Choosing Conflict: Explaining non-compliance with GATT/WTO restrictions on narrow transfers

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Rules negotiated as part of the GATT/WTO restrict the provision of transfers to narrow, select segments of a country's economy. Despite these rules, some member-country governments choose, at times, to provide narrowly targeted transfers in violation of their international obligations. I argue that this choice is driven in part by domestic politics. Where there are large electoral gains to be had from the provision of narrow transfers, governments are more willing to violate GATT/WTO restrictions. The electoral benefits of providing narrow transfers are jointly determined by: (1) voter demand for narrow transfers and (2) electoral institutions. Incidence of countervailing duties and complaints filed with the GATT/WTO in response to illegal narrow transfers are used to examine the effect of domestic politics on compliance with GATT/WTO rules. I find that the effect of electoral institutions on governments' willingness to provide illegal narrow transfers is conditional on voter demand, holding all else constant.

Introduction

Governments redistribute wealth for electoral gain. They do so using domestic transfers, such as subsidies and other distributive programs, to target benefits to key segments of the electorate. However, international agreements, like the General Agreement on Tariffs and Trade and World Trade Organization (GATT/WTO), limit the ways in which national governments can target redistribution to domestic actors. Rules negotiated as part of the GATT/WTO generally restrict the provision of transfers to narrow segments of a country's economy.[1] Such restrictions have long been the focus of multilateral negotiations because narrow transfers are thought to cause significant economic distortions. As early as the Tokyo Round of 1979, the use of narrowly targeted subsidies by national governments was restricted by Articles VI, XVI and XXIII.[2] Since then, international restrictions on narrow domestic transfers have been significantly strengthened, clarified, and expanded. The WTO Agreement on Subsidies and Countervailing Measures (Articles 1 through 9) explicitly bans government subsidies targeted exclusively to individual industries or firms.[3]

Despite these restrictions, some governments choose to provide narrow transfers in violation of their international treaty obligations. This choice entails costs. Extra duties (i.e. countervailing duties) can be imposed against illegally subsidized products. Such duties decrease the international competitiveness of exports from non-compliant countries. Additionally, complaints can be filed with the GATT/WTO Dispute Settlement Body against a country providing illegal narrow transfers. Complaints may seek both the withdrawal of the illegal narrow transfer and compensation for its adverse effects. Despite these cost-imposing enforcement mechanisms, some member-country governments choose

to provide illegal narrow transfers. Why do some GATT/WTO member-country governments provide narrowly targeted domestic transfers and risk costly international retaliation?

A domestic electoral calculus can motivate the provision of narrow transfers, despite international restrictions. Governments choose to provide illegal narrow transfers when the electoral benefits of doing so are greater than the costs. The costs of non-compliance include both international costs (e.g. reputation costs, litigation) and domestic costs (e.g. budget constraints, economic distortions). The electoral benefits of providing narrow transfers are jointly determined by: (1) voter demand for narrow transfers and (2) electoral institutions.

Strong voter demand for narrow transfers provides politicians with an electoral incentive to violate international restrictions. Politicians are more likely to provide narrow transfers in violation of GATT/WTO agreements when many voters are interested in these types of transfers. The question then is when and under what conditions do voters demand narrowly targeted transfers? Significant demand for narrow transfers exists in countries with relatively immobile labor. When workers find it very costly to move between uses in the domestic economy, they demand transfers targeted directly to the sector of the economy in which they are currently employed (Verdier, 1995; Alt, Frieden, Gilligan, Rodrik, Rogowski, 1996; Zahariadis 2001). Because these workers are unlikely to move to a new sector in the short to medium term, broad transfers that provide benefits to sectors other than their own are considered inefficient and consequently suboptimal. Given this, politicians in countries with relatively specific, immobile labor face greater demand for

narrowly targeted transfers and hence are more likely to violate GATT/WTO restrictions on narrow transfers.

Electoral institutions also create incentives for politicians to target transfers to maximize their electoral fortunes. I focus here on two particular electoral institutions: (1) district magnitude and (2) the rules by which representatives are elected to the national legislature.[4] Greater district magnitude reduces the electoral incentives to target transfers to narrow segments of the electorate (Rogowski, 1987; Alt and Gilligan, 1994; Milesi-Ferretti, Perotti and Rostagno, 2002; Persson and Tabellini, 2003, 2004). Additionally, politicians in proportional systems have greater electoral incentives to supply broad transfers, as compared to politicians in majoritarian systems (Lizzeri and Persico, 2001; Persson and Tabellini, 2003). Narrow transfers should therefore be relatively more frequent in majoritarian, single-member districts systems, all else equal.

The effect of electoral institutions is, however, likely to be conditional on voter demand. For example, it is not clear that politicians in majoritarian systems will have a large incentive to provide narrowly targeted transfers when there is no voter demand for these types of transfers. This potentially important point has been frequently overlooked in previous studies of the effect of electoral institutions on transfer form. I address this point here by explicitly examining the conditional effect of electoral institutions across various levels of voter demand for narrow transfers. I do so using two measures of non-compliance with GATT/WTO restrictions on narrow transfers: countervailing duties and complaints of illegal narrow transfers filed with the GATT/WTO.

The findings reported here suggest that the electoral benefits of non-compliance with GATT/WTO restriction on narrow transfers vary systematically across democratic

states. Governments elected via majoritarian rules violate these restrictions more frequently that those elected by proportional rules, holding domestic demand constant. However, governments elected via proportional rules choose to provide narrow transfers more frequently than those in majoritarian systems, when strong demand exists for such transfers. Governments in proportional systems appear to be relatively more responsive to substantial increases in voter demand for narrow transfers. Consequently, we expect to see the greatest number of illegal narrow transfers in countries with proportional electoral rules and highly specific labor, all else equal.

In the following section, I discuss briefly related research. The theoretical argument is developed in the second section. Data to address the question of when and under what circumstances countries choose to provide narrow transfers are then presented. Finally, I discuss the implications of this study.

Existing explanations

Existing research on the GATT/WTO generally focuses on two important and theoretically interesting questions – both of which are analytically and conceptually distinct from the central research question addressed here. The first such question asks when and under what circumstances countries choose to comply with GATT/WTO panel rulings (e.g. Hudec, 1993; Busch and Reinhardt, 2002). Although this body of research deals with questions of compliance, it examines compliance with the authoritative decision of a third party.[5] In contrast, I am interested in compliance with the standing substantive rules embodied in GATT/WTO agreements, specifically those rules limiting the use of narrowly targeted transfers articulated in Articles VI, XVI and XXIII of the GATT

Agreement and Articles 1 though 9 of the WTO Agreement on Subsidies and Countervailing Measures.[6]

The second major question addressed in existing studies of the GATT/WTO is the decision by member-country governments to litigate a dispute in Geneva (e.g. Reinhardt, 1996, 2000; Allee, 2005). The decision by one country to file a dispute with the GATT/WTO is conditional upon the decision of another country to implement an illegal policy. However, this point is sometimes overlooked in existing studies of GATT/WTO disputes, which generally treat non-compliance with GATT/WTO rules as being random and uniformly distributed across countries (e.g. Horn, Mavroidis and Nordstrom, 1999; Guzman and Simmons, 2005).[7] Yet even a cursory examination of the countries accused of having illegal narrow transfers suggests that non-compliance with the set of GATT/WTO rules regulating their use is neither random nor uniformly distributed across countries.[8] By failing to account for the reasons why illegal narrow transfers are (or are not) enacted in the first place, estimated results for the decision to seek GATT/WTO dispute resolution may potentially be incomplete. I address this here by undertaking what is, to the best of my knowledge, the first systematic cross-national study of compliance with the rules embodied in GATT/WTO agreements regulating the use of a particular type of domestic transfer.

Studies of compliance with other international rules have generated important, influential insights about governments' decision calculus when choosing to comply (or not) with international agreements (e.g. Simmons, 2000; Mansfield, Milner, Rosendorff, 2002). These insights have often focused largely on the *costs* of non-compliance. For example, Simmons (2000) argues that non-compliance with international agreements entails reputation costs, which vary systematically with countries' rule of law traditions.[9]

Others argue that democratically elected leaders are relatively more concerned with the reputation costs of non-compliance (e.g. Mansfield, Milner, Rosendorff, 2002).[10]

The costs of non-compliance almost certainly weigh heavily in a government's decision calculus. However, these costs are weighed against the potential *benefits* of non-compliance. To date, the benefits of non-compliance have received relatively less scholarly attention. I address this disparity here by examining two key factors that likely determine the potential benefits that politicians may hope to achieve from non-compliant behavior, namely domestic demand for narrow transfers and electoral institutions. Cross-national variance in the benefits of non-compliance may help to explain why the most frequent violators of GATT/WTO rules are precisely those governments that are believed to face the greatest reputation costs from non-compliance, namely high functioning democracies with strong rule of law traditions, such as the United States.

In summary, this research examines the importance of two key domestic factors, namely voter demand and electoral institutions, on the likelihood of compliance with a set of GATT/WTO rules. These domestic factors are believed to matter for compliance decisions via their effect of the potential electoral benefits of non-compliant behavior. This is an important contribution to the increasingly large literature on compliance in which systematic theorizing about domestic mechanisms has been limited.[11]

Argument

Governments choose to violate GATT/WTO restrictions on narrow transfers when the benefits of doing so outweigh the costs. The domestic costs of providing illegal narrow transfers entail the actual budgetary costs of the transfer, the opportunity costs of funding the transfer rather than some other policy, and the potential economic distortions caused by

the transfer. The international costs of non-compliance include both the reputation costs and the costs of international retaliation. Retaliation for the provision of an illegal narrow transfer can take the form of a countervailing duty and/or a complaint filed with the GATT/WTO Dispute Settlement Body. Both sanctions entail costs. Participation in the dispute settlement process entails resource costs, such as the financial, institutional, and human capital costs of litigating a dispute (Guzman and Simmons, 2005), and the potential costs of compensating the plaintiff if ruled against by a Panel. Countervailing duties (CVDs) entail direct costs for illegally subsidized producers and indirect costs for governments providing illegal transfers. Illegally subsidized producers facing countervailing duties may punish incumbent politicians by withdrawing their electoral support and/or by demanding increased compensation to offset the effects of the countervailing duties, thereby imposing indirect costs on the government.

These costs are more readily born by a government if the electoral benefits of providing the illegal narrow transfer are large. More precisely, a government will choose to provide a narrow transfer in violation of international law if and only if:

$$B - C_D - C_I > 0$$

where C_D represents the domestic costs of providing a narrow transfers, C_I represents the international costs of non-compliance with GATT/WTO restrictions on narrow transfers, and B represents the electoral benefits of providing a narrow transfer. The electoral benefits (B) of providing illegal narrow transfers depend on: (1) voter demand for narrow transfers and (2) a country's electoral institutions. In the following section, I trace through the effect of electoral institutions. Subsequently, I explore under what conditions voters are more (or less) likely to demand narrow transfers.

Electoral institutions and supply incentives

Electoral institutions create incentives for politicians to target benefits more or less narrowly to maximize their electoral fortunes. I focus here on two particular electoral institutions and examine each in turn: (1) district magnitude and (2) the rules by which representatives are elected to the national legislature.

Higher district magnitude reduces the electoral incentives to target benefits to narrow segments of the electorate. The nature of electoral competition in single-member districts provides politicians with incentives to target benefits to narrow geographic constituencies (Milesi-Ferretti, Perotti and Rostagno, 2002; Persson and Tabellini, 2003, 2004). These narrow geographic constituencies may include a particular industry or firm that would benefit from a narrow transfer, such as an industry-specific subsidy (McGillivray, 2004). Because single-member districts tend to be smaller, the influence of a particularistic group, like a declining industry, over the elected representatives is relatively greater than in larger, multi-member districts (Rogowski, 1987; Alt and Gilligan, 1994). McGillivray (2004:28) provides the following illustrative example: An industry with 100 employees represents 10 percent of the electorate in a district with 1,000 voters. The same industry represents only 0.1 percent of the electorate in a district of 100,000 voters. In the larger district, refusing to protect the industry is unlikely to affect the politician's reelection chances because the industry is only 0.1 percent of the representative's electorate. In a district of 100,000 voters, political representatives are forced to balance the interests of a greater variety of industry groups. As a result, we expect to see more illegal narrow

transfers in countries where the majority of legislators are elected from single-member districts, all else equal.

The rules by which representatives are elected to the national legislature also generate 'supply incentives' for politicians. In practice, these rules often correspond closely with district magnitude. Plurality rules are most frequent in single-member districts; proportional rules are used more often in multi-member districts. I consider these institutions separately to isolate the incentives each generates for politicians to supply different types of transfers. Politicians in proportional systems have greater electoral incentives to supply broad transfers than politicians in majoritarian systems (Lizzeri and Persico, 2001; Persson and Tabellini, 2003). In countries where legislative seats are apportioned among parties according to the proportion of votes they receive, narrow demand are believe to have far less impact on policy making than in systems where individual seats are decided by plurality rule (Rogowski, 1987). In contrast, politicians elected via plurality rule have few incentives to divert resources from narrow transfers to broad. Narrow transfers provide electoral benefit directly to the politician in question while broad transfers generally benefit politicians from the party in favor of the broad transfer. In majoritarian systems, votes for a party that does not obtain a plurality are lost. This reduces the minimal coalition of voters need to win the election. Persson and Tabellini (2003:17) provide the following illustrative example: A party needs only 25 percent of the national vote, at most, to win in a country with single-member districts and plurality rule (51 percent in 51 percent of the districts). However, a party needs 51 percent of the national vote in a proportional system. As a result, proportional systems generate incentives for politicians to cater to large coalitions of voters.

The rules by which representatives are elected to the national legislature also matter through their effect on party strength. Proportional representation systems (particularly parliamentary ones) tend to encourage the formation of strong, cohesive political parties, which generally appeal to a national constituency and have less to gain in electoral terms by responding to localized and particularistic demands (McGillivray, 2004). In these systems, politicians maximize their electoral success by toeing the party line rather than responding to narrow demands from their own constituency. In contrast, majoritarian systems (particularly non-parliamentary systems) tend to encourage intra-party competition among individual politicians resulting in relatively weak parties. When parties are weak, legislators are more beholden to their constituency's demands for their electoral success (McGillivray, 2004). As a result, legislators elected via plurality rules are more likely to provide narrow transfers than those elected via proportional rules. All else equal, we would then expect countries with majoritarian electoral rules to have relatively more illegal narrow transfers.[12]

Existing work on the effect of electoral institutions on transfer from often assumes that voters have identical and unchanging preferences over transfer form. In fact, most studies implicitly assume that *all* voters prefer narrow transfers over broad. However, I argue here that voters' preferences over transfer form vary systematically with their ability to move between jobs in the domestic economy. If voter demand for narrow transfers varies, then it must be taken into consideration when estimating the effects of electoral institutions. For example, even though the nature of electoral competition in systems with plurality rule and single member districts generates incentives to supply narrow transfers, it is not clear that these incentives remain even when there is no voter demand for narrowly

targeted transfers. Similarly, although proportional systems generate incentives for more broadly targeted transfers these 'supply incentives' may have virtually no effect on policy outcomes when there is no demand for broad transfers. This is because politicians may choose to respond to voter demand rather than the 'supply incentives' generated by electoral institutions.

This possibility raises the question of responsiveness; are politicians elected via proportional rules more responsive to voter demands than politicians elected via majoritarian rules? This question has generated a large, sophisticated literature that is mostly distinct from research on the supply incentives generated by various electoral institutions (e.g. Lijphart 1994; Huber and Powell 1994). Although debate exists regarding this question, a tentative consensus has emerged that politicians in proportional systems are generally more responsive to voter demand. This is because proportional rules tend to convert votes into seats quite accurately thereby providing better representation (Lijphart 1994). Proportional systems also exhibit a closer correspondence between the policy preferences of the median voter and those of the median legislator (Powell and Vanberg 2000). Taken together, these points suggest that politicians elected via proportional rules are more likely to respond to voter demand in cases where voter demand comes into conflict with the supply incentives generated by electoral institutions. In other words, if strong voter demand exists for narrow transfers, politicians elected via proportional rules are likely to respond by providing narrow transfers despite the incentives for broad transfers generated by proportional electoral rules. Empirically, we would therefore expect the relationship between voter demand for narrow transfers and incidence of illegal narrow transfers to be more sharply positive in proportional systems, holding all else constant. In

the following section, I examine when and under what circumstances voters demand narrowly targeted transfers. When there is greater domestic demand for narrow transfers, politicians have larger electoral incentives to provide these types of transfers in violation of their international treaty obligations.

Demand for narrow transfers

Strong voter demand for narrow transfers provides politicians with an electoral incentive to violate international restrictions on the use of such transfers. Significant voter demand for narrow transfers exists when voters are unable to move to a new job in the domestic economy with relative ease.[13] In other words, workers facing high adjustment costs demand narrowly targeted transfers (Verdier, 1995; Alt et al., 1996; Zahariadis 2001). Adjustment costs include the search costs involved in finding a new job, the costs of re-training, foregone earnings, lower wages, and the potential obsolescence of skills (Fernandez de Cordoba, Laird, and Serena, 2004).

Workers facing high adjustment costs demand narrowly targeted transfers. The current and future incomes of 'specific' workers (i.e. those workers stuck in their current industry because of prohibitively high adjustment costs) are tied directly to the profits of the industry (or firm) in which they work. If the fortunes of that industry decline, workers unable to leave because of prohibitively high adjustment costs face lower incomes. Specific workers are therefore particularly concerned with protecting the returns in the industry in which they are currently employed. While both broad and narrow programs could, in theory, serve to insulate industry returns from market pressures, narrowly targeted transfers maximize the rents collected by immobile workers. The rents generated by narrow transfers are shared among fewer people than those stemming from broad

transfers. As such, the per-person benefits of narrow transfers are greater than the per-person benefits of broad transfers (Alt and Gilligan, 1994:182). Furthermore, these benefits are not arbitrated away by new entrants because of the high barriers to entry that exist in industries characterized by specific workers.[14]

Narrowly targeted transfers, such as industry-specific subsidies and/or trade protections, benefit only those workers currently employed in the privileged industry. If workers move out of that industry to take a new job, they loose the benefits of the narrow transfer, which instead becomes a pure tax. Given this, the expected benefits of narrow transfers are heavily discounted by voters that are able to move out of a given industry with relative ease.[15] Broad transfers provided to a wide range of industries are relatively more beneficial to mobile workers as they can continue to benefit from such transfers even after a move to a new firm or industry. Given this, workers with general skill sets are less interested in narrow transfers than specific-skill workers. Using data described in the following section, I empirically test the effect of domestic demands and electoral institutions on governments' decision to provide narrow transfers in violation of their international treaty obligations.

Measures of illegal narrow transfers

Compliance with standing, substantive rules embodied in treaty arrangements, like the GATT/WTO, is difficult to measure. Using instances of non-compliance rather than compliance is a straightforward way to overcome this difficulty.[16] Here, I use two different measures of non-compliance with GATT/WTO rules restricting the use of narrowly targeted transfers: (1) countervailing duties (*CVDs*) and (2) complaints filed with the GATT/WTO Dispute Settlement Body over illegal narrow transfers (*Complaints*).[17]

Importantly, these measures of non-compliance are *not* self-reported by the offending governments.[18] Instead, they are akin to a market signal where producers in competitor countries have an interest in eliminating illegal transfers and consequently monitor compliance with these GATT/WTO rules. Narrow transfers provided to a single industry in one country increase the competitiveness of that industry's products on the international market. Producers facing this increased competition will sound a "fire alarm" in their respective country (McCubbins and Schwartz, 1984). In response, national governments can unilaterally impose countervailing duties against the offending country and/or file a complaint with the Dispute Settlement Body. Countervailing duties and relevant complaints can therefore be taken as reasonable proxies of the existence of illegal narrow transfers in the defendant countries.

The vast majority of all complaints filed with the GATT/WTO have at issue an illegal narrow transfer (80 percent during the period from 1980-1994; 66 percent during 1995-2003). In order to ensure the validity of *Complaints* as a measure of non-compliance with rules restricting the use of narrow transfers, I systematically code and exclude complaints over other issues.[19] Details on the coding criteria and exclusion decisions are reported in Appendix A. Of course, there are myriad factors that influence a government's decision to file a GATT/WTO complaint (e.g. Reinhardt, 2000; Allee, 2005). Given this, it is unlikely that every instance of non-compliance is captured by *Complaints*. However, there is no reason to believe that this selection bias cuts in favor of my argument. A defendant country's electoral institutions are unlikely to affect a plaintiff country's decision to file a complaint against it. The non-random noise contained in this measure of non-compliance likely makes it *more* difficult to find support for my argument.

Measuring domestic demands

Measuring the number and intensity of domestic demands for narrow transfers is difficult. As argued above, specific workers prefer narrow transfers to broad. Indicators of specific labor can therefore be taken as indicators of demand for narrow transfers. To estimate the average level of labor specificity in a given country, I use inter-industry wage differentials.[20] This is one of the most direct measures of inter-industry labor mobility available for a large number of countries. It has been used widely in previous studies of labor mobility (e.g. Krueger and Summers, 1998; Hiscox, 2002). To generate this measure, I simply calculate the coefficient of variation for wage rates across manufacturing industries. Data are from Freeman and Oostendorp's Occupational Wages around the World (OWW) Database. These data benefit from an improved version of Freeman and Oostendorp's (2002) standardization procedure, which includes country-specific data correction factors (Oostendorp, 2005).

Higher values of inter-industry wage differentials are taken as indicators of more specific labor. When labor is highly mobile, movement between industries (or even just the potential for it) should equalize returns to similar types of workers across industries (Hiscox, 2002). Given this, high inter-industry wage differentials suggest the existence of high adjustment costs that prevent labor from moving from low-wage industries into high-wage industries. Smaller differentials are indicators of higher level of mobility.

Although this measure has been widely used to estimate levels of labor mobility, there are some reasons to exercise caution when using this measure.[21] For example, wage differentials may exist due to differences in the skill levels of workers whose wages are compared. In an attempt to address this concern, I calculate wage differentials between

only those industries characterized as employing workers with similar skill levels. More precisely, I calculate the coefficient of variation for wage rates across the 15 manufacturing industries characterized by Wood and Mayer (1998) as being 'low-skill' industries. See Appendix A for more details on their industry characterizations.

Model

As discussed above, I employ two different measures of non-compliance with GATT/WTO restrictions on narrow transfers: (1) the cumulative number of countervailing duties imposed against a GATT/WTO member country in a given year (*CVDs*); and (2) the cumulative number of complaints filed against a GATT/WTO member country over illegal narrow transfers in a given year (*Complaints*). Given the discrete and non-negative properties of both variables, it is appropriate to use an event count procedure to model the process underlying non-compliance with GATT/WTO restrictions on narrow transfers. Here, I use the negative binominal model because both count variables are overdispersed.[22] The negative binomial model allows for this overdispersion and includes parameters for unobserved variance in the number of disputes across countries (King, 1989; Long, 1997).

One might argue that the zero inflated negative binomial model may be more appropriate for this analysis given the excessive number of zeroes in both count variables.[23] However, the large number of zeros may be the result of unobserved heterogeneity (Long, 1997; Cameron and Trivedi, 1998). Unobserved heterogeneity can cause both overdispersion and an increase in the proportion of zeros. The negative binominal model can account for the ovedispersion and the excess zeros in the raw data. The negative binominal model responds to the under prediction of zeros in the Poisson regression model by increasing the conditional variance without changing the conditional

mean (Long, 1997). In contrast, zero modified count models change the mean structure to explicitly model the production of zero counts. This is done by assuming that zeros can be generated by a different process than positive counts. However, the theory advanced here does not suggest that the zeros are generated by a different process. Given this, it is difficult to justify theoretically the use of the zero inflated negative binomial model. I do, however, test to see if estimating a zero-inflated negative binominal model would produce dramatically different results.[24] No significant bias appears to be introduced by estimating the more theoretically sound negative binominal model rather than the zero-inflated model.

The base sample is an unbalanced panel with yearly observations from 1980 to 2003. These data are used in a pooled time-series cross-section analysis with country-years as observations. Only GATT/WTO member countries that are subject to the restrictions on narrowly transfers are included in the sample.[25] Additionally, only high-functioning democracies are included.[26] This allows for correct estimates of the effect of electoral rules and minimizes the cross-national variance in the costs of non-compliance (Mansfield, Milner, and Rosendorff, 2002). All reported models are estimated using robust standard errors clustered by country. These standard errors adjust for the fact that observations for each country are unlikely to be independent. The failure to account for clustering may understate the standard errors on the estimated coefficients for the country-level variables (Moulton, 1990).[27] All models include a lagged dependent variable to take account of serial correlation.

The base model includes several important control variables. All control variables are lagged one year to take into account the delay between the implementation of an illegal narrow transfer and the international reaction to this non-compliance. Previous research

suggests that some complaints are filed in retaliation for previous complaints (Busch and Reinhardt, 2002). To account for this, *Plaintiff*, a dichotomous variable coded 1 if the country filed a complaint with the GATT/WTO Dispute Settlement Body during the current year and 0 otherwise is included in all models where the dependent variable is *Complaints*. Suspecting that a similar dynamic may also exist with respect to countervailing duties, I construct a separate *Plaintiff* variable coded 1 if the country imposed a CVD against another member country in a given year. This variable is included when the dependent variable is *CVD*.

The WTO regime differs from GATT in several important ways. Because of this, an indicator variable, *WTO* (coded one for years during the WTO regime and zero otherwise) is included in all estimated models. Interestingly, it is not statistically significant. To test for equality of coefficients across these two regimes, I estimate a fully interacted model. The estimated coefficients for electoral institutions (*Majoritarian, Mean District Magnitude)* are remarkably consistent across the two regimes. In contrast, voter demand (*Wage variance*) is a better predictor of illegal narrow transfers during the GATT regime. One interpretation of this result is that the increased legalization of the WTO regime has been effective in disciplining the use of narrow transfers in response to voters' demands but ineffective in disciplining the use of narrow transfers in response to the incentives generated by electoral institutions.

Countries with majoritarian electoral rules tend to have relatively larger economies. Given this, it may be possible to find a "spurious" positive correlation between majoritarian electoral rules and non-compliance if large countries are relatively less concerned with the international costs of non-compliance. In order to correctly estimate the

effect of majoritarian electoral rules on non-compliance and minimize the cross-national variance in the costs of non-compliance, the log of *GDP* is included to control for a country's size.

Several additional economic variables are also included. *Exports,* calculated as the amount of goods and services exported as a percent of GDP (logged), is included because international scrutiny of a country's domestic transfers increases as a country's exports increase. The yearly rate of economic growth (*Economic growth*) is also included because politicians in countries experiencing low or negative growth rates may face greater demands for narrow transfers. Also, violating international restrictions during times of adverse economic conditional may not entail the same reputation costs as doing so under normal economic conditions would (Drazen, 1997). *GDP per capita* is included because developed countries have historically used the GATT/WTO dispute settlement procedures more often than less-developed countries. Also, the costs of non-compliance may vary systematically with economic development. Because I want to focus on variance in the benefits of non-compliance, I control for factors that likely influence variance in the costs of non-compliance, such as GDP per capita.[28] Although these control variables are not unrelated, standard tests show acceptable levels of multicolinearity.[29] Their inclusion in a single model does not introduce undue bias.

Results

Electoral institutions are robust predictors of illegal narrow transfers, as illustrated in Table 2 which reports the estimated coefficients for the negative binominal model with robust standard errors clustered by country in parentheses. Governments in majoritarian countries provide narrow transfers in violation of GATT/WTO rules more frequently than

governments in proportional countries, holding all else constant. *Majoritarian*, a dichotomous variable coded one if plurality electoral rules govern the majority of the lower (or only) chamber's seats and 0 otherwise is positively and significantly related to instances of illegal narrow transfers.[30] This positive, significant relationship holds across both measures of illegal narrow transfers (*Complaints* and *CVDs*). Moving from a proportional to a majoritarian electoral system increases the expected number of *Complaints* by 87 percent and the expected number of *CVDs* by 61.5 percent, taking the interaction with labor specificity into account and holding all other explanatory variables constant at their median value.[31]

Similarly, governments elected via single member districts provide more illegal narrow transfers that those elected via multi-member districts.[32] Again, this relationship is robust to two different measures of illegal narrow transfers. Moving from a two-representative, multi-member district to a single member district increases the expected number of *Complaints* by 20 percent and the expected number of *CVDs* by 32 percent, taking the interaction with labor specificity into account and holding all other explanatory variables constant at their median value.[33] The conditional relationship between district magnitude and the expected number of illegal narrow transfers is illustrated graphically in Figure 1. As district magnitude increases, the expected number of illegal narrow transfers decreases, as expected.

The effect of both district magnitude and electoral rules on the provision of narrow transfers is overestimated when domestic demands are not considered. The relationship between district magnitude and illegal narrow transfers, illustrated graphically in Figure 1, is more sharply negative when domestic demands are not taken into account. One can see

this from the positive coefficient on the interaction term in Models 2.1 and 2.2 in Table 2 (Brambor, Clark and Golder 2006). When labor is perfectly mobile (i.e. wage variance is equal to zero), district magnitude has a reductive effect on the expected number of illegal narrow transfers. However, the magnitude of this reductive effect decreases as labor becomes more specific. The same holds true for electoral rules. The effect of majoritarian electoral rules is sharply positive when labor is perfect mobile, as demonstrated by the positive significant coefficient on *L.Majoritarian* in Models 1.1 and 1.2 in Table 2. However, the magnitude of this positive effect decreases as labor becomes increasingly specific, as demonstrated by the negative, significant coefficient on the interaction term (*L.Maj*L.Wage variance)*. These finding calls into question research that excludes domestic demands from studies of the effect of electoral institutions on transfer form. Ignoring voter demand for narrow transfers can potentially lead to overestimates of the effect of electoral institutions on transfer form.

Figures 2 and 3 further demonstrate the important of considering domestic demands along with electoral institutions. Figure 2 reports the expected number of complaints for a given level of labor specificity, taking the interaction between labor specificity and electoral rules into account and holding all other explanatory variables constant at their median values. When labor is highly specific (i.e. wage variance is greater than 33), there are more complaints filed against countries with proportional systems. However, governments in majoritarian systems face more complaints of illegal narrow transfers than those in proportional systems when labor is mobile. Policy makers in proportional systems appear more responsive to increased demand for narrow transfers, particularly those increases from moderate to high levels of labor specificity. An increase in wage variance

from 25 units to 35 units results in a 600 percent increase in the expected number of complaints against proportional countries but only a 46 percent increase in complaints against majoritarian countries.

Figure 3 demonstrates that this finding is robust to alternate measures of illegal narrow transfers. Majoritarian countries face more countervailing duties than proportional systems when labor is relatively mobile between industries. As labor specificity increases, the number of countervailing duties against proportional countries increases at a higher rate than in majoritarian countries. For example, an increase in wage variance from 25 units to 35 units results in a 93 percent increase in the expected number of CVDs imposed against proportional countries but only a 6 percent increase for majoritarian countries. As a result, proportional countries face more CVDs than majoritarian countries when labor is very specific to its current use.

These results suggest that governments (politicians) elected via proportional rules are more responsive to increased voter demand for narrow transfers than governments (politicians) elected via majoritarian rules. Although this result is fully consistent with Powell and Vanberg (2000)[34], it may appear somewhat counterintuitive. One might expect governments in majoritarian systems to be relatively more responsive to increased demand for narrow transfers because these demands coincide with the supply incentives generated by majoritarian electoral rules. Existing research on veto players suggests a possible explanation for this finding (e.g. Cox and McCubbins, 2001). Governments elected via proportional rules tend to have relatively more veto players, in part because these governments are often characterized by multi-party coalitions. Narrowly targeted transfers may have a greater chance of success in countries with relatively more veto players where

each veto player is interested in passing a narrow transfer for a different constituency. Also, members of multi-party coalition governments may be relatively less concerned with the reputation costs of non-compliance because of the difficulty of assigning blame to any single party (member) in a coalition government. Although the reputation costs of non-compliance may be detrimental to the country as a whole, each party in a coalition government can shirk responsibility for the violation arguing that they opposed the action. The veto player logic might help to explain why the relationship between labor specificity and illegal narrow transfers is more sharply positive in proportional systems, particularly at relatively high levels of labor specificity. While these finding deserve further attention, they call into question research that excludes domestic demands from studies of the effect of electoral institutions on transfer form. Ignoring voter demands can potentially lead to incorrect estimates of the effect of electoral institutions.

Conclusion

Among democratic countries, variance exists in the rate of compliance with GATT/WTO rules restricting the use of narrowly targeted domestic transfers. The pattern of compliance with these international rules can be explained, in part, by domestic factors, including voter demand and electoral institutions. Countries with majoritarian electoral institutions provide narrow transfers in violation of GATT/WTO rules more frequently than countries with proportional systems when there is an average level of voter demand for these types of transfers. However, when *significant* voter demand for narrow transfers exists, governments elected via proportional rules are more willing to violate GATT/WTO restrictions and provide narrowly targeted transfers. Politicians elected via proportional rules appear relatively more responsive to increased demand for narrow transfers. In sum,

we to see the largest number of illegal narrow transfers (i.e. instances of non-compliance) in countries characterized by highly specific labor and proportional electoral rules. The smallest number of illegal narrow transfers is observed among countries with highly mobile labor and proportional electoral rules.

These findings are potentially important for two distinct bodies of research. First, this research contributes to our understanding of the conditions under which governments comply with international agreements. Governments are more willing to violate international agreements when there are large electoral benefits to be gained from doing so. The electoral benefits of non-compliance vary systematically across countries in a manner related to domestic electoral institutions and voter demand. This is an important contribution to the increasingly large literature on compliance in which systematic theorizing about domestic mechanisms has been limited. These results call into question studies of GATT/WTO disputes that overlook the requisite first move in any dispute, namely the decision to implement an illegal policy. This research demonstrates that the occurrence of illegal narrow transfers is neither random nor uniformly distributed across countries. Assuming the distribution of non-compliant behavior has these properties may lead to incorrect inferences about GATT/WTO disputes. Additionally, this research contributes to our understanding of compliance with international rules by identifying those governments that have electoral incentives to violate international agreements. Knowing this allows researchers to identify instances where international agreements worked to constrain governments' choices. Scholars who doubt the power of international rules argue that international institutions reflect rather than alter governments' interest in pursuing a particular course of action (Downs and Rocke, 1995). However, we can identify

countries with highly specific labor and proportional electoral rules, arguably those in which governments stand to gain from narrow transfers, which have agreed to the GATT/WTO rules restricting narrow transfers (e.g. Austria, Sweden). The question remains why governments that stand to gain from narrow transfers would agree to limit their ability to provide them. Interestingly, limitations on narrowly targeted domestic subsidies were one of the most difficult issues under negotiation in the Uruguay Round (Qui 1995). Although this question is not answered here, this research makes an important contribution to understanding this puzzle by identifying those countries in which narrow transfers are most (and least) attractive to politicians and voters alike.

Second, this research contributes to our understanding of the effects of electoral institutions on redistributive transfers. The effect of electoral rules and district magnitude on transfer form is conditional on voter demand for narrow transfers. Failure to account for voter demand likely leads to incorrect estimates of the effect of domestic institutions on transfer form. In fact, the results reported here suggest that ignoring domestic demand for narrow transfers leads to overestimates the estimated effect of electoral institutions. For example, the relationship between district magnitude and narrow transfers is more sharply negative when domestic demands are not considered because politicians elected in multi-member districts are highly responsive to increased voter demand for narrow transfers. This finding calls into question studies that exclude domestic demands in their investigations of the effect of electoral institutions on transfer form.

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Appendix A: Details of the construction of *Complaints* variable

Complaints measures the cumulative number of complaints filed against a GATT/WTO member country alleging the existence of an illegal narrow transfer in a given year. I systematically identify and exclude those complaints that were not filed in response to alleged illegal narrow transfers including: (1) complaints over broad transfers and/or policies that affect a wide range of goods, producers, or industries. So for example, the 1982 dispute between the United States and the European Community over the value added tax (VAT) threshold is excluded; (2) complaints related to the enforcement of intellectual property rights; (3) complaints filed against the European Community/European Union unless it is quite clear which EC/EU member country the complaint is primarily in response to; (4) complaints related to anti-dumping measures. Anti-dumping measures are imposed by governments in response to a foreign *firm's* policy rather than a foreign government's policy; (5) complaints that are explicitly political in nature. So, for example, the 1985 complaint filed by Nicaragua against the US in response to the trade embargo imposed by the Reagan Administration is excluded; (6) complaints related to non-manufacturing transfers in order to ensure consistency with the countervailing duties measure and the measure of domestic demands for narrow transfers. Complaints over countervailing duties are included only after carefully examining the GATT/WTO Panel Reports to correctly identify the country initially accused of having the illegal narrow transfer. Complaints filed by multiple countries over a single illegal narrow transfer are counted against the defendant country only once.

Appendix B: Low skill industries

Low-skill manufacturing industries	**ISIC categories**	**OWW code**
Leather and rubber products	323, 355	DC
Wood products, except furniture; paper and paper products	331, 341	EA, FA
Textiles; leather products; wearing apparel, except footwear; footwear, except rubber or plastic	312, 323, 322, 324	DA, DB, DD
Other nonmetallic mineral products; glass and products; pottery, china, and earthenware	369, 362, 361	
Iron and steel; fabricated metal products	371, 381	IA, JA
Furniture, except metal	332	EB
Plastic products; other manufactured products	356, 390	

Notes: This classification of industries by average skill-level was originally developed by Wood and Mayer (1998).

Table 1: Instances of illegal narrow transfers

	CVDs		Complaints	
# per year	Frequency	percent of sample	Frequency	percent of sample
0	304	90.7	297	88.6
1	21	6.3	24	7.2
2	9	2.7	11	3.3
3	1	0.3	2	0.6
4	0	0	0	0
5	0	0	1	0.3

Notes: Data complied by the author from WTO (2005), Allee (2005), Hudec (1993), and Reinhardt (1996).

Table 2: Negative binominal model of illegal narrow transfers

	1.1 Complaints	1.2 CVDs	2.1 Complaints	2.2 CVDs
L.Majoritarian	5.218	1.661		
	(1.093)**	(0.860)+		
L.MDM (log10)			-2.132	-1.92
			(0.892)*	(0.831)*
L.Wage variance	0.195	0.049	0.02	-0.017
	(0.027)**	(0.039)	(0.018)	(0.016)
L.Maj*L.Wage variance	-0.157	-0.046		
	(0.030)**	(0.041)		
L.MDM*L.Wage variance			0.095	0.065
			(0.027)**	(0.032)*
L.Plaintiff	-0.063	0.296	0.026	0.176
	(0.23)	(0.926)	(0.233)	(1.05)
L.Dependent variable	0.299	0.77	0.293	0.792
	(0.118)*	(0.167)**	(0.118)*	(0.215)**
WTO regime	0.483	0.325	0.409	0.302
	(0.35)	(0.326)	(0.365)	(0.418)
L.Exports (nl)	0.364	0.422	0.453	0.433
	(0.415)	(0.523)	(0.499)	(0.549)
L.Economic Growth (nl)	0.443	-0.145	0.675	-0.066
	(0.178)*	(0.17)	(0.223)**	(0.173)
L.GDP (nl)	0.595	0.242	0.8	0.355
	(0.167)**	(0.226)	(0.218)**	(0.216)+
L.GDP per capita (nl)	0.726	-0.158	0.501	-0.286
	(0.261)**	(0.286)	(0.327)	(0.279)
Constant	-32.783	-9.835	-31.364	-9.652
	(3.862)**	(5.797)+	(4.507)**	(5.339)+
Observations	317	318	294	295
Countries	39	39	37	37
Alpha	0.000	1.14	0.047	1.26
	0.000	0.803	0.07	0.878
McFadden's Pseudo R-squared	0.37	0.12	0.33	0.13

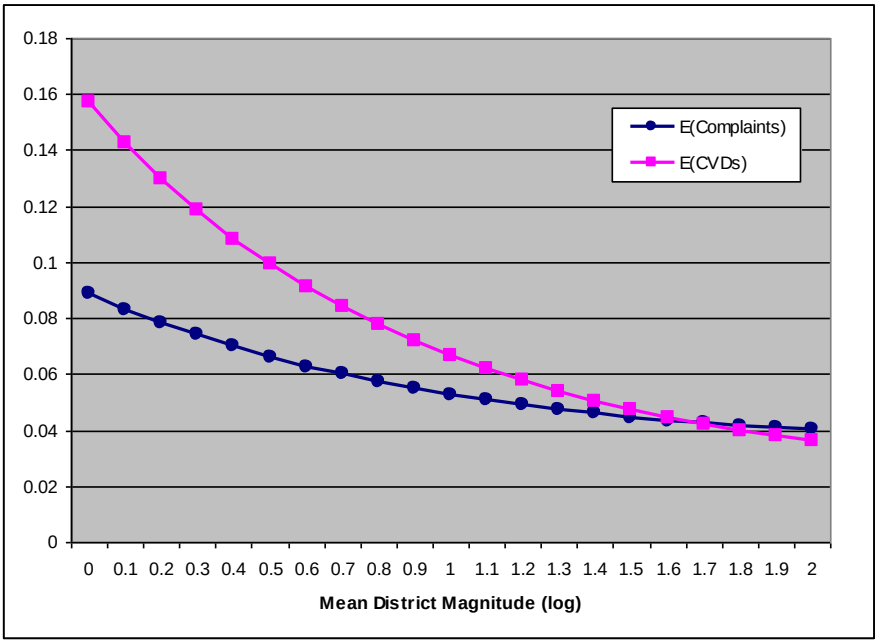
Notes: Robust standard errors clustered by country are reported in parentheses. All countries included in sample are GATT/WTO members with a Polity score greater than 5. + significant at 10 percent; * significant at 5 percent; ** significant at 1 percent

Table 3: Estimated effect of electoral institutions conditional on labor specificity

	E(Complaints)	E(CVDs)
Majoritarian	0.08	0.13
Change	*-0.07***	*-0.08***
Proportional	0.01	0.05
90 percent CI for Change	*(0.03,0.15)*	*(0.002,0.21)*

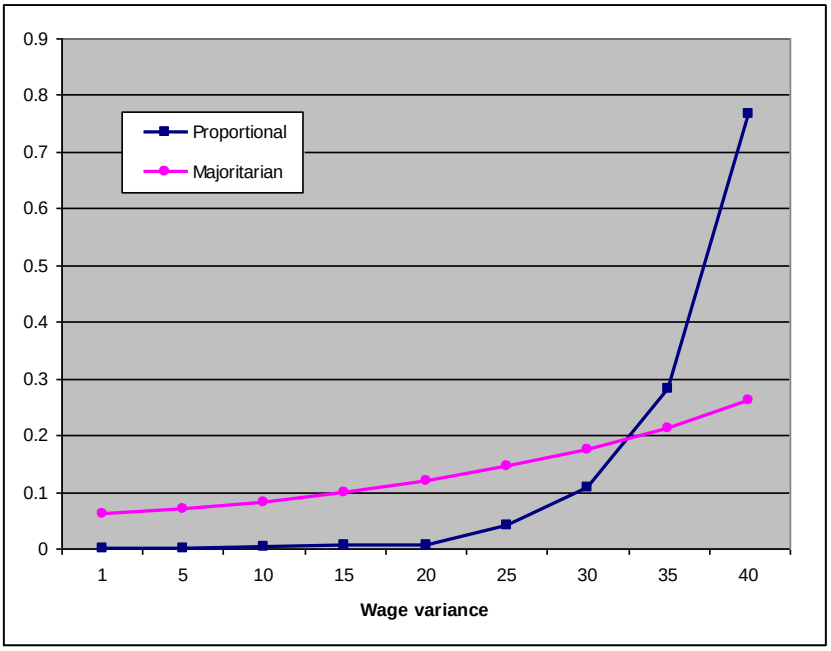
Notes: Expected values estimated from Models 1.1 and 1.2 reported in Table 2 using CLARIFY, taking the interaction with labor specificity into account and holding all other explanatory variables constant at their median values.

Figure 1: Expected number of illegal narrow transfers



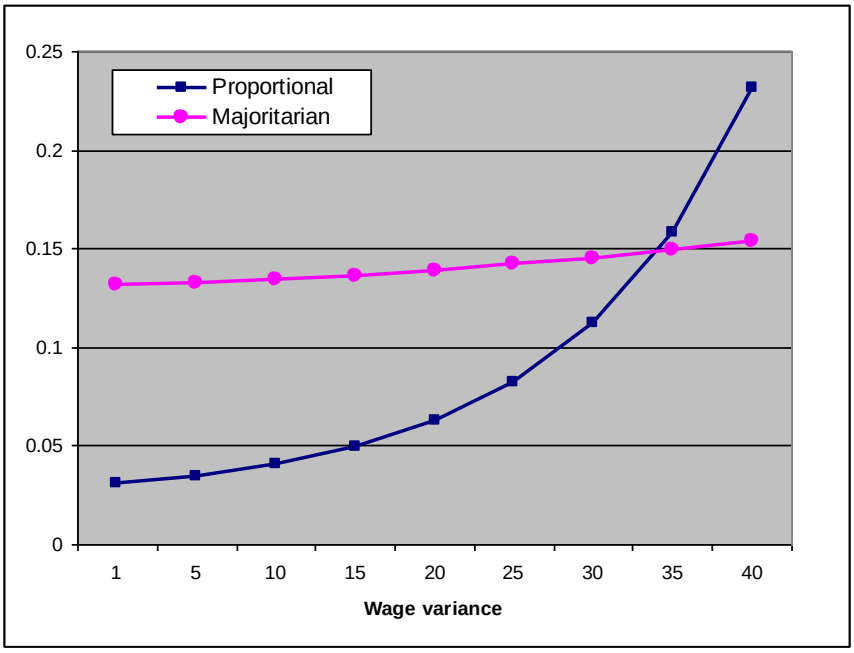
Notes: Expected values estimated from Models 1.1 and 1.2 reported in Table 2 using CLARIFY, taking the interaction with labor specificity into account and holding all other explanatory variables constant at their median values.

Figure 2: Expected number of complaints



Notes: Expected values estimated using CLARIFY. Values generated using Model 1.2 from Table 1, taking the interaction with labor specificity into account and holding all other explanatory variables constant at their median values.

Figure 3: Expected number of countervailing duties



Notes: Expected values estimated using CLARIFY. Values generated using Model 2.2 from Table 1, taking the interaction with labor specificity into account and holding all explanatory variables constant at their median values.

Notes

[1] Narrow transfers are defined here as any policy that targets benefits exclusively to a particular industry or firm.

[2] In fact, changes in the rules of negotiation implemented during the Kennedy Round (1964-67) may be viewed as the first attempt to limit narrowly targeted benefits. Negotiators no longer bargained over tariff rates for individual industries but focused instead on broad, across-the-board tariff cuts that affected equally a wide range of industries.

[3] There are, of course, some exceptions; agriculture is largely exempt from these restrictions as are the majority of developing countries.

[4] Empirically, these two institutions are highly correlated. I separate them here to tease out the independent influence each might exert on transfer form.

[5] This is what Fisher (1981) terms second order compliance

[6] Of course, these two types of compliance are not unrelated. However, examining second-order compliance without a clear understanding of first order compliance is potentially misleading. One does not observe the full range of "non-compliers" at the second stage. Countries that have implemented an illegal narrow transfer and have been ruled against by a GATT/WTO panel are likely to be the most serious non-compliers. Less serious non-compliers may choose to initially implement an illegal narrow transfer but then reverse this policy when challenged by another country either in the early stages of a GATT/WTO dispute or through bilateral negotiations. Given this, studies of compliance with GATT/WTO panel reports may underestimate the effectiveness of international law. This

point illustrates the importance of developing a better understanding of first-order compliance with GATT/WTO rules.

[7] One notable exception is Allee (2005) who uses the probit specification of the Heckman selection model to account for the implementation of disputable policies.

[8] See Table 1.

[9] Interestingly, rule of law is not a robust predictor of illegal narrow transfers when included in the models estimated in this research. However, this may be because there is little variance in this variable for the sample used here. Simmons (2000) also argues that the rate of regional compliance is important. This result is likely specific to non-compliance with IMF Article VIII as investors are interested in entering a particular region and/or countries with particular characteristics thereby making the rate of regional compliance important. It is arguably less important for compliance with GATT/WTO restrictions on narrow transfers.

[10] However, Simmons (2000) fails to find evidence to support this argument.

[11] There are, however, very notable exceptions including, for example, Dai (2005).

[12] It is important to note that the discussion above is separate from questions of responsiveness. A large, sophisticated literature exists on the responsiveness of policy under different electoral institutions. For example, Powell and Vanberg (2000) argue that there is a closer correspondence between the median voter and the median legislator in proportional systems and as a result, policy is more responsive to changes in voter demand in proportional systems.

[13] Because labor is the primary source of income for a majority of voters in many countries (Kono 2007), I focus here in the costs of adjustment facing labor rather than capital.

[14] The knowledge that investment in the sector contains an important irreversible component will reduce the likelihood of new workers entering in response to relative price changes that may not be permanent (Frieden 1991, 443).

[15] It is important to note here that this argument is different from, but wholly consistent with, the argument made by Estevez-Abe, Iversen, and Soskice (2001). They argue that broad transfers will induce workers to invest in specific skills. However, once workers have these specific skills they will begin to demand narrow transfers than directly benefit the industry in which they are now 'stuck'.

[16] Leeds (2003) takes a similar approach by examining instances of non-compliance with alliance commitments.

[17] Data are from the Allee (2005); Hudec (1993); Reinhardt (1996); and the WTO (2005).

[18] GATT/WTO member-country governments are required to notify their narrow subsidies to the WTO.

[19] Ideally the sample would include only those complaints that were found to have a legal basis. However, this would make the sample unmanageably small. Importantly, the vast majority of all cases decided by a GATT/WTO Panel yield a victory for the complainant country (Guzman and Simmons 2005).

[20] As a robustness check, I use the net wage replacement rate provided by a country's unemployment insurance as an alternative measure of labor specificity (Scruggs 2004). High replacements rates encourage workers to invest in industry- and firm-specific skills (Estevez-Abe, Iversen and Soskice 2001). I find similar results using this alternative measure of labor specificity. These results are available from the author upon request.

[20] See Hiscox (2002) for a complete discussion of the potential weaknesses of this variable.

[21] See Hiscox (2002) for a complete discussion of the potential weaknesses of this variable.

[22] The mean of *CVD* is equal to 0.12; the standard deviation is 0.42. The mean value of *Complaints* is 0.17; the standard deviation is 0.55. Although the unconditional variance is greater than the unconditional mean for both count variables, the dispersion parameter, alpha, is equal to zero in several of the estimated models. When alpha is equal to zero, the negative binominal distribution is equivalent to a Poisson distribution.

[23] See Table 1.

[24] Here, I use a country's exports (*Export*) to predict zero counts. A country that exports nothing to the global market faces virtually no risk of facing either a countervailing duty or formal complain in response to illegal domestic transfers. *Export* is not, however, a robust predictor of the incidence of zeros. The estimated coefficients for the key variables of interest (*Majoritarian, Mean District Magnitude* and *Replacement Rate*) are very similar to those estimated using a negative binominal model; the standard errors are relatively lower. I also run a ZINB model using election years to predict the incidence of zeros. Election years are not a robust predictor of the incidence of zeros but the estimated coefficients of the key variables of interests remain relatively consistent.

[25] In general, developing countries are not yet subject to these restrictions.

[26] Specifically, only countries with a Polity score greater than 5 are included in the sample. Data are from Marshall and Jaggers (2003).

[27] A possible alternative solution would be to employ panel-corrected standard errors (PCSEs).

[28] Data on all economic variables come from the World Development Indicators (2005).

[29] The variance inflation factor (VIF) is less than 4 for all variables (except the interaction term) included in models reported in Tables 2, as recommended by Huber et al. (1993).

[30] Data are from Beck et al. (2001).

[31] These results were estimated using CLARIFY (King, Tomz, and Wittenberg, 2000; Tomz, Wittenberg, and King, 2001). I find strikingly similar results using an alternative measure of labor specificity, namely the net wage replacement rate as suggested by Estevez-Abe, Iversen, and Soskice (2001).

[32] Data on district magnitude are from Johnson and Wallack (2005).

[33] These results were estimated using CLARIFY (King, Tomz, and Wittenberg, 2000; Tomz, Wittenberg, and King, 2001). Again, I find very similar results using the net wage replacement rate as an alternate measure of labor specificity.

[34] This finding is also consistent with Rogowski and Kayer's (2002) argument that proportional, multi-member districts advantage producers and disadvantage consumers, particularly if the benefits of illegal narrow transfers go primarily to producers rather than consumers, which is arguable the case.