

# Political Change, Domestic Institutions and the Onset of Anti-Dumping Investigations\*

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## **Abstract**

Leader turnover leads to the initiation of anti-dumping (AD) investigations among WTO member-states with AD codes on their books. This effect is larger in autocratic states. New autocratic leaders, under pressure from their supporters, may use their AD code to provide quick, WTO-legal trade barriers to protect those import-competing industries or firms that are members of their (usually narrow) support coalition. Democratic leaders have a broader underlying coalition that may include downstream firms, consumers and exporters. A new democratic leader will find the pressure to protect the industries in their coalition balanced by the needs of other coalition members, and are less likely to make use of the AD code. We offer empirical support for this claim using data on leader support changes and temporary trade barriers.

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At its core, politics is the exchange of support for policy. A leader must offer policy, benefits and privileges to a coalition of interests in return for their political support. When leaders change, the underlying set of coalition supporters may change too. New sectors or interests may enter the underlying support coalition; others may exit. The profile of policies that are demanded by the new coalition is likely to differ substantially from the policy profile demanded by the prior coalition. Correspondingly, leader change is associated with shifts in the implemented policy profiles.

Changes in trade policy have direct effects on the well-being of firms – both exporting and import-competing. It also affects the returns to workers and other factors of production – both relatively scarce and abundant – and it affects domestic prices facing consumers and downstream firms. Since trade policy has such clear redistributive effects, it is natural terrain for exploring the effect of leader change on redistributive policy.

Government changes, especially those associated with a change in the underlying coalition of supporters will shift the trade policy position of that country. Those sectors or interests that enter the support coalition will more likely see trade policies shift in their favor. If those sectors are import-competing firms or industries, these interests may seek enhanced protection from foreign competition, at least to the degree permitted under the constraints of internal trade law and treaty obligations.

We explore this dynamic in the context of anti-dumping (AD) investigations, targeting firms or sectors within trading partner states. Since an investigation is usually a precursor to a tariff (or some other form of administered protection), we find that AD investigations are more likely to be launched with changes in leadership, a consequence of the (likely) inclusion of a different set of import-competing firms in the new support coalition.

Anti-dumping investigations are launched in response to a petition from a domestic industry alleging unfair practices by foreign firms. “Dumping” is the selling of like products in the local market at “less than fair value.” These investigations more often

than not lead to the imposition of tariffs, redistributing revenue from foreign producers (and other domestic interests) to domestic firms competing with those dumped imports. It is intuitive therefore, that a (new) leader accountable to, or receiving support from, a firm (or firms) alleging such unfair practices will be receptive to such claims, and may launch an investigation. A new leader that receives little support from an industry suffering injury from imports is less likely to initiate AD investigations on that industry's behalf. We find empirically that indeed, leader change results in the onset of AD investigations.

Furthermore, the effect of leader change on AD investigation onset is conditioned by regime type. We find that the effect of leader change (on AD investigation onset) in *autocracies* is significantly larger and different from the effect of leader change in *democracies*. In fact, leader change in an autocracy leads to administrative protection filings by firms at twice the rate that would occur absent leader change.<sup>1</sup> In contrast, leader change in democracies shows no appreciable enhanced risk of AD investigation initiation and may even result in a slight reduction in risk.

We contribute to a growing literature examining the impact of leader change on the relations between states (McGillivray and Smith 2008, 2004). The results of this paper parallel those of Bobick and Smith (2013) and Rosendorff and Smith (2015) who find similar patterns with respect to leader change and the onset and settlement of WTO disputes: leader change increases the likelihood that a country will be involved in a trade dispute as either plaintiff or defendant. For ongoing disputes, leader change in the defendant state increases the likelihood of concessions by the defendant. Institutions tend to moderate the effects with the impact of leader change being more pronounced in non-democracies.

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<sup>1</sup>Similarly, autocratic leader change in a nation doubles the risk that it is targeted by an AD investigation from a trading partner abroad.

# 1 Anti-Dumping Protection

The multilateral trading regime, codified by the treaties forming the World Trade Organization (WTO) and its predecessor, the General Agreement on Tariffs and Trade (GATT), permit its member states to waive their treaty obligations – largely to keep tariffs below their bound rates – under specific circumstances.<sup>2</sup> The provisions in the treaties are collectively known as “temporary trade barriers” (TTBs), and include anti-dumping duties, countervailing duties (CVDs) and safeguards. The AD duty is the most commonly utilized of these instruments – Hoekman and Kostecki (2001, p. 306) describe the AD duty as the “instrument of choice” for trade protection that is legal under the WTO. Kucik and Reinhardt (2008, p. 487) observe that the number of AD investigations from 1995 to 2006 was greater than 2,900, about nine times as frequent as CVD and safeguard investigations combined.<sup>3</sup> Disputes over AD duties make up about 31% of all disputes at the WTO (in the 2001-2008 period, up from 15% in the 1995-2000 period (Bown 2009)). While AD usage was rather limited in the GATT period, they have become part of the regular trade policy toolkit for a considerable group of countries under WTO, including developed and developing economies alike.

In order to take advantage of these provisions, a country’s bureaucracy must undertake a specific and explicit review process (sometimes this process is known as “administered protection.”) After a petition is filed by an affected industry with their trade ministry or other respective bureaucracy, a government quickly decides whether to initiate an investigation, and it usually does so. The bureaucracy conducts a quasi-judicial investigation and must find two facts in the affirmative before a duty can be applied. Firstly, that imports are being sold at “less than fair value” and secondly, that

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<sup>2</sup>Article VI of the GATT 1947 treaty permitted AD duties to defend producers from “material injury” caused by imports priced at “less than fair value.” This right is affirmed in the 1994 WTO Anti-Dumping Agreement.

<sup>3</sup>Even though their relative share has somewhat declined since then, AD continues to remain by far the most popular type of temporary trade barrier. From 2009-2014, the WTO lists 1156 new AD investigations compared to 138 CVDs (until mid 2014) and 122 safeguard initiations.

these imports are causing “material injury” to domestic producers (or threatens to do so) of “like” products (Trebilcock and Howse 1999). At which point the trade officials estimate a margin of dumping (the amount by which the domestic price is below “fair value”) which determines the size of the AD duty. A preliminary tariff may be applied as soon as a preliminary determination is made, usually within 30-90 days; a final determination is made usually within 14-18 months. The agreements signed after the Uruguay Round of negotiations require the AD duties to be removed no later than 5 years after their adoption, and after a sunset review investigation.

An AD duty is therefore legal under the WTO rules, and is relatively easy to implement. Moreover there is enough uncertainty or lack of required precision surrounding the computation of “fair value” and the degree to which the domestic industry is suffering or threatens to suffer losses from the dumping, that it has become the first and simplest method for protecting an industry and escaping from a WTO obligation when political pressures demand it (Blonigen and Prusa 2003, Prusa 2005).<sup>4</sup>

AD duties, and TTBs more generally, offer flexibility within an international agreement. A “flexibility provision” is “any provision of an international agreement that allows a country to suspend the concessions it previously negotiated without violating or abrogating the terms of the agreement” (Rosendorff and Milner 2001). Given that governments are often uncertain about the political pressures they may face in the future, or the broader costs of compliance, states build into their international agreements opportunities for temporary defection (Rosendorff 2005, Bagwell and Staiger 1990). These opportunities to temporarily renege on obligations, and have those defections tolerated by a state’s trading partners, reduce the per-period levels of cooperation, but enhance the overall stability of the trading system, encouraging more countries to be willing to enter into the regime, and making it more robust to shocks that might

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<sup>4</sup>There is a large literature on how states design international institutions to manage problems of domestic politics. See for instance Kucik (2012), Johns (2012), Baccini (2010), Dür, Baccini, and Elsig (2013), Koremenos, Lipson, and Snidal (2001), McGillivray and Smith (2005, 2006).

induce its breakdown (Rosendorff 2015).<sup>5</sup>

The political benefits of flexibility provisions are to be balanced against the economic costs. AD duties and the other TTBs reduce trade flows in the periods they are utilized, and economic welfare is foregone (Prusa 2001). Rosendorff (1996) shows that the mere initiation of an AD investigation can reduce trade volumes, adversely affecting economic welfare even if the AD petition is subsequently withdrawn. In addition to reduced trade volumes, AD protection can delay adjustment in domestic industries, channelling resources towards strengthening petitions instead of investing in innovation, which suggests dynamic welfare costs to the economy. Bearce, Eldredge, and Joliff (2014) however shows that the presence of some restrictions on the use of escape provisions in PTAs more than offsets the negative economic impacts of unconstrained escape. They say that “while too much institutional flexibility is bad for trade, so is too much rigidity.”<sup>6</sup>

## 1.1 Existing theories of variation in AD use

The existing literature on AD use largely focuses on macroeconomic and political economy factors. There is some evidence suggesting countercyclical patterns for the aggregate use of AD duties – more activity during periods of global economic downturn (WTO 2009). Takacs (1981), Coughlin and Aini (1989), Leidy (1997), Knetter and Prusa (2003) and Feinberg (2005) find that investigations and/or AD duties are associated with domestic economic weakness – when unemployment is high, growth is sluggish and/or capacity utilization is low – and this effect is larger in developed countries (Aggarwal 2004). Weak growth in a state’s major trading partners is also a factor in AD investigation onset (Crowley N.d.).

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<sup>5</sup>Leaders build flexibility into international agreements to manage this time-consistency problem across a variety of issue areas. Hafner-Burton, Helfer, and Fariss (2011) view the opportunity for states to “derogate” from human rights treaties as a form of tolerated escape/flexibility necessary during emergencies; flexibility provisions have been studied in climate change treaties (von Stein 2008, Thompson 2010), among others.

<sup>6</sup>See Pelc (2009, 2013), Gray and Slapin (2012), Baccini (2010) for further discussion on the welfare effects of flexibility in international trade agreements.

An early study, covering the period from 1980-2000 (Aggarwal 2004) finds AD activity to be largely motivated by domestic macroeconomic conditions in developed countries. However, Bown and Crowley (2014) find the relationship between economic shocks and new temporary trade barriers in emerging economies has become more pronounced compared to the pre-WTO period. For large developed countries Bown and Crowley (2013) also find evidence of countercyclical responses as higher domestic unemployment and lower growth of trading partners is associated with more import protection.<sup>7</sup>

Several studies suggest that AD use is influenced by political economy factors similar to traditional protection. Industries with greater political clout tend to be more successful with their petitions in the US (Finger and Nelson 1982, Hansen 1990, Hansen and Prusa 1996, 1997, Devault 2003, Drope and Hansen 2004).

We provide an argument on how leader change – mediated by institutions – maps into the use of AD. The onset of an anti-dumping investigation, in which the government of nation *A* investigates complaints (by firms in *A*) about dumping by firms located in nation *B* requires that domestic leaders in nation *A* are concerned about petitioners in nation *A* and are willing extend administered protection to them.

## 2 Theory: Leader Turnover and AD Investigation Onset

Leader turnover and political institutions affect the onset of anti-dumping disputes.

We apply the theoretical foundations of Bobick and Smith (2013) and Rosendorff and Smith (2015).<sup>8</sup>

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<sup>7</sup>However they suggest that increases in AD usage in the wake of the great recession has remained less pronounced compared to what would have been expected based on previous experiences.

<sup>8</sup>Our study is part of a growing literature that finds domestic leader change affects interstate relations (Bueno de Mesquita and Siverson 1995, Dreher and Jensen 2013, Mattes, Leeds, and Carroll 2014, McGillivray and Smith 2008, 2000, Wolford 2012).

Leadership changes, especially those associated with shifts in the underlying support coalition, are likely to lead to changes in the set of import-competing industries clamoring for some sort of protection against foreign competition. Political pressure to protect industries within the support coalition may be difficult to avoid even if international agreements restrict such action (Goldstein and Martin 2000, Davis 2012, Rosendorff 1996, 2005, Rosendorff and Milner 2001). While governments may respond and raise trade barriers (especially if there is tariff overhang), governments more frequently make use of the WTO-consistent AD procedure, which invariably leads to an AD duty. These new leaders, influenced and supported by a new set of import-competing firms (as compared to the set of import-competing firms that may have offered support to the previous leader) now are more likely to be faced with demands for AD protection, and we predict that new leaders are associated with AD investigation onset.

The impact of leader change on AD investigation onset is conditioned by regime type.<sup>9</sup> We find here that the effect of leader change on AD investigation initiation is much larger in non-democracies than in democracies.

A democracy is characterized by a larger and more heterogeneous supporting coalition, with more sectors demanding protection. Protection of this wider set of industries comes at a greater cost to the individual consumers and voters by way of higher goods prices. Democratic leaders may face demands to protect a larger set of sectors, but a support-maximizing democratic leader may also have consumers, downstream firms and other interests opposed to higher prices within the supporting coalition. A leader accountable to a larger coalition will also have fewer resources to allocate to service a specific industry, and may choose not to pursue the investigation further. Any pro-

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<sup>9</sup>There is a close link between trade volumes, trade policy, PTA formation, dispute onset and regime type. Democracies trade more freely and are more cooperative when it comes to PTA formation (Milner and Rosendorff 1997, Mansfield, Milner, and Rosendorff 2000, 2002, Milner, Rosendorff, and Mansfield 2004). Democratic dyads are more likely to escalate their WTO disputes to the panel stage than are other dyads (Busch 2000). Davis (2012) suggests that the checks and balances that characterize democracies bias dispute settlement via public lawsuits and away from informal settlements.

tection that is offered is likely to be on average smaller than it would be absent those countervailing tendencies. 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 trade barriers (Downs and Rocke 1995).

The industries will bear these pressures in mind when choosing whether or not to lobby for AD protection. The costs of petitioning for AD relief are not insignificant. Legal counsel must be retained, evidence collected for the multiple steps of the quasi-judicial administrative process – establishing both dumping and material injury and a link between them. Often industries choose to form and fund an umbrella industry interest group to lobby and manage the petition on its behalf. Most importantly an industry must overcome the collective action problem to ensure that a sufficient number of firms join the petition for protection.<sup>10</sup>

Given that the costs of filing a petition may be considerable, a firm may balance those costs against the likely benefits. Given that a democratic leader is less likely to offer deep enough protection to make the filing worthwhile, on balance we would expect fewer AD investigations after a new democratic leader comes to office.<sup>11</sup>

Autocratic leaders, on the other hand, have narrower supporting coalitions, and when petitioned to provide protection for a support industry rarely face internal opposition to the measure. AD petitions are more likely to be viewed sympathetically. Hence new autocratic leaders are likely to be faced with, and agree to more AD petitions and duties.

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<sup>10</sup>In the US, at least 25% of the firms or workers in an industry must support the AD petition, and constitute more than 50% of those in favor and opposed. Costly survey or other sampling methods may have to be adopted.

<sup>11</sup>While in equilibrium, of course, we would rarely expect to see an AD petition declined (only those that expect to be successful are most likely to be initiated), there remains residual uncertainty about the degree of influence an industry may truly have. Frequent AD users like Australia have ratios of investigations turned into measures of about .4 and the US, EU and Canada score between .6 and .65. Some less democratic nations have higher success rates: China is about .8, Egypt .73 and Russia approximately .8.

### 3 Data

Tests of the theory require data on anti-dumping investigations, change in political leaders, change in the coalition that support leaders and other political and economic data. The unit of analysis is directed dyad-years from 1995 to 2008. For each directed dyad-year we ask whether the first listed nation (which we refer to as  $A$  or the investigating country) initiates an anti-dumping investigation targeting firms in the second listed nation ( $B$ , the target of an AD measure). Our dependent variable,  $ADonset$ , takes value one if a firm or firms in nation  $A$  seek administrative protection against alleged dumping practices in nation  $B$  in a particular year; otherwise  $ADonset$  takes value zero.

We restrict the analysis to WTO member states and to cases where the plaintiff state has an anti-dumping law on the books. The data on the presence of AD laws is taken primarily from Zanardi (2004) and Zanardi and Vandebussche (2008) and complemented by WTO sources.<sup>12</sup>

#### 3.1 Anti-Dumping data

Our data are drawn from Bown's Temporary Trade Barriers Database/Global Anti-dumping Database for information on anti-dumping (Bown N.d.). The data contain 3,126 cases of anti-dumping investigations for the respective time period. Our primary dependent variable is the onset of at least one AD investigation in a directed dyad-year, a variable we label  $ADonset$ .<sup>13</sup> Within our data, India initiates the most anti-dumping investigations (resulting in 130 cases with  $ADonset$  taking on a positive value) over

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<sup>12</sup>We would not expect to see any investigations in countries that do not have the respective legal requirements already in place. Also WTO members are subject to the same broad regulatory framework. Note that AD measures can target any trading partner whether that partner is a WTO member or not (although such targets are excluded from our data). Kucik and Reinhardt (2008) show that a country with an AD code on the books is more likely to join the WTO if it is not a member; WTO members without an AD code are quicker to implement one than non-WTO members.

<sup>13</sup>In the Appendix we examine the number of disputes that occur using a Poisson count model and obtain substantively similar results.

this period and China is the most common target (171 cases).

Within our data there are 1,969 directed dyad-years in which an AD investigation occurs. Some dyads experience multiple AD investigations within the same year. Given our restriction to WTO member-states with AD laws, and allowing for missing data issues, our analyses contain 1,347 directed-dyad-years in which an AD investigation arises, which is about 1% of all directed dyad-years. Given the rarity of AD cases, we use the Tomz, King, and Zeng (2003) rare-event logit method.

Special consideration of the EU in the data is required. The EU is a customs union and not a nation. In many trade related issues it represents the interests of its member states. For instance, the EU often bargains in negotiations over WTO treaties. In the context of anti-dumping disputes, the EU appears as both an investigator and target. However to complicate issues, individual EU member states are sometimes named as targets of investigations. We take a pragmatic approach and create a dummy “EU” nation for each year in the role of both investigative and target nation, similarly to its treatment in studies of WTO disputes.<sup>14</sup>

## 3.2 Leader and Coalition Change

Ashley Leeds and Michaela Mattes kindly provided their Change in Source of Leader Support (CHISOLS) data (Leeds and Mattes 2013), from which we code leader change. The data distinguish between two forms of leader change, those that result in an underlying change in the support coalition and those that do not. To illustrate, within parliamentary democracies the CHISOLS data code leader change as occurring when the Prime Minister (PM) changes. However, such a leader change would only be regarded as a change in the underlying support coalition if the PM change was accompanied by a change in the party composition of the government.

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<sup>14</sup>With respect to economic variables we treat the EU as the sum of its constituent nations. Politically we treat it as a large coalition system without any leader change. We replicate the analysis in the Appendix including each individual EU member state in each role and excluding the EU as a whole. The results are similar with the inclusion of the EU or the exclusion of the EU and the inclusion of all EU member nations.

For each nation in the directed dyad, we know the dates of leader and support coalition changes. We examine three principle variables for each state in the dyad for a given year:

1.  $\Delta L_A$  is coded one if any national leader change occurred in the investigating nation,  $A$ , in the current or previous year, and is coded zero otherwise.
2.  $\Delta SC_A$  is a dummy variable coding whether any leader change occurring in country  $A$  in the current or previous year was accompanied by a shift in the support coalition.
3.  $\Delta nonSC_A$  is a dummy variable for any leader change (in country  $A$ ) in the current or previous year that was not associated with a change in support coalition. If there are multiple leader changes in the current or previous year then this variable is coded 1 only when none of the changes were associated with changes in the support coalition.

Leader change in the target nation,  $B$ , is analogously coded.

### 3.3 Political Institutions

The theory emphasizes the number of supporters a leader needs to survive in office. Therefore, we code institutions using the Bueno de Mesquita et al. (2003) measure of winning coalition size:  $W_A$  and  $W_B$  refer the coalition size for the investigating and target nation in each directed dyad. The coalition size variable is a five-point scale created using data from Polity IV (Marshall, Jaggers, and Gurr 2002) and Banks (2011).<sup>15</sup>  $W$  takes the possible values 0, .25, .5, .75, and 1 where a larger number

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<sup>15</sup>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

indicates a larger coalition.

### 3.4 Economic and Other Data

Economic data on population size, GDP and trade as a percentage of GDP are obtained from the World Bank’s World Development Indicators (World Bank 2010). Table 1 provides summary statistics of the core variables in the analyses.

## 4 Results

Table 2 contains three rare-event logit models in which the dependent variable is *ADonset*, the initiation of (at least one) AD investigation by nation *A* against alleged dumping by firms producing in country *B*. Model 1 examines the impact of any form of leader change ( $\Delta L$ ). Model 2 examines only leader changes that involve a change in the underlying support coalition ( $\Delta SC$ ). Model 3 separates coalition changes ( $\Delta SC$ ) from leader changes that occur without a change in the underlying support coalition ( $\Delta nonSC$ ). Each model includes variables that measure domestic political institutions and their interaction with the leader change variables. There are also variables for the size of economy of each nation (measured as the logarithm of GDP,  $\ln GDP$ ), the population of each nation (measured as logarithm of population,  $\ln POP$ ) and a control for calendar year (to capture any temporal trend).

Anti-dumping investigations disproportionately target large and economically pow-

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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.

erful nations. The coefficient estimates on the GDP and population measures for both nations  $A$  and  $B$  are positive and significant indicting that large nations are both more likely to investigate cases and more likely to be named as a target in an anti-dumping investigations than smaller nations. To gauge the substantive impact of economic and population size we use Clarify (Tomz et al. 2003), which is a Monte Carlo program that estimates the substantive impact of variables via simulation. If the population and economic variables for  $A$  and  $B$  are set at their median value (assuming small coalition size and no leader change), then the likelihood of anti-dumping investigation onset is about 0.0014. If the economic variables are examined at the 75<sup>th</sup> and 95<sup>th</sup> percentiles, then the corresponding likelihoods are 0.018 and 0.35. AD investigations are most likely initiated by and target economic heavyweights.

Compared to autocracies, firms in democracies are more likely to initiate anti-dumping investigations but democracies are less likely than autocracies to be the named as a target, as indicated by the positive coefficient estimates for  $W_A$  and negative coefficient estimates for  $W_B$ . The theoretical argument predicts democrats have broad but shallow protectionist interests, while autocrats have deep but narrow policy profiles. The significant negative coefficient on the  $W_B$  variable indicates broad shallow protectionist policies of a large coalition system are less likely to incur the ire of other states than the narrow deep policies of an autocrat.

Anti-dumping investigations are more likely in large coalition systems than in autocratic nations. While this result may be somewhat surprising at first sight - after all, democracies are associated with less protection (Rosendorff and Milner 2001) - it makes sense given the nature of AD duties. First, democratic leaders may be inclined to chose an instrument that invites less scrutiny domestically than other measures (“obfuscation” as in Kono (2006)). Second, democratic leaders often come under more intense political pressure to protect a wider variety of industries. A flexibility-enhancing device like an AD duty helps solve this domestic political problem. Third, fewer of the investigations in large coalition systems ultimately translate into measures - suggesting more

careful screening and the need to reconcile different domestic interests throughout the process (Wruuck 2015).

Setting the economic variables at the 75<sup>th</sup> percentile, moving from the smallest to the largest coalition system in the investigating state ( $A$ ) increases the risk of dispute onset by about 40% and a similar move from small to largest coalition system in a target state ( $B$ ) reduces the risk of dispute onset by about 60%. Table 3 provides 95% confidence intervals as to the relative risk of investigation onset for changes in institutions (from  $W = 0$  to  $W = 1$ ) and the impact of leader change under different institutional configurations.

Leader change increases the likelihood of AD investigation onset in small coalition systems, but leader change has little impact on onset in large coalition systems. These results are similar in both investigative and target states and whether the leader change is associated with a change in the underlying support coalition ( $\Delta SC$ ) or not ( $\Delta nonSC$ ). Model 1 in Table 2 examines the impact of any leader change. Model 2 focuses on underlying coalition support changes only and Model 3 separates coalition- and non-coalition leader changes. These alternative specifications show similar patterns. The coefficient estimates for leader change,  $\Delta L_A$  for instance, are significant and positive indicating that leader change in a small coalition system increases the risk of dispute onset. The coefficient estimates for leader change interacted with coalition size,  $W_A \times \Delta L_A$  are significant, negative and of similar magnitude to the un-interacted leader variable. As a result, the net effect of leader change in a large coalition system is negligible. Rather than undertake the somewhat messy job of attempting to interpret the impact of leader change from the coefficients, we use Clarify's simulation approach to graph how leader change affects the relative risk of  $ADonset$ .

Figures 1 and 2 use box-plots to illustrate how leader change affects the relative risk of  $ADonset$  in investigating and target nations, respectively. The first two box-plots in each figure show the effect of leader change in small and large coalition systems using simulations based on Model 1 in Table 2. The first box plot in Figure 1, labeled  $\Delta L$ ,

$W_A = 0$  indicates that if leader change occurs in a small coalition investigating state, then the government in nation  $A$  is about twice as likely to initiate an AD investigation compared to the situation where no leader change occurs. The second box plot, labeled  $\Delta L$ ,  $W_A = 1$ , shows the impact of leader change in a democratic investigating nation. As the figure shows, democratic leader change results in a slight reduction in the risk of investigation onset.

Using simulations based on Model 3 in Table 2, the remaining four box-plots in Figure 1 further separate the effects of leader change according to whether the leader change is accompanied by change in the support coalition ( $\Delta SC$ ) or not ( $\Delta nonSC$ ) and whether the investigating nation has small ( $W_A = 0$ ) or large ( $W_A = 1$ ) coalition institutions. These box-plots show similar patterns. In small coalition systems leader change increases the risk of AD investigations; whereas leader change in democratic nations results in a slight reduction in the propensity of governments to initiate AD investigations. The magnitude of the effects of leader change appear similar whether the leader change is accompanied by changes in the underlying support coalition or not. Indeed, in none of our analyses can we reject the null hypothesis that the impact of leader change with support coalition change is identical to leader change without support coalition change. In small coalition systems, leader change in the investigating state approximately doubles the risk of investigation onset. In contrast, leader change in large coalition systems slightly reduces the likelihood that governments initiate AD investigations.

Figure 2 shows that leader changes in target states have similar effects to those seen in investigating state. The box-plots show the relative risk of  $AD_{onset}$  for small and large coalition systems and for each form of leader change. When coalition size is small, leader change in target states approximately doubles the risk that nation  $B$  will have AD investigations targeting its firms. However, in large coalition democratic systems, leader change produces no discernible effect in the likelihood that firms in nation  $B$  will be targeted. With respect to change in the underlying support coalition,

again our analyses reveal no differences between the different forms of leader change.<sup>16</sup>

Autocratic leader change increases the risk that a nation will initiate AD complaints against firms in another nation and also that the nation's firms will be the target of AD filings by another nation. Institutions ameliorate the impact of leader change. Leader change in democracy results in a slight reduction in the initiation of AD investigations and has no impact of the likelihood that a nation will be the target of AD investigations. These results are similar to the patterns found in WTO dispute onset by Bobick and Smith (2013) and Rosendorff and Smith (2015).

These results are robust to the exclusion of all European Union member states and to the inclusion of numerous additional controls such as trade flows as a proportion of GDP, bilateral trade flows, the presence of a Preferential Trade Agreement, distance and contiguity measures. We obtain similar results if Polity's democracy-autocracy 21 point measure of institutions is substituted for coalition size. These analyses are not shown here but are available upon request. As alternative robustness checks Tables 4 and 5 in the Appendix reestimate Model 1 using the number of AD investigations, rather than the presence of any investigation. Leader change in small coalition systems increases the risk that a nation will investigate dumping by other nations or be investigated by other nations. Leader change in large coalition systems has no impact on the relative risk that a nation will be a target in an AD investigation and slightly reduces the probability that governments launch AD investigations.

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<sup>16</sup>The finding that leader change in the target state also affects the onset of AD investigations is something that warrants further research. It may be that we are picking up some sort of retaliatory activity – some scholars have found that countries are more likely to file against trading partners that have previously targeted them Prusa and Skeath (2002, 2004). Feinberg and Reynolds (2006) describe several cases of retaliatory activity involving Canadian imports of Indian steel products. Similarly, Bown (2011) notes retaliatory activity by China in 2007/8.

## 5 Conclusions

Trade policy is one way to privilege supporters. Given that different leaders have different supporters, we should expect an effect of leader change on trade policy patterns. Here, we look at anti-dumping policies, the main instrument for contingent protection and a frequent source of trade disputes among WTO-members, to explore this link. Anti-dumping investigations are more frequently initiated by (and target) large trading blocs. Also, we find democratic states to be more frequent investigators while small coalition systems are more likely to be investigation targets. Against this backdrop, we examine the impact of leader change and domestic political institutions in shaping the onset of anti-dumping investigations. In small coalition systems, leader change significantly increases the probability of seeing new investigations. Similarly, autocratic countries are more likely to become targets. This contrasts with findings for large coalition systems where leader change only has negligible effects on the likelihood of becoming a target and is even associated with a slight reduction in the likelihood of seeing new investigations.

This work contributes to the literature that emphasizes the importance of individual leaders and the institutional context in which they operate. We also offer new determinants of the pattern of contingent protection across countries. Understanding these dynamics and the impact of institutions seems all the more relevant given that AD has become a frequently used policy instrument for a growing (and heterogeneous) group of countries. It also draws attention to possible impact of leader change, for example in some emerging markets, and their potential repercussions for global trade relations.

Our argument relies on the core idea that sectors/interests enter or exit a supporting coalition as leaders change. Ideally we would test the implications of leader change using data mapping leaders to sectors within their support coalition. Such data remains to be collected and so we follow the advice of McGillivray (2004) and examine the

second order statistic of volatility of trade policy. Nevertheless, our findings provide a first step towards disentangling the links between leaders, their supporters and patterns of administered protection.

## 6 Tables and Figures

Table 1: Summary Statistics

	Summary Statistics				
	Observations	Mean	Std.Dev	Min	Max
$ADonset$	166080	.0100373	.0996827	0	1
$W_A$	163429	.7761474	.2148237	0	1
$\Delta L_A$	148840	.3309796	.4705673	0	1
$\Delta SC_A$	148840	.2413666	.4279135	0	1
$\ln GDP_A$	160367	24.65851	2.209527	19.31527	30.07615
$\ln POP_A$	163760	16.19995	1.935287	11.12958	21.00442

Table 2: Anti-Dumping Investigation Onset and Changes in Leaders and Support Coalitions

	Model 1 b/se	Model 2 b/se	Model 3 b/se
$W_A$	0.5664*** (0.192)	0.4276** (0.183)	0.6445*** (0.196)
$W_B$	-1.1659*** (0.162)	-1.2286*** (0.156)	-1.1561*** (0.162)
$\Delta L_A$	0.7299*** (0.204)		
$W_A \times \Delta L_A$	-0.9839*** (0.242)		
$\Delta L_B$	0.8271*** (0.160)		
$W_B \times \Delta L_B$	-0.7513*** (0.191)		
$\ln GDP_A$	0.2559*** (0.026)	0.2546*** (0.027)	0.2535*** (0.027)
$\ln POP_B$	0.5937*** (0.031)	0.5982*** (0.031)	0.5940*** (0.031)
$\ln GDP_B$	0.4968*** (0.025)	0.5003*** (0.025)	0.4986*** (0.025)
$\ln POP_B$	0.4604*** (0.028)	0.4580*** (0.028)	0.4594*** (0.029)
Year	-0.0779*** (0.007)	-0.0789*** (0.007)	-0.0779*** (0.007)
$\Delta SC_A$		0.5374** (0.243)	0.7013*** (0.250)
$W_A \times \Delta SC_A$		-0.7622*** (0.290)	-0.9675*** (0.298)
$\Delta SC_B$		0.9581*** (0.183)	1.0293*** (0.186)
$W_B \times \Delta SC_B$		-0.9456*** (0.217)	-1.0027*** (0.221)
$\Delta nonSC_A$			1.1328*** (0.261)
$W_A \times \Delta nonSC_A$			-1.4712*** (0.307)
$\Delta nonSC_B$			0.5930** (0.238)
$W_B \times \Delta nonSC_B$			-0.5142* (0.279)
Constant	-41.7104*** (0.679)	-41.6137*** (0.681)	-41.7461*** (0.681)
N	124256	124256	124256
Dispute Years	1,347	1,347	1,347

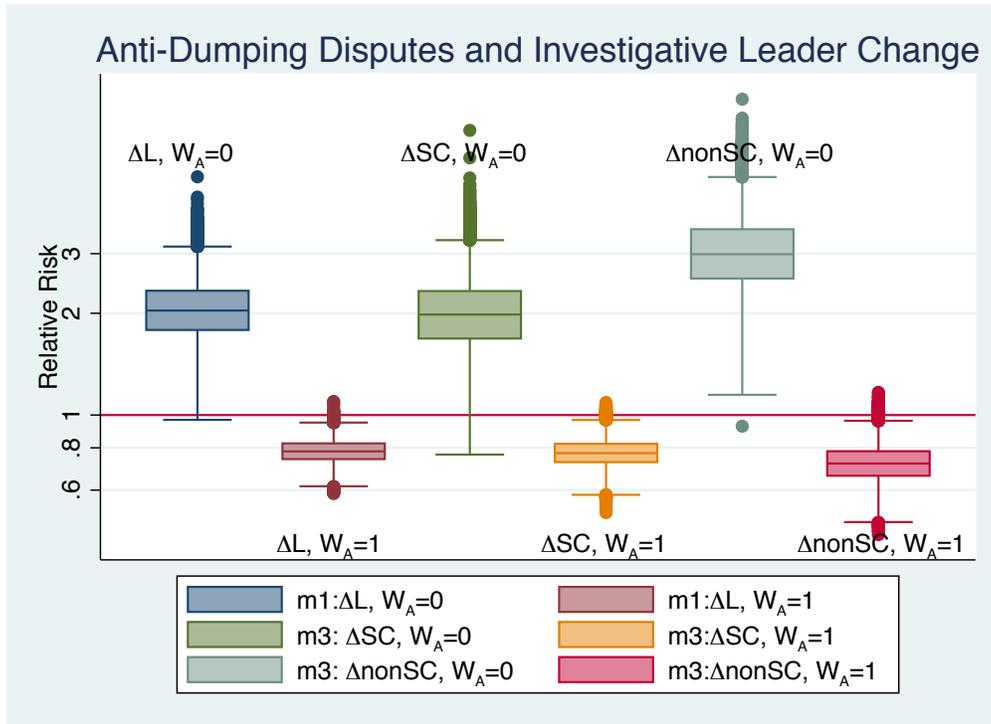
\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 3: 95% Confidence Intervals for Relative Impact of Change in Leaders, Support Coalition and Institutions on Anti-Dumping Investigation Onset

	Model 1	Model 2	Model 3
$W_A$	[1.11, 1.80]*	[1.03, 1.59]*	[1.16, 1.91]*
$W_B$	[0.33, 0.52]*	[0.33, 0.50]*	[0.33, 0.52]*
$\Delta L_A (W_A=0)$	[1.21, 1.91]*		
$\Delta L_A (W_A=1)$	[0.79, 0.95]*		
$\Delta L_B (W_B=0)$	[1.32, 1.90]*		
$\Delta L_B (W_B=1)$	[0.94, 1.21]		
$\Delta SC_A (W_A=0)$		[1.04, 1.69]*	[1.13, 1.97]*
$\Delta SC_A (W_A=1)$		[0.80, 0.98]*	[0.77, 0.96]*
$\Delta SC_B (W_B=0)$		[1.35, 1.91]*	[1.44, 2.15]*
$\Delta SC_B (W_B=1)$		[0.87, 1.17]	[0.88, 1.19]
$\Delta nonSC_A (W_A=0)$			[1.41, 2.38]*
$\Delta nonSC_A (W_A=1)$			[0.71, 0.95]*
$\Delta nonSC_B (W_B=0)$			[1.08, 1.84]*
$\Delta nonSC_B (W_B=1)$			[0.89, 1.29]

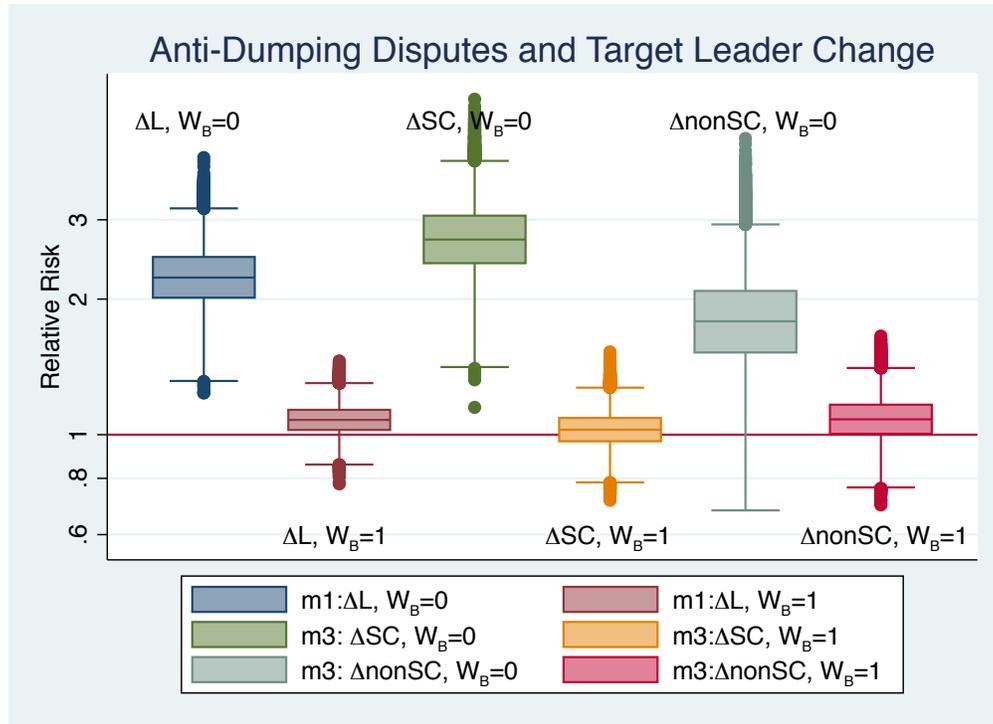
\* indicates the 95% confidence interval excludes 1.

Figure 1: Relative Risk of Anti-Dumping Investigation Initiation for Investigating Country Leader Change (Models 1 and 3 of Table 2).



Plots 1, 3 and 5 show that leader change (alone, with a change in the support coalition and without a change in the support coalition) in small coalition investigating states increases the likelihood of investigation onset. Leader change in large coalition target states appears to have little effect on the probability of investigation onset, irrespective of the type of leader change - plots 2, 4 and 6.

Figure 2: Relative Risk of Anti-Dumping Investigation Initiation for Target Country Leader Change (Models 1 and 3 in Table 2).



Plots 1, 3 and 5 show that leader change (alone, with a change in the support coalition and without a change in the support coalition) in small coalition target states increases the likelihood of investigation onset. Leader change in large coalition target states appears to have little effect on the probability of investigation onset, irrespective of the type of leader change - plots 2, 4 and 6.

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## 7 Appendix: Alternative Methods

As alternative robustness checks Tables 4 and 5 below reestimate Model 1 using the number of AD investigations, rather than the presence of any investigation.

Table 4: Tobit: Number of AD Investigations and Changes in Leaders and Support Coalitions

	Model 1a b/se	Model 2a b/se	Model 3a b/se
$W_A$	0.6070*** (0.198)	1.1257*** (0.397)	1.5764*** (0.422)
$W_B$	-0.7409*** (0.157)	-1.9814*** (0.315)	-1.7764*** (0.331)
$\Delta L_A$	0.6598*** (0.225)		
$W_A \times \Delta L_A$	-0.8413*** (0.269)		
$\Delta L_B$	0.7859*** (0.176)		
$W_B \times \Delta L_B$	-0.7699*** (0.218)		
$\ln GDP_A$	0.1997*** (0.025)	0.4006*** (0.054)	0.3913*** (0.054)
$\ln POP_B$	0.4610*** (0.030)	1.0355*** (0.062)	1.0363*** (0.062)
$\ln GDP_B$	0.3904*** (0.023)	0.8567*** (0.049)	0.8537*** (0.049)
$\ln POP_B$	0.3545*** (0.025)	0.7896*** (0.053)	0.7863*** (0.053)
Year	-0.0682*** (0.007)	-0.1483*** (0.014)	-0.1465*** (0.014)
$\Delta SC_A$		0.7912 (0.578)	1.1120* (0.589)
$W_A \times \Delta SC_A$		-1.1278 (0.689)	-1.5064** (0.701)
$\Delta SC_B$		1.5419*** (0.429)	1.7116*** (0.437)
$W_B \times \Delta SC_B$		-1.6101*** (0.534)	-1.7785*** (0.544)
$\Delta nonSC_A$			2.3357*** (0.629)
$W_A \times \Delta nonSC_A$			-2.7973*** (0.762)
$\Delta nonSC_B$			1.4258*** (0.526)
$W_B \times \Delta nonSC_B$			-1.4683** (0.648)
Constant	-33.3983*** (0.946)	-72.0038*** (1.886)	-72.1979*** (1.890)
$\sigma$	1.8810*** (0.047)	3.8790*** (0.090)	3.8704*** (0.090)
N	3124256	124256	124256
Dispute Years	1,347	1,347	1,347

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

Table 5: Poisson: Number of AD Investigations and Changes in Leaders and Support Coalitions

	Model 1b b/se	Model 2b b/se	Model 3b b/se
$W_A$	0.3960* (0.219)	0.3677** (0.152)	0.6009*** (0.164)
$W_B$	-1.0388*** (0.181)	-1.7860*** (0.128)	-1.7410*** (0.134)
$\Delta L_A$	0.5962** (0.243)		
$W_A \times \Delta L_A$	-0.7839*** (0.292)		
$\Delta L_B$	0.7004*** (0.189)		
$W_B \times \Delta L_B$	-0.6049*** (0.233)		
$\ln GDP_A$	0.2312*** (0.028)	0.2150*** (0.020)	0.2100*** (0.020)
$\ln POP_B$	0.5022*** (0.030)	0.6394*** (0.021)	0.6368*** (0.022)
$\ln GDP_B$	0.4399*** (0.025)	0.5516*** (0.020)	0.5494*** (0.020)
$\ln POP_B$	0.3968*** (0.027)	0.5150*** (0.021)	0.5171*** (0.021)
Year	-0.0698*** (0.007)	-0.0849*** (0.005)	-0.0844*** (0.005)
$\Delta SC_A$		-0.0558 (0.239)	0.1057 (0.244)
$W_A \times \Delta SC_A$		-0.0354 (0.283)	-0.2258 (0.289)
$\Delta SC_B$		0.5086*** (0.161)	0.5475*** (0.165)
$W_B \times \Delta SC_B$		-0.5980*** (0.199)	-0.6168*** (0.204)
$\Delta nonSC_A$			1.1099*** (0.221)
$W_A \times \Delta nonSC_A$			-1.3714*** (0.277)
$\Delta nonSC_B$			0.3278* (0.185)
$W_B \times \Delta nonSC_B$			-0.1904 (0.236)
Constant	-36.8630*** (0.544)	-42.8750*** (0.438)	-42.9282*** (0.439)
N	124256	124256	124256
Dispute Years	321,347	1,347	1,347

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