Balancing Law and Politics: Judicial Incentives in WTO Dispute Settlement

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Abstract: Can international courts ever be independent of state influence? If not, how do courts manage the tension between legal principles and political concerns? We address these questions through an analysis of one of the most independent international adjudication mechanisms – dispute settlement at the World Trade Organization (WTO). We find evidence that WTO dispute settlement panels moderate the negative effects of judgements against the United States and the European Union by limiting the scope of such verdicts. Through an examination of judicial incentives, we argue that WTO panels use this practice to increase the prospects for compliance and decrease the likelihood of a verdict being overturned by the Appellate Body.

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1 Introduction

Across issue areas as diverse as trade, the environment, and human rights, the international system has become increasingly legalized. With permanent legal bodies to oversee and enforce a broad range of international agreements, understanding how international law is adjudicated and enforced is increasingly important (Terris, Romano and Swigart, 2007). Although international courts are rarely immune to state influence, three adjudication bodies – the European Court of Justice (ECJ), the European Court of Human Rights (ECHR), and the World Trade Organization (WTO) – are often upheld as strong examples of the triumph of legalization and independence.[1] However, recent empirical analyses examining judicial biases have found that judges on the ECHR and the ECJ are influenced by state preferences (Voeten 2007; 2008; Carrubba, Gabel, and Hankla 2008). Such studies cast doubt on the independence of international legal bodies, and raise the question of whether WTO panelists might also engage in strategic decision-making in ways that affect the legitimacy of the international trading regime.

Building on work from international law, international relations, and judicial politics, this paper examines the judicial incentives of WTO dispute settlement panels. Specifically, we explore how judicial bias in favor of powerful countries affects the WTO dispute settlement process and what this means for the WTO and international trade.[2] To evaluate panel bias, we focus on an area where WTO panels have significant autonomy – the practice of judicial economy. Judicial economy occurs when a panel decides not to rule on certain legal arguments raised by the complainant and is significant because it limits the scope of a ruling

[1] On the European courts, see Helfer and Slaughter (1997) or Keohane, Moravcsik, and Slaughter 2000. On the WTO, see Posner and Yoo 2005.

[2] Although we use the term "judicial bias," we do not mean to imply that judges are always biased in favor of powerful countries. In fact, we would contend that WTO panelists primarily make decisions based on legal principles. However, the nature of WTO disputes is such that some areas of the law are ambiguous and allow panelists more autonomy over their decisions. Thus we expect judicial bias not to affect who wins or loses the dispute, but rather the content of specific decisions.

(Busch and Pelc, 2010).

We argue that WTO panelists are subject to concerns about compliance and judicial integrity, similar to justices in other areas of law, but they are also subject to unique incentives based on the *ad hoc* nature of panels. We find that panelists are most likely to show a bias when they rule *against* powerful countries, specifically the United States and the European Union (EU). This bias occurs in a nuanced fashion, where the panels balance their concern for the letter of the law with concerns about compliance and their own career prospects. The WTO dispute settlement process provides panelists with flexibility in some areas, which allows panelists to enforce the law, while also moderating their rulings in certain circumstances. Our findings suggest that WTO panels strategically weaken judgements and limit the scope of rulings when the US or EU is a losing party in a dispute.

In a broader context, our analysis suggests that the WTO may not create a level playing field for its members, as is often argued by international legal scholars (Horn, Mavroidis and Nordstrom, 1999). Instead, our findings illustrate an adjudication bias, whereby the most powerful states receive preferential treatment when they are the *losers* in a dispute. We do not propose this finding as support for the theory that international organizations are mere reflections of power politics (Mearsheimer, 1994/95). Rather, our results support the theory espoused by Stone (2011), wherein even semi-autonomous, rule-based IOs are still more responsive to the interests of powerful countries. Panels are not acting under the direction of powerful countries, but rather, they are acting strategically to balance the tradeoff between law and politics.[3]

This paper begins with a discussion of why we might expect to see judicial bias at the

[3]Our argument here is similar to Posner and Yoo (2005), who argue that judicial deference to member states increases compliance with institutional rules and regime stability. Posner and Yoo, however, argue that such deference is a feature of highly dependent institutions, while we argue that WTO panels show such deference despite the relative independence of WTO Dispute Settlement. We follow Posner and Yoo in suggesting the WTO has a comparatively independent tribunal, based on six characteristics: term length of panelists, jurisdiction, initiation, number of states, state consent to jursidiction, and source of panel members. For more on this topic, see Posner and Yoo (2005): 26-27.

WTO. Drawing on the judicial incentives literature, we highlight how the structure of the panel selection process, the WTO judicial hierarchy, and concerns about compliance lead WTO panels to exercise judicial economy more frequently when the US and the EU are on the losing side of a case. Section 3 discusses our data and empirical approach, providing additional information on our key independent and dependent variables. Section 4 presents our results, which indicate US and EU losses have the strongest effect on the probability that a panel exercises judicial economy. Finally, we conclude by discussing the implications of our findings for the WTO and international relations literature more broadly.

2 Theory: Judicial Independence and Bias at the WTO

Scholarship on judicial decision making has long acknowledged that the institutional structure of courts, the legal specificity of the issue in question, the selection process of justices, and the personal preferences of justices affect how and why justices issue the rulings they do (Glick and Pruet 1986; Hall and Brace 1989). We borrow from strands of the judicial politics literature to examine how the WTO's panel selection procedures, legal hierarchy, and institutional longevity lead to predictable incentives for WTO panelists. We argue that the rules and incentives of the dispute settlement process lead to judicial bias, but that such bias may have a positive long-term impact on the viability of the WTO if it increases US and EU compliance with rulings.

2.1 WTO Panel Selection Procedures

Institutional factors such as how judges are selected and rewarded for their service have been shown to influence US court verdicts. In an analysis of US federal appeals courts, Posner (2008) compares different types of judicial careers, highlighting how factors like salary, promotion potential, and the possibility of removal change the constraints on judicial behavior.

He concludes that even in the absence of significant external constraints, the ambiguous nature of law allows judges significant discretion in many areas. This accords with earlier work by Shapiro (1968), who suggests that the substance of appellate court opinions is political, not legal.

In the WTO, institutional factors are likely to be even more important because panelists are nominated by governments and often selected by parties to the dispute. To be appointed a panelist, an individual must first be nominated to an indicative list of panelists who are approved by the Dispute Settlement Body (DSB), or directly proposed as a panelist for a specific dispute. The nature of the nomination process suggests that individuals who have ties to their national government are more likely to be nominated to serve as panelists. Although these individuals have careers outside the WTO, there are no restrictions on serving multiple times as a panelist, and in fact, this is quite common. In our data set, approximately 80 percent of panels include at least one repeat panelist.

The selection process for individuals to serve on panels creates two kinds of incentives. To preserve independence and protect against bias, panels generally do not include panelists of the same nationality as any of the disputing parties.[4] As a result, because the United States and the European Union are parties to most disputes (either as complainant, defendant, or third parties), panelists are rarely from the United States or any EU member.[5] In this way, panels are often assumed to be immune to the influence of powerful countries.

Parties to a dispute, however, play an important role in selecting panelists, which creates different strategic incentives to balance law and politics for those interested in long-term careers in international trade.[6] Individuals interested in being reappointed as panelists must

[4]Article 8 of the DSU contains an exception to this rule: for disputes between developed and developing countries, developing countries can request a panelist from their own country.

[5]In our data set, 85 percent of panelists are not from the United States or EU countries (calculated based on EU membership prior to 2004 since our data set stops in 2005).

[6]Although the Secretariat proposes nominations for panels, parties to a dispute can oppose nominations for "compelling reasons." In practice, WTO members frequently oppose nominations. If there is no agreement within 20 days, parties may request the Director-General of the WTO appoint panelists; however even at this

be careful not to alienate losing parties too much. As the European Commission noted with concern to the DSB, "it may not be unreasonable to assume that parties may be inclined to refuse panellists who have already served in a panel which had a negative outcome for them" (European Comission, 2003). Panelists are particularly likely to be concerned if the United States or the EU is on the losing side of a case, since these members are involved in the majority of disputes at the WTO. While panelists have primary careers outside of the WTO, serving on WTO panels is a career advantage for those individuals looking to demonstrate that they have a high level of expertise in international trade. For panelists who are practicing attorneys or are affiliated with law firms, experience on WTO panels can be a valuable credential when soliciting business and acting as a "rain-maker" for firms. An analysis of a random sample of WTO panelists from our dataset shows that serving as a panelist appears to be an important credential and over 70 percent of panelists advertise their WTO experience when promoting their business, acting as invited speakers, or having accepted government positions.[7] This may be especially important for individuals from countries without significant trade law experience.[8] As Broude (2004, 161) notes, "Panelists whose Reports conflict with the views and interpretations of the Membership may not be re-appointed to future Panels, let alone gain appointment to the Appellate Body if nominated."

2.2 WTO Judicial Hierarchy

Hierarchical models of US courts indicate that lower courts strategically anticipate possible action by the Supreme Court, and decide cases in a corresponding manner. Songer, Segal

stage, the appointments are done after consulting with the parties (Article 8.7 of the DSU). For more on this process, see: `http://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c6s3p2_e.htm`

[7]We examined a snapshot of panelists from 20 randomly selected disputes from our dataset, reviewing their professional positions and credentials.

[8]Indeed, Busch and Reinhardt (2003) suggest that developing countries have performed worse in WTO dispute settlement due to a lack of legal capacity. Given this finding, developing countries are likely to value the legal expertise of WTO panelists, which provides a strong career incentives for such individuals to serve multiple times on WTO panels.

and Cameron (1994) find that courts of appeals are highly responsive to changing policies in the Supreme Court, while Kastellec (2011) shows that Court of Appeals judges are more likely to be influenced by a fellow judge from an opposing party if that judge is aligned with the Supreme Court. Given that domestic judges are influenced by the possibility that their decisions may be reviewed and overturned by higher courts, it seems likely that international judges also share this concern.

Within the WTO, there are two levels of dispute settlement. If disputing parties object to a panel's verdict, they can appeal to the WTO Appellate Body (AB). Requests for appeals are automatically granted, and thus WTO panelists are faced with a constant threat of having their rulings overturned. This encourages panelists to avoid ruling on ambiguous legal claims whenever possible, and also motivates panelists to consider the incentives of the AB. The AB is a permanent body of seven members appointed for four year terms, with the possibility of one reappointment. The DSB appoints members, and although they are ostensibly broadly representative of the membership as a whole, there has always been a US and an EU national serving on the AB. While these individuals are not supposed to act as representatives of their own countries, there are strong incentives for them to take such considerations into account.[9]

In their article on the WTO AB's important role in promoting trade liberalization, Goldstein and Steinberg (2009) acknowledge that even the AB's expansive interpretive stance has faced constraints by member states. They write: "Powerful members particularly the EC and the United States, have had a *de facto* veto over the appointment of Appellate Body members: in the WTO's early years, these powerful members engaged in a comparatively

[9]AB decisions will also affect how subsequent panels interpret WTO law and even regulate the practice of judicial economy. Indeed, in one of the earliest WTO disputes, the AB criticized a panel for "false judicial economy," which occurred because the panel narrowed the scope of its decision too much and did not address all claims necessary to resolve the dispute (DS18: Australia-Salmon). Our argument here is not that panels exercise judicial economy without regard to the content of the law, but rather that they consider how the AB balances legal principles and political considerations when employing judicial economy.

cursory review of Appellate Body nominees; in more recent years, as the Appellate Body's capacity to make law became apparent, the United States began engaging in a thorough review and interview of Appellate Body nominees, blocking the appointment of some nominees who were seen as too activist" (Goldstein and Steinberg, 2009, 29). The recent decision by the United States to block the re-appointment of Jennifer Hillman, who "by all indications...had served honorably and well" (Hufbauer, 2011), lends support to this argument.

In sum, the institutional practice of automatically granting appeal and the AB selection process create incentives for panelists to exercise judicial economy when the US and EU are on the losing side of a case. Panelists know that their decisions are likely to be appealed to the AB. They also know that AB members are chosen through a process where the US and the EU wield significant influence, which is likely to affect the strategic calculations of these members. If WTO panelists are concerned about having their rulings overturned on appeal, it makes sense that they would anticipate possible AB concerns and thus moderate EU and US losses.

2.3 Institutional Longevity

In addition to the WTO's procedures, it is important to consider the implications of legal rulings in an international context. Posner and Yoo (2009) remind us that states only comply with international legal bodies when the cost of compliance is less than the future benefit of adjudication. This implies that international judicial bodies will take into consideration the costs of compliance for states and will be most effective at achieving compliance when their rulings balance the costs of compliance with long-term incentives to abide by the legal ruling. Existing research on WTO dispute settlement suggests that WTO panelists may be concerned with how the broader membership reacts to a particular ruling (Busch and Pelc 2010); here we argue that panelists may also consider the costs of compliance for particularly powerful countries.

WTO panels can use judicial economy strategically to increase the likelihood of compliance by powerful countries. In such cases, panels will maximize the likelihood of compliance by providing enough detail to clarify the requirements of a specific decision, but also allowing losing parties maximum flexibility on any extraneous issues. One such example can be found in DS136, a case brought by the European Communities against the United States concerning US antidumping duties. With respect to the Anti-Dumping Agreement, the panel explicitly rejected the use of judicial economy because they believed the additional ruling would "further assist the DSB in making sufficiently precise recommendations and rulings so as to allow for prompt compliance .... [and] ensure effective resolution of disputes to the benefit of all Members" (WTO Panel Report, 2000). However, the panel chose to exercise judicial economy with respect to other aspects of the case, specifically clarifications of the material injury test found in Article 3. The panel's decision to exercise judicial economy in this area left open future interpretations under Article 3, and thus provided the United States with greater flexibility in the future. DS136 highlights the importance the panel places on resolving the legal dispute, while also minimizing the impact of their ruling through the use of judicial economy when they believe that the losing party to a dispute has a particularly high cost of compliance or a reasonably low cost of noncompliance.

Panels are most likely to be concerned with compliance when economically powerful states have an incentive not to follow the ruling of the panel. Economically powerful states are uniquely positioned to choose not to comply with rulings, given that the broader membership has relatively little leverage to compel a powerful state to comply. Additionally, if a powerful state chooses not to comply, the panel may fear that the choice could set a precedent for other countries to follow, threatening the longevity and credibility of the institution. Since the US and the EU account for a majority of the world's economy and are active in 95 percent of the WTO disputes we examined, panelists are most likely to be concerned about compliance by these members. Although panelists are most likely to be concerned with compliance by the

US and EU, we explicitly test in section 4.4 whether other economically powerful states who do not participate with the same frequency as the US and EU also benefit from increased judicial economy, and find that only the US and EU appear to benefit from this form of bias.

3 Connecting Theory to Empirics

WTO panels are incentivized by the selection process, institutional hierarchy, and concerns about compliance to act strategically in response to key players. Because the US and EU are involved in most disputes – giving them regular veto power over panelists – and because these countries have significant control over the appointment of AB members, panelists have an incentive to balance their concerns for the law and legal arguments of a case with the cost of their rulings to these major players. To test our theory of judicial incentives and bias at the WTO, we focus our analysis on when panels choose to employ judicial economy and limit the scope of their rulings. In this section we discuss the coding of our variables and provide additional theoretical motivations for our statistical tests. We begin by discussing the sample of available data on WTO dispute settlement and how it motivates our model selection. Then we elaborate on our dependent variable, explaining why judicial economy is a good test for panel bias.

Since the founding of the WTO, member states have filed 471 disputes, but only about a third of these cases have reached the full panel process (World Trade Organization, 2013). Because our analysis is focused on panel decisions, our dataset consists of 104 cases where panels issued a ruling, covering the time period of 1995 to 2005. We construct our dataset by combining data from Busch and Pelc (2010) with select variables from the Horn and Mavroidis (2011) dataset and several newly-constructed variables. Because our dependent variable is binary, a logistic regression is appropriate to model the data; however, in studies with small to medium sample sizes, logistic regression has been shown to overestimate effects

by shifting regression coefficients away from zero (Nemes et al., 2005). Instead, we use a Bayesian logistic regression, which is less sensitive to small sample size and may produce more reliable estimates (Greenland, Schwartzbaum and Finkle, 2000).[10] Our results are robust to traditional logistic regression and to rare events logistic regression (see Appendix).

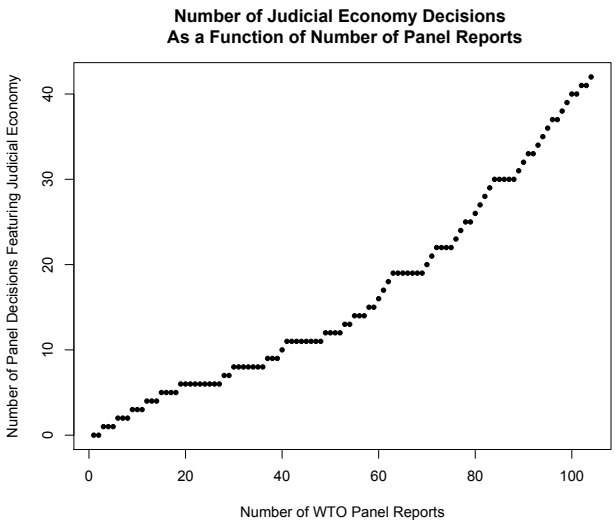
We focus our analysis on when panels are likely to exercise JUDICIAL ECONOMY, which occurs when panels opt not to rule on certain legal arguments presented by the complainant. Under WTO law, panels are only required to address the necessary legal arguments to bring a satisfactory resolution to a dispute (Busch and Pelc, 2010). Panels, therefore, have considerable discretion over whether they choose to ignore legal arguments brought by the complainant.

As we have outlined, panels are most likely to use judicial economy when they believe that the losing party has a strong incentive not to comply with the ruling, or when the ruling may result in a reduced chance of the panelist being appointed to a future panel. These factors are most likely to occur when the losing state has a high cost of compliance, a low cost of noncompliance, or is an active dispute settlement participant and thus has a regular veto over panelists.

In our dataset, panels exercised judicial economy in 41 percent of the cases. Figure 1 shows that since the WTO's inception, dispute settlement panels have exercised judicial economy at a relatively constant rate over the course of their rulings.

[10]We follow the advice of Gelman et al. (2008) and adopt a Cauchy distribution for our prior.

Figure 1:



We include several independent variables to proxy for the influence of powerful countries on dispute outcomes. We also consider a number of alternative explanations and include corresponding variables to control for additional factors that might influence a panel's likelihood of exercising judicial economy. Unless otherwise noted, these variables are drawn from the Busch and Pelc dataset.

Based on our theory, we expect that when the EU or the US is on the losing side of a dispute, WTO panels are most likely to exercise judicial economy. For this reason, our primary variables of interest are indicators of EU LOSS and US LOSS in a particular dispute. Our variables for the US and EU loss are drawn from the Busch and Pelc dataset, but unlike Busch and Pelc, we disaggregate the US and the EU into separate variables.[11] Since the two WTO members have different economic and political motivations for trade disputes, we believe it is more appropriate to evaluate them separately.[12] Additionally, although both countries wield significant power within the WTO, they do not necessarily adopt the same

[11]The EU is considered as a single entity because trade policy is centrally coordinated (Meunir, 2005).

[12]Differences in the data support this disaggregation. For example, the EU has lost 11 disputes, 7 of which pertain to trade involving agricultural goods, whereas the US has lost 14 disputes, only 2 of which relate to agriculture. Similarly, the EU has lost 2 cases pertaining to health and safety standards, whereas the US has not lost any on this matter.

approach toward the appointment of panelists and members of the AB body. For this reason, WTO panelists may have different incentives when ruling against the EU or the US.

To consider whether the panels might respond to the interests of powerful countries for other reasons, we include two binary variables indicating whether the US or the EU is a complainant in a particular dispute. If panelists were just concerned with appeasing powerful countries, panels may be less likely to exercise judicial economy when the US or EU were the complainant in a dispute. However, unlike when the US or EU is losing the dispute, panels would not need to be concerned with compliance by these powerful WTO members when they are complainants and thus we do not anticipate a strong effect of the US or EC as the complainant. That said, by including US COMPLAINANT and EU COMPLAINANT, we control for the possibility that panels might alter their use of judicial economy when the US or EC participate in disputes, but are not necessarily on the losing side.

We also control for NUMBER OF ARTICLES CITED, since another possibility is that panelists might be more likely to exercise judicial economy when disputes raise legal issues that are weak or irrelevant to the issue in question. Such cases are relatively common in the WTO where complainants will sometimes employ the "kitchen sink" approach (Busch and Reinhardt, 2006). When complainants claim that a multitude of WTO articles are violated in a single case, it is probable that some of the claims are largely erroneous. In these cases, we expect panels to exercise judicial economy and avoid ruling on frivolous claims. Because we expect the effect of the number of articles cited to be non-linear, and given its distribution is skewed, we use the log of the number of articles cited for our analysis.

The context of a case could also lead panels to exercise judicial economy. Specifically, the General Agreement on Tariffs and Trade (GATT) provides a clause that allows states to protect human, animal, and plant life and health, even if it affects trade, and there are two additional WTO agreements that deal with food safety and animal and plant health and safety(World Trade Organization, 2014). So long as the measures are not used discrimina-

torily, they are allowable. For this reason, we include a control variable for HEALTH AND SAFETY STANDARDS, that identifies when disputes address these issues. Panels may be more likely to exercise judicial economy when a case raises health and safety concerns because the potential for noncompliance with a ruling or the country invoking the health and safety exception is greater.[13]

A primary alternative explanation to our theory is the notion that WTO panels, rather than being responsive to the interests of the most active and powerful countries, exercise judicial economy in response to the concerns of the broader membership. One way to examine this question is to look at the views of third parties to a dispute. Under Article 10 and Appendix 3 of the Dispute Settlement Understanding, third parties with a "substantial interest" in the case may be granted access to the dispute settlement proceedings, and are allowed to issue written and oral statements (Busch and Pelc, 2010). Third party involvement may persuade panelists to limit their rulings in response to the preferences of the broader membership. We test this proposition through a variety of measures of membership preferences. In our baseline model, we use a straightforward measure of the number of PRO-DEFENDANT THIRD PARTIES and PRO-COMPLAINANT THIRD PARTIES. These are parties who have a substantial interest in the case which can clearly be coded as in favor of either the complainant or the defendant, as coded in Busch and Pelc (2010).

We also include a measure of the number of MIXED THIRD-PARTY submissions, which Busch and Pelc (2010) argue are credible and costly signals that the membership is ambivalent. These are third-party submissions that present arguments in favor of both the complainant and the defendant. Busch and Pelc (2010) argue that panelists should respond to these submissions as signals of ambivalence of the broader membership, and thus we

[13]Due to the small sample size and our underlying theory, we only include this indicator for the content of the dispute. Our results are robust, however, to the inclusion of the Busch and Pelc control variables indicating whether a dispute involves agricultural matters and whether the dispute includes a non-violation complaint (i.e. no agreement has been violated but a government argues that it has been deprived of an expected benefit due to another government's actions.)

include this variable in our models.

After our preliminary analysis, we subject our findings to additional tests by generating an improved measure of the general preferences of WTO members that are interested in a particular dispute. We create a weighted variable that captures how far the membership's preferences are from a balanced distribution, weighted by the number of interested members. A complete explanation is provided in our discussion and tests of competing hypothesis.

4 Results

4.1 The Significance of Active & Powerful Countries (US & EU)

Our base models are designed to test how panelists respond to the preferences of the most active and powerful WTO participants. To do this, we include the previously discussed variables. Although there are a number of additional controls that we could have included in our baseline model, we chose to omit variables for which we had no underlying theoretical prediction. Simplifying our model was particularly important given the small sample size.

Our first model tests whether WTO panels are more likely to exercise judicial economy when the US loses a dispute. We find that the US losing has a positive and statistically significant impact on the likelihood of judicial economy with a p-value of 0.04. Our second model does the same, but looks exclusively at whether panels are more likely to exercise judicial economy when the EU loses a dispute. The results show that the EU losing has a positive and statistically significant impact on judicial economy with a p-value of 0.07. In our third model, we include both US and EU loses and find that they both have positive and statistically significant coefficients. The p-value for US loss is 0.03 and the p-value for EU loss is 0.04. We use this third model as our baseline henceforth because the estimates are made with the most confidence and are also the most conservative estimates with regard to the effect size.

Our results suggest that WTO panels are responsive to the interests of active and powerful members, specifically the United States and the European Union. When the US or EU is on the losing side of a dispute, panels are more likely to exercise judicial economy. When the US or the EU are on the losing side of a dispute, the probability of judicial economy increases by 39 and 31 percent respectively.[14]

4.2 The Importance of a Strong Legal Claim

Our results indicate that panels are also responsive to the strength of the legal claim, as proxied by the number of articles cited by the complainant. As expected, the effect on judicial economy attenuates as the number of articles cited increases. This is not surprising, given that a panel is likely to use judicial economy once there are numerous articles, which means we are already likely to see judicial economy regardless of whether 20 or 30 articles are cited. Figure 2 shows how citing two additional articles affects the probability that a panel exercises judicial economy. Note that the effect is positive and significant at the 95 percent confidence level and declines as the number of articles increases.

4.3 Alternative Explanations

To test the weight of our theory against competing hypothesis, we begin by analyzing the relative influence of the broader membership on a panel's use of judicial economy. We confirm Busch and Pelc's finding that mixed third-party submissions have a statistically significant effect on the use of judicial economy, however, we find that US and EU loss have a much stronger impact. While mixed submissions may exert some influence, the total effect on

[14]To calculate predicted probabilities, we use a quasi-bayesian simulation that samples 1000 times from a distribution based on the coefficients and variances from our regression (Model 3 in Table 1). We compute the difference in predicted probability using this simulation data and changing the variable of interest (US Loss or EU Loss) from 0 to 1.

Table 1: The Effect of Key Members (US and EU) on Judicial Economy

	Model 1	Model 2	Model 3
US Loss	1.294**		1.407**
	(0.633)		(0.641)
EULoss		1.527*	1.713**
		(0.832)	(0.854)
Number of Articles Cited	0.734**	0.844***	0.859***
	(0.296)	(0.304)	(0.309)
Mixed Third-Party Submission	0.947***	0.855***	1.000***
	(0.328)	(0.322)	(0.340)
Pro-Defendant Third Party	−0.014	−0.082	−0.089
	(0.078)	(0.089)	(0.091)
Pro-Complainant Third Party	0.055	0.037	0.052
	(0.082)	(0.080)	(0.084)
Health and Safety Standards	1.184	0.928	1.006
	(0.897)	(0.899)	(0.913)
US Complainant	−0.621	−0.843	−0.606
	(0.605)	(0.596)	(0.624)
EU Complainant	−0.727	−0.281	−0.527
	(0.567)	(0.623)	(0.545)
N	104	104	104
AIC	124.1	124.8	121.1

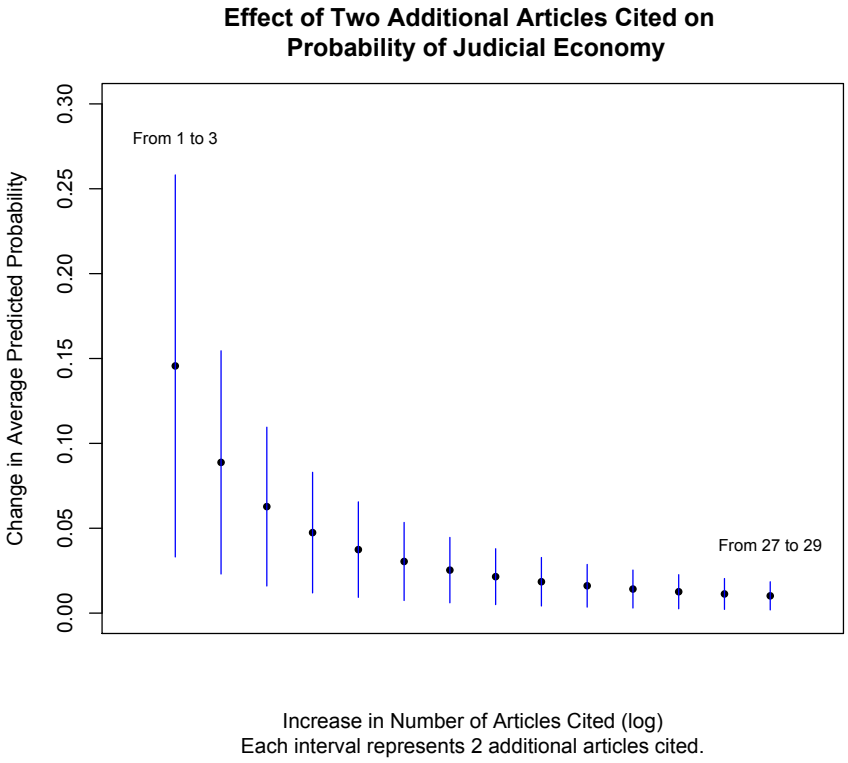
Statistical significance: *p<0.1; **p<0.05; ***p<0.01

Dependent variable is judicial economy, which is a binary variable coded 1 if the panel exercises judicial economy at any point in its final report, and 0 otherwise. Models calculated using a Bayesian generalized linear model (GLM), using the package created by Gelman and Su (2013). Results are robust to logit and rare events logit models (see Appendix).

the probability of judicial economy is less than a third of the magnitude of the US losing a dispute. We find that moving from zero to one mixed submission increases the probability of judicial economy by 12 percent, which is one third of the effect of having the US or EU on the losing side of a dispute.[15] The change in predicted probabilities for our significant

[15] Busch and Pelc (2010) find a much stronger effect, where moving from zero to one mixed submission increases the odds of judicial economy by 27 percent. This difference in results is partly attributed to our inclusion of several different variables (such as US loss and EU loss) in our model. It is also due to a different approach for calculating predicted probabilities, where we use a quasi-bayesian sampling technique rather than holding all variables at their means. Although these predicted probabilities are based on a bayesian logit regression model, our findings are robust to Busch and Pelc's approach, which uses a rare event logit

Figure 2:

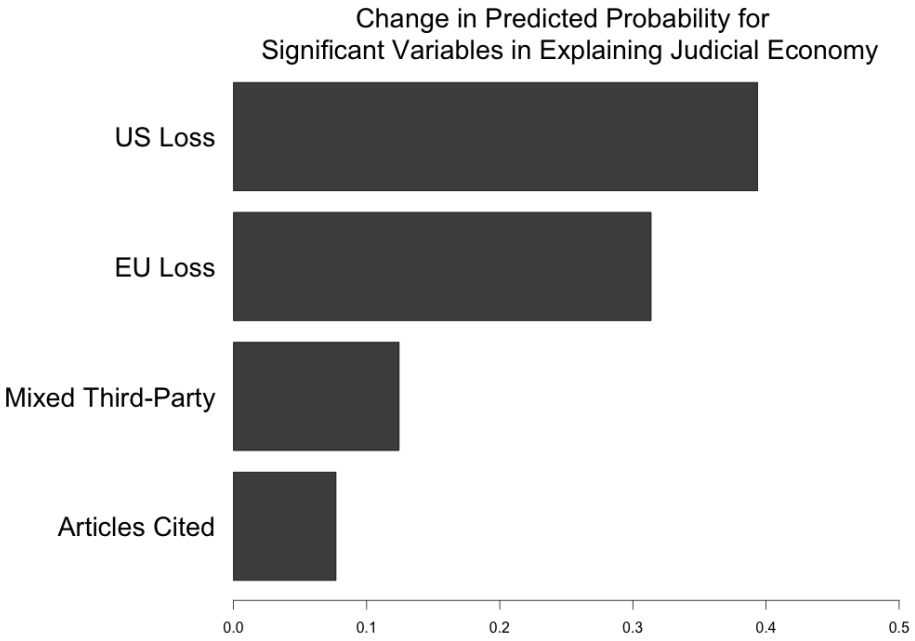


variables are charted in figure 3.

To provide a rigorous test of the competing theory that judicial economy is driven by the broader membership's ambivalence, we also developed enhanced measures of overall preferences of the active membership (all parties involved in the dispute as complainant, defendant, or third party). To do this, we created a balance variable that measures the degree of balance between pro-complainant (including the complainants) and pro-defendant (including the defendant) parties. We first code the balance measure so that a perfectly balanced case receives a value of one and as the parties become increasingly imbalanced the variable approaches zero. Formally the coding is:

regression model.

Figure 3:



Each bar shows the change in the predicted probability of judicial economy calculated using a quasi-bayesian analysis. When measuring the effect of US or EU loss the change represents the increased probability of judicial economy when one of the countries is on the losing side, as opposed to when they are not. For Mixed Third-Party, it represents a shift from the median number of mixed submissions (zero) to about one standard deviation higher (one). The Articles Cited change represents an approximate shift from the log of the mean (one) to about one standard deviation higher (two).

- If Pro-Complainants $\geq$ Pro-Defendents $\rightarrow \frac{2 * Pro{-}Defendants}{Pro{-}Complainants + Pro{-}Defendants}$
- If Pro-Defendants $>$ Pro-Complainants $\rightarrow \frac{2 * Pro{-}Complainants}{Pro{-}Complainants + Pro{-}Defendants}$

We then weight the balance variable by the total number of pro-complainant and pro-defendant parties. Weighting the balance variable is essential to ensure the variable captures the opinion of the broader membership. Without weighting, a case that was perfectly balanced with one complainant and one defendant would receive the same score as a case with 15 pro-complainants and 15 pro-defendants.[16]

[16]The weighting of the balance variable also provides a notable distinction from the work of Busch and Pelc (2010), who create a similar "Partisan Split" measure, however, they fail to weight the measure which

If panelists are responding to divided preferences from the broader membership as others have argued, then we would expect that the weighted balance measure would have a positive effect on the probability of judicial economy. Our results, however, indicate that the weighted balance variable is negative and insignificant (p-value = 0.55), suggesting that panelists are not using judicial economy as a response to the preferences of the broader membership.

A second competing explanation drawn from the judicial politics literature centers on "issue avoidance" or "effort efficiency" on the part of panels. If the panels did not have preferences related to member compliance and career concerns, then we might expect panels to issue rulings that minimized their effort. Rather than ruling on all the factors of complicated disputes, panels might choose to exercise judicial economy and only rule on the easiest legal arguments of the case, or on select issues in question, not because the other issues were legally irrelevant, but simply to minimize time and effort. Such an explanation would suggest that panel members shirk their responsibilities in much the same way people shirk their responsibility to serve when called for jury duty. Although this proposition seems unlikely given panelists concerns for being re-appointed, a literature on "issue avoidance" in the WTO exists (Davey, 2001). If panels engage in issue avoidance by exercising judicial economy, then we would expect panels to increase their use of judicial economy as cases became increasingly complex.

To test whether panels practice issue avoidance or effort efficiency, we developed additional proxies for the legal complexity of a case.

- ELAPSED TIME between formation of the panel and ruling: More complex cases are likely to involve longer fact-finding periods and lengthier arguments; therefore we'd expect there to be a longer period of time between the formation of the panel and the ruing.

limits its usefulness as a measure of the opinion of the membership at large.

- LENGTH OF PANEL REPORT: More complex cases are likely to generate longer panel reports given that panelists will have to report on lengthier arguments and will require more detail to adjudicate between complex legal claims.

The proxies for legal complexity are admittedly troublesome, as an array of potential confounding factors, such as the number of parties making submissions, could easily bias the measurements. Across the entire dataset, however, we believe the measures provide reasonable proxies for the complexity of the case. The effects of legal complexity are reported in Table 2. None of the variables have a significant effect on the use of judicial economy, so we do not find any evidence of issue avoidance or effort efficiency on the part of panelists. Our initial findings are robust to the inclusion of these variables as additional controls.

4.4 Extending the Theory: Losses by Other Economic Powers

If WTO panels are responsive to the US and the EU losing cases because they are concerned only about compliance, panels might also be more likely to exercise judicial economy when other economically-powerful countries are on the losing side of cases. These other powerful countries do not, however, have the same level of influence over the AB, given that there is not an AB member from their country by default. Additionally, the US and EU are involved in 95 percent of the cases we examined, giving them a great deal of influence over the selection of future panelists, whereas other economically powerful countries have not begun to match the level of WTO participation of the US and EU. That said, we seek to test whether other economically important countries have significant influence over panels' use of judicial economy, so we analyzed whether losses by Brazil, Canada, India, Japan, and Korea are significant predictors of judicial economy. Our results show no support for a judicial bias in favor of these less active countries, as is illustrated in figure 4.

Table 2: The Effect of Legal Strength and Complexity on Judicial Economy

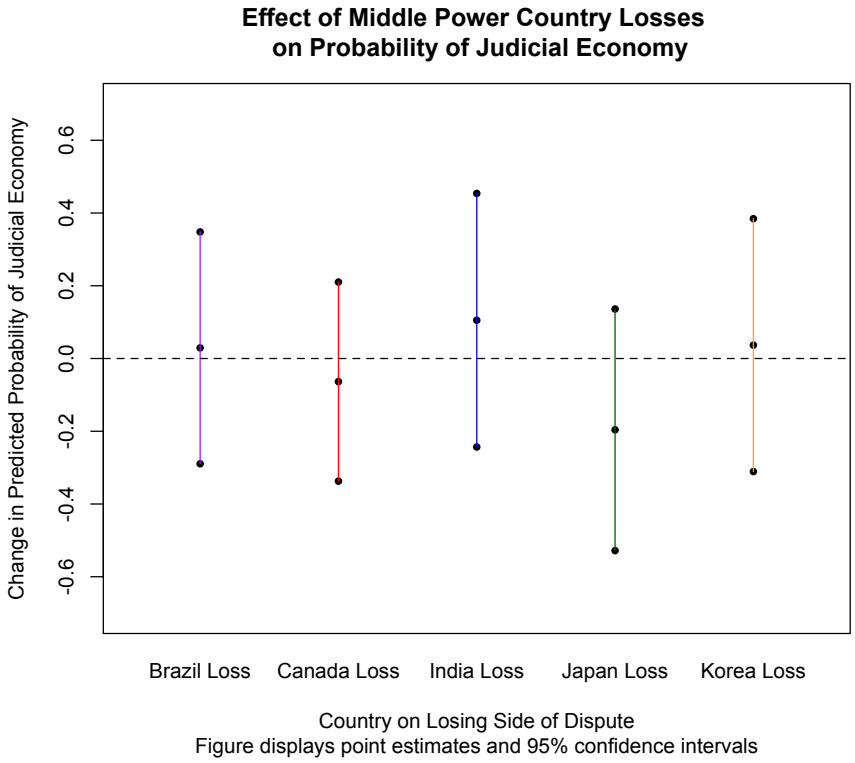
	Model 1	Model 2	Model 3
US Loss	1.439**	1.422**	1.446**
	(0.654)	(0.644)	(0.656)
EU Loss	1.744**	1.706**	1.740**
	(0.868)	(0.854)	(0.868)
Number of Articles Cited	0.932***	0.828***	0.917***
	(0.339)	(0.317)	(0.341)
Mixed Third-Party Submission	1.141***	1.005***	1.147***
	(0.365)	(0.339)	(0.365)
Elapsed Time	0.002		0.002
	(0.004)		(0.004)
Length of Panel Report		0.001	0.000
		(0.001)	(0.001)
N	102	104	102
AIC	116.850	122.493	118.770

Statistical significance: *p<0.1; **p<0.05; ***p<0.01

Dependent variable is judicial economy. Models calculated using a Bayesian GLM, using the package created by Gelman and Su (2013). Models include controls SPS, Pro-Complainant / Pro-Defendant Third Parties, US Complainant, and EU Complainant. None of the controls are statistically significant.

The findings reported in figure 4 demonstrate that the US and EU uniquely influence panels use of judicial economy. The frequency with which the US and EU engage in the dispute settlement process and their continued representation on the AB create incentives for heightened judicial economy by panelists that do not exist among other economically powerful countries. Furthermore, the value of compliance by the US and EU is clearly of heightened importance for the WTO, given the value of trade of these two leading members and their repeated use of the dispute settlement process. The lack of influence by other economically powerful states on panels use of judicial economy highlights the unique role of the US and EU and the limited strategic use of judicial economy by WTO panels.

Figure 4:



4.5 Selection Bias

WTO data is open to the criticism of selection bias. WTO member states often settle disputes before they reach the stage where a panel issues a final decision. Since our analysis is focused on panel decisions, it does not make sense to include these settled disputes in our dataset. As a result, our data includes only about one third of the total number of disputes filed by complainants. If disputes that result in a panel ruling are systematically different than those that are settled, we must consider how these differences affect our measurement of judicial bias and the implications of our argument.

If a selection bias does exist, then we would be most concerned with a bias that artificially inflates the use of judicial economy when the US or EU are likely to be on the losing side of a dispute. Although some studies have used selection models to examine the selection of cases that reach WTO panel rulings, we have not identified an instrument that predicts

complaint initiation and is not associated with the second stage of panel rulings and thus we choose a different approach. To directly examine whether there are systematic differences between cases that are initiated, but fail to reach panel rulings, and those where panels issue judgements, we focus on a comparison of the population of disputes at each stage. Because we are most concerned with a selection bias that would undermine our analysis of judicial economy, and our findings show that judicial economy is highly dependent on the role of the US and EU in the dispute, we analyze differences in EU and US participation at both stages in the dispute. The results are reported in table 3, and show that no systematic difference exists.

Table 3: Selection Effects: Comparing All Complaints to those with Panel Rulings

	All Complaints	Panel Rulings	Difference (p-$value$)
US Requesting Complaint	26.3	25.0	−1.3 (0.795)
EU Requesting Complaint	23.0	25.0	2.0 (0.379)
US Named Respondent	30.0	37.5	7.5 (0.126)
EU Named Respondent	19.1	20.2	1.1 (0.803)
N	335	104	

Table 3 provides the percent of cases where the US or EU was the requesting complainant or named respondent for the 335 cases initiated through 2005 and the subset of those cases that resulted in a panel ruling. The significance of the difference in proportions are calculated using a two-tailed Z-Test.

The only notable difference between US and EU participation at each stage, is that cases where the US is named as the respondent (defendant) are more likely to be settled before reaching a ruling. Although the difference does not reach traditional levels of significance,

we believe it deserves attention as the most likely source of bias, if such bias does exist. Given that defendants are on the losing side of the dispute nearly 90 percent of the time (Davis, 2012), it is possible that the complainant anticipates the use of judicial economy and thus is slightly more willing to settle, rather than facing a panel ruling where the panelists are more likely to limit the scope of the judgement. If this dynamic occurred, then our results would actually be underreporting the influence of the US on panelists' use of judicial economy. Without the settlement of these disputes, more cases would likely exist where the US was on the losing side and the panel used judicial economy, which suggests that our analysis provides a conservative estimate. Of course, countries may be more likely to reach settlements with the US for a variety of other reasons, such as the legal expertise of the US and potential for retaliation, which could also lead to heightened settlements among this set of cases, but should not bias our findings.

5 Conclusion

Over the last sixty years, states have dismantled discriminatory economic policies in favor of a multilateral trading system built on legalized reciprocity. Nowhere is this trend more apparent than in the creation of the WTO dispute settlement process, where WTO members forgo unilateral action in favor of negotiations and international adjudication. With autonomous panels deciding disputes between states, some scholars of the WTO have highlighted the institution's role in reducing the effect of power asymmetries among members (Davis, 2006; Goldstein and Steinberg, 2009).

A closer look at panel decision-making, however, calls into question this narrative. Although the WTO mitigates some of the asymmetries between states, we find that judicial bias among WTO panels results in preferable rulings for the US and EU when those countries are on the losing side of a dispute. In response to the most active and most powerful

WTO participants, WTO panels strategically exercise judicial economy, which may encourage compliance and promote stability in the trading system. By limiting the scope of their verdicts when the US or EU is on the losing side of a dispute, WTO panels respond to critical members' preferences in a manner that discourages judicial activism and promotes stability of the trading system.

Although scholars and legal activists may cringe at the mention of judicial bias, strategic decision-making by judges has long been recognized in domestic courts and may actually be serving a valuable purpose at the WTO. While the WTO dispute settlement process has been admired by IR scholars as an independent and successful international judicial body, part of what encourages states to comply with its rulings and allows it to continue to function well is a moderate level of judicial bias that appeases powerful member states. In this manner, the institution and its panelists work to balance the demands of the law with the needs of powerful members, even if it means imposing a level of self-restraint and limiting the reach of their jurisdiction.

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6 Appendix

Table 4: Logistic Regression

	Dependent variable:		
	Exercises Judicial Economy		
	(1)	(2)	(3)
US Loss	1.493**		1.659**
	(0.685)		(0.699)
EU Loss		1.900**	2.173**
		(0.959)	(0.997)
Number of Articles Cited	0.788**	0.938***	0.969***
	(0.316)	(0.330)	(0.339)
Pro-Defendant Third Party	−0.019	−0.112	−0.124
	(0.084)	(0.099)	(0.104)
Pro-Complainant Third Party	0.062	0.036	0.057
	(0.087)	(0.084)	(0.090)
Mixed Third-Party Submission	1.033***	0.943***	1.136***
	(0.352)	(0.346)	(0.376)
Health and Safety Standards	1.517	1.190	1.307
	(1.037)	(1.047)	(1.071)
US Complainant	−0.706	−0.972	−0.674
	(0.673)	(0.664)	(0.709)
EU Complainant	−0.817	−0.219	−0.538
	(0.619)	(0.589)	(0.648)
Constant	−2.758***	−2.851***	−3.361***
	(0.867)	(0.878)	(0.944)
Observations	104	104	104
Log likelihood	−52.899	−53.251	−50.317
Akaike Inf. Crit.	123.797	124.502	120.633
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 5: Rare Events Logistic Regression

	Dependent variable:		
	Exercises Judicial Economy		
	(1)	(2)	(3)
US Loss	1.331**		1.444**
	(0.631)		(0.638)
EU Loss		1.603*	1.804*
		(0.883)	(0.909)
Number of Articles Cited	0.715**	0.845***	0.850***
	(0.291)	(0.304)	(0.310)
Pro-Defendant Third Party	−0.015	−0.094	−0.102
	(0.077)	(0.091)	(0.095)
Pro-Complainant Third Party	0.061	0.038	0.058
	(0.080)	(0.078)	(0.083)
Mixed Third-Party Submission	0.897***	0.816**	0.968***
	(0.324)	(0.319)	(0.343)
Health and Safety Standards	1.296	0.990	1.089
	(0.954)	(0.964)	(0.977)
US Complainant	−0.609	−0.852	−0.600
	(0.620)	(0.611)	(0.647)
EU Complainant	−0.717	−0.207	−0.476
	(0.570)	(0.542)	(0.591)
Constant	−2.510***	−2.578***	−2.959***
	(0.798)	(0.808)	(0.861)
Observations	104	104	104
Log likelihood	−52.899	−53.251	−50.317
Akaike Inf. Crit.	123.797	124.502	120.633
Note:			*p<0.1; **p<0.05; ***p<0.01