Domestic Political Determinants of the Onset of WTO Disputes

B. Peter Rosendorff and Alastair Smith [*]

New York University

October 27, 2017

Abstract

Trade disputes are driven by domestic politics, and the onset of trade disputes are driven by changes in the leadership within states. We offer two stylized facts for explanation: Leader change leads to dispute onset, and the effect is greater in autocracies than in democracies. We develop a model that explains changes in trade policy and dispute onset induced by shifts in the sectors represented in government when leaders change. Democracies protect a wider set of industries at shallower levels than do autocracies. When leaders change in autocracies, new sectors enter the winning coalition, resulting in new deeper barriers that spark disputes. When leaders change in democracies, the change in the winning coalition is not as stark, and the depth of the shifts in trade barriers is not that large, resulting is a smaller effect on dispute initiation. Word Count 9563. *Keywords: leader change, dispute onset, WTO, regime type.* JEL: F13

[*]Correspondence: peter.rosendorff@nyu.edu, 212 998 8173, Department of Politics, New York University, 19 West 4th St, New York NY 10012, orcid: 0000-0002-6775-8911

Leaders rely on a coalition of supporters in order to remain in office. Those supporters in turn benefit from a set of policies, benefits and rents directed in their favor. When a government changes, those interests that enter the coalition gain; those interests that leave the coalition see their benefits curtailed.

Trade policy is no exception. When government changes, especially when associated with changes in the underlying coalition of supporters, trade policy shifts. If import-competing firms enter a governing coalition, trade barriers become more frequent; similarly, exporting firms see more export or production subsidies if they join the supporting coalition of a new government. Those sectors that leave the support coalition may see a reversal in their privileged status, in favor of broader societal interests such as those of consumers and social welfare more generally. Leadership changes lead to changes in a nation's trade policy, and in particular its tariff and subsidy profile.

Trade policy-making however is not a unilateral process; policies must be chosen in the light of the international trade regime, most notably that of the World Trade Organization (WTO), and of course other regional and preferential trade agreements (PTAs), which put limits on the permitted levels of protection, and the methods by which barriers may be applied. Political pressures to protect certain industries, sectors or interests may be difficult to avoid even if international agreement restricts such action (Goldstein and Martin, 2000; Davis, 2012; Rosendorff, 1996, 2005; Rosendorff and Milner, 2001). Leaders balance their international obligations with the domestic political need to protect interests that are members of their supporting coalition. Concerned with offering their supporters the protection they desire, they enter into the gray area between compliance and abrogation of their international commitments. Subsidies (usually implicit) in favor of export interests are rationalized as a legal response to unfair protection abroad; tariffs at home are rationalized as reasonable and legal responses to dumping or to provide temporary protection while an industry retools, for instance.[1]

---

[1]Such trade policy choices may be legal under the WTO or may not be. Aware of this ambiguity,

When a trade policy profile - a set of policies across industries or sectors - changes, outstanding international trade disputes are more likely to be settled, and other sectors see new disputes initiated. Sectors that see their policy benefits decline are associated with settlement of preexisting disputes; sectors receiving enhanced protection may be associated with new disputes initiated against their government. Similarly, political change may induce a new leader to file against a trading partner for a preexisting violation that was not politically salient under the prior leadership.

There are two stylized facts that we seek to explain in this paper. The first is that leader change makes states more likely to file new complaints and be filed against by their trading partners. The second is that the impact of leader change on dispute filings is conditioned by regime type: the effect of leader change on dispute initiation is much larger in non-democracies than in democracies. Leader change in democracies has a relatively small effect on new dispute initiation; leader changes in autocracies have a much larger dispute-initiating effect.

In what follows we offer some preliminary evidence in support of these stylized facts using two new datasets: one collected by Bobick and Smith (2013) which is an extension of the data collected by Busch and Reinhardt (2003) on the list of cases filed at the WTO; and the second on leader and coalition change collected by Leeds and Mattes (2013). Then we build a simple general equilibrium political economy model of international trade and policy formation parameterized by the size of the supporting coalition. Leader change in both small coalition (autocratic) and large coalition (democratic) systems are investigated. A state with a change of leader will face the onset of more disputes – both as a complainant and a respondent. Institutions moderate the impact of leader change.

_____

member states strengthened the dispute settlement mechanism of the WTO during the Uruguay Round to more effectively adjudicate these disputes, to clarify obligations and to help states bring their policy profiles back into compliance.

WTO Dispute Resolution Mechanism

The procedures specified in the Dispute Settlement Understanding (DSU) adopted during the Uruguay Round of negotiations at the WTO are consistent with the practice that had developed since the GATT was first implemented in 1947, and part of the increased "legalization" of the world trading system (Goldstein and Martin, 2000; Jackson, 2004; Kim, 2008). A contracting party may file a complaint with the WTO regarding a perceived violation of the treaty on the part of another member. If formal, bilateral consultations are unproductive (an attempt at a negotiated resolution), the complainant may request that a panel of independent experts investigate the matter and make a recommendation. We call this step in the process, the "filing" of a WTO dispute. If the panel finds that the offending action is "inconsistent," the offending party (which in WTO-speak is known as the "respondent") is obliged, should the panel so recommend, to terminate the violating measure and bring its practice back into conformity with its obligations.[2]

We focus in this paper on the decision to file consequent on possible leader and supporting coalition changes. We focus on the filing date since this is the moment when the leader of one nation complains that the policies of another nation are harming the interest of her supporters. Hence this is the politically relevant date.

We don't mean to suggest that leader change is the sole determinant of the onset of (or the progress, and/or settlement of) disputes at the WTO. Domestic politics more broadly has been identified as a source of trade policy adjustment, and therefore as a potential source of variation in WTO filings.[3] Reinhardt (2000), using data on dispute initiation within all GATT/WTO directed dyads from 1948 through 1998, finds that democracies participate in more, not fewer, GATT/WTO disputes. Simmons and

---

[2]We abstract away from further details of the dispute process. For instance the finding by the panel can be appealed to the Standing Appellate Body. We similarly abstract from issues of enforcement and compliance with the panel or the appellate body findings. See Kim (2010) for an excellent discussion on the emergence of the WTO's dispute mechanism from that of the GATT.

[3]See Rosendorff (2015) for a fuller discussion of the domestic politics of international trade disputes.

Guzman (2005) find evidence that poorer countries file fewer cases because they lack the resources to do so, but not that they fear retaliation from more powerful trading partners. In contrast, Sattler and Bernauer (2011) suggests that power does play a role in preventing cases from making it to the WTO, and are perhaps instead dealt with outside the WTO. While Chaudoin (2011) suggests that WTO disputes are more likely when the general public is more supportive of free trade in the run-up to US elections, Rickard (2010) shows governments elected via majoritarian electoral rules and/or single-member districts are more likely to violate GATT/WTO agreements than those elected via proportional electoral rules and/or multi-member districts.

Of course, not all violations ("withdrawal of concessions" in WTO-speak) end up as formal disputes. Some are settled via a negotiation process and are not even reported to the WTO. Davis (2012) reports that the United States National Trade Estimate Report (which monitors the trade barriers of U.S. trade partners) listed 126 trade barriers by Japan between 1995 and 2004, of which only 6 were addressed in WTO dispute settlement (p. 9).[4] We emphasize in this paper that both the violation and its prosecution are *political* events. A trade policy change (which may be a "violation") emanates from exchange of policy for support; a decision to file a complaint will only take place if the potential beneficiary is a member of the leader's support coalition. And even then, if the leader has other competing political claims, a filing may be less likely to take place. Filings, and violations, are clearly political decisions.

Violations, and filings are also a function of the expected outcome of the panel and adjudicatory process at the WTO. About 35% of all cases that are filed fail to report any formal settlement with the WTO (Chaudoin, Kucik, and Pelc, 2013). Cases are more likely to be paneled when the disputants are democracies (Busch, 2000) and democracies are also more likely to be named in petitions filed by the US in antidumping cases (Busch, Raciborski, and Reinhardt, 2008). Filings also vary in their

---

[4]See also Davis and Shirato (2007). Busch and Pelc (2015) suggest that *specific trade concerns* (STCs), reported to the committees on Technical Barriers to Trade and Sanitary and Phytosanitary Measures at the WTO is a data source that can be used to address with the gap between violations and filings.

form: Johns and Pelc (2014) suggest that Article XXII cases are more likely to settle, and a complainant who files under Article XXIII is more likely to win a ruling and less likely to see that ruling appealed by the defendant.

Stylized Facts

Between 1995 and 2008, the WTO lists 388 disputes.[5] Several of the disputes involve multiple participants, usually multiple complainants, but there are several cases where multiple respondents are named. Multiple participants increase the number of dyadic disputes to 421. However many disputes occur between the same participants in the same year. For instance, in 2000, the EU initiates 6 complaints against the US. We explore the occurrence of a dispute filed by a complainant country (C) against a respondent country (R) in a particular year. Allowing for the presence of multiple disputes there are 334 dyad years in which a dispute occurs between 1995 and 2008. We refer to this list of dyad-dispute years as the **long** list of disputes.

The long list of disputes involves considerable double counting. For instance, in Dispute 16 in September 1995, Ecuador, Guatemala, Honduras, Mexico and the United States complain about the EU's importation, sale and distribution of bananas. The same nations again request consultations on the same issues in February 1996, coded as Dispute 27. In the long list of disputes taken from the WTO's list, these disputes are treated as separate events. We also create a **short** list of dyad years with disputes by collapsing related disputes into a single event. We use the Bobick and Smith (2013) extension (following the procedures of Hudec (1993)) of the Busch and Reinhardt (2003) data which contains 321 dyadic disputes resulting in 268 dyadic years in which WTO disputes occur. The regularities we present in this section are similar whether we use the long or short list of disputes.

We match each member nation with every other WTO nation for each year between

---

[5]http://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm" accessed 7/14/2013.

1995 and 2008, and create a WTO Dispute variable which takes the value one in a particular year if and only if nation C initiates a dispute against nation R in that year. In all other cases, WTO Dispute is coded as 0. The data contain 232,581 directed dyad year observations in which, using the long list, 334 directed dyad years experience actual dispute onset. Within the short list there are 268 directed dyad years that experience dispute onset. Data on the turnover of leader change are drawn from the Change in Source of Leader Support (CHISOLS) (Leeds and Mattes, 2013) dataset that was kindly provided by Ashley Leeds and Michaela Mattes.

Stylized Fact 1: Leader Change and Dispute Onset

Table 1 suggests a relationship between leader change and dispute initiation (based on the long list of disputes). The columns in the table reflect whether or not leader change occurred in either of the nations in each dyad. The first column represents instances where no leader changes have occurred. The second column corresponds to observations in which leader change occurs in the current or previous year in the complainant nation C, but no leader change occurred in the respondent nation R. Observations in which leader change occurred in nation R in the current or previous year but leader change did not occur in nation C are in the third column. The final column corresponds to observations where both nations experienced leader change. The table is divided into two rows. The top row corresponds to dyads that have not experienced a recent prior dispute. Observations in which a prior WTO dispute has occurred between C and R within the previous two years are in the lower row. The table does not distinguish between whether nation C or R was the initiator of the prior dispute. Each cell contains two numbers. The latter is the number of observations that meet the leader change and prior dispute contingencies. The former number corresponds to the rate of dispute onset in terms of disputes per ten thousand observations.

Table 1 shows several clear patterns. First, and most notably, dyads that have had

Table 1: Leader Change and WTO Dispute Onset (per 10,000 obs.) – Long List

Rate	Leader Change			
Obs.	None	Change in C	Change in R	Change in Both
No Recent Dispute	6.87	9.33	9.76	11.81
	71,375	31,097	31,769	13,550
Recent Dispute	67.31	59.88	73.46	47.29
	17,381	5,845	6,126	2,326

- Country C refers to a complainant country, R refers to a respondent.
- The first column represents no leader changes. The second column represents leader change in the current or previous year in nation C, but no leader change occurred in nation R. Observations in which leader change occurred in nation R in the current or previous year but leader change did not occur in nation C are in the third column. The final column corresponds to observations where both nations experienced leader change.
- The top row corresponds to dyads that have not experienced a recent prior dispute. Observations in which a prior WTO dispute has occurred between C and R within the previous two years are in the lower row.
- Each cell contains two numbers. The latter is the number of observations. The former number corresponds to the rate of dispute onset in terms of disputes per ten thousand observations.

recent disputes are far more likely to have future disputes than dyads without a recent history of disputes.[6] In particular, the rate of WTO dispute onset is about 6.7 per 10,000 observations for dyads without a recent history of disputes. When there is a prior history of disputes, then the rate of dispute onset jumps to about 48 per 10,000 dyad years.

The second pattern that emerges from Table 1 is how leader change affects the rate of dispute onset. Absent prior recent disputes, the rate of dispute onset is about 7 per 10,000 without leader change. This rate jumps to about 9 per 10,000 if either leader C or leader R changed and up to about 12 per 10,000 if both leaders change. Leader changes elevates the rate of WTO dispute onset.

In Appendix 3, Table 11 replicates these observations with the short list of disputes and exhibits similar patterns.

Stylized Fact 2: Effect is Greater with Autocratic Leader Change

Leader change, *and its interaction with institutions*, affects the onset of disputes.

In Table 2, we explore the effect of the size of the winning coalition (a proxy for democracy) for both complainant and respondent states, and the effect of leader change on the predicted number of disputes initiated. We run a simple rare events logit with some economic controls, and we report the 95% confidence intervals for the relative risk of changing from small to large coalitions and the impact of leader change under different institutional arrangements, using both the short and the long lists. Details of this estimation procedure and the results can be found in Appendices 2 and 3.

Most democratic nations are between 6.5 and 50 times more likely (in the short list)

---

[6]Davis and Bermeo (2009) have a similar finding: past experience in trade adjudication, as either a complainant or a respondent, increases the likelihood that a developing country will initiate disputes. States that frequently file GATT/WTO complaints are however, less likely to be targeted in U.S. anti-dumping decisions (Blonigen and Bown, 2003; Bown, 2002, 2004).

Table 2: 95% Confidence Intervals for Relative Impact of Change in Leaders and Institutions on WTO Dispute Onset

State		Short	Long
Complainant	Winning Coalition	[6.5,50]*	[10.6,82]*
	Leader Change, Autocracy	[2.5,27]*	[2.7,32]*
	Leader Change, Democracy	[.35,.69]	[.37,.71]*
Respondent	Winning Coalition	[.61,5.0]	[1.0,8.4]*
	Leader Change, Autocracy	[1.1,8.5]*	[1.7,12]*
	Leader Change, Democracy	[.63,1.2]	[.60,1.1]

* indicates the 95% confidence interval excludes 1. "Short" and "Long" refer to the list of disputes in the data.

and 11 to 82 times more likely (in the long list) to initiate a WTO dispute compared to the most autocratic nations. The respondent coalition size also appears to affect the likelihood of dispute onset, with larger coalition systems being more likely to be targeted in WTO disputes (the fourth row of Table 2). However, the impact of the coalition size in the respondent state is much smaller and less consistent across the two lists.

Beyond affecting dispute onset directly, institutions moderate the impact of leader change. The impact of leader change on the risk of WTO dispute onset is contingent on political institutions. Generally we find that in autocracies, leader change increases the likelihood of WTO dispute onset (rows two and five of Table 2). However, in democracies, leader change either has little impact on the onset of WTO disputes or slightly decreases the risk of WTO disputes (rows three and six).

This establishes our second stylized fact that while democracies file more disputes, leader change in autocracies has a larger effect on dispute onset than does leader change in democracies.

An Intuition

A democracy requires a larger supporting coalition: protection for more sectors comes at a greater cost to the individual consumers and voters by way of higher goods prices. Democratic leaders protect a larger set of sectors, but protects each sector less deeply than an autocratic leader. Democracies, needing to offer broader protections to a wider variety of sectors, do so at shallower levels of protection than do autocracies that provide deep but narrow protections (Downs and Rocke, 1995).

Autocratic leaders care deeply about a narrow segment of society. When a new autocrat enters office she wants to enrich her small sector of supporters, rather than her predecessor's supporters. A switch in trade policy to intensely protect her supporters can trigger a trade dispute with the autocrat being the respondent. An incoming autocrat's deep concern for a narrow sector can also trigger her to initiate a WTO dispute as a complainant. Trade policies in another state might have been harming the welfare of those in the sector from which she draws her support prior to her accession to power. However, if her predecessor drew support from elsewhere, then he had little interest in expending political capital and resources to help non-supporters. The newly installed autocrat wants to promote the interests of her supporters and the change in political will can lead to the initiation of a complaint against a (perhaps long standing) trade policy overseas. The empirical evidence supports these predictions that autocratic leader change can trigger the onset of WTO disputes both as a respondent and a complainant.

The impact of leader change in democracies is more subtle. First, because a democratic leader needs supporters from such a large swath of society there is overlap between the interests represented by predecessor and successor so the change in the coalition of supporters is not as drastic as in autocracy. Second, the extent to which a leader helps her supporters is more moderate; democratic trade policies are broad and shallow. Shifts in trade policy are modest and therefore less likely to trigger the onset

of disputes.

Motivated by both these stylized facts and some intuitions, we now offer a theoretical approach that offers some explanations for these observed regularities, consistent with our underlying intuitions.

Theory

When leaders change then so do the interests represented. Patterns of filing at the WTO will reflect these changes in the sources of leader support. Protection (in the form of a tariff on imports, or a subsidy for exports) will benefit the producers (or more precisely the owners of the capital specific in the production) of these goods and harm consumers, by virtue of the higher domestic prices commanded for these protected goods. A change in leadership will be associated with a change in the sectors that get protected, and hence the beneficiaries of that protection.

Our model at first has a single country, R. It has three districts, $1, 2, 3$ indexed by j. Each district produces a good, also labeled $1, 2, 3$ indexed by g and there is a fourth good, the numeraire. A tariff (or subsidy) for each good g is denoted t_g.

Individuals are of mass 1 and are distributed uniformly across each of the districts, so that each district has $1/3$ of the population. Each individual owns a unit of labor and the individuals in district 1 own all the (specific) capital needed to produce good 1; those in district 2 own and produce good 2, and similarly, district 3 produces 3 only.

The numeraire good uses only labor in production, and 1 unit of labor produces 1 unit of output, so the wage is set at 1. Each (produced) good $g \in \{1, 2, 3\}$ requires labor and a specific factor we call "capital". The return to capital is an increasing and concave function $\Pi(p_g)$ of the domestic price. The slope of the profit function yields the supply function $s(p_g)$. That is $s(p_g) = \Pi'(p_g)$ for $g = 1, 2, 3$.

The indirect utility for any individual i in district j is $V_{ij} = I_{ij} + \sum_{g=1}^{3} \Delta_i(p_g)$ where I_{ij} is the individual's income, and $\Delta_i(p_g)$ is the consumer surplus from the consumption

of good g. Consumers consume all four goods. Demand for good g is $d(p_g) = -\Delta'(p_g)$. That is higher prices, perhaps due to domestic government protection for that sector, lead to reduced consumer surplus - protection harms the individuals in their capacity as consumers.

Then aggregate income of district j is

$$I_j = \frac{1}{3} + \Pi(p_j) \tag{1}$$

Let π_g be the external/world price of good g which is given and fixed. Units are chosen such that $\pi_g = 1$ for all g.

Then the aggregate welfare of district j is

$$V_j = \frac{1}{3} + \Pi(p_j) + \frac{1}{3}\sum_{g=1}^{3}\Delta(p_g) \tag{2}$$

The first term reflects the wage income of one-third of the population; the second term refers to the profits earned by the firm(s) located in the j district. The term under the summation sign refers to the j'th district's share of consumer surplus

Trade policy takes the form of a *specific* tariff (or export subsidy) t_g and the domestic (internal) price in R is $p_g = t_g + \pi_g = t_g + 1$ (where $t_g < 0$ represents an import subsidy or export tax).

Government and Policy

We now consider the political institutions in R. In a democracy, a leader takes control of the government, and hence policymaking, when it holds a majority of the districts. A government therefore can be made up of members representing any two of the districts or perhaps all three. In an autocracy, the government represents only one district.

Denote the support coalition forming the government in country R by S^R. For example, if the coalition supporting the leader in R (a democracy) is $\{1, 2\}$, then

13

$S^R = \{1, 2\}$. If R is an autocracy run by representative from the 1 sector/district, then $S^R = \{1\}$.

We assume that any tariff revenue accrues to (or export subsidy is paid by) the government.

The Leader's Problem

The leader chooses levels of protection for all three sectors based on its support coalition. In a democracy the leader (of a coalition that includes districts 1 and 2) chooses tariffs t_g for $g = 1, 2, 3$ to maximize the welfare of the members of the leader's governing coalition net of any tariff revenues or export subsidies,

$$V_1 + V_2 = \frac{2}{3} + \sum_{g=1,2} \Pi(t_g + 1) + \sum_{g=1,2,3} \left[\frac{2}{3}\Delta(t_g + 1) + t_g m(t_g + 1) \right] \quad (3)$$

where $m_g(.)$ is the imports of good g. The first term in equation (3) is the wage income earned by voters in districts 1 and 2; the second term is the sum of profits of the firms in districts 1 and 2, and inside the brackets of the third term we have the consumer surplus and sum of the tariff revenues received or export subsidies paid by the government.

In an autocracy (led say by district 1), the leader chooses protection for all three goods in order to maximize

$$V_1 = \frac{1}{3} + \Pi(t_1 + 1) + \sum_{g=1,2,3} \left[\frac{1}{3}\Delta(t_g + 1) + t_g m(t_g + 1) \right]$$

To keep things simple we assume linear demand and supply: $d(p_g) = d - \delta t_g$ and $s(p_g) = s + \sigma t_g$. Of course $d, s > 0$, which represent supply and demand levels when free trade occurs, with $\delta, \sigma > 0$.

Lemma 1. *The optimal trade protection profile* (t_1, t_2, t_3) *for a*

14

1. *democracy with $S^R = \{1, 2\}$ is $\left(\frac{d}{4\delta + 3\sigma}, \frac{d}{4\delta + 3\sigma}, \frac{d - 3s}{4\delta + 6\sigma} \right) \equiv (x, x, z)$;*

2. *autocracy with $S^R = \{1\}$ is $\left(\frac{2d}{5\delta + 3\sigma}, \frac{2d - 3s}{5\delta + 6\sigma}, \frac{2d - 3s}{5\delta + 6\sigma} \right) \equiv (X, y, y)$.*

The proofs are in the Appendix. Simplifying notation, we denote these as (x, x, z) for the democratic case, and (X, y, y) for the autocratic case. Notice that regime type affects both which sectors get protected and the level of protection. A sector in the support coalition receives more protection; but protected sectors in a democracy receive less protection than protected sectors in an autocracy:

Lemma 2. *Ordering protection:*

1. *The optimal protection for any sector in the supporting coalition is smaller in a democracy than in an autocracy; the optimal protection of any good outside the supporting coalition is smaller in a democracy than an autocracy. That is $X > x$ and $|y| > |z|$.*

2. *Also $x > z$ and $X > y$.*

A democratic leader not only cares about protecting the capital owners who are member of the support coalition. The democratic leader must also worry about the consumer surplus, and hence the domestic prices facing two-thirds of the consumers of the country. Since more protection for capital owners invariably means higher prices for consumers, a democratic leader will be constrained in raising protection by the effect on consumer welfare. An autocratic leader, on the other hand, cares only about the capital owners in one sector, and only one-third of the consumers. Since fewer consumers enter the objective function (and the effect of protection on profits is linearly separable), an autocratic government offers deeper protection at the expense of the broader community.

This result, that democracies adopt lower levels of protection, has been identified in the prior literature. See for instance Mansfield, Milner, and Rosendorff (2000, 2002); Hollyer and Rosendorff (2012). However, prior explanations have relied upon

arguments related to separation of powers, or electoral accountability or the need for effective transparency. Here the explanation relies solely on the relative sizes of the coalition needed to support the leader in power (Bueno de Mesquita et al., 2003). A democratic leader relies on the wellbeing of a greater swath of the population and therefore is less inclined to protect special interests at the expense of the broader welfare.

Disputes

Now consider a second country, C, the potential complainant that trades with R. Country C also produces the same three goods $1, 2, 3$, each produced in a district with sector specific capital. Country C has a support coalition denoted S^C which, like in R, could be for instance $\{1, 2\}$ if C is a democracy, or could be for instance, $\{1\}$ if C is an autocracy. A trade barrier applied by the leader in R harms the corresponding sector in C. And a larger barrier harms the sector in C by more. For example the loss experienced by sector j in C is larger when R applies barrier X compared to barrier x. We ignore the tariff setting process in C. We focus on C's filing of disputes against R.[7]

Violation

To keep things simple, we denote a country's WTO obligations as requiring an applied tariff (or export subsidy) at or below the bound rates as specified by the agreement. A country is more likely to be in violation of its WTO obligations as its protection rises.

Assumption 1. *The probability that country R is in violation of its treaty obligations with respect to good g rises with the barrier it erects on good g. That is $Pr(Violation_g) =$*

---

[7]Of course, there is a symmetric case where R may wish to file a dispute over C's trade policy. For simplicity, and clarity, we focus of the case where R sets policy and C chooses whether or not to file.

$f(|t_g|)$ with $f' > 0$ where t_g is the barrier chosen by country R with respect to good (and sector) $g = 1, 2, 3$.

A dispute has three pre-conditions

Three conditions are necessary for C to be inclined to file a dispute against country R. There must (most likely) have been a violation, and it must be politically optimal to file a dispute. The mere presence of a violation is necessary but not sufficient for a filing. The sector that has been harmed by the offending measure applied by R must be member of the governing coalition in C and C must regard the opportunity costs of filing as worthwhile. Three factors affect whether C complains about R's trade policy in a particular sector, say g (which is produced in district $j = g$):

1. The amount of protection R gives to sector g. As derived above this depends upon whether the producers of g are in R's coalition and the size of R's coalition.

2. Whether the producers of g are in C's coalition, and hence whether C cares about any harm imposed on sector g.

3. The size of C's coalition and hence whether the welfare of g producers is C's only concern or whether C needs to balance g's needs against those of other coalition members. The more groups there are in C's coalition, the less C can focus on the needs of each group.

The first factor depends upon R's institutions and the composition of R's coalition. The latter two factors depends upon C's coalition and institutions.

Assumption 2. *Country C files a dispute against R over its barriers in sector g with probability $Pr(Dispute_g) = f(|t_g|)h(S^C)I\{g \in S^C\}$, where $I\{g \in S^C\}$ is an indicator function that takes the value 1 when g is a member of the winning coalition in C and $h(S^C)$ is a decreasing function of the number of groups in C's coalition.*

The probability that C (the "Complainant") files a dispute against R (the "Respondent") over its barriers in sector g requires that the district that producer g is a member of the support coalition in C. If that condition is satisfied, then the probability of filing is rising in the level of the protection (which is declining in the size of R's coalition) and decreasing in the size of C's coalition.[8]

Complainant Institutions and Dispute Incidence

Consider the effect of R's tariff profile on the sector(s) that provide(s) support to the leader in country C. Table 3 examines a situation where the respondent (country R) is autocratic and the columns in the table represent the possible coalitions that support the autocrat in R: $\{1\}, \{2\}, \{3\}$. The rows of the table represent the possible coalitions that can support the leader in the complainant nation C, also (for now) an autocracy, $\{1\}, \{2\}, \{3\}$.

Table 3: Autocratic Respondent R and Autocratic Complainant C: Barriers faced by sectors in, and the probability of filings by, C.

Complainant \ Respondent		Autocracy, R		
		$\{1\}$	$\{2\}$	$\{3\}$
Autocracy, C	$\{1\}$	X	y	y
	$\{2\}$	y	X	y
	$\{3\}$	y	y	X

Entries indicate the barriers faced by each sector in C, depending on the support coalition in R. Shading represents cases where the probability of filing is highest: where high barriers erected by R affect the sectors in the support coalition of C. Probability of filing is highest in one-third of the cells.

---

[8]Chaudoin (2014) offers yet another precondition for the filing of a dispute – the complainant state is more likely to file when there are stronger domestic groups in the defendant country that support compliance.

The cells of the table show the protection levels faced by *supporting coalition* members in C given R's trade policy. For instance, when both states are autocratic and both leaders in C and R build their support around coalitions in sector 1 (the top left entry of the table), then the supporters of the leader in C suffer highly from R's large protectionist policies in sector 1. Since X denotes a large level of protection, and the affected sector is a member of (and is the only member of) C's ruling coalition, our three parameters determining the dispute probability are all taking on their highest values, suggesting a high probability of a filing by C. We shade the cell to indicate this high likelihood of dispute.

Reading across the top row of the table, if instead, R is supported by sector 2, country C, an autocracy supported by 1, sees its core supporters facing a policy of y. Similarly, if R is supported by sector 3, country C, an autocracy supported by 1, also sees its core supporters facing y. Since y is lower and the core supporters of C, (sector 1, in the top row of the table) are facing lower barriers (recall $X > y$), the likelihood of a dispute is lower, indicated by the lack of shading of the cells. The shaded cells indicate the cases where there are more likely to be filings by C against R.

Table 4: Autocratic Respondent R, and Democratic Complainant C: Barriers faced by sectors in, and the probability of filings by, C.

Complainant \ Respondent		Autocracy, R		
		$\{1\}$	$\{2\}$	$\{3\}$
Democracy, C	$\{1,2\}$	X,y	y,X	y,y
	$\{1,3\}$	X,y	y,y	y,X
	$\{2,3\}$	y,y	X,y	y,X

Entries indicate the barriers faced by each sector in C, depending on the support coalition in R. Shading represents cases where the probability of filing is highest: where high barriers erected by R affect at least one of the sectors in the support coalition of C. Probability of filing is highest in two-thirds of the cells.

19

We now consider when the complainant state C is a democracy. C's willingness to file depends on whether the members of its supporting coalition are adversely affected by R's policies. Reading across the first row of Table 4, we see that the underlying support coalition in C is $\{1, 2\}$. If the support coalition in the autocracy R is 1, then the coalition in C is facing tariffs of X for the 1 firms and y for the 2 firms. C's coalition member 1 is harmed, so $I\{1 \in S^C\} = 1$; $f(X)$ is large, since the protection applied by R is large; and $0 < h(\{1, 2\})$. Then C is likely to file, and we color this cell as before.

If instead country R's leader is supported by sector 2, the support coalition $\{1, 2\}$ in C would face a tariff of y for 1 and X for 2. Once again a sector supporting the leader in the democracy suffers under the policy profile of R, and the protection is relatively large, so C is likely to file. Hence the second yellow cell in the top row.

The third cell in the top row reflects that R applies low barriers to the sectors in C's support coalition when R's support coalition is sector $\{3\}$. The affected sector that receives the biggest protection, 3, is not a member of C's coalition, hence $I\{3 \in S^C\} = 0$. Then the likelihood of a filing is zero.

We fill in the table in a similar fashion.

The shaded areas of Tables 4 and 3, indicate the political configurations likely to lead to a trade dispute. When both C and R are autocratic, R's trade policies harm the welfare of C's coalition members in one third of cases. In contrast, when the complainant is democratic, R's policies harm the coalition members' welfare in two thirds of cases.

Our first observation is apparent. It is suggestive that democracies file more disputes than autocracies, since there are more shaded cells in Table 4 than in Table 3. Before we can make this claim, however, we need to check that the same pattern emerges when the respondent state R is a democracy.

Table 5 repeats the above analysis but now focusing on the situation where the violating, and hence potential respondent, nation R is democratic. In an analogous

manner to Tables 3 and 4 the cells in the table indicate the barriers faced by sectors in C as the ruling coalition in R varies. Where the barrier applied by R is larger (recall $x > 0$), and the barrier impacts a member of the supporting coalition in C, we indicate that the conditions for the filing of a dispute have been met by shading the cell.

Table 5: Democratic Respondent R: Barriers faced by sectors in, and the probability of filings by, C.

Complainant / Respondent		Democracy, R		
		$\{1,2\}$	$\{1,3\}$	$\{2,3\}$
Autocracy, C	$\{1\}$	x	x	z
	$\{2\}$	x	z	x
	$\{3\}$	z	x	x
Democracy, C	$\{1,2\}$	x,x	x,z	z,x
	$\{1,3\}$	x,z	x,x	z,x
	$\{2,3\}$	x,z	x,z	x,x

Entries indicate the barriers faced by each sector in C, depending on the support coalition in R. Recall $x > z$ by Lemma 2. Shading represents cases where the probability of filing is highest: where high barriers erected by R affect at least one of the sectors in the support coalition of C. The darker pink shading indicates the cases where both sectors in the support coalition of C are affected severely by the trade policies of R. Probability of filing is higher in two-thirds of the cells when C is autocratic and in all the cells when C is democratic.

An analogous contrast in the incidence of filings exists when the respondent R is democratic. Recall (from Lemma 2) that $x > z$. When C is autocratic, R's democratic policies harm members of C's coalition in $2/3$ of cases. When C is democratic, some coalition members are always harmed by R's policies and in $1/3$ of cases the welfare of both coalition sectors are adversely affected by R's policies. Irrespective of whether the respondent is autocratic or democratic, the interests of complainant's supporters are more likely to be harmed by the respondent's trade policies when the complainant is

democratic than when the complainant is autocratic.[9] This result leads to the following claim:

Claim 1. *Within complainant states, democratic political institutions increase the likelihood of dispute onset compared to autocratic institutions.*

We are more circumspect about the impact of R's institutions on the likelihood of dispute. When R is democratic, members of C's coalition are more likely to be adversely affected by R's policies but the extent of the harm is more limited than when R is autocratic. Our empirical analyses suggest that the more harmful effects of an autocrat's policies might outweigh the broader spread of a democrat's policy as democratic nations are less likely to be respondent's in WTO disputes that autocrats.

This prediction is consistent with the regularity identified in Table 2. Democratic states are between 6.5 and 82 times more likely to initiate a WTO dispute compared to autocratic states (the bounds on the 95% confidence intervals depend on whether we look at the short or the long list of disputes).

Leader Change and Dispute Onset

Next we turn to an assessment of the impact of leader change in the respondent state, R on the incidence of filings by the complainant state, C.

Autocratic Leader Change in the Respondent State

Consider first the thought experiment in which there is leader change in the respondent country, R, an autocracy. Suppose that the underlying support coalition in R shifts from sector 1 to sector 2. The trade policy profile of country R shifts from (X, y, y) to (y, X, y). In Table 6 we replicate parts of the earlier Tables 3 and 4, and add arrows

---

[9]Although we should not completely forget the partial prevailing factor that a democratic C has to split her attention over multiple groups.

indicating the leader change in R, from a leader supported by sector 1 to one supported by 2.

If an autocratic leader in nation C bases her coalition around sector 1 (top row), then the conjectured political change in nation R leads to a change in the policies facing sector 1 in C from X to y. Since protection facing 1 has fallen ($y < X$), this leads to a likely settlement of any outstanding dispute over trade policy in sector 1, as the new leader in R no longer protects sector 1.

In contrast, if C's coalition is based around sector 2 (second row), then the shift in R's support coalition from 1 to 2 is liable to trigger the onset of a new dispute over sector 2. The new leader in R wants to protect sector 2, and raises the levels of protection. C's supporters in sector 2 see the barrier they face rise from y to X. The leader change in R may induce C to initiate a dispute over R's new policies in 2.

If C's coalition is based around sector 3 (third row), then the shift in R's support coalition from 1 to 2 has little impact on C as C's supporters are not harmed under either political configuration in R.

In *one out of three* cases, the leader change in R leads to the onset of a new dispute when R is an autocrat.

The lower portion of Table 6 repeats the analysis for the case when the complainant is democratic; again the final column assesses the impact of political changes in R's support coalition on the welfare of member's of C's coalition. Consider the shift in R's coalition from 1 to 2. If the democratic complainant's coalition is $\{1, 2\}$ (top row of the lower panel), then such a shift in R's leader lessens conflict in sector 1, as the new leader R reduces the tariffs facing 1 from X to y. There is however an increase in trade conflict over sector 2, which the new leader R now wants to more intensely protect – R raises the barrier facing 2 from y to X. The other rows in the lower portion of Table 6 examine the other possible configurations. When democrat C's coalition is $\{1, 3\}$ (second row of lower panel), the conjectured leader change in R from coalitional support of 1 to 2 leads to settlement on any outstanding dispute in sector 1. When

Table 6: Autocratic R: Barriers faced by sectors in, and the probability of filings by, C's after Leader Change in Autocratic R.

Complainant \ Respondent		Autocracy, R			R Coalition Change
		$\{1\}$	$\rightarrow$	$\{2\}$	$\{1\} \rightarrow \{2\}$
Autocracy, C	$\{1\}$	X	$\rightarrow$	y	$\downarrow$ settle $\{1\}$
	$\{2\}$	y	$\rightarrow$	X	$\uparrow$ onset $\{2\}$
	$\{3\}$	y	$\rightarrow$	y	no effect
Democracy, C	$\{1,2\}$	X, y	$\rightarrow$	y, X	$\downarrow$ settle $\{1\}$, $\uparrow$ onset$\{2\}$
	$\{1,3\}$	X, y	$\rightarrow$	y, y	$\downarrow$ settle $\{1\}$
	$\{2,3\}$	y, y	$\rightarrow$	X, y	$\uparrow$ onset $\{2\}$

Change in the underlying support coalition in country R, an autocracy, leads to changes in the trade policy profile faced by the coalitions in C. Note $X > y$ (Lemma 2). Entries indicate the barriers faced by the coalitions in C; the shaded regions indicate where both barriers are high and the affected industries are members of the leading coalitions in C - hence the cases where C is more likely to file a dispute. New disputes are initiated after leader change in R in one-third of the possible configurations of C's support coalition when C is an autocracy; in two-thirds when C is a democracy.

C's coalition is $\{2, 3\}$ (third row of lower panel) then the same conjectured political change in nation R leads to the onset of harm to C's coalition members in sector 2.

The coalitional shift in autocratic R leads to the onset of harm to supporters of leader C in 2/3 of cases. Further, since R is autocratic and hence intensely protects her supporters (the tariff level is X, the largest), the harm inflicted by the shift in trade policy satisfies our criteria for raising the probability of the onset of a trade dispute.

Shifts in the leadership and coalition support in the respondent lead to shifts in trade policy that mean the adverse effects of highly protectionist policies affect new groups within the complainant's coalition 1/3 of the time if the complainant is autocratic and 2/3 of the time if the complainant is democratic. This result leads to the following prediction:

Claim 2. *In autocratic respondents, leader change increases the risk of dispute onset.*

It is worth noting that autocratic leader change also increases the chance of ongoing dispute *settlement* (Bobick and Smith, 2013), however, we do not examine dispute settlement here.

Once again, the predictions of the model are consistent with the observed regularities. Table 1 shows that leader change is associated with increased dispute onset in all respondent states (relative to no leader change). Leader change in autocratic respondents is associated with a 1.1 to 12 times the dispute onset of an autocratic respondent with no leader change.

Democratic Leader Change in the Respondent State

Next we contrast the impact of respondent leader change in democracy with the earlier case of respondent leader change in autocracy. The final column of Table 7 makes an analogous analysis to that performed above and shows how a leader change in R that results in a coalitional shift from $\{1, 2\}$ to $\{1, 3\}$ leads to the ending of, and onset of, harm to the interests of sectors in C's coalition. For instance, if sector 3 is represented

in the leadership of autocratic C (the third row of the top panel) when the democratic leadership in R switches from $\{1,2\}$ to $\{1,3\}$, sector 3 in C, which faced low barriers z prior to the leader change, now faces higher barriers, x.

If instead the complainant state is a democracy, say supported by coalition $\{1,3\}$ (the second row of the lower panel of Table 7, the leader change in R to a government also supported by $\{1,3\}$ leads to a rise in the barriers faced by sector 3, while the barriers faced by sector 1 do not change.

Once again the shaded cells indicate where the conditions for a dispute are satisfied - the barriers facing at least one sector are high, and that sector is a member of C's winning coalition.

In the third column we can read the effect of the leader change on filings by C. Irrespective of whether C is autocratic or democratic, in one out of three possible coalition configurations in C, C initiates a new filing.[10]

Recall the last column of Table 6 – there, where R was autocratic, the comparable proportions were $1/3$ and $2/3$ depending upon the regime type in C. The extent of the harm imposed on C's supporters is less when R is a democracy. Hence both in terms of the frequency with which harm is imposed on C's supporters and the magnitude of such harm, democratic respondent leader change is less likely to trigger dispute onset than autocratic leader change.

Claim 3. *Leader change in democratic respondents is less likely to trigger dispute onset than autocratic respondent leader change.*

This finding is once again consistent with the regularity observed in Table 2. Leader change in a democratic respondent results in potential reduction in the onset of disputes, with a potential increase in disputes of only 1.2 times that of a democracy with no leader change. By comparison, leader change in an autocracy may result in an

---

[10]In one-third of the case there is no change in the pattern of disputes, and in one-third of the cases, there is settlement.

Table 7: Leadership Change in a Democratic Respondent R

Complainant / Respondent		Democracy, R			R Coalition Change
		$\{1,2\}$	$\to$	$\{1,3\}$	$\{1,2\} \to \{1,3\}$
Autocracy, C	$\{1\}$	x	$\to$	x	no change
	$\{2\}$	x	$\to$	z	$\downarrow$ settle $\{2\}$
	$\{3\}$	z	$\to$	x	$\uparrow$ onset $\{3\}$
Democracy, C	$\{1,2\}$	x,x	$\to$	x,z	$\downarrow$ settle $\{2\}$
	$\{1,3\}$	x,z	$\to$	x,x	$\uparrow$ onset $\{3\}$
	$\{2,3\}$	x,z	$\to$	x,z	no change

Change in the underlying support coalition in country R, a democracy, leads to changes in the trade policy profile faced by the coalitions in C. Note $x > z$ (Lemma 2). Entries indicate the barriers faced by the coalitions in C; the shaded regions indicate where both barriers are high and the affected industries are members of the leading coalitions in C - hence the cases where C is more likely to file a dispute. New disputes are initiated after leader change in 1/3 of the potential configurations of support coalitions in C when C is an autocracy and when C is a democracy.

increase in dispute onset of as much as 12 times relative to a democracy with no leader change.

Leader Change in the Complainant State

Thus far we have looked at leader changes in the respondent state, R. Such leader changes shift R's trade policy. Leader change in the complainant state C can also lead to dispute onset, not because such change leads to new violations of trade rules, but rather following leader changes in C the new leader wants to complain about existing policies in R. Unfortunately the analysis of complainant leader change is not as crisp as the case of respondent leader change because there are competing effects. Specifically, leader change in a democratic complainant has a higher probability of leading to a new group in the coalition being harmed by R's policies than leader change in an autocratic complainant. However, the autocratic complainant is more strongly motivated to act on any such incidence. Hence we must leave it to the data to decide whether leader change in autocracy or democracy has the larger impact on the risk of a nation becoming the complainant in a WTO dispute. In the Appendix we analyze the competing factors that influence C's decision to initiate a WTO dispute.

Conclusion

Extant analyses of WTO dispute onset have focused on economic conditions, institutional features and WTO procedures (see Johns and Rosendorff (2009) for a review of this literature). Recent work has examined the production structure of firms (Yildirim et al., 2017), the exchange rate conditions (Betz and Kerner, 2016; Broz and Werfel, 2014) or both (Jensen, Quinn, and Weymouth, 2015). Of course, domestic politics has traditionally been viewed as a crucial determinant of WTO dispute onset (Busch and Pelc (2015) for a summary of this scholarship, as well as Kim (2010); Rosendorff

(2005)). While leader change has been understood to matter for interstate relations more broadly (for instance, voting alliances at the United Nations (Dreher and Jensen, 2013; Mattes, Leeds, and Carroll, 2014), cooperation on trade policy (McGillivray and Smith, 2008), and bargaining over war and peace (Bueno de Mesquita and Siverson, 1995; Wolford, 2012)), we offer some stylized regularities and a theory of leader change and WTO dispute onset.

The dynamic implications of leaders assisting their supporters provides an account of the two stylized facts examined here. First, leader change increases dispute initiation. Second, the impact of leader change on dispute initiation is greatest in non-democratic states.

When leaders change then so too does the set of industries that the leader wants to help. The interests of the supporters of the former leader are no longer likely to be a priority of the new leader. Instead the new leader wants to help the industries associated with her supporters. The dynamic implications are that when leaders change, trade policy shifts: extant disputes are more likely to settle and new disputes starts.

Democratic leaders, accountable to a broader set of interests, and to the society more broadly are likely to adjust the trade policy profile less significantly than an autocrat accountable to a smaller number of special interests.

The theory relies crucially on the idea that with leader change, the sectors or special interests within the leader's underlying base of support may change too. When the membership of that support coalition shifts, so will the policy profile, existing disputes will be settled, and new ones are likely to be initiated.

Ideally, we would test the predictions of the model offered here directly by examining which industries receive protection and which industries and sectors are the targets of WTO complaints. The theory suggests that industries, sectors or interests associated with a leader's supporters are likely to receive government assistance and hence become targets of WTO complaints. Likewise a leader is most likely to initiate WTO complaints when the industries harmed by overseas policies are part of her support base. A

29

direct test of this logic would involve a dataset that maps the tradable sectors within an economy and whether those sectors are members of a leader's support coalition. Unfortunately, that data remains to be collected. We lack the comprehensive mapping between industries and political support across time and space necessary for a direct test.

Other caveats are in order. While our approach offers a parsimonious theory consistent with the observed regularities, there are other potential explanations. For instance, new leaders might be more vulnerable and relatively weak, and require time to consolidate their hold on power and office. They may be more susceptible to pressure from industries or sectors, and in order to forestall political risk, may comply with those demands. This story would be consistent with the observation that new leaders initiate and are subject to dispute onset.

New leaders of democratic states are, however, more vulnerable than are new leaders of autocratic states, and we would expect therefore that the new leaders of democratic states to respond to this pressure by accommodating more special interest demands, and initiating and inducing more disputes. Of course such an expectation would be contrary to the stylized fact motivating this paper – that leader change is associated with more disputes, and the effect is larger in *autocratic* states.

A veto players explanation (Tsebelis, 2002; Henisz and Mansfield, 2006) might account for difference between democracies and autocracies as democracies tend to have a greater number of veto players, ruling out the possibility of adjustments to trade policy that might induce a dispute. This argument doesn't speak to the possibility of a leader filing a new dispute as a complainant – this would not usually require the assent of a potential veto player. Moreover, a veto player approach explains the persistence of policies rather than the onset of new disputes. As such veto players provides little explanation for the onset of disputes associated with leader change.

Future explorations of this question can operate at a number of levels of analysis. The empirical approach adopted here (focussed on identifying some empirical facts) at

30

the country-year level could be expanded to produce a plausible test of the model. A promising approach would involve reducing the level analysis to something below the national level. Greater insights are likely available at the industry or the firm level, matching disputes (or the lack of disputes) with firm or industry characteristics (and a measure of their political influence or importance) across time and countries.

Until such data is available, however, our general equilibrium model can only be tested in reduced form. Nevertheless, We argue that political institutions, and regime type in particular, affect the depth and breath of protection across industries, and in the context of changes in leadership, affects the propensity to file disputes (and to be filed against) over trade policy at the WTO.

References

Banks, Arthurs S. 1979. "Cross-National Time-Series Data Archive." Center for Social Analysis, State University of New York at Binghampton.

Betz, Timm, and Andrew Kerner. 2016. "Real Exchange Rate Overvaluation and WTO Dispute Initiation in Developing Countries." *International Organization* 70 (4): 797–821.

Blonigen, Bruce, and Chad P. Bown. 2003. "Antidumping and Retaliation Threats." *Journal of International Economics* 60: 249–273.

Bobick, Talya, and Alastair Smith. 2013. "The Impact of Leader Turnover on the Onset and the Resolution of WTO Disputes." *Review of International Organizations* 8 (4): 423–445.

Bown, Chad P. 2002. "The Economics of Trade Disputes, the GATT's Article XXIII, and the WTO's Dispute Settlement Understanding." *Economics and Politics* 14 (3): 283–323.

Bown, Chad P. 2004. "On the Economic Success of GATT/WTO Dispute Settlement." *Review of Economics and Statistics* 86 (3): 811–823.

Broz, J. Lawrence, and Seth H. Werfel. 2014. "Exchange Rates and Industry Demands for Trade Protection." *International Organization* 68 (2): 393–416.

Bueno de Mesquita, Bruce, Alastair Smith, Randolph Siverson, and James D. Morrow. 2003. *The Logic of Political Survival.* Cambridge, MA: MIT Press.

Bueno de Mesquita, Bruce, and Randolph M Siverson. 1995. "War and the survival of political leaders: A comparative study of regime types and political accountability." *American Political Science Review* 89 (04): 841–855.

Busch, Marc L. 2000. "Democracy, Consultation, and the Paneling of Disputes under GATT." *Journal of Conflict Resolution* 44 (4): 425–446.

Busch, Marc L., and Eric Reinhardt. 2003. "Developing Countries and GATT/WTO Dispute Settlement." *Journal of World Trade* 37 (4): 719–35.

Busch, Marc L., and Krzysztof J. Pelc. 2015. "Dispute Settlement in the WTO." In *Oxford Handbook of the Politics of Trade*, ed. Lisa L. Martin. Oxford University Press chapter 21.

Busch, Marc L, Rafal Raciborski, and Eric Reinhardt. 2008. "Does the Rule of Law Matter? The WTO and US Antidumping Investigations.".

Chaudoin, Stephen. 2011. "International Cooperation, Legalized Dispute Settlement and Information Transmission to Domestic Audiences." *Working Paper* .

Chaudoin, Stephen. 2014. "Audience Features and the Strategic Timing of Trade Disputes." *International Organization* 68 (4): 877–911.

Chaudoin, Stephen, Jeffrey Kucik, and K Pelc. 2013. "Do WTO Disputes Actually Increase Trade?" *Available at SSRN 2299651* .

Davis, Christina. 2012. *Why Adjudicate? Enforcing Trade Rules in the WTO*. Princeton University Press.

Davis, Christina L., and Sarah Blodgett Bermeo. 2009. "Who Files? Developing Country Participation in GATT/WTO Adjudication." *The Journal of Politics* 71 (03): 1033–1049.

Davis, Christina L, and Yuki Shirato. 2007. "Firms, Governments, and WTO Adjudication: Japan's Selection of WTO Disputes." *World Politics* 59 (2): 274–313.

Downs, George W., and David M. Rocke. 1995. *Optimal Imperfection? Domestic Uncertainty and Institutions in International Relations*. Princeton, NJ: Princeton University Press.

Dreher, Axel, and Nathan M Jensen. 2013. "Country or leader? Political change and UN General Assembly voting." *European Journal of Political Economy* 29: 183–196.

Goldstein, Judith, and Lisa L. Martin. 2000. "Legalization, Trade Liberalization, and Domestic Politics: A Cautionary Note." *International Organization* 54 (3): 603–632.

Henisz, Witold J., and Edward D. Mansfield. 2006. "Votes and Vetoes: The Political Determinants of Commercial Openness." *International Studies Quarterly* 50 (1): 189–211.

Hollyer, James R., and B. Peter Rosendorff. 2012. "Leadership Survival, Regime Type, Policy Uncertainty and PTA Accession." *International Studies Quarterly* 56 (4): 748–764.

Hudec, Robert E. 1993. *Enforcing International Trade Law: The Evolution of the Modern GATT Legal System*. Salem, NH: Butterworth Legal.

Jackson, John H. 2004. "International Law Status of WTO Dispute Settlement Reports: Obligation to Comply or Option to "Buy Out"?" *American Journal of International Law* 98: 109–125.

Jensen, J. Bradford, Dennis P. Quinn, and Stephen Weymouth. 2015. "The Influence of Firm Global Supply Chains and Foreign Currency Undervaluations on US Trade Disputes." *International Organization* 69 (4): 913–947.

Johns, Leslie, and B. Peter Rosendorff. 2009. "Dispute Settlement, Compliance and Domestic Politics." In *Trade Disputes and the Dispute Settlement Understanding of the WTO: An Interdisciplinary Assessment*, ed. James C. Hartigan. Emerald Group.

Johns, Leslie, and Krzysztof J. Pelc. 2014. "Who Gets to Be In the Room? Manipulating Participation in WTO Disputes." *International Organization* 68 (3): 663–699.

Kim, Moonhawk. 2008. "Costly Procedures: Divergent Effects of Legalization in the GATT/WTO Dispute Settlement Procedures." *International Studies Quarterly* 53 (3): 657–686.

Kim, Soo Yeon. 2010. *Power and the Governance of Global Trade: From the GATT to the WTO.* Ithaca: Cornell University Press.

King, Gary, Michael Tomz, and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44 (2): 347–61.

Leeds, Brett Ashley, and Michaela Mattes. 2013. "Change in Source of Leader Support (CHISOLS) Dataset: Coding Rules." *Unpublished* .

Mansfield, Edward D., Helen V. Milner, and B. Peter Rosendorff. 2000. "Free to Trade: Democracies, Autocracies and International Trade." *American Political Science Review* 94 (2): 305–322.

Mansfield, Edward D., Helen V. Milner, and B. Peter Rosendorff. 2002. "Why Democracies Cooperate More: Electoral Control and International Trade Agreements." *International Organization* 56 (3): 477–514.

Marshall, Monty G., Keith Jaggers, and Tedd Robert Gurr. 2000. "Polity IV Project: Political Regime Characteristics and Transitions, 1800-1999." Available at http://www.systemicpeace.org/polity/polity4. (Accessed July 1, 2012).

Mattes, Michaela, Brett Ashley Leeds, and Royce Carroll. 2014. "Leadership Turnover and Foreign Policy Change: Societal Interests, Domestic Institutions, and Voting in the United Nations." *International Studies Quarterly* .

McGillivray, Fiona, and Alastair Smith. 2008. *Punishing the Prince: A Theory of Interstate Relations, Political Institutions, and Leader Change.* Cambridge Univ Press.

Reinhardt, Eric. 2000. "Aggressive Multilateralism : The Determinants of GATT / WTO Dispute Initiation, 1948-1998." *Working Paper, Emory University* .

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. Peter. 1996. "Voluntary Export Restraints, Antidumping Procedure and Domestic Politics." *American Economic Review* 86 (3): 544–561.

Rosendorff, B. Peter. 2005. "Stability and Rigidity: Politics and the Design of the WTO's Dispute Resolution Procedure." *The American Political Science Review* 99 (3): 389–400.

Rosendorff, B. Peter. 2015. "Domestic Politics and International Trade Disputes." In *Oxford Handbook of the Politics of International Trade*, ed. Lisa L. Martin. Oxford University Press chapter 8.

Rosendorff, B. Peter, and Helen V. Milner. 2001. "The Optimal Design of International Trade Institutions: Uncertainty and Escape." *International Organization* 55 (4): 829–857.

Sattler, Thomas, and Thomas Bernauer. 2011. "Gravitation or discrimination? Determinants of litigation in the World Trade Organisation." *European Journal of Political Research* 50 (2): 143–167.

Simmons, Beth A., and Andrew Guzman. 2005. "Power Plays & Capacity Constraints: the Selection of Defendants in WTO Disputes." *Journal of Legal Studies* 34: 557–598.

Tomz, Michael, Gary King, and Langche Zeng. 2003. "ReLogit: Rare Events Logistic Regression." *Journal of Statistical Software* 8 (2).

Tsebelis, George. 2002. *Veto Players: How Political Institutions Work*. Princeton: Princeton University Press.

Wolford, Scott. 2012. "Incumbents, successors, and crisis bargaining Leadership turnover as a commitment problem." *Journal of Peace Research* 49 (4): 517–530.

World Bank. 2010. *World Development Indicators on CD-ROM*. Washington DC: The World Bank.

Yildirim, Aydin B., J. Tyson Chatagnier, Arlo Poletti, and Dirk De Bièvre. 2017. "The internationalization of production and the politics of compliance in WTO disputes." *The Review of International Organizations* .

Appendix 1

Proof of Lemma 1

Proof. The first order condition to the **democratic** government's problem (with arguments suppressed) for a sector $g \in \{1, 2\}$ in the winning coalition is $s(t_g) + \frac{2}{3}(-d(t_g)) + m(t_g) + t_g m'(t_g) = 0$. Recognizing that $m(t_g) = d(t_g) - s(t_g)$ the first order condition is $s(t_g) - \frac{2}{3}d(t_g) + d(t_g) - s(t_g) + t_g m'(t_g) = 0$. This simplifies to $d(t_g) - 3t_g(\sigma_g + \delta_g) = 0$. Substituting the demand and supply functions, we have $d - \delta t_g - 3t_g(\sigma + \delta) = 0$ which reduces to

$$\frac{d_g}{4\delta_g + 3\sigma_g} = \tilde{t}_g \text{ for } g = 1, 2.$$

For a sector (say, 3) that is not in the winning coalition, the first order condition is $-\frac{2}{3}d(t_3) + m(t_3) + t_l m'(t_3) = 0$ which reduces to (after substituting in the demand and supply functions)

$$\frac{d - 3s}{4\delta + 6\sigma} = \tilde{t}_3$$

The first order condition to the **autocratic** government's problem for a sector (say, 1) in the winning coalition is $s(t_1) + \frac{1}{3}(-d(t_1)) + m(t_1) + t_1 m'(t_1) = 0$. The same substitutions as above lead to

$$\frac{2d}{5\delta + 3\sigma} = \tilde{t}_j$$

For the sectors $(g = 2, 3)$ not in the winning coalition, the first order condition is $-\frac{1}{3}d(t_g) + m(t_g) + t_g m'(t_g) = 0$ which leads to

$$\frac{2d - 3s}{5\delta + 6\sigma} = \tilde{t}_g \text{ for } g = 2, 3.$$

$\square$

Proof of Lemma 2

Proof. The tariff for a protected sector in a democracy is lower than the tariff for a protected sector in an autocracy

$$\frac{d}{4\delta + 3\sigma} \leq \frac{2d}{5\delta + 3\sigma} \text{iff}$$
$$5\delta + 3\sigma \leq 8\delta + 6\sigma$$

which is always true, since $d, \delta, \sigma > 0$. Hence $X > x$. Similarly

$$
\begin{aligned}
\frac{2d - 3s}{5\delta + 6\sigma} &\geq \frac{d - 3s}{4\delta + 6\sigma}\text{iff} \\
(2d - 3s)(4\delta + 6\sigma) &\geq (d - 3s)(5\delta + 6\sigma) \\
8d\delta - 12s\delta + 12d\sigma - 18s\sigma &\geq 5d\delta - 15s\delta + 6d\sigma - 18s\sigma \\
8d\delta - 12s\delta + 12d\sigma &\geq 5d\delta - 15s\delta + 6d\sigma \\
3d\delta + 3s\delta + 6d\sigma &\geq 0
\end{aligned}
$$

which is always true, since $d, \delta, \sigma, s > 0$. Hence $y > z$. Also $X > y$ since $s > 0$ and $x > z$ since $s > 0$ $\square$

Analysis of the impact of complainant leader change

We consider the effect of leader changes in the complainant state, C. Such changes do not lead to a shift in R's trade policy, but they can result in the complainant now wishing to complain about pre-existing policies. Tables 8 and 9 are similar in structure to Tables 6 and 7. Each table characterizes the level of protection leveled against members of C's coalition under different configurations on political coalitions in C and R. However, instead of examining the impact of leader change in R, these tables each add rows to show the impact of leader change in C. While leader change in nation C does not alter R's trade policy, it does however shift the interests that are represented in nation C and hence affects whether the new leader in C chooses to now protest against the pre-existing policies in R.

Referring to the first column of Table 8 in which autocratic leader R's coalition is composed of 1, we see that the supporters of autocrat C are only harmed when these supporters are also based around sector 1. If leader change occurs in nation C and the new coalition forms around sector 2 (shown in the second row of the top panel of the table), then any preexisting dispute on issue 1 is likely to be resolved as nation C no longer cares about this issue. In contrast, if R's coalition is built around sector 2, then the shift in C from coalition 1 to coalition 2 is likely to lead to the onset of dispute over sector 2. Such a dispute does not arise because of a change in the offending policy, but because political change means the respondent now wants to complain about R's pre-existing policy. On average 1/3 of autocratic leader changes lead to new interests in the complainant's coalition being harmed by R's policies and the extent of this harm is high as R provides high tariffs, X.

The lower panel of Table 8 considers the effect of leader change when C is democratic. In parallel to the upper panel, 1/3 of leader transitions in democratic C lead to members of the new coalition being subject to the adverse effects of the R's trade, and again R's policies are maximally painful to those groups harmed. However, in contrast to the upper panel, a democratic C has multiple groups to worry about and so her response might be more muted compared to an autocratic C (hence the lighter shading in the lower panel of the table).

If R is autocratic, then leader change in C means that 1/3 of cases result in the onset of harm to C's coalition members. Further, the extent of harm is high. These

two effects are constant whether C is autocratic or democratic. However, because C must concern herself with the welfare of multiple groups when she is democratic, rather than a single group when she is autocratic her response to members of her coalition being harmed by R's policies might be muted.

Table 9 examines the impact of leader change in C when R is democratic. The structure of the table is analogous to those considered above. Since R is democratic its trade policies are low intensity and so less likely to trigger dispute onset than when R was autocratic. In the upper panel, where C is autocratic, leader change leads to new coalition interests being harmed in $1/3$ of cases. The comparable number when C is democratic (lower panel) is $2/3$. A comparison of these rates at which new interests are harmed suggests that against a democratic respondent, leader change in a democratic complainant is more likely to lead to dispute onset than leader change in an autocratic complainant. However, this prediction is offset by the democratic leader having split attention as a result of having multiple groups in her coalition. While against an autocratic respondent we predicted that autocratic leader change in a complainant was more likely to lead to dispute onset than democratic leader change, in the case of a democratic respondent the results are ambiguous.

Table 8: Autocratic Respondent: C's Policy Disagreements with R and the Impact of Leader Change in C

Respondent Complainant		Autocracy, R		
		{1}	{2}	{3}
	{1}	X	y	y
	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
Autocracy, C	{2}	y	X	y
	{3}	y	y	X
C's Coalition Change, $\{1\} \rightarrow \{2\}$		$\Downarrow$ settle {1}	$\Uparrow$ onset {2}	
	$\{1,2\}$	X,y	y,X	y,y
	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
Democracy, C	$\{1,3\}$	X,y	y,y	y,X
	$\{2,3\}$	y,y	X,y	y,X
C's Coalition Change, $\{1,2\} \rightarrow \{1,3\}$		$\Downarrow$ settle {2}	$\Uparrow$ onset {3}	

Table 9: Autocratic Respondent: C's Policy Disagreements with R and the Impact of Leader Change in C

Complainant \\ Respondent		Democracy, R		
		$\{1,2\}$	$\{1,3\}$	$\{2,3\}$
Autocracy, C	$\{1\}$	x	x	z
	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
	$\{2\}$	x	0	x
	$\{3\}$	z	x	x
C's Coalition Change, $\{1\} \to \{2\}$			$\downarrow$ settle $\{1\}$	$\uparrow$ onset $\{2\}$
Democracy, C	$\{1,2\}$	x,x	x,z	z,x
	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
	$\{1,3\}$	x,z	x,x	z,x
	$\{2,3\}$	x,z	x,z	x,x
C's Coalition Change, $\{1,2\} \to \{1,3\}$		$\downarrow$ settle $\{2\}$)	$\uparrow$ onset $\{3\}$	$\downarrow$ settle $\{2\}$, $\uparrow$ onset $\{3\}$

Appendix 2: Data and Estimation

Disputes: The WTO provides comprehensive data on disputes.[11] These data provide a list of disputants, the dates of dispute onset and a summary of the issues involved and the progress of the dispute through the WTO. The dependent variable is the occurrence of a dispute filed by C against R in a particular year. The **long** list has 334 dyad years in which a dispute occurs between 1995 and 2008. Following the lead of others, we create a **short** list of dyad years with disputes by collapsing related disputes into a single event. We use the Bobick and Smith (2013) extension (following the procedures of Hudec (1993)) of the Busch and Reinhardt (2003) data which contains 321 dyadic disputes resulting in 268 dyadic years in which WTO disputes occur. Given their comparative rarity, approximately 1 in a 1000 cases, we use rare event logit procedures from Tomz, King, and Zeng (2003). We use STATA implementation of these procedures which conveniently incorporate *Clarify*, a simulation-based approach that provides a convenient means for assessing the substantive impact of changes in variables (King, Tomz, and Wittenberg, 2000).

The EU: Although not a member of the WTO in its own right, the EU typically represents the interests of its members at the WTO. In the data the EU is the complainant in 35 disputes. There are no instances in which individual EU member states initiate a dispute in the role of complainant. The EU, rather than an individual EU member state, is typically named as a respondent. There are 44 such cases in the data. However there are exceptions and cases occur when an individual EU member state is the respondent. For instance, in Disputes 67 and 68 (14 February 1997) the US complained about the classification of computer products by Ireland and the UK. In these disputes, individual EU member states were the named respondents rather than the EU itself. There are 13 similar cases in the data. We take a pragmatic approach to handling observations involving the EU. We create a pseudo-nation we call "EU". With respect to economic indicators such as population and GDP we treat the EU as the sum of its constituent member states. We include the EU as a WTO member with respect to creating directed dyads. We exclude any dyad involving the EU in one role and an individual EU-member state in the other.

In the analyses we exclude all dyads in which an EU member state is nation C, the complainant. However, since individual EU states are named as respondents, we include directed dyads that include EU member states as nation R, that is in the role of potential respondent.[12]

Leader Turnover: For each nation in the directed dyad pair, we know the dates of leader changes. ΔL_R is coded one if any national leader change occurred in nation R, the respondent country, in the current or previous year, and is coded zero otherwise. ΔL_C is coded analogously for the complainant state. These data are taken from Change in Source of Leader Support (CHISOLS) (Leeds and Mattes, 2013) dataset.

Political Institutions: The theory emphasizes how institutions affect the breadth of support that a leader needs to secure in order to survive. We use the Bueno de

---

[11]http://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm" accessed 7/14/2013.

[12]It is this asymmetric inclusion of individual EU states as respondents but not complainants that results in an odd number of directed dyads.

Mesquita et al. (2003) measure of winning coalition size to capture institutions on exactly this dimension. W_C and W_R refer the coalition size for the complaint and respondent in each directed dyad.[13] [14] In unreported robustness tests, we have also used Polity's democracy-autocracy store as a measure of the breadth of political inclusion and obtained similar results to those reported here.

Economic data: Population size, GDP, economic growth and trade as a percentage of GDP are obtained from the World Bank's World Development Indicators (World Bank, 2010). The analyses include the year of dispute initiation to control for temporal trends. There is substantial temporal variation in dispute initiation. To account for this we include the variable Year, which is the calendar year minus 2000 in each specification. In addition to treating time as a linear effect we have used cubic specification and year dummies, which lead to similar results.

Results

Table 10 provides summary statistics of the principal variables in the analyses. Table 11 replicates Table 1 for the short list of WTO disputes Onset.

Table 12 in Appendix 3 shows rare event logit regressions using both the long and short lists list of disputes. The models contain a basic specification that examines the impact of institutions and leader change in the presence of simple economic and demographic controls.

WTO disputes occur between large economically powerful nations, as can be seen by the large and significant coefficients on the population size and GDP variables for both complainant ($\ln GDP_C, \ln POP_C$) and respondent ($\ln GDP_R, \ln POP_R$). The impact of institutions and leader change examined in Table 2 were calculated using the first

---

[13]The coalition size variable is a five-point scale created using data from Polity IV (Marshall, Jaggers, and Gurr, 2000) and Banks (1979). The index of coalition size contains four components that reflect the inclusiveness or non-inclusiveness of the system: REGTYPE, XRCOMP, XROPEN, and PARCOMP. The variable REGTYPE refers to regime type and is coded as 2 for military regimes and coded as 3 for military/civilian regimes. Since coalitions in military regimes are formed around a small group of military elites, a military regime is indicative of a small coalition. W receives one point if REGTYPE is not coded as 2 or 3. The variable XRCOMP measures the competitiveness of executive recruitment. This variable is coded as one when the chief executive is selected by heredity or in rigged, unopposed elections. Such rules are indicative of leaders being dependent upon only a small number of supporters. In contrast, higher values (2 or 3) of XRCOMP indicate a dependence on a greater number of supporters. When XRCOMP equals 2 or 3, W receives an additional point. The openness of executive recruitment, XROPEN, contributes an additional point to W if the executive is recruited in a more open setting than heredity (that is, the variable's value is greater than 2). Executives who are recruited in an open political process are more likely to depend on a larger coalition than are those recruited through heredity or through the military. Finally, one more point can be contributed to the index of W if PARCOMP, competitiveness of participation, is coded as a 5, meaning that there are relatively stable and enduring political groups which regularly compete for political influence at the national level (Polity II, p. 18). This variable is used to indicate a larger coalition on the supposition that stable and enduring political groups would not persist unless they believed they had an opportunity to influence incumbent leaders; that is, they have a possibility of being part of a winning coalition. The indicator of W is then divided by 4 to create a five-point scale for W taking the possible values 0, .25, .5, .75, and 1.

[14]We treat the EU as a large coalition system without any instances of leader change.

model in Table 12 with the population and GDP variables set at the 95 percentile (disputes are much more likely amongst rich, populous nations).

Nations with large winning coalitions are much more likely to initiate WTO conflict than those with small coalitions. The coefficient estimate on the W_C variable is highly significant in all models and the substantive impact is large. For instance, in the short list, moving from the smallest to the largest coalition systems increases the relative risk of dispute onset by about 18-fold.

The impact of leader change on the risk of WTO dispute onset is contingent on political institutions. Generally we find that in small coalition systems, leader change increases the likelihood of WTO dispute onset. However, in large coalition systems, leader change either has little impact on the onset of WTO disputes or slightly decreases the risk of WTO disputes. The coefficient estimate on the ΔL_C variable is positive and significant. In contrast, the coefficient estimate of the interaction of coalition size and leader change is negative. Leader change in a small coalition complainant increases the likelihood of WTO dispute initiation. Simulation of the size of the substantive effect suggests leader change in a small coalition increases the risk of dispute onset about 8-fold.

Leader change in respondent states increases the likelihood of dispute onset, as evidenced by the significant positive coefficient estimate on the ΔL_R variable. The coefficient estimate on the interaction between ΔL_R and W_R is positive such that in the largest coalition systems -democracies- the impact of leader change is muted.

Robustness: EU and China

Table 13 is similar to Table 12 but with two distinctions. The first two models in Table 13 excludes all observations involving the EU and EU member states. The last two models in Table 13 excludes all observations involving China. The results are similar to those in Table 12 suggesting that the results are not driven by EU or China cases.

Appendix 3: Tables

Table 10: Summary Statistics

	N	mean	sd	min	max
Dispute (short)	232581	.0012	.0339	0	1
Dispute (long)	232581	.0014	.0380	0	1
W_C	226837	.6561	.2509	0	1
$\Delta \mathrm{L}_C$	203440	.2942	.4557	0	1
$\ln GDP_C$	221356	23.22	2.269	19.04	30.08
$\ln POP_C$	227634	15.68	2.023	10.34	21.00
Disputes in previous year	209820	.00145	.0465	0	5
PTA	232581	.3065	.4611	0	1
Prior disputes$_C$	230127	3.770	16.211	0	205

Table 11: Leader Change and the Rate of WTO Dispute Onset (per 10,000 obs.) – short list

Rate	Leader Change			
Obs.	None	Change in C	Change in R	Change in Both
No Recent Dispute	6.16	7.71	8.49	9.58
	71,428	31,122	31,799	13,568
Recent Dispute	51.94	46.39	59.06	26.00
	17,328	5,820	6,096	2,308

Table 12: WTO Dispute Onset and Changes in Leaders

	Long List b/se	Short List b/se
W_C	3.4031***	2.9413***
	(0.519)	(0.527)
W_R	0.9824*	0.5630
	(0.512)	(0.540)
ΔL_C	2.2354***	2.1094***
	(0.637)	(0.607)
$W_C \times \Delta L_C$	-2.9248***	-2.8499***
	(0.731)	(0.696)
ΔL_R	1.5450***	1.1514**
	(0.479)	(0.513)
$W_R \times \Delta L_R$	-1.7599***	-1.2958**
	(0.532)	(0.575)
$\ln GDP_C$	0.5279***	0.5233***
	(0.054)	(0.056)
$\ln POP_C$	0.2021***	0.1956***
	(0.060)	(0.065)
$\ln GDP_R$	0.6458***	0.6389***
	(0.060)	(0.066)
$\ln POP_R$	0.3248***	0.3458***
	(0.056)	(0.062)
Year	-0.1402***	-0.1258***
	(0.015)	(0.016)
Intercept	-48.9390***	-48.3517***
	(1.571)	(1.670)
N	167728	167728
Dispute Years	330	267

$*p < 0.10, **p < 0.05, ***p < 0.01$

44

Table 13: WTO Dispute Onset and Changes in Leaders: Excluding EU and China Observations

	Long List Excl. EU b/se	Short List Excl. EU b/se	Long List Excl. China b/se	Short List Excl. China b/se
W_C	2.9744***	2.6920***	3.3043***	2.8765***
	(0.584)	(0.584)	(0.551)	(0.563)
W_R	2.2907***	1.8920***	1.1150*	0.7023
	(0.704)	(0.725)	(0.580)	(0.619)
$\Delta \mathrm{L}_C$	2.1069***	1.9993***	2.4275***	2.1685***
	(0.714)	(0.662)	(0.639)	(0.631)
$W_C \times \Delta \mathrm{L}_C$	-2.7326***	-2.7103***	-3.1184***	-2.9022***
	(0.827)	(0.771)	(0.731)	(0.719)
$\Delta \mathrm{L}_R$	2.1997***	1.7921***	2.0146***	1.6422***
	(0.610)	(0.632)	(0.506)	(0.541)
$W_R \times \Delta \mathrm{L}_R$	-2.4935***	-2.0625***	-2.2565***	-1.8103***
	(0.701)	(0.731)	(0.558)	(0.600)
$\ln GDP_C$	0.5316***	0.5063***	0.5206***	0.5084***
	(0.062)	(0.062)	(0.053)	(0.056)
$\ln POP_C$	0.1988***	0.2286***	0.2175***	0.2116***
	(0.071)	(0.073)	(0.060)	(0.066)
$\ln GDP_R$	0.5932***	0.5895***	0.6334***	0.6204***
	(0.058)	(0.063)	(0.060)	(0.066)
$\ln POP_R$	0.2289***	0.2682***	0.3412***	0.3635***
	(0.057)	(0.062)	(0.055)	(0.061)
Year	-0.1344***	-0.1234***	-0.1427***	-0.1301***
	(0.018)	(0.020)	(0.015)	(0.017)
Intercept	-46.3246***	-46.3535***	-49.0136***	-48.1225***
	(1.793)	(1.902)	(1.622)	(1.714)
N	141584	141584	165901	165901
DisputeYears	206	175	317	253

$*p < 0.10, **p < 0.05, ***p < 0.01$