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LAW

Emory International Law Review

Volume 32 | Issue 3

2018

To Enforce or Manage: An Analysis of WTO Compliance

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TO ENFORCE OR MANAGE: AN ANALYSIS OF WTO COMPLIANCE

*Pavan S. Krishnamurthy**

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INTRODUCTION

Nearly ten years after consultations were initially requested, the Dispute Settlement Body (DSB) of the World Trade Organization (WTO) met on January 28, 2013, to discuss the remedy to the *U.S.—Gambling* dispute. After a series of compliance proceedings, the DSB found that the United States had failed to implement its recommendations and rulings—namely, to provide online gambling service suppliers of Antigua and Barbuda treatment no less favorable than like U.S. suppliers. Despite adverse rulings, the United States chose not to comply; the DSB consequently authorized the suspension of concessions and obligations to the United States with respect to intellectual property rights. However, Antigua and Barbuda has yet to exercise its right to suspend its intellectual property obligations to the United States.¹ What might cause these sorts of breakdowns in WTO compliance?

In the study of international relations and international law, two dominant theories have emerged to explain international legal compliance: first, the *enforcement approach*, which argues that implementation failures occur due to the gross costs of compliance; second, the *management school*, which argues that states prefer compliance, but are hindered by domestic administrative constraints. These predominant theories have particular significance in the study of WTO compliance as they guide legal structure and policy decisions. To test these theories, this Article asks: Does the influence of interest groups or the domestic compliance structure explain the WTO's ability to compel members to comply with adverse dispute settlement decisions? Alternatively, does the enforcement approach or the management school help predict potential WTO compliance?

Binary logistic regressions and Cox proportional hazard (PH) models were used to analyze 120 *adverse* decisions in the DSB of the WTO. To test the two theoretical frameworks mentioned above, statistical models included variables related to the required use of legislation and, importantly, the types of legislatures known to be more influenced by interest groups. In support of the enforcement approach, the empirical evidence presented in this Article suggests that it is not simply the domestic compliance structure that drives non-compliance; rather, it is the compliance structures that are more likely to

¹ See William New, *Antigua & Barbuda to Lift US IP Protection Protection in 2017 if US Fails to Comply with WTO Ruling*, INTELL. PROP. WATCH (Nov. 28, 2016), <https://www.ip-watch.org/2016/11/28/antigua-barbuda-lift-us-ip-protection-2017-us-fails-comply-wto-ruling/>; William New, *US Misrepresentations Called Out by Antigua in Online Gambling Case at WTO*, INTELL. PROP. WATCH (Sept. 29, 2017), <https://www.ip-watch.org/2017/09/29/us-misrepresentations-called-antigua-online-gambling-case/>.

capitulate to domestic interest groups that better explain whether and when a country complies with an adverse decision by the panel or the Appellate Body (AB) of the WTO.

This Article proceeds in four parts. Part I outlines the two predominant theories of international legal compliance. Part II presents the dataset, how it was culled, and the variables to be tested. Supporting the enforcement approach, Part III models the association between the explanatory variables and response variables in-time/time-to compliance. The conclusion follows.

I. INTERNATIONAL COMPLIANCE THEORY

The collaboration between scholars of international relations and international law has built “an interdisciplinary research agenda.”² This joint research program has flourished around dialogue concerning dispute resolution and international legal compliance.³ International relations and international law scholars have developed theoretical frameworks to explain the implications of international law. Prominent liberal theorist Robert Keohane, incorporating contemporary theoretical developments within international relations, described “two optics” of international law: an instrumentalist optic and a normative optic.⁴ The instrumentalist optic argues that international law “will matter only if [it] affect[s] the calculations of interest by agents,” while the normative optic argues that international law “constrain[s] subjective interpretations, promote[s] habitual compliance, and impose[s] reputational costs on violators of norms”⁵ Though Keohane concludes that the “instrumental and normative incentives work in tandem,” his theoretical dichotomy has continued to develop and mature.⁶

Two dominant theories of compliance now emerge from Keohane’s initial optics: the enforcement approach and the management school. Taking its inspiration from the instrumentalist optic, the enforcement approach utilizes a rational actor model and argues that non-compliance occurs strategically when

² See Anne-Marie Slaughter, Andrew S. Tulumello & Stepan Wood, *International Law and International Relations Theory: A New Generation of Interdisciplinary Scholarship*, 92 AM. J. INT’L L. 367, 369 (1998).

³ See, e.g., Robert O. Keohane, Andrew Moravcsik & Anne-Marie Slaughter, *Legalized Dispute Resolution: Interstate and Transnational*, 54 INT’L ORG. 457, 457–58, 487 (2000); Anne-Marie Slaughter, *International Law and International Relations Theory: A Dual Agenda*, 87 AM. J. INT’L L. 205, 223 (1993).

⁴ See Robert O. Keohane, *International Relations and International Law: Two Optics*, 38 HARV. INT’L L.J. 487, 488 (1997).

⁵ *Id.* at 489, 491.

⁶ *Id.* at 501.

the benefits outweigh the costs of defection.⁷ Enforcement approach scholars believe that efficient breach or strategic non-compliance occurs due to interest groups' influence on national policy.⁸ Alternatively, drawing from the normative optic, the management school sees international organizations as seeking to "promote compliance not through coercion but . . . through [the] interactive process of justification, discourse, and persuasion," where "the impetus for compliance is not so much a nation's fear of sanction, as it is fear of diminution of status through loss of reputation."⁹ When non-compliance does occur, the management school claims it is the result of either the domestic compliance structure or capacity constraints and treaty ambiguity. It is best to understand the enforcement approach and management school as mid-level theories that drive hypotheses in academic scholarship—as well as policy—in the development of international compliance mechanisms.¹⁰

⁷ See LISA L. MARTIN, COERCIVE COOPERATION: EXPLAINING MULTILATERAL ECONOMIC SANCTIONS 7–10 (1989); A. Walter Dorn & Andrew Fulton, *Securing Compliance with Disarmament Treaties: Carrots, Sticks, and the Case of North Korea*, 3 GLOBAL GOVERNANCE 17, 35 (1997); Jonas Tallberg, *Paths to Compliance: Enforcement, Management, and the European Union*, 56 INT'L ORG. 609, 611 (2002).

⁸ See ROBERT O. KEOHANE & JOSEPH S. NYE, POWER AND INTERDEPENDENCE WORLD POLITICS IN TRANSITION 27–29 (1997); Eric A. Posner & Alan O. Sykes, *Efficient Breach of International Law: Optimal Remedies, Legalized Noncompliance, and Related Issues*, 110 MICH. L. REV. 243, 247 (2011).

⁹ Harold H. Koh, *Why Do Nations Obey International Law?*, 106 YALE L.J. 2599, 2636 (1997) (reviewing ABRAM CHAYES & ANTONIA HANDLER CHAYES, THE NEW SOVEREIGNTY: COMPLIANCE WITH INTERNATIONAL REGULATORY AGREEMENTS (Harv. Univ. Press 1995) and THOMAS M. FRANCK, FAIRNESS IN INTERNATIONAL LAW AND INSTITUTIONS (Clarendon Press 1995)).

¹⁰ Yet, it is also important to note that this theoretical dichotomy is perhaps an oversimplification of the literature. First, not dissimilar from the combined optics of Keohane, see *supra* note 4 and accompanying text, some scholars call for a combined enforcement/management model within their study of European Union (EU) compliance. See, e.g., Tanja A. Börzel, Tobias Hofmann & Diana Panke, *Caving In or Sitting Out? Longitudinal Patterns of Non-Compliance in the European Union*, 19 J. EUR. PUB. POL'Y 454, 467 (2012) (finding "strong empirical support for the effect of bureaucratic efficiency and a low number of domestic veto players on the ability to overcome violations of EU law"). Second, constructivist and legal process-based literature within international legal and WTO compliance scholarship, which stresses the pull of legalization and socialization, is largely ignored. See generally ANDREW LANG, WORLD TRADE LAW AFTER NEOLIBERALISM: REIMAGINING THE GLOBAL ECONOMIC ORDER (OUP Oxford 2011); JOHN G. RUGGIE, CONSTRUCTING THE WORLD POLITY: ESSAYS ON INTERNATIONAL INSTITUTIONALIZATION (Routledge 1998); Jeffrey T. Checkel, *Why Comply? Social Learning and European Identity Change*, 55 INT'L ORG. 553 (2001). This type of thick description better serves analysis when studying changes in legal structures such as the judicialization of dispute settlement from the General Agreement on Tariffs and Trade (GATT) to the WTO. See generally Pavan Krishnamurthy, *Effective Enforcement: A Legalistic Analysis of WTO Dispute Settlement*, 5 NW. INTERDISC. L. REV. 191 (2012); J.H.H. Weiler, *The Rule of Lawyers and the Ethos of Diplomats: Reflections on the Internal and External Legitimacy of WTO Dispute Settlement*, 35 J. WORLD TRADE 191 (2001); Bernhard Zangl, *Judicialization Matters! A Comparison of Dispute Settlement Under GATT and the WTO*, 52 INT'L STUD. Q. 825 (2008). Moreover, operationalizing levels of socialization and resolving endogenous relationships between legalization and compliance has proven to be difficult. See Miles Kahler, *Conclusion: The Causes and Consequences of Legalization*, 54 INT'L ORG. 661, 678 (2000) ("Although normative analysis identifies actors and processes, explanation too often appears to be post hoc. As norms become more deep-seated, the empirical difficulties do not end, since those norms are precisely the ones that are least likely to be explicitly invoked."). Moreover, this

Predicting the growth in international legal compliance scholarship, liberal theorists Kal Raustiala and Anne-Marie Slaughter called for further empirical WTO DSB research to be nested within wider theoretical developments in the international compliance literature.¹¹ Their calls have not been ignored. Earlier studies of the WTO sought to analyze the utility of the WTO DSB for developing and least-developed countries by studying the initiation of disputes. Partially in support of the management school, a consensus has emerged that the economic dynamics between countries mattered less than the domestic capacities of potential dispute initiators that drove decisions regarding the utilization of the DSB.¹²

Article, which only looks at the WTO and not the transition from the GATT to the WTO, should not find variability in the level of legalization and, therefore, process-based theories are less appropriate. Third, the realist charge of international law is largely omitted. From legal positivism, see, for example, JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* (Oxford Univ. Press 2005); GEORGE F. KENNAN, *AMERICAN DIPLOMACY 1900-1950* (Penguin Group USA 1951); STEPHEN D. KRASNER, *SOVEREIGNTY: ORGANIZED HYPOCRISY* (Princeton Univ. Press 1999) (explaining (neo)realist international relations (IR) theory); Robert H. Bork, *The Limits of "International Law"*, *THE NAT'L INTEREST*, Winter 1989/90 at 3; John J. Mearsheimer, *The False Promise of International Institutions*, 19 *INT'L SEC. 5* (1994); Hans J. Morgenthau, *Positivism, Functionalism, and International Law*, 34 *AM. J. INT'L L.* 260 (1940) (explaining scholars have repeatedly proclaimed international law to be epiphenomenal). However, by most accounts, international law, having entered the "post-ontological era," is perceived as a legitimate constraint on states. THOMAS M. FRANCK, *FAIRNESS IN INTERNATIONAL LAW AND INSTITUTIONS* 6 (Clarendon Press 1995); see also LOUIS HENKIN, *HOW NATIONS BEHAVE: LAW AND FOREIGN POLICY* 42 (Columbia Univ. Press 1979) (claiming "almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time"). With both international compliance theories drawing from the neoliberal institutional tradition of international relations, see generally, for example, ANDREW T. GUZMAN, *HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE THEORY* (Oxford Univ. Press 2008); ROBERT O. KEOHANE, *AFTER HEGEMONY COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY* (Princeton Univ. Press 1984); Robert O. Keohane & Lisa L. Martin, *The Promise of Institutional Theory*, 20 *INT'L SEC.* 39 (1995), the enforcement approach mediates some of the pessimism of neo-neo theory, see Ole Wæver, *The Rise and Fall of the Inter-Paradigm Debate*, in *INTERNATIONAL THEORY: POSITIVISM AND BEYOND* 149 (Steve Smith, et al. eds., Columbia Univ. Press 1996), and the management school appropriates the optimism of constructivist liberal theory, see Anne-Marie Slaughter, *A Liberal Theory of International Law*, 94 *AM. SOC'Y INT'L L. PROC.* 240 (2000); Anne-Marie Slaughter, *International Law in a World of Liberal States*, 6 *EUR. J. INT'L L.* 503 (1995).

¹¹ See Kal Raustiala & Anne-Marie Slaughter, *International Law, International Relations and Compliance*, in *HANDBOOK OF INTERNATIONAL RELATIONS* 538, 542 (Walter Carlsnaes, et al. eds., SAGE Publications 2002).

¹² See, e.g., Marc L. Busch et al., *Does Legal Capacity Matter? A Survey of WTO Members*, 8 *WORLD TRADE REV.* 559, 566–68, 576–77 (2009); Christina L. Davis & Sarah Blodgett Bermeo, *Who Files? Developing Country Participation in GATT/WTO Adjudication*, 71 *J. POL.* 1033, 1033 (2009); Andrew T. Guzman & Beth A. Simmons, *Power Plays and Capacity Constraints: The Selection of Defendants in World Trade*, 34 *J. LEGAL STUD.* 557, 591–92 (2005).

Likewise, there has been a growing interest in treaty compliance,¹³ and this interest has extended to the international economic treaties within the WTO.¹⁴ However, most recently, several studies have attempted to analyze the WTO compliance question beyond the descriptive analytics of their predecessors. Importantly, these studies have followed the enforcement/management theoretical divide as explored below.

A. *The Enforcement Approach and the WTO*

Enforcement approach scholars claim that the DSB's compliance success comes from "the enhanced ability of the . . . [WTO] to respond to and punish . . ." violators rather than its normative legitimacy because of the central role played by domestic special interests in shaping the liberalization of trade.¹⁵ These assumptions are then used to justify game-theoretical and public choice models when describing WTO compliance.¹⁶ Subsequently, several WTO scholars have utilized inferential statistics in studies to confirm this framework.

Political economists Tobias Hofmann and See Yeon Kim argue "the relative political importance of the domestic economic sectors at the center of WTO disputes is key to understanding why opportunistic governments provide extended periods of non-compliance, or protection, to some of these sectors."¹⁷ Deploying enforcement approach theory, their study used the "relative employment and GDP of the sector" affected by a WTO dispute as a proxy for

¹³ See, e.g., Beth A. Simmons, *Compliance with International Agreements*, 1 ANN. REV. POL. SCI. 75 (1998); Beth A. Simmons, *Treaty Compliance and Violation*, 13 ANN. REV. POL. SCI. 273 (2010).

¹⁴ See, e.g., Donald C. Clarke, *China's Legal System and the WTO: Prospects for Compliance*, 2 WASH. U. GLOB. STUD. L. REV. 97, 104 (2003); William J. Davey, *Compliance Problems in WTO Dispute Settlement*, 42 CORNELL INT'L L.J. 119, 125–26 (2009); Yuka Fukunaga, *Securing Compliance Through the WTO Dispute Settlement System: Implementation of DSB Recommendations*, 9 J. INT'L ECON. L. 383, 383, 385 (2006); Bruce Wilson, *Compliance by WTO Members with Adverse WTO Dispute Settlement Rulings: The Record to Date*, 10 J. INT'L ECON. L. 397, 397 (2007).

¹⁵ See George W. Downs et al., *Is The Good News About Compliance Good News About Cooperation?*, 50 INT'L ORG. 379, 391 (1996); see also Judith Goldstein & Lisa L. Martin, *Legalization, Trade Liberalization, and Domestic Politics: A Cautionary Note*, 54 INT'L ORG. 603, 603–04, 619, 631–32 (2000).

¹⁶ See, e.g., Kenneth W. Abbott, *The Trading Nation's Dilemma: The Functions of the Law of International Trade*, 26 HARV. INT'L L.J. 501, 514–16, 528–32 (1985); Kyle Bagwell & Robert W. Staiger, *The World Trade Organization: Theory and Practice* (Nat'l Bureau Econ. Res., Working Paper No. 15445, 2009); Xinyuan Dai, *Why Comply? The Domestic Constituency Mechanism*, 59 INT'L ORG. 363, 364–65, 373–74, 384–85 (2005).

¹⁷ See Tobias Hofmann & See Yeon Kim, *The Political Economy of Compliance in WTO Disputes 6* (Apr. 25, 2009) (unpublished manuscript), http://wp.peio.me/wp-content/uploads/2014/04/Conf3_Hofmann-Kim-25.09.09.pdf.

the relative importance of the said sector.¹⁸ However, this approach has three methodological limitations.

First, the size proxy for interest group power does not conceptualize the significance of a sector. The significance could, in fact, be understood through the “ability to organize and pressure government,” which might have “little to do with its size,”¹⁹ as was the case with the agriculture sector in the *EC—Hormones* dispute.²⁰ In fact, one could imagine situations where smaller interest groups could leverage more capital and resources than their larger counterparts by more easily overcoming collective action problems. Second, domestic industry employment would not capture procedural disputes. For example, the highly controversial manner in which antidumping measures are calculated, as found in the four separate *U.S.—Continued Zeroing*²¹ cases or the eleven unique complaints in the *U.S.—Offset Act (Byrd Amendment)*²² dispute, would not be operationalized appropriately in the Hofmann and Kim study. Third, while it may be true that governments are locked in a two-level game between domestic constituents (i.e., interest groups) and international obligations,²³ it should be noted that economic differences between governments could be an antecedent or at the very least a confounding variable as these relations set the rules for the international games.²⁴ These and other difficulties of analyzing interest groups’ influence in a global value chain have led scholars to develop creative methodological strategies to operationalize interest groups’ influence.

Following political economist Daniel Kono’s theory of trade obfuscation, in which forward-looking governments are expected to establish complex barriers

¹⁸ See *id.* at 14.

¹⁹ See Gabriele Spilker, *Compliance with WTO Dispute Rulings 4* (NCCR Trade Reg., Working Paper No. 2011/25, 2012).

²⁰ Appellate Body Report, *European Communities—Measures Concerning Meat and Meat Products (Hormones)*, WTO Doc. WT/DS26/AB/R (adopted Feb. 13, 1999).

²¹ See, e.g., Appellate Body Report, *United States—Continued Existence and Application of Zeroing Methodology*, WTO Doc. WT/DS350/AB/R (adopted Feb. 4, 2009).

²² See Appellate Body Report, *United States—Continued Dumping and Subsidy Offset Act of 2000*, WTO Doc. WT/DS217/AB/R (adopted Jan. 16, 2003).

²³ See Robert D. Putnam, *Diplomacy and Domestic Politics: The Logic of Two-Level Games*, 42 INT’L ORG. 427, 427, 432 (1988); Gene M. Grossman & Elhanan Helpman, *A Protectionist Bias in Majoritarian Politics* (Nat’l Bureau Econ. Res., Working Paper No. 15445, 2009).

²⁴ That is, interest groups’ influence may be meaningless with regard to international regulations if the lobbied government’s influence on international organizations is marginal. It would be difficult to imagine firms that predominantly lobby developing/least-developed governments having greater influence on international organizations than firms that predominantly lobby developed governments. See Börzel, Hofmann & Panke, *supra* note 10; Geoffrey Garrett, R. Daniel Kelemen & Heiner Schulz, *The European Court of Justice, National Governments, and Legal Integration in the European Union International Organization*, 52 INT’L ORG. 149, 150, 156 (1998).

to trade,²⁵ Gabriele Spilker, an international political economist, finds that complex barriers enacted due to domestic industry influence significantly prolong WTO compliance time.²⁶ Due to the aforementioned difficulties of operationalizing interest group influence, Spilker opts to include a dummy variable for agriculture, complex barriers, and finally an interaction term between the two to put the theory of trade obfuscation to practice. Nevertheless, this analysis remains problematic for the following two reasons.

First, for Spilker, compliance occurs when the “complainant country officially acknowledges that the trade policies of the [respondent] country have been brought into congruence with WTO law.”²⁷ Furthermore, it is argued that it is unlikely for countries to accept non-changes and give up due to the cost of the dispute. While this coding strategy is cogent, it does not account for the oft-resorted Dispute Settlement Understanding (DSU) Articles 21 and 22 understandings, which extend the statute of limitations beyond lapsed panel authority.²⁸ These legal avenues, which in recent years have become more common, are negotiated between members who disagree whether compliance has occurred, establishing a legal gray area. Recent U.S.-Sino disputes, particularly those relating to intellectual property rights and anti-dumping/countervailing duties, highlight the use of these understandings due to *ex post* disagreements. This coding strategy would therefore have difficulty reconciling prolonged disputes, such as *China—Intellectual Property Rights*,²⁹ *China—Publications and Audiovisual Products*,³⁰ and *US—Anti-Dumping and Countervailing Duties (China)*.³¹

Second, Spilker only utilizes duration models of dispute dyads instead of using both regression and duration models for aggregated dispute issues. Cox PH models right censor cases that have not yet occurred and are assumed to be uninformative predictors for censored values.³² In specifying the research

²⁵ See Daniel Y. Kono, *Optimal Obfuscation: Democracy and Trade Policy Transparency*, 100 AM. POL. SCI. REV. 369, 376 (2006); Spilker, *supra* note 19, at 4–6.

²⁶ See Spilker, *supra* note 19, at 4–6.

²⁷ See Spilker, *supra* note 19, at 6, 9.

²⁸ See Understanding on Rules and Procedures Governing the Settlement of Disputes, 1869 U.N.T.S. 401.

²⁹ Panel Report, *China—Measures Affecting the Protection and Enforcement of Intellectual Property Rights*, WTO Doc. WT/DS362/R (adopted Mar. 20, 2009).

³⁰ Appellate Body Report, *China—Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, WTO Doc. WT/DS363/AB/R (adopted Jan. 19, 2010).

³¹ Appellate Body Report, *United States—Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, WTO Doc. WT/DS379/AB/R (adopted Mar. 25, 2011).

³² See Taane G. Clark et al., *Survival Analysis Part I: Basic Concepts and First Analyses*, 89 BRIT. J. CANCER 232, 232, 238 (2003).

question to focus only on compliance times, Spilker, in effect, ignores some of the most controversial cases of indefinite non-compliance from the United States, such as *U.S.—Section 211 Appropriations Act*,³³ *U.S.—Hot-Rolled Steel*,³⁴ or *U.S.—Gambling*.³⁵ The utilization of the dyads of cases as opposed to aggregates of dispute issues may also inflate the significance of certain cases that were formally initiated by many countries or had subsequent proceedings regarding compliance. Based on the dataset constructed for this Article, the decision to use dyads created 181 unique cases, while aggregation of disputes to their core issue created 120 cases. This is a substantial variation that has the potential to inflate the significance of case characteristics that were found in many congruent dyads.

In another novel methodological choice to operationalize interest groups' influence, the trade scholar Stephanie Rickard argues that violations of GATT/WTO agreements are more common among governments elected through majoritarian electoral rules and/or single-member districts.³⁶ These electoral systems have been said to incentivize narrow targeted transfers to special interests as they are centered on candidates, while proportional electoral rules and/or multi-member districts are more likely to be scrutinized by the broader constituency as they are centered on parties.³⁷ Proportional representation (PR) in elected legislatures is said to encourage more examination from average constituent members, as members do not have to vote sophisticatedly³⁸ and parties must appeal to large segments of the population.³⁹ It has been widely documented that the general constituency in PR legislatures can better punish officials who capitulate to special interests, while majoritarian

³³ Appellate Body Report, *United States—Section 211 Omnibus Appropriations Act of 1998*, WTO Doc. WT/DS176/AB/R (adopted Jan. 2, 2002); WT/DS176/1/Add.156 (Jan. 15, 2016) (latest status report).

³⁴ Appellate Body Report, *United States—Anti-Dumping Measures on Certain Hot-Rolled Steel Products from Japan*, WTO Doc. WT/DS184/AB/R (adopted Aug. 23, 2001); WT/DS285/26 (April 25, 2013) (latest communication from Antigua and Barbuda).

³⁵ Appellate Body Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WTO Doc. WT/DS285/AB/R (adopted Apr. 20, 2005). To date, these three aforementioned cases have remained non-compliant after a pre-established implementation deadline by 108, 107, and ninety-eight months, respectively.

³⁶ See Stephanie Rickard, *Democratic Differences: Electoral Institutions and Compliance with GATT/WTO Agreements*, 16 EUR. J. INT'L REL. 711, 714–17 (2010).

³⁷ See TORSTEN PERSSON & GUIDO TABELLINI, *THE ECONOMIC EFFECTS OF CONSTITUTIONS* (MIT Press 2005); Jon M. Carey & Matthew Soberg Shugart, *Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas*, 14 ELECTORAL STUD. 417, 432–34 (1995).

³⁸ Sophisticated or tactical voting refers to the practice of pragmatically supporting candidates that are not a voter's first choice so as to prevent an even worse outcome. See ROBIN FARQUHARSON, *THEORY OF VOTING* (Yale Univ. Press 1969).

³⁹ See Eric Reinhardt, *Posturing Parliaments: Ratification, Uncertainty, and International Bargaining* (1997) (unpublished Ph.D. dissertation, Columbia University) (on file with Columbia University).

electoral rules and/or single-member districts create a protectionist bias due to election strategies that privilege decisions to garner a simple majority.⁴⁰

Rickard focuses on a broader dataset of later GATT and early WTO cases (from 1980 to 2003) and treats any case filed against a country as a violation, despite the fact that approximately only twenty-five percent of cases are litigated and, of those, ten percent are found to have no violation.⁴¹ Therefore, the vast majority of the Rickard dataset does not evaluate technical compliance of WTO rulings. As nearly seventy-five percent of cases are concluded through mutually agreed solutions, the Rickard study is not about compliance but is rather a study of “bargains in the shadow of the law.”⁴² Additionally, analysis of the EU, which litigates in unison, has been removed from the dataset, unless a specific country was found to be a violator,⁴³ thus ignoring one of the “primary users” of the WTO DSB.⁴⁴ Crucially, there is no strong theoretical justification for the across-the-board coding of majoritarian rules and/or single-member districts considering that the required use of legislation is the exception, not the rule. That is to say that the vast majority of compliance occurs through administrative/executive action. In studying dispute initiation as non-compliance, the Rickard study does not account for administrative/executive compliance. When all countries are coded simply by their electoral systems, it is incorrectly assumed that these systems are implicated in the noncompliance of WTO regulation, when in fact it is most often administrative/executive inaction and not legislative inaction that drives noncompliance. Finally, the question of timely compliance is also not analyzed, as duration models are not utilized.

As can be seen, a common thread among these studies is the operationalization of interest groups’ influence so as to analyze the driving mechanism of the enforcement approach.

⁴⁰ See Carolyn L. Evans, *A Protectionist Bias in Majoritarian Politics: An Empirical Investigation*, 21 *ECON. & POL.* 278, 300–05 (2009); Grossman & Helpman, *supra* note 23.

⁴¹ See Rickard, *supra* note 36, at 713.

⁴² See Marc L. Busch & Eric Reinhardt, *Bargaining in the Shadow of the Law: Early Settlement in GATT/WTO Disputes*, 24 *FORDHAM INT’L L.J.* 158, 163 (2000).

⁴³ See Rickard, *supra* note 36, app. A.

⁴⁴ See Kara Leitner & Simon Lester, *WTO Dispute Settlement 1995-2010—A Statistical Analysis*, 14 *J. INT’L ECON. L.* 191, 194 (2011).

B. *The Management School and the WTO*

Management school scholars argue that domestic compliance structure can hinder effective compliance.⁴⁵ Moreover, legal capacity constraints have been shown to be quite significant in relation to dispute initiation in the case of the WTO.⁴⁶ These scholars argue that if members have the regulatory ease and capacity, panel or AB rulings should act as treaty clarifications and should encourage timely compliance.⁴⁷

Legal empiricists Adam Chilton and Rachel Brewster, in the only recent WTO compliance study pointing to the management school, argue that “the structure of the national government can have large and systematic effects on the country’s rate of compliance.”⁴⁸ They claim “who[ever] within the government supplies compliance is the *best predictor* of whether and when the [U.S.] government complies with WTO rulings,” and that “[t]he need for congressional involvement in the compliance process both decreases the likelihood of compliance and delays compliance *more than any other factor*.”⁴⁹ However, there are methodological limitations.

First, their study is only of the United States, so generalizability is inappropriate without further analysis. Second, coding decisions regarding compliance defer to claims by the United States Trade Representative (USTR) and not the WTO or complainants, which may inflate in-time compliance and deflate time-to compliance.⁵⁰ Other member states may have different interpretations of U.S. compliance. One example of this potentially problematic methodological strategy is exemplified in the *U.S.—Upland Cotton* dispute.⁵¹ The United States had claimed that it had become compliant with the DSB ruling; however, the United States was challenged again in the DSB by Brazil regarding the legitimacy of their implementation via DSU Article 21.5 compliance proceedings and subsequently under DSU Article 22 regarding the authorization of remedies.⁵² In *U.S.—Upland Cotton*, the United States and

⁴⁵ See Adam S. Chilton & Rachel Brewster, *Supplying Compliance: Why and When the US Complies with WTO Rulings*, 39 YALE J. INT’L L. 201, 239 (2014).

⁴⁶ See, e.g., Busch et al., *supra* note 12; Guzman & Simmons, *supra* note 12.

⁴⁷ See Spilker, *supra* note 19, at 5.

⁴⁸ See Chilton & Brewster, *supra* note 45, at 203.

⁴⁹ *Id.* at 6.

⁵⁰ *Id.* at 25.

⁵¹ Appellate Body Report, *United States—Subsidies on Upland Cotton*, WTO Doc. WT/DS267/AB/R (adopted Mar. 3, 2005).

⁵² Specifically, cross-sector countermeasures were authorized in the form of suspension of certain obligations under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) and the General Agreement on Trade in Services (GATS). See *Recourse to Arbitration by the United States*

Brazil established a framework for dispute settlement, which the United States, Brazil, and the adopted report of the WTO noted did “not constitute a mutually agreed solution to the dispute” but set “out parameters for discussions on a solution with respect to domestic support programs for upland cotton in the United States.”⁵³ Despite this clarification, Chilton and Brewster code the compliance date as August 25, 2010, which happened to be the implementation of simply the joint framework. This coding decision was taken as the USTR considered this case to have been resolved.⁵⁴

For management school scholars studying the WTO, there is a concern about supply side dynamics, where the assumption is that governments would prefer to comply if possible. The enforcement approach and management school provide separate accounts regarding WTO compliance. However, in the words of Keohane, these theories both rely on incentive structures, where the enforcement approach draws from “instrumental” and the management school draws from “normative” optic.⁵⁵

II. DATA

A. Dataset

To test the effectiveness of the enforcement approach and the management school for predicting WTO compliance, data was drawn from the WTO Current Status of Disputes (CSD) database, which is representative of the WTO interpretation of a dispute. It is important to reiterate that a key component of this Article’s research question is concerned with testing the idea of compliance through compellence or the ability to secure or bring about change by the use of external threat or force. As the WTO “. . . has no jailhouse, no bail bondsmen, no blue helmets, no truncheons or tear gas,” it must rely on voluntary

under Article 22.6 of the DSU and Article 4.11 of the SCM Agreement - Decision by the Arbitrator, WT/DS267/ARB/1 (Aug. 31, 2009).

⁵³ See Framework for a Mutually Agreed Solution to the Cotton Dispute in the World Trade Organization, Braz.-U.S., June 25, 2010, WT/DS267/45.

⁵⁴ See Chilton & Brewster, *supra* note 45, app. C. Interestingly, on October 16, 2014, Brazil and the United States notified the WTO that, pursuant to Article 3.6 of the DSU, they agreed that this dispute was terminated. However, this mutually agreed upon solution occurred after Chilton and Brewster coded their dataset. Chilton and Brewster’s coding decision, rather, is a product of the United States’ position that the dispute was resolved. Framework for a Mutually Agreed Solution to the Cotton Dispute in the World Trade Organization, *supra* note 53.

⁵⁵ See Keohane, *supra* note 4, at 488.

compliance,⁵⁶ although it does have an enforcement mechanism. It can authorize retaliation from other members, which would otherwise be considered in violation of the covered agreements. Considering that the WTO has an ability to compel, the methodology of this Article begins with the question: What would be the best manner to cull the available universe of cases to test compliance through compellence? The question gets complicated considering that many times disputes are withdrawn in light of a mutually agreed solution, the WTO affords a reasonable period of time (RPT) to comply with adverse decisions, and there may be situations where multiple cases occur for a single dispute.

First, concerning mutually agreed solutions, cases that are withdrawn before rulings were not considered a test of compliance. Including these cases would answer a different research question—one that would focus on dispute resolution writ large and not compliance with WTO rulings. With this in mind, the dataset was constructed with a focus on adverse decisions adopted by the panel or the AB. Consequently, an adverse decision is when a complainant (plaintiff) “wins” and a respondent (defendant) is asked to reform any part of its trade policy.⁵⁷

Second, the data must be cut off to have appropriate analysis of duration and compliance, and this cutoff follows the WTO’s RPT framework of implementation. As noted by Article 21.3(c) of the DSU, implementation should not generally exceed fifteen months from the date of adoption of the report(s). There are three ways to establish RPT: member consensus (which has never been used), mutually agreed solution, or a determination by the arbitrator.⁵⁸ This means that recommended implementation timeframes are built into the compliance process. For the purposes of this dataset, a country that has not implemented the recommendations after the RPT expired is only then in non-compliance.

⁵⁶ See Judith H. Bello, *The WTO Dispute Settlement Understanding: Less is More*, 90 AM. J. INT’L L. 416, 417 (1996).

⁵⁷ However, two cases were included where a mutually agreed solution had been established before a panel decision was made. These were the only two cases where panel reports were still released with adverse recommendations to the respondent after a mutually agreed solution had been reached. See Panel Report, *Korea—Measures Affecting the Importation of Bovine Meat and Meat Products from Canada*, WTO Doc. WT/DS391/R (circulated July 3, 2012); Panel Report, *European Communities—Measures Butter Products*, WTO Doc. WT/DS72/R (circulated Nov. 24, 1999). The *Korea—Bovine Meat (Canada)* and *EC—Butter* reports were still released because the mutually agreed solution was presented after the panel report had been written, but one month before it had been released.

⁵⁸ See DSU, Dispute Settlement Rules: Understanding on Rules and Procedures Governing the Settlement of Disputes, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 354 (1999), 1869 U.N.T.S. 401, 33 I.L.M. 1226 (1994) [hereinafter DSU].

Third, this dataset had to account for the fact that the WTO has a legal process for resolving disputes over implementation as well as accounting for multiple cases stemming from the same core dispute. Pursuant to Article 21.5 of the DSU, if a member believes that implementation has not occurred, despite notification by the respondent otherwise, the member has the right to initiate dispute settlement proceedings regarding implementation. A case may be of three statuses regarding compliance proceedings: ongoing, non-compliance, or compliance. As it is difficult to make an educated prediction of what the WTO will find, ongoing implementation proceedings were removed from the dataset.⁵⁹ A finding of non-compliance or compliance was then consolidated with the core dispute. An additional reason to consolidate cases was situations where multiple cases were filed against the same country regarding the same policy. Some studies have monadically aggregated cases,⁶⁰ while other studies have kept them dyadically separate.⁶¹ These methodological choices often reflect the research question at hand; whereas monadic aggregation is argued to be appropriate for studies of compliance, dyadic analysis is claimed to be more appropriate for research questions concerning the impetus to initiate disputes.⁶² In this case, it was appropriate to consolidate the cases because the research focuses on respondent compliance and not dispute resolution broadly.

The benefit of the above methodological decisions is twofold. First, considering that the focus of this Article is the ability of the WTO to compel members, it follows that analysis should be directed to situations where the DSB delivers decisions that would necessitate changes in trade policy. Any other dataset would include situations where another member simply began the dispute settlement. Second, there has been an adverse decision in approximately

⁵⁹ There have been two cases where compliance was found in the implementation proceedings and five cases that were found to be non-compliant after implementation proceedings. There are five current implementation proceedings.

⁶⁰ See, e.g., Chilton & Brewster, *supra* note 45; Hofmann & Kim, *supra* note 17.

⁶¹ See, e.g., HENRIK HORN, PETROS C. MAVROIDIS & HÅKAN NORDSTRÖM, IS THE USE OF THE WTO DISPUTE SETTLEMENT SYSTEM BIASED? 9, 19 (1999); Michael M. Bechtel & Thomas Sattler, *What Is Litigation in the World Trade Organization Worth?*, 69 INT'L ORG. 375, 386–87 (2015); Busch et al., *supra* note 12, at 559–60; Davis & Bermeo, *supra* note 12, at 1034, 1040–41, 1045; Guzman & Simmons, *supra* note 12, at 558, 561; Thomas Sattler, Gabriele Spilker & Thomas Bernauer, *Does WTO Dispute Settlement Enforce or Inform?*, 44 BRIT. J. POL. SCI. 877, 892 (2014).

⁶² Control variables needed to be consolidated when aggregating cases. Following Chilton and Brewster, macroeconomic indicators were totaled, as they were scalar. Moreover, for Chilton and Brewster, averaging was found to not change results in a statistically significant manner. See Chilton & Brewster, *supra* note 45, at 43. Most importantly, totaling macroeconomic indicators is considered to be more appropriate because it better reflects the potential compliance pull of coalitions in the WTO DSB. For all other variables, the highest count was used, as they were ordinal variables.

ninety percent of the adopted reports, which means that the dataset will remain largely representative.⁶³

In summary, there were three causes for case removal from the dataset: 1) the dispute was in the stages before a ruling; 2) the complainant withdrew, settled, or terminated a dispute before a decision had been adopted; or 3) the respondent was found to be in compliance. The last case in this dataset is the *Canada—Feed-In Tariff* dispute, which was implemented in June 2014.⁶⁴

These coding decisions resulted in a total of 120 adverse decisions where RPT had expired out of the total universe of 482 WTO DSB cases.

Table 1: Dataset Breakdown

Implementation (of 120)	
Implemented	101
Not implemented	19
In-time Compliance (of 120)	
In-time	73
Not in-time	47

It is also interesting to note the divisions in the governments that initiate disputes versus those governments that had disputes initiated against them. DSB usage distributions of governments, which have been either respondents or complainants, are presented in Appendix 1. Unsurprisingly, the United States and the EU remain the largest players in the DSB as both complainants and respondents. As will be highlighted in the various variables presented, the distribution of the respondents and complainants drive many of the controls.

⁶³ See Wilson, *supra* note 14, at 398. However, only a quarter of disputes have adopted reports.

⁶⁴ See Appellate Body Report, *Canada—Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/DS426/AB/R (adopted May 24, 2013). The government of Canada was able to reform its policies and Ontario's laws regarding local content requirements (LCRs) in a timely manner. Moreover, the implementation of this case is unlikely to be disputed and, thus, appropriate to include in the dataset as the subsequent July 2014 DSB meeting had no formal follow-up complaints regarding compliance. In this case, "the policy goal [may have been] to protect and shelter these subsidies," because governments "may be ready to agree that, if the most blatant protectionist devices (such as LCRs) are avoided and the distortions are kept to the minimum, certain green energy subsidies can be accepted." See Luca Rubini, *What Does the Recent WTO Litigation on Renewable Energy Subsidies Tell Us About Methodology in Legal Analysis? The Good, the Bad, and the Ugly* 23–24 (RSCAS, Working Paper No. 2014/05, 2014).

However, in recent years, the usage of the DSB has been somewhat more evenly distributed in terms of developing and least-developed countries.⁶⁵

B. Response Variables

The decision to disaggregate the response variable of compliance was based on eminent WTO scholar William Davey's concern of foot-dragging.⁶⁶ He argues that within the non-compliance cases, there was a large time variation, necessitating two response variables in the study of the implementation of adopted reports: 1) in-time compliance, which asks if compliance occurred within the RPT; and 2) time-to compliance, which asks how long compliance took after the expiration of the RPT.

Regarding in-time compliance, some more recent studies code compliance outcomes based on the understanding of the respondent,⁶⁷ while others have used the complainant's approval of compliance.⁶⁸ As will be recalled, both strategies have their methodological limitations. Compliance is at times ambiguous.⁶⁹ In light of the common Article 21 and 22 DSU processes which reserve standing in disputes, this Article codes compliance as when a complainant makes no further formal claim of non-compliance within the "statute of limitations"⁷⁰ as well as situations where a respondent's trade mission admits to non-compliance.⁷¹

⁶⁵ See William J. Davey, *The WTO Dispute Settlement System at 18: Effective at Controlling the Major Players?* 4 (RSCAS, Working Paper No. 2013/29, 2013).

⁶⁶ See Davey, *supra* note 14, at 120.

⁶⁷ See, e.g., Chilton & Brewster, *supra* note 45.

⁶⁸ See, e.g., Spilker, *supra* note 19, at 9.

⁶⁹ See generally Panel Report, *European Communities—Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, ¶¶ 7.1–7.2, WTO Doc. WT/DS174/R (adopted Apr. 20, 2005) (explaining that the United States made informal complaints, but no Article 21 and 22 Understandings were established, and no formal claims of noncompliance were levied).

⁷⁰ "Statute of limitations" is not a phrase used by the WTO, but it serves as a useful legal parallel. A panel's authority can lapse if a complainant who believes a respondent is still non-compliant after notified implementation does not take formal action. See, e.g., Decision by the Arbitrator, *Japan—Countervailing Duties on Dynamic Random Access Memories from Korea—Arbitration under Article 21.3(c) of the Understanding on Rules*, ¶¶ 54–55, WTO Doc. WT/DS336/16 (adopted May 5, 2008) (lapsing panel authority pursuant to Article 12.12 of the DSU due to party inaction). Often, though, an Understanding under Articles 21 and 22 of the DSU is created to maintain standing (i.e., extend the statute of limitations indefinitely). Therefore, even if this type of Understanding was established, it would only be considered non-compliance if confirmed by the respondent after an Understanding had been established. *Id.* ¶ 6.

⁷¹ See Appellate Body Report, *US—Section 211 Omnibus Appropriations Act of 1998*, ¶ 149, WTO Doc. WT/DS176/AB/R (adopted Jan. 2, 2002). The U.S. Mission to the WTO openly admitted its intention to work towards compliance. *Id.* Simultaneously, they claimed that they had complied with the adopted reports to the fullest extent possible at the time, as the ruling required legislative action and the U.S. Congress was not in

When calculating the time-to compliance, the data was coded to reflect a one-month delay after the expiration of the RPT. Because the DSB has, at most, one meeting per month and compliance dates reflect the day of notification to the WTO, implementation could have occurred up to one month before notification. The RPT has been recommended not to extend beyond fifteen months,⁷² though this is not appropriate to utilize as a baseline theory for a survival model as the RPT. The RPT can be significantly altered by mutually agreed solutions, so the fifteen-month guideline was utilized only for cases that were resolved before RPT was decided or no RPT could be found.⁷³ Time-to compliance was considered zero if the case had resolved by the RPT. Within this novel dataset, approximately 60.8% of cases were implemented in-time, and, when timely compliance was not reached, it took on average approximately 25.4 months after the expiration of the RPT for compliance.

C. Explanatory Variables

Following the literature, seven explanatory variables were introduced: 1) domestic compliance structure (the requirement of legislation); 2) interest groups' influence (legislation required with majoritarian rule and/or single-member districts); 3) economic differences (the log GDP per capita difference); 4) U.S.-EU disputes; 5) non-tariff barriers (NTBs); 6) agricultural disputes; and 7) agricultural NTBs.⁷⁴ These variables were run through standard tests to account for the possibility of multicollinearity.⁷⁵

session. *Id.* Interestingly, this dispute became one of the thirty cases in the dataset where no compliance has occurred to date.

⁷² See DSU, *supra* note 58, art. 21.3(c).

⁷³ See *id.*, art. 21.3.

⁷⁴ See *supra* Part I.

⁷⁵ See Spilker, *supra* note 19, at 11. Despite Spilker's statistically significant findings, the variable of the number of agreement violations was deemed to be extraneous due to its high degree of multicollinearity with the domestic compliance structure variable (two-tailed significance at the 0.01 level). Moreover, there was not a strong theoretical reason to justify the inclusion of this variable. It could be argued that the greater number of violations exert greater pressure on a respondent to comply with, as well as create, a more extensive implementation process, though there is little theoretical basis or empirical research to support this claim. *Id.* at 5. Moreover, it is highly improbable that this variable is an antecedent to the legislation-required variable. It is difficult to imagine how the number of violations could determine domestic compliance structures of a country. It is far more likely that the degree of non-compliance could be driven by legislative initiatives that may not take into account international agreements, whereas a more specialized administrative/executive department would be more aware. Additionally, there is a degree of arbitrariness in the inclusion of agreement violations while ignoring violations of subsections of an agreement. Finally, there is a high degree of same-issue violations stemming from accession protocols and other agreements, thus distorting this variable. For an example, the series of *China—Raw Materials* cases for violations stemming from China's Accession Protocol and the GATT 1994 show a high degree of same-issue violations. See, e.g., Appellate Body Report, *China—Measures Related to the*

1. Domestic Compliance Structure

When studying the U.S. WTO compliance record, Chilton and Brewster found that implementation that required legislative change was the best predictor of non-compliance.⁷⁶ Following this finding, this Article coded how compliance was structured (administratively or legislatively) by reference to the various trade reports produced by each country.⁷⁷

This legislation-required variable represents the underlying management school theory being tested as it proxies capacity concerns. It is said that the tedious process of legislative initiatives inherently drives non-compliance and not special interests.⁷⁸ Moreover, the interest groups' influence variable should control for special interest influence within various legislatures as it draws on strong empirical evidence that majoritarian rule and/or single-member district legislatures are far more susceptible to interest group influence. Of disputes where the EU was the respondent, only compliance that required EU parliamentary action—as opposed to the European Council or European Commission—was coded as 1, because only the Parliament is directly elected. Finally, disputes that could be resolved from administrative/executive avenues are coded as 0. This choice overlays with empirical evidence that suggests that administrative bodies are far more susceptible to regulatory capture when compared to PR systems.⁷⁹ Approximately twenty-eight percent of cases required legislation when complying with WTO adopted reports or when pursuing mutually agreed solutions.

Exportation of Various Raw Materials, ¶ 226, WTO Doc. WT/DS398/AB/R (adopted Feb. 22, 2012). For these above reasons, the variable of the number of agreement violations cited was not included in the models.

⁷⁶ See Chilton & Brewster, *supra* note 45, at 203 (“The need for [U.S.] congressional involvement in the compliance process both decreases the likelihood of compliance and delays compliance *more than any other factor*.”).

⁷⁷ It is important to note that disputes were not coded as legislation required unless legislation was *actively* needed for compliance. See Appellate Body Report, *United States—Restrictions on Imports of Cotton and Man-Made Fibre Underwear*, ¶¶ 5–7, WTO Doc. WT/DS24/AB/R (adopted Feb. 25, 1997) (coding was not requiring legislation even though legislation created the violation). This was because legislation expired, therefore *passively* the legislature was needed (by not extending the import restriction), but there is no theoretical reason to code these types of cases otherwise (i.e., this theory claims that the tedious process of formal legislating is what drives non-compliance, not simply the jurisdiction of legislative trade policy).

⁷⁸ See Rachel Brewster, *The Domestic Origin of International Agreements*, 44 VA. J. INT'L L. 501, 502 (2004) (noting that interest groups “can transfer agenda-setting power from the Congress to the President”).

⁷⁹ See, e.g., E. Dal Bó, *Regulatory Capture: A Review*, 22 OXFORD REV. ECON. POL. 203, 204–05 (2006); Jean-Jacques Laffont & Jean Tirole, *The Politics of Government Decision-Making: A Theory of Regulatory Capture*, 106 OXFORD Q. J. ECON. 1089, 1090–1092 (1991); Michael E. Levine & Jennifer L. Forrence, *Regulatory Capture, Public Interest, and the Public Agenda: Toward A Synthesis*, 6 J. L. ECON. & ORG. 167, 170 (1990) (“Postrevisionist theories demonstrate that modern democratic government allows many political actors to be free from oversight by the electorate or by those who do answer to the electorate.”).

2. *Interest Groups' Influence*

Hofmann and Kim proxy the influence of interest groups by analyzing the “relative employment and GDP of the sector at the center of and affected by a particular dispute.”⁸⁰ Chilton and Brewster also point to the significance of U.S. lobbying groups when determining trade policy due to Section 301 of the U.S. Trade Act of 1974, which allows industry groups or firms to petition the office of the USTR to initiate trade investigations and authorize unilateral sanctions when deemed appropriate.⁸¹ As summarized in the literature review, majoritarian rules and/or single-member districts require minimum winning coalitions versus consensus-based strategies of PR.⁸² Majoritarian rules and/or single-member districts have been found to hinder WTO compliance and broadly encourage protectionism because individual electoral incentives are argued to lead to collection action failures in terms of international agreements.⁸³

Following this theory, the disputes are coded as majoritarian rules and/or single-member districts based on the Center for Voting and Democracy’s international legislative elections dataset. As Chinese legislatures are not directly elected, they were coded as 0. The EU was coded as 0 as each member country is free to decide its own voting procedure, and proportional representation is commonly utilized for the election of the European Parliament. Finally, in countries where mixed member parallel electoral systems are utilized, the respondent electoral characteristic was coded as 0. To guarantee the appropriateness of this variable, it was only coded as 1 if the legislation-required variable was also coded as 1 for a particular dispute. This strategy is employed because there is no theoretical justification to account for majoritarian rules and/or single-member districts if a respective legislature is not required to take action for WTO compliance purposes. In conjunction with the aforementioned analysis of the domestic compliance structure variable, this variable should be seen as a proxy for the influence of interest groups. Approximately 14.2% of cases were coded as 1 for the interest groups’ influence variable.

3. *Economic Differences*

The log GDP per capita difference between complainant(s) and respondent was used to capture macroeconomic differences, which may drive non-

⁸⁰ See Hofmann & Kim, *supra* note 17, at 13.

⁸¹ However, Chilton and Brewster found no significant evidence of lobbying and its influence in compliance with adverse decisions. See Chilton & Brewster, *supra* note 45, at 231.

⁸² See *supra* Part I.

⁸³ See *supra* notes 36–40 and accompanying text; Grossman & Helpman, *supra* note 23, at 21.

compliance and is an appropriate control variable for a variety of reasons: legal capacity,⁸⁴ power dynamics,⁸⁵ or simply to account for the greater historical use of the DSB by developed countries.⁸⁶ After establishing a baseline year, which corresponded with the year of the final ruling, the World Bank Development Indicators dataset was utilized.⁸⁷ The data currently uses international dollars based on the 2011 International Comparison Program (ICP) round. However, because Argentina did not participate in the ICP 2011, a 0.6 multiple based on neighboring estimates was used to roughly convert the Argentinian data.⁸⁸ Moreover, Taiwan (or Chinese Taipei, as referenced by the WTO) is not included in that dataset.⁸⁹ For that reason, the CIA World Fact Book was used to supplement the data.⁹⁰ The logarithm of the variable is taken so as to better interpret large order of magnitude differences between developed countries and developing/least-developed countries. The log GDP per capita difference between complainant(s) and respondent was utilized to then capture the economic difference between the members of the dispute.

4. U.S.-EU Disputes

A case was coded as being a U.S.-EU dispute if the United States was at least one of the complainants and the EU was the respondent or vice versa. U.S.-EU disputes were controlled for because some of these disputes have been long standing in the GATT/WTO system and could potentially distort the findings as these two members account for about half of the litigation at the WTO.⁹¹ Moreover, in their study of WTO compliance, Hofmann and Kim have found

⁸⁴ See Guzman & Simmons, *supra* note 12, at 559 (“We find strong evidence that developing countries are constrained by their capacity to launch litigation . . .”). *But see* Marc L. Busch, Eric Reinhardt & Gregory Shaffer, *Does Legal Capacity Matter: A Survey of WTO Members*, 8 *WORLD TRADE REV.* 559, 560 (2009). (“In comparing our index to existing measures, we find that they are only weakly correlated, casting doubt on the literature’s understanding of the importance of legal capacity.”).

⁸⁵ See HORN, MAVROIDIS & NORDSTRÖM, *supra* note 61. *But see* Guzman & Simmons, *supra* note 12, at 559 (“We find . . . no evidence consistent with the power hypothesis.”).

⁸⁶ See Rickard, *supra* note 36, at 719.

⁸⁷ See *World Bank Open Data*, WORLD BANK, <http://data.worldbank.org/> (last visited Feb. 9, 2018).

⁸⁸ As a logarithm was taken, the statistical discrepancy for this estimation is expected to be minimal.

⁸⁹ World Trade Organization, *Member Information: Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu (Chinese Taipei) and the WTO*, https://www.wto.org/english/thewto_e/countries_e/chinese_taipei_e.htm (last visited Feb. 9, 2018).

⁹⁰ See *The World Factbook*, CENT. INTELLIGENCE AGENCY, <https://www.cia.gov/library/publications/the-world-factbook/> (last visited Feb. 9, 2018).

⁹¹ See Library of the European Parliament, *Principal EU-US Trade Disputes* (2013) (“[A] number of long-running disputes between the EU and the US are indicative of the challenges negotiators of a bilateral trade agreement face.”).

U.S.-EU disputes as statistically significant.⁹² Seventeen, or approximately 14.2%, of disputes in this dataset are U.S.-EU.

5. *Non-Tariff Barriers*

Following the WTO Technical Barriers to Trade (TBT) Agreement, NTBs are controlled for in this study.⁹³ As noted by Kono, NTBs are considered more complex and, therefore, more difficult to remove once implemented.⁹⁴ Moreover, supply-side factors such as “electoral institutions and government partisanship” have been found to drive the use of NTBs.⁹⁵ This variable was correlated with the GDP differential variable (two-tailed significance at the 0.05 level). However, it was not removed from the general model due to the strong theoretical justification of the interaction term developed by Spilker for agricultural NTBs.⁹⁶

6. *Agriculture*

This Article also includes a variable concerning the agricultural industry. Agricultural disputes are said to be especially tedious because the sector “has a strong ability to organize politically, form alliances with other stakeholders, publicize the dispute, and lobby for trade-restricting policies.”⁹⁷ Even a small industry can wield great influence due to its ability to mobilize a broad base of constituents, as was the case with the European coalitions against genetically modified agriculture and hormone-laden meats from the Americas in the controversial *EC—Biotech* and *EC —Hormones* disputes.⁹⁸ These disputes concerned EU precautions relating to sanitary and phytosanitary (SPS) measures

⁹² See Hofmann & Kim, *supra* note 17, at 22.

⁹³ Spilker labels this variable as a complex trade-protective instrument that includes “technical barriers to trade, anti-dumping, subsidies or various other instruments, in contrast to tariffs and quotas,” which are assumed to be the least complex. Spilker, *supra* note 19, at 10. For this variable, this Article elects to follow many of the same coding decisions present in the Spilker dataset, making this non-tariff barrier (NTB) comparable to Spilker’s complex trade variable.

⁹⁴ See Kono, *supra* note 25, at 371.

⁹⁵ See Jong Hee Park, *What Determines the Specificity of Subsidies?*, 56 INT’L STUD. Q. 413, 413 (2012), <https://academic.oup.com/isq/article-abstract/56/2/413/1800933>.

⁹⁶ See Spilker, *supra* note 19, at 11. No significant statistical changes were present in the models when compared to the original models with the removal of the NTB variable. It is feasible, though, that countries with greater GDPs may have political economic structures that better allow for the creation of NTBs. However, as will be recalled, the GDP variable is the difference between the complainant(s) and respondent, so this potential causal issue is minimized.

⁹⁷ See Spilker, *supra* note 19, at 10.

⁹⁸ See generally Thomas Bernauer & Erika Meins, *Technological Revolution Meets Policy and The Market: Explaining Crossnational Differences in Agricultural Biotechnology Regulation*, 42 EUR. J. POL. RES. 643, 653–54, 660 (2003); Spilker, *supra* note 19, at 4.

that were alleged to violate the WTO SPS Agreement and TBT Agreement.⁹⁹ These types of disputes were coded as agricultural if there was a specific violation of the Agreement on Agriculture or if a case regarded agricultural products. One-third of cases in the dataset were considered to be an agriculturally driven dispute.

7. *Agricultural Non-Tariff Barriers*

Kono shows that democracies prefer strategic and technical trade barriers to protect pivotal sectors.¹⁰⁰ This could point to situations where interest groups—in particular a heterogeneous agricultural lobby—influenced policy and legislation well before WTO violations were notified.¹⁰¹ Spilker has found the complex agricultural barrier variable to be statistically significant.¹⁰² To account for agricultural NTBs, an interactive term between the NTB and agriculture variable is included, comprising of the product of two dummy variables: agriculture and NTBs. Agricultural NTBs represented approximately twenty-two percent of the cases. A summary of the variables is presented in Appendix 2.

III. RESULTS

Two regression models are introduced in this section. The first, as presented in Section A, tests the in-time compliance variable using binary logistic regressions. The variables—economic differences, U.S.-EU, and interest groups' influence—are statistically significant within this model. The second, as presented in Section B, tests the time-to compliance variable using a Cox PH model. The interest groups' influence variable is the *only* significant variable within this model. Section C tests the robustness of the models.

A. *In-time Compliance*

As presented in Table 2, binary logistic regressions were used to test the in-time compliance variable, as there are dichotomous outcomes to this response variable.¹⁰³

⁹⁹ See generally Bernauer & Meins, *supra* note 98.

¹⁰⁰ See Kono, *supra* note 25, at 369, 371, 373; Spilker, *supra* note 19, at 8.

¹⁰¹ See Guzman & Simmons, *supra* note 12, at 581.

¹⁰² See Spilker, *supra* note 19, at 12.

¹⁰³ The use of probit models did not significantly change the findings.

Table 2: In-time Compliance Binary Logistic Regression

	1	2	3	4
Interest Groups' Influence	-1.23** (0.55)			-2.12* (1.24)
Domestic Comp. Structure		-0.46 (0.45)	-0.47 (0.50)	1.08 (1.13)
Economic Differences			0.96** (0.40)	0.89** (0.40)
US-EU			-1.46** (0.60)	-1.39** (0.62)
Non-tariff Barriers			-0.62 (0.56)	-0.71 (0.57)
Agriculture			0.52 (0.85)	0.22 (0.87)
Agricultural NTBs			-0.49 (0.98)	-0.19 (1.00)
Constant	0.62*** (0.21)	0.54*** (0.21)	1.18** (0.51)	1.25** (0.53)
Observations	120	120	120	120
(-2) Log Likelihood	155.39	159.66	143.50	139.90

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Four models are presented to dispel concerns of multicollinearity as the interest groups' influence variable (legislation required with majoritarian rule and/or single-member districts) is correlated with the domestic compliance structure variable (legislation required). The first three models are considered subsets of the general model and thus have higher variance, and the fourth model presents all variables excluding the interest groups' influence variable.¹⁰⁴

¹⁰⁴ This model is consequently able to test and generalize Chilton and Brewster's findings in support of supply-side or management school theory as well as address the concern of multicollinearity. *See generally* Chilton & Brewster, *supra* note 45, at 212.

As the fourth model shows, the variables economic differences, U.S.-EU, and interest groups' influence are statistically significant. The interest groups' influence variable only attains two-tailed significance at the 0.1 level, while the economic differences and U.S.-EU attain a two-tailed significance at the 0.05 level.¹⁰⁵ However, domestic compliance structure as proxied by the requirement of legislation is not significantly associated with in-time compliance.¹⁰⁶ In comparison, a case where legislation is required with majoritarian rule and/or single-member districts is shown to decrease the rate of in-time compliance by approximately eighty-eight percent.¹⁰⁷ These models, therefore, present empirical evidence that support the underlying claim that it is not just the fact that legislative reforms are tedious compliance avenues, it is the way that legislatures are embedded into the particular (international) political economy that drive non-compliance.

B. *Time-to Compliance*

The Cox PH model was utilized because it does not require a theoretical baseline estimate of normal survival. That is, it is theoretically unknowable how long compliance would normally take. The Cox PH model, when compared to other survival or duration models, affords theoretical flexibility in light of the parameterization of a particular baseline hazard.¹⁰⁸ Without a clear theory to drive the baseline hazard, the Cox PH model was found to be the most appropriate survival analysis. Nineteen cases were "right-censored" as implementation had yet to occur.

¹⁰⁵ Here it can be argued that tinges of neorealist theory manifest in the data. Both the economic difference and the U.S.-EU variables corroborate with some neorealist assumptions of power and compliance. *See, e.g.,* John J. Mearsheimer, *The False Promise of International Institutions*, 19 INT'L SEC. 5 (1995). However, in light of the following Cox PH model and the significance of the interest groups' influence, there seems to be more occurring here than an austere neorealist theory would predict. Notably, the significance of these two variables does not undercut the enforcement approach, which would argue that these variables in fact play an important role in the two-level games governments play when determining efficient breach of international obligations. *See, e.g.,* Anne van Aaken, *Effectuating Public International Law Through Market Mechanisms?*, 165 J. INST. & THEORETICAL ECON. 33, 35 (2009).

¹⁰⁶ With a two-tailed level of significance at 0.34, this variable does not attain any conventional level of significance.

¹⁰⁷ $100 \times \{[\exp(-2.1205 \times 1) - \exp(-2.1205 \times 0)] \div [\exp(-2.1205 \times 0)]\} \cong -88$

¹⁰⁸ *See* Janet M. Box-Steffensmeier & Bradford S. Jones, *Time is of The Essence: Event History Models in Political Science*, 41 AM. J. POL. SCI. 1414, 1416 (1997) ("Inclusion of right-censored observations in the model implicitly treats them as having experienced the event (policy adoption) when in fact they have not. And since we cannot foretell the future, we do not know how 'much longer' (if ever) censored observations would go before experiencing an event.").

Table 3: Time-to Compliance Cox PH Model

	1	2	3	4
Interest Groups' Influence	-0.76** (0.34)			-1.00** (0.50)
Domestic Comp. Structure		-0.36 (0.26)	-0.32 (0.27)	0.32 (0.38)
Economic Differences			0.28 (0.19)	0.24 (0.19)
US-EU			-0.43 (0.31)	-0.36 (0.31)
Non-tariff Barriers			-0.17 (0.28)	-0.18 (0.28)
Agriculture			0.14 (0.36)	0.04 (0.36)
Agricultural NTBs			-0.23 (0.44)	-0.15 (0.45)
Observations	120	120	120	120
(-2) Log Likelihood	882.37	880.37	882.34	871.38

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As Table 3 shows, the interest groups' influence variable is the *only* significant variable¹⁰⁹ associated with an increase in the time-to compliance with an adverse decision. These data, therefore, suggest that required legislation with majoritarian rule and/or single-member districts extends non-compliance by approximately sixty-three percent.¹¹⁰ Moreover, this model finds no evidence in support of Spilker's claim that agricultural NTBs are significantly associated with time-to compliance.¹¹¹ However, this Article supports the same underlying theoretical proposition of the enforcement approach. This Article, though, argues that the variable majoritarian rules and/or single-member districts better

¹⁰⁹ The β -coefficient of -1 for the interest groups' influence variable here denotes the log-hazard per one-month change. The sign is expectedly negative, meaning that the presence of this variable extends the survival of non-compliance.

¹¹⁰ $100 \times \{[\exp(-0.9986 \times 1) - \exp(-0.9986 \times 0)] \div [\exp(-0.9986 \times 0)]\} \cong -63$

¹¹¹ See Spilker, *supra* note 19, at 12.

proxy interest group influence than testing for the agricultural sector alone. Finally, it is important to note that two variables—the economic differences and the US-EU dispute variable—were significant in the question of in-time compliance but are no longer statistically significant when it comes to the timeframe of compliance. Thus, in conjunction with the binary logistic regressions, interest groups' influence is the only variable to be statistically significant for both in-time and time-to compliance.

C. Robustness Checks

To test whether particular methodological decisions drove the results of this Article, various robustness checks were utilized regarding 1) aggregation strategies; 2) democratic differences; and 3) U.S. compliance. None of these checks undermined the thesis of this Article, as there were no scenarios where domestic compliance structure was statistically significant while interest groups' influence was not.

1. Aggregation Strategies

There are two ways in which more than two parties are implicated in disputes. There could be two separate cases alleging the same WTO violation¹¹² or there could be more than one complainant within a single case. When there is one case with more than one complainant, the analysis is a straightforward aggregation, but when there are multiple cases regarding the same core issue, a respondent's implementation could resolve multiple disputes at once. Additionally, due to follow-up DSU 21.5 (implementation disputes) and DSU 22 (remedy disputes), a core violation could be repeated in a dataset absent aggregation. If unaccounted for, this repetition could distort results.

In light of these concerns, this Article chose to aggregate dyads in the general model. This strategy was driven by the fact that the most long-lasting and controversial disputes have multiple cases by the same country regarding implementations.¹¹³ This should not come as a surprise because a controversial violation would lead to many follow-up disputes with a large number of stakeholders. Despite these concerns, the models were re-fitted with dispute

¹¹² Although, since the formation of the WTO, this has become less common. *See generally* Antonis Antoniadis, *Enhanced Third Party Rights in the WTO Dispute Settlement Understanding*, 29 *LEGAL ISSUES OF ECON. INTEGRATION* 285 (2002).

¹¹³ *See, e.g.*, Appellate Body Report, *US—Softwood Lumber IV, United States—Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, WTO Doc. WT/DS257/AB/R (adopted Dec. 20, 2005), which had three separate dispute settlement proceedings regarding the same issue. In fact, the *Softwood Lumber* disputes had six iterations. *Id.*

dyads instead of aggregated dispute issues to check for potential bias in the culling of the dataset. For both in-time and time-to compliance, the refitted models show even greater support for the interest groups' influence variable and even less support for the domestic compliance structure variable.¹¹⁴

2. *Domestic Differences*

In the general models, decisions by the European Council and the National People's Congress of China¹¹⁵ were coded as not requiring legislation due to the fact that neither are directly elected legislative systems. Initially, this Article argues that the tedious nature of legislation stems from the fact that it is directly elected and, as such, has unique veto players. Despite the theoretical justification, the models were recoded with a more liberal understanding of required legislation. With this new coding, for the in-time compliance models, interest groups' influence maintains a two-tailed significance at the 0.05 level, while domestic compliance structure still does not reach any conventional levels of significance. Conversely, no variable tested in the newly fitted time-to compliance Cox PH model reached conventional levels of significance.¹¹⁶ However, it is important to note that the recoding of this data may be theoretically inappropriate. Finally, the domestic compliance structure variable again does not reach any conventional level of significance, at the very least suggesting the limitations of management school theory.

3. *United States Compliance*

Following Chilton and Brewster, testing U.S. compliance alone was important due to the unique role the United States has played in the WTO. Because the United States does not have PR, the interest groups' influence variable presents perfect multicollinearity with the domestic compliance structure variable. So this specified model cannot tell us anything about the implication of PR as there is no variability to test the theory. That being said, this particular specification generalizes Chilton and Brewster's findings in regard to time-to compliance. Here, the domestic compliance structure variable attains a two-tailed significance at the 0.01 level, and it is the only variable found

¹¹⁴ Whereas previously two-tailed significance was at the 0.1 level for in-time compliance, it is now at the 0.05 level for the interest groups' influence variable. For time-to compliance, two-tailed significance, originally at the 0.05, is now at the 0.01 level for the interest groups' influence variable. The domestic compliance structure variable again does not reach any conventional levels of significance.

¹¹⁵ Though there was only one such case: *China—Intellectual Property Rights*. See Panel Report, *supra* note 29.

¹¹⁶ The interest's groups influence variable attains a two-tailed significance at the 0.13 level.

to be significantly associated with time-to compliance at any conventional levels of significance.¹¹⁷ However, no significance was found regarding in-time compliance for any of the variables. Some of the methodological and coding differences between these studies must have resulted in this discrepancy, though it is reassuring that similar results were found between the Cox PH models.

CONCLUSION

The “new generation of interdisciplinary scholarship” between international relations and international law has developed important findings surrounding compliance.¹¹⁸ As with all empirical work, theories have emerged to interpret and drive findings. In international legal compliance theory, two divergent understandings of WTO compliance have surfaced: the enforcement approach, where the exogeneity of rational choice reigns, and the management school, where the need for status drives interests and non-compliance occurs due to capacity constraints or treaty ambiguity within a domestic compliance structure.

To test these theories, it was necessary to analyze gross interests (interest groups’ influence) as well as capacity constraints and treaty ambiguity (domestic compliance structure). The legislation-required variable was considered an appropriate test of the management school because treaties were considered to be sufficiently clarified through the many rounds of consultations and rulings. The majoritarian rules and/or single-member districts variable was considered an appropriate test of the enforcement approach because it is well documented in the literature that such government structures are the most susceptible to interest group influence.

Where both variables were present, empirical models suggested a statistically significant association in both in-time compliance and time-to compliance with the interest groups’ influence variable, while no conventional significance was attained with the domestic compliance structure variable in either model. Therefore, the results presented in this Article demonstrate that non-compliance occurs not due to capacity constraints, as the management school predicts, but, rather, due to the political economic considerations of governments, as predicted by the enforcement approach.

However, some methodological limitations are present in this Article, of which two themes shall be highlighted: over-specification and generalizability. Regarding the research specificity, this Article is only a study of cases where

¹¹⁷ In this specified model, there are forty-one cases and eight right-censored cases for the Cox PH model.

¹¹⁸ See Slaughter, Tulumello & Wood, *supra* note 2.

complainants emerge victorious and have not resorted to mutually agreed solutions before the adoption of reports. Busch and Reinhardt have shown that most dispute resolution occurs outside of the formal DSB process, meaning this Article, which focuses outside of “the shadow of the law,” ignores key components of dispute settlement.¹¹⁹ Moreover, the choice to proxy domestic compliance structure and interest groups’ influence is an operationalizing move that is invariably imperfect. Ultimately, it would be false to say that these variables flawlessly follow the two theories presented in this Article, though they remain relevant. In terms of generalizability, the DSB has been hailed as one of the most successful international legal regimes due to its compliance mechanism. This may provide difficulties for generalizability as no other international institution has such a retaliatory compliance feature. In terms of testing the theory, it would not be surprising to see the enforcement approach and management school being more or less contextually relevant in light of the particular international organization. This highlights the importance of understanding the uniqueness of each case and prudently generalizing the theoretical implications.

Despite these limitations, this Article provides theoretical, empirical, and policy considerations to the literature. Theoretically, this Article will be a step toward building further justification for the enforcement approach. This Article also contributes to the theoretical debate in international relations concerning whether to focus analysis at the domestic or international level. Findings in this Article suggest that national interest is not only driven by the structure of the international system but is also constructed by constitutive segments of special interest.

Empirically, as described in the literature review, there are few papers that have attempted to answer the enforcement/management question. Of those recent studies, the DSB as a whole has only been analyzed from 1995 until 2006. This means that the DSB has more than doubled in age since the latest analysis of adverse decisions. Not only does this study update current research with a novel dataset, but it also remedies some of the methodological issues previously noted.

Finally, in the realm of policymaking, understanding how compliance incentives operate can help tailor DSB enforcement reforms. This Article, which highlights the prevalence of foot-dragging in WTO compliance, gives more credence to reforms concerning retroactive financial compensation that have

¹¹⁹ See Busch & Reinhardt, *supra* note 42.

been advocated by several scholars.¹²⁰ Moreover, the “last resort” retaliatory measure often forces complainants to “shoot themselves in the foot” through trade sanctions by restricting domestic export opportunities or important import channels.¹²¹ These sanctions are imposed in the hopes that a respondent country incurs enough costs to challenge its special interest. The evidence presented in this Article confirms that retaliatory sanctions, while tempting to some countries, are ineffective if haphazardly deployed. Furthermore, if retaliatory sanctions were to be considered, targeted (and even more modest) sanctions against key interest groups would be more effective than broader sanctions that could generate greater tariff revenue. Counterintuitively, smaller and targeted sanctions may leave a complainant government better off when trying to incentivize both interest groups and respondent governments to comply with adverse decisions.

In light of these considerations, there are three avenues for further research. First, if there really is a systematic element that is driving twenty percent of implementation cases towards non-compliance, it will not solely be ascertained through the use of statistical models. While the direction of causality is not in question, as it is not the case that WTO disputes drive political economics or domestic compliance structure, the causal mechanisms are not as obvious. This quantitative work can frame future research that focuses on sets of case studies. This could strengthen the analysis that this Article provides and could help further resolve the theoretical interplay between the enforcement approach and the management school. For example, despite adverse rulings, the United States chose not to comply with the findings of the panel in *U.S.—Gambling*. One of the reasons why the United States was found in violation was because it could not successfully invoke the General Agreement on Trade in Services exception provisions as it allowed certain domestic online gambling enterprises to operate despite a general prohibition on online gambling.¹²² Why was that the case? This study cannot definitively say interest groups’ influence drove the controversy. Qualitative research on this and other similar matters may provide important causal analysis and generalize the findings of this analysis. Second, the study of international legal compliance, while already a robust field, could benefit from

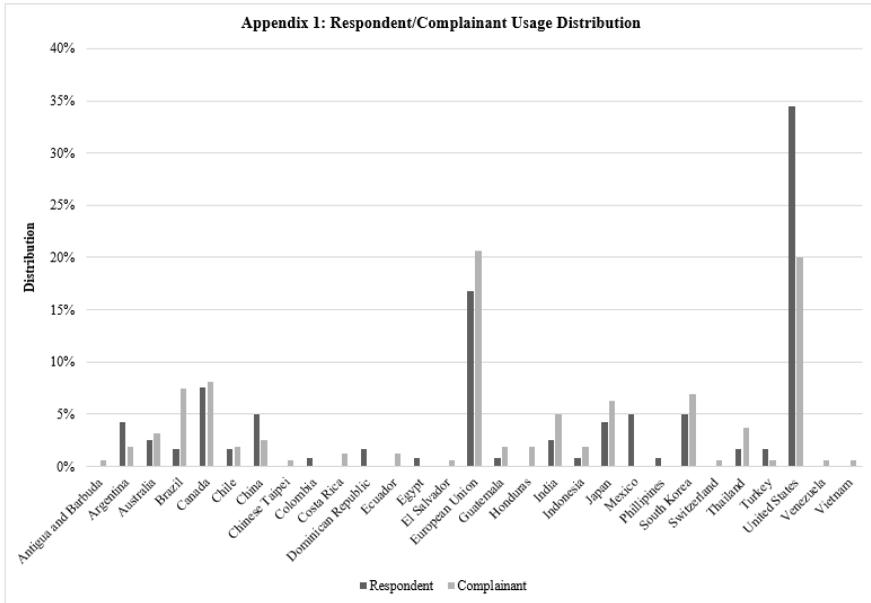
¹²⁰ See Marco Bronckers & Naboth Van den Broek, *Financial Compensation in the WTO Improving the Remedies of WTO Dispute Settlement*, 8 J. INT’L ECON. L. 101, 101 (2005).

¹²¹ See Judith H. Bello & Alan F. Holmer, *Dispute Resolution in the New World Trade Organization: Concerns and Net Benefits*, 28 INT’L LAWYER 1095, 1103 (1994).

¹²² See James D. Thayer, *The Trade of Cross-Border Gambling and Betting: The WTO Dispute Between Antigua and the United States*, 13 DUKE L. & TECH. R. ¶15 (2004) (“[I]n response to the Panel’s interim report, the United States Trade Representative, Robert Zoellick, said, in speaking of the GATS exception to protect public morals, ‘If this isn’t an exception that they should meet, I don’t know what is.’”).

the theory suggested in this Article. Therefore, the methodology strategy developed in this Article could easily be applied to other international legal regimes. Third, a focus on domestic compliance structure could deepen contemporary approaches.

The WTO is a distinct organization with a unique enforcement mechanism. However, as international law further matures, academics and international policymakers alike should look to analyses of the DSB to glean inspiration for research and advocacy decisions. For without better enforcement, international law remains a set of maxims that may reflect actions that governments would have otherwise still taken. To change the behavior of nations, we must change the incentives.



Appendix 2: Summary of Variables

Category	Variable	Description of Values	Average	Source
Response	In-time Compliance	0=not in-time; 1=in-time	0.608; 60.8%	WTO CSD
	Time-to Compliance	0 months (min) to 175 months (max)	23.47 months	WTO CSD
Explanatory	Domestic Compliance Structure	0=legislation not required; 1=legislation required	0.208; 20.8%	Various
	Interest Groups' Influence	0=legislation not required or legislation required without majoritarian rule and/or single-member districts; 1=if legislation required with majoritarian rule and/or single-member districts	0.142; 14.2%	The Center for Voting and Democracy
	Economic Differences	-1.26 (min) to 1.47 (max)	-0.004	Development Indicator Dataset (World Bank) / World Fact Book (CIA)
	US-EU Disputes	0=not US-EU dispute; 1=US-EU dispute	0.14; 14%	WTO CSD
	NTBs	0=not NTB; 1=NTB	0.683; 68.3%	WTO CSD
	Agriculture	0=not agricultural; 1=agricultural	0.333; 33.3%	WTO CSD
	Agricultural NTBs	0=not agricultural NTB; 1=agricultural NTB	0.216; 21.6%	WTO CSD

□