01556

Table 4 results are predicted numbers of disputes at various levels of democracy. The baseline predicted number of initiations for the model as a whole is .299. The baseline predicted number of measures for the model as a whole is .150.

value on initiator democracy has a smaller impact in both models, but still represents a 25% decrease. In both initiations and measures, the predicted number of disputes drops as the target democracy score rises.

For the impact of initiator democracy on measures, Table 4 also provides an equivalent list of predicted counts. In this case the substantive impact is less pronounced, but still important. As the democracy score for the initiator rises, the number of predicted measures also rises. The magnitude of the impact is less than that observed for target democracy. The predicted number of measures rises from .130 at -10 on the Polity scale to .170 at +10 on the scale. This change reflects a 24% increase in the number of predicted disputes as initiator democracy rises from its minimum to its maximum. As democracy rises from its mean (3) to its maximum, the increase in the number of disputes is 9%.

The results for the control variables in the initiations model are interesting in a number of areas. Surprisingly the age of the dyad was not significantly related to the number of initiations the dyad experienced. One would expect that dyads with longer lives experience more disputes, but this is not the case when other factors are controlled for. It is particularly interesting to note that the age of the dyad was not significant in the model for initiations. In the model for measures the age of the dyad was statistically significant and negative, implying that older dyads experience relatively fewer measures. This result is interesting as it implies that the older the dyad, the less likely that dyad is to see escalations to the measures stage. There are a variety of potential explanations for this, most notably that member states may become more adept at avoiding escalation, but this provides an interesting avenue for future research.

The trade dependence variables were not significant in this model for either the initiator or the target indicating that trade dependence does not impact the number of disputes at either stage when total trade is used to account for a certain zero outcome. Higher levels of GDP lead to higher numbers of disputes in both the initiation and measures models. This is not surprising as larger economies offer much greater opportunity for disputes over trade and this result is consistent with past research on trade disputes under the DSM. In the binary logit equation predicting the certain zero, trade volume performed as expected in the initiations stage with higher levels of trade decreasing the likelihood that a dyad would be a certain zero. This indicates that higher levels of trade for both the initiator and the target make it more likely that they will experience anti-dumping initiations. In the

certain zero equation for measures, the inclusion of the initiation count as a predictor of the certain zero swamps the effect of the economic variables.

Overall the models strongly support the hypotheses regarding the relationship between democratic domestic institutions and anti-dumping behavior. The models predict that higher democracy scores will be associated with a lower likelihood of being targeted in anti-dumping disputes. Higher levels of democracy are not associated with a higher propensity for initiation, but they are associated with a higher propensity for escalation to the implementation of measures.

## Conclusions

These results offer strong support for the impact of domestic institutions on international trade conflict. Domestic institutions impact the relative cost of engaging in anti-dumping disputes at the WTO in ways that impact the decisions of potential initiators. The broader representation in democracies increases the likelihood of harming a politically influential group and generating a retaliatory response. The more democratic a state is, the less tempting they are as a target for anti-dumping disputes. This is true both in the decision to initiate investigations and in the decision to impose measures.

While democracy does not have a significant impact on the decision to initiate a dispute, higher levels of democracy are associated with more frequent escalation. Democratic states are more likely to carry the anti-dumping process to the measures stage. The need for public policy, and public displays of loyalty to constituents make democratic states less likely to arrange deals outside of the rules of the WTO. It is possible that this may also derive from the normative commitment to procedure in democratic states, but this distinction cannot be made in the current analysis. Future research is necessary to attempt to distinguish between the need for public policy and the normative influence.

These findings build upon the past work on disputes at the WTO which have focused on the Dispute Settlement Mechanism. This past work has shown that domestic institutions play a significant role in determining dispute behavior of the WTO member states. Democratic states are far more likely to engage in WTO DSM disputes as a means of resolving trade conflict. A formal adjudication mechanism lowers the cost to states seeking to enforce compliance with international trade rules. It is also normatively appealing to democratic states whose leaders are conditioned to prefer

procedural dispute resolution. Anti-dumping disputes demonstrate that the impact of domestic institutions of the member states is also significant in lower level disputes outside of the DSM process, although in different ways. In both kinds of disputes, member states evaluate costs and benefits of these disputes in their domestic political context. The higher cost of targeting democratic states, leads members to target democracies less often.

This paper adds to our understanding of international conflict resolution and international organizations by demonstrating that domestic institutional forms have a significant impact on the behavior of states evaluating international policy choices. The WTO process allows us to examine international economic disputes in a number of contexts. AD disputes allow us to look beyond the formal, legal processes and explore how domestic institutions impact behavior in less formal contexts. This has two potential benefits for researchers in international institutions. First it demonstrates that the domestic institutions play a role in the evaluation of potential costs even at very low levels of cost to the states in question. Second, it demonstrates that the design of institutional conflict management mechanisms must consider the impact of domestic institutions in order to predict outcomes. Even in a context where the procedural norms are at a minimum, the costs imposed by domestic political considerations in the targeted state becomes part of the calculus by the potential initiator. While this largely confirms the findings of past research on DSM disputes, this paper demonstrates that the nature of this impact is different at different levels of formalization of the dispute process. This paper represents a beginning in the examination of multiple types of trade disputes under the WTO. Further research should explore these differences more systematically including additional areas of disputes and to examine the process through which disputes escalate across these levels of conflict.

This paper demonstrates that the study of multiple levels of trade disputes offers a rich area of inquiry for the study of conflict management in international institutions. The design of the international institution alone is not sufficient to understand how member states will behave. To understand the impact of international institutional design, we must examine the interaction between these international institutions and the domestic institutions of the member states. To understand the role of the international/domestic institutional interaction in how states pick their battles and how these battles are resolved, will improve our ability to manage international conflict in its widely diverse forms. It can also inform the efforts to promote reforms of international institutions to make them

more broadly representative and open to greater participation. This is particularly important at a WTO that is struggling to demonstrate its benefits to poorer member states.

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