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Domestic political implications of global value chains: Explaining EU responses to litigation at the World Trade Organization

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Abstract

This article shows how mobilized sectors' degree of integration to global value chains can account for variation in the European Union's responses to litigation at the World Trade Organization (WTO). The behavior of the EU demonstrates a puzzling picture in bringing about compliance following WTO disputes, sometimes meeting its trade partners' demands in a timely manner, while resisting resolving the disputes in others. In order to account for this variance, I aim to answer the research question: under which conditions does the EU meet its trade partners' demands in a timely manner, rather than resist compliance, in the WTO dispute settlement mechanism? Combining comparative analysis with case studies, I find that the EU's behavior in bringing timely compliance to disputes can be explained by mobilized targeted sectors'

level of integration to global value chains (GVCs). As disputes target certain measures that tend to benefit-specific sectors, the level of integration of these targeted sectors shapes the EU's preference toward pro or against liberalization. The results of the study corroborate the finding that trade policy is shaped by the interests of domestic economic actors and that those engaged in GVCs foster liberalization multilaterally.

Keywords

European Union
compliance
dispute settlement
world trade organization
global value chains
QCA

Introduction

The dispute settlement mechanism (DSM) of the WTO is widely heralded as the WTO's jewel in the crown (e.g., Hauser and Zimmermann, 2003), and judicial politics at the WTO has been garnering growing academic attention in political science. The decline of the WTO as a forum for negotiated trade liberalization, epitomized by the meager results of the Doha Round, has further extended the importance of the WTO's judicial arm as a tool for maintaining a liberal trade regime – witness the recent accounts of why protectionist policies have not emerged as a result of the 2007–2008 financial crisis (Baccini and Kim, 2012). Unsurprisingly, the politics of WTO dispute settlement has been the subject of a rich and growing body of scholarly literature that has come to analyze issues such as the determinants of dispute initiation (e.g., Busch *et al*, 2009), strategic behavior by dispute settlement panels (e.g., Busch and Pelc, 2010), the choice of institutional venue for resolving trade disputes (e.g., Davis and Shirato, 2007), why disputes escalate (e.g., Guzman and Simmons, 2002), how litigation affects the domestic balance of trade-related interest groups (e.g., Goldstein and Martin, 2000), and most significantly, under what conditions governments comply with their WTO commitments (e.g., Bown, 2004).

The literature on compliance has produced political determinants that have yet to stand rigorous testing. Either willingly or not, scholars have unsuccessfully adopted a state-centered approach in explaining states' propensity to (non) comply by borrowing from mainstream international relations (IR) theories. Preeminent works in the literature have focused on reputation, especially under the aegis of regime theory, and whether or not state parties are democracies, borrowing from democratic peace theory (e.g., Simmons, 2000; Slaughter, 1995; Milner and Moravcsik, 2009). Yet, many of the most active users of the system consistently resist compliance (e.g., Davey, 2007; Pauwelyn, 2000) and numerous democratic WTO members, such as Norway, Canada, USA, and Australia, have compliance problems, while their authoritarian counterparts, such as China, showed willingness to comply (Harpaz, 2010).

In short, it remains a question to be answered why states renege on their promises and sometimes resist compliance with the WTO DSM, and sometimes do not, in the face of authorized retaliation. The state-centered nature of analyses so far has created a domestic-IR gap in which the dominant role of domestically mobilized actors has been ignored. This article aims to bridge this gap by moving beyond the analyses that focus on states as actors and instead focus on researching the impact of domestic economic actors, i.e., economic sectors, in explaining compliance. By examining how domestic interests play out in bringing a swift resolution to an international dispute, the article examines the impact of the recent rise in legalization in international governance (Goldstein *et al.*, 2000). The steady move toward a global regime with international tribunals like the WTO DSM has engendered political dynamics beyond inter-state relations and in the direction of domestic political actors whose interests are shaped by these legalized forms of global governance.

Indeed, some studies have conceived of governments as gatekeepers in the WTO DSM, responding to disputes stemming from the demands of firms and sectors within their constituencies (Poletti and De Bièvre, 2014). When respondent governments in such disputes comply with WTO agreements, they often do so in response to pressures from domestic producers, importers, and exporters who would benefit from complying and allowing access to their markets. Mobilized domestic economic sectors push for (non) compliance, which then shapes the preferences of states at the WTO DSM. The political economy literature on WTO DSM has been attempting to examine this link between mobilized groups and trade policymaking, but has suffered from the absence of a systematic investigation of the potential impact of sectors (and firms) active in global value chains (GVCs). So far the literature on GVCs has emphasized the trade-liberalizing impact of these transnational networks from a bilateral perspective; firms and sectors that are embedded in GVCs have been seen to press

for preferential trade agreements (e.g., Manger, 2012) and have been associated with significantly lower demand in trade protection (e.g., Baccini *et al*, 2014). Yet, the potential trade-liberalizing impact of GVCs in a multilateral context – especially the WTO – is yet to be explored.

In a world economy increasingly characterized by these transnational chains of production (Jensen *et al*, 2013), GVCs change the political economy of trade policymaking in crucial ways. Trade policy is traditionally assumed to be a struggle between export-led sectors that prefer trade liberalization vs import-competing sectors that favor higher trade barriers in order to protect their domestic productions. However, today's international trade consists of import-dependent firms and sectors that are integrated to GVCs that reinforce the ranks of the groups that favor a very open trading system. Since I aim to find out how such mobilized GVC-integrated sectors affect a defendant's behavior at the WTO, I focus on the EU as there is broad variance in its responses to WTO litigation, it is highly integrated into global production networks (Amador *et al*, 2015), and the degree of GVC integration varies greatly across the sectors of its economy. Moreover, the EU is one of the most active users of the WTO DSM and the largest economic bloc in the world.

The response of the EU to the disputes brought at the WTO varies greatly in terms of when the EU decides to meet its trade partners' demands; a mutually agreed solution is sometimes found early during the consultation stage or the EU resists compliance even after a compliance panel circulates its ruling. Analyzing the (un)timeliness of compliance with WTO DSM rulings offers the advantage that there is a very high variation in the time it takes for states to bring their policies into compliance with WTO agreements (Spilker, ~~2013~~2012), whereas focusing on a dichotomous or a categorical variable would result in a significant loss in variation.

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The article thus seeks to answer the following question: under which conditions does the EU meet its trade partners' demands in a timely manner, rather than resist compliance, in the WTO DSM? By comparing targeted sectors' various characteristics for each dispute, including the level of integration to global value chains (GVCs), the level of mobilization, and the level of vulnerability toward the complainant's export market, I isolate which sectoral conditions trigger the EU's response toward bringing timely compliance to disputes in the WTO DSM.

The article proceeds as follows. The first section starts by reviewing the literature on WTO compliance and GVCs. Secondly, I outline my theoretical perspective and derive the condition(s) that might lead to the outcome of timely compliance. In the third section, I present the research design and present my qualitative comparative analysis (QCA) using all of the disputes in which the EU was a defendant at the WTO DSM. In the fourth section, I present two cases selected from the complete sample in order to unpack the mechanism that leads the EU to meet its trade partners' demands in a timely manner. I conclude with a summary of my findings and speculate about some future research prospects.

Compliance and the GVCs

A distinct subset of institutionalist international relations political science has analyzed the reasons explaining states' behavior in WTO litigation, i.e., the causes of (non) compliance. The main arguments have focused on three state-centered perspectives. Firstly, *external pressures* were put forward to explain compliance. Neoliberal institutionalists under the aegis of regime theory put forward reputation and potential retaliation as explanations (Keohane, 1984; Bown, 2004). Secondly, and alternatively, other scholars have tried to explain compliance by looking into *internal structures* and proposed that the democratic nature of states determines their rule-abidance record (Slaughter, 1995; Dixon, 1993). Thirdly, some scholars maintain that states' technical capabilities and legal capacity are determinants in their compliance record (Chayes and Chayes, 1993; Weiss and Jacobson, 1998). Somewhat surprisingly, these plausible explanations have often focused on high-profile non-compliance disputes and the literature has suffered from a methodological difficulty by mainly conducting small-N analyses. The most prominent works in the field that focused on the EU demonstrated that the EU's record of compliance at the WTO can be explained by the political salience of the dispute (Young, 2010, 2012) and the number of veto players required to bring policy change within the EU (Young, 2004; Poletti and De Bièvre, 2014). However, even though these works skillfully pointed to such domestic mechanisms in explaining the EU's response to WTO disputes, they have either focused on transatlantic disputes (Zangl, 2008; Busch and Reinhardt, 2003), comparative case studies (Young, 2004, 2010; Busch *et al.*, 2009; Poletti and De Bièvre, 2014) or have limited their design to a time period or subject matter of a dispute (Spilker, 2012). Moreover, with regard to the EU as a defendant, overwhelming attention has been paid to the EU's infamous bananas dispute with Latin-American states and the Genetically Modified Organisms (GMOs) dispute brought upon by the USA. In short, only a small fraction of the entire WTO dispute settlement cases involving the EU have been examined. This has often led to inferences that hold limited validity with regard to the EU's behavior in WTO dispute

settlement. This article remedies this shortcoming by examining all of the disputes brought against the largest economic player in the world rather than focusing on selective case studies, which results in a more systematic analysis of the EU's behavior at the WTO.

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More in particular, I link the literature on global value chains (GVCs) and trade policy to multilateral trade commitments. The nascent literature on GVCs has so far focused on the reasons behind the unprecedented expansion of GVCs (Baldwin, 2011, 2012; Hayakawa and Yamashita, 2011, 2013) and the impact of GVC integration in promoting bilateral trade liberalization through preferential trade agreements (Antras and Staiger, 2012; Blyde and Volpe, 2013; Orefice and Rocha, 2014; Poletti and Eckhardt, 2015). To date, no study has looked at the relationship between GVCs and multilateral trade liberalization, as existing trade policy literature has exclusively analyzed the role of these transnational networks in bilateral relationships, showing that GVC integration stimulates bilateral trade liberalization and activates import-dependent firms and sectors. This article remedies this shortcoming by analyzing the impact of GVC integration on promoting trade liberalization at the WTO. Import dependence of targeted mobilized sectors has a potential to explain compliance, as these sectors prefer trade liberalization over trade barriers, in order to engage in value-added trade. As economic actors struggle to influence trade policy, mobilized import-dependent sectors that are embedded in GVCs increase the ranks of those preferring trade liberalization – which should result in the defendant meeting its trade partners' demands in a timely manner following a WTO dispute.

Theoretical Framework and the Conditions Leading to Timely Compliance

When does the EU resolve disputes early at the WTO? I briefly develop a theoretical argument here that is based on two major assumptions. The first is that I assume governments implement trade policy based on the preferences of economic actors – a rather accepted view in trade politics (Grossman and Helpman, 1994; Manger, 2012). Governments try to maximize support of economic actors either because they respond to pressure (lobbying) or they have a structural incentive to do so (e.g., by increasing economic activity and employment) (Hiscox, 2001; Milner, 1987). It is implied that governments have information on the preferences of economic actors based on their own economic interests. The second assumption I make is based on a trade model that takes sectors (rather than firms) to be the relevant economic actors that voice demands for liberalization (or protection). I therefore presume that firms within sectors of an economy are

homogenous in terms of their preferences and that policies impact firms within sectors in a similar way. This of course is a strong, yet justifiable and useful assumption (Rogowski, 1989; Hiscox, 2001).

In general terms, as firms within sectors internationalize their production, the demand for trade protection decreases (Jensen *et al.*, 2013). This is due to the fact that a highly integrated sector would benefit from lower trade barriers as it continuously imports intermediate products and engages in value-added trade. In order to maximize their comparative advantage, firms engage either in vertical integration – via subsidiaries and affiliates set up in foreign countries – or in arm’s length trade where they use independent foreign firms within their production chain. Such global value chains therefore consist of firms and sectors that specialize in the production of primary products, i.e., raw materials, the producers of intermediate products who process raw materials, the users of intermediate products who produce final goods, and the distributors/retailers at the end of the chain that service finished goods (Eckhardt, 2015). This fragmentation of production in a global chain would be employed cross-border as firms benefit from offshore locational advantages – e.g., cheap labor. The main consequence of this integration leads firms to become more and more dependent on intermediate imports. This dependence, in turn, increases the demand for *lower trade barriers* and *advanced liberalization*.

I argue, therefore, that high integration into global value chains exerts additional pressure on states to bring their policies in line with WTO rules by removing trade barriers and maximizing the gains provided by overseas inputs and outputs. Intuitively, the trade-liberalizing preferences of GVC-integrated firms and sectors should be visible even before a dispute emerges in the first place. Although this is possible, this is not to be expected across the board because firms within sectors suffer from information asymmetry and therefore face a coordination problem. Even though a sector may be highly integrated to GVCs, which firm uses which product(s) is not a shared knowledge and a firm (or a whole sector) may unintentionally cause harm to another one by successfully raising trade barriers that are supposed to be protective. Since firms do not have a natural tendency to coordinate with one another (Eckhardt, 2015) and face collective action problems, they are more likely to mobilize in response to a loss incurred because of an enacted trade barrier, instead of to a potential gain from lobbying for trade liberalization in the first place (Goldstein and Martin, ~~2001~~2000). Therefore, I expect the impact of GVC integration to be much more visible in the face of WTO litigation that triggers a pro-compliance coalition in response to an enacted trade barrier challenged at the WTO. Assuming that policymakers are susceptible to pressure from their constituencies, I expect they would respond to pressure from highly integrated sectors’ demands for lower trade

barriers and thus meet their partner's demands at the WTO DSM by enacting domestic policy change that brings compliance. This leads to my first condition that would produce timely compliance: *high sectoral integration to GVCs*.

Assuming that representatives at the WTO respond to pressure from domestic sectors that are pro or against compliance, these economic actors would need to signal their preferences to policymakers by overcoming collective action problems and mobilizing to voice their demands (Olson, 1965; Davis, 2012). Regardless of the preferences of sectors, in order for the EU to shape trade policy, policymakers need to assess the balancing pressures from different groups. This leads to my second condition that would produce the outcome of timely compliance: *high sector mobilization*.

Thirdly, the preferences of economic actors in the EU are also shaped by their vulnerability to the complainant's economy. It has been suggested that the threat of retaliation increases the likelihood of compliance with international commitments at the WTO (Bown, 2004). If we assume that the preferences of sectors are shaped by their economic interests, a sector that heavily relies on the complainant market for its exports would prefer to settle the dispute early and remove the barriers to minimize the possibility of retaliation. Export dependence would push sectors to prefer dispute settlement, and therefore, autonomous sectors that do not depend on the complainant's export market would have less incentives (if at all) to have the dispute resolved by their government. This leads to my third condition that would produce the outcome of timely compliance: *high export dependence of a sector to the complainant's market*.

It is important to note that export dependence of a sector is both conceptually and empirically different from integration to global value chains. The concept of global value chains indicates that a sector (and firms within a sector) internationalize their production and use intermediate products before producing a final good. This means that sectors heavily invest in overseas production facilities in order to process their goods. The demand for trade liberalization grows from the need to be able to process goods – not necessarily sell the goods. In contrast, export dependence simply expresses whether or not the sector is vulnerable toward the complainant's market for the end sale of a product. If the targeted sector in the EU has a large share of its goods exported to the complainant country, regardless of where they produce these goods, then the sector would be vulnerable to the threat of retaliation. Thus, it can be argued that, from a sector's perspective, being at the mercy of the complainant's export market would create an additional push toward reaching a solution in order to avoid potential losses.

The outcome of timely compliance is projected to be produced by these three outlined conditions.¹ The phrase “compliance” here needs attention. In this study, compliance is considered to be equal to meeting a trade partner’s demand. I regard the EU to be in compliance with its WTO commitments if it either brings domestic policy change that corrects the WTO-inconsistent measure(s) or provides incentives that resolves the dispute via settlement. I follow Hudec (1993) and Dai (2005) and highlight the importance of domestic policy change for the disputes that resulted in a panel ruling. In the remainder of the disputes that did not proceed to the panel stage, I consider the EU to be in compliance as long as the complainant is satisfied and agrees to a settlement. Although the implications of these settlements for WTO law and the extent to which they constitute compliance are an ongoing debate (e.g., Alschner, 2013), they are treated as such since they resulted in a change of behavior from a defendant to meet the complainants’ demands, which may very well be domestic policy change – witness the EU’s policy change brought after the settlement on the butter dispute with New Zealand (European Commission, 2000). Furthermore, I consider the political dynamics of affected groups to be present at the WTO DSM regardless of the stage of the dispute – i.e., sectors who attempt to press policymakers their own demands would be equally likely to engage in lobbying during the consultation and the panel stage of a dispute.

Finally, it is important to note that the intrinsic legal merits or importance of the disputes is not considered in this article. Some complaints brought to the WTO Dispute Settlement Body may indeed be more solidly grounded, more substantially argued, and entail more important questions of WTO law interpretation than other dispute settlement cases. Moreover, some cases may be relatively unimportant in economic terms in and of themselves, yet may involve an important question of law that may set an important precedent in future interpretations and applications of WTO law. Yet for the purpose of this analysis, I do not consider these sources of variation, as they concern legal assessments and valuations. Since I am interested in political sources of systematic variation, I thus work with the assumption that differences in the legal nature of cases are randomly distributed across the universe of cases I study.

Fuzzy-set QCA, the Universe of Cases, and the Calibration of the Outcome and the Conditions

Fuzzy-set Qualitative Comparative Analysis (FsQCA) is a case-sensitive approach to examining the relationship between a theoretical expectation and empirical evidence from a set-theoretical perspective (Ragin, 2000). Set-theoretical

approaches, including QCA, aim to assess whether or not theoretically grounded conditions produce an outcome via various causally complex mechanisms, such as conjunctural causation, which indicates that the impact of a condition can only be observed if it is combined with other conditions, or equifinality, which indicates that an outcome is observed when different conditions separately produce it (Schneider and Wagemann, 2012). The choice of employing FsQCA in this article is due to both theoretical and empirical reasons. Theoretically, the article argues that the EU's targeted sector's characteristics in *each dispute* lead to an outcome of timely compliance. Thus, the outlined theoretical expectations are sensitive for each case (each response of the EU to litigation) analyzed – rather than assuming unit homogeneity. In order to account for each case's unique characteristics, QCA offers an excellent technique (Hall, 2003). Empirically, the advantage of QCA is that I am able to examine a medium-N dataset – all the disputes the EU was involved in at the WTO as a defendant – which would not be possible via traditional regression analysis (Vis, 2012). The number of cases in my sample would be too small to account for a degree of freedom in a regression analysis and would be too large to examine via one-by-one case studies. Therefore, QCA presents an advantage in exploring the relationship between sectoral characteristics and the EU's behavior in responding to WTO litigation.

QCA analyses involve a coding procedure titled “calibration” whereby cases – e.g., responses to disputes – are assigned values in sets of conditions – e.g., “the set of high mobilization.” For each condition, every single case is given a membership score indicating the extent of the case being fully out (0) or fully in (1) and values assigned to cases for their membership in sets are determined by empirical evidence present in each case [based on theoretical expectations](#). (Schneider and Wagemann, 2010). The article utilizes fuzzy-set QCA, instead of a “crisp set” analysis in order to account for the varying degrees of the conditions – e.g., mobilization. Fuzzy-sets are “sets with elements whose membership grades can have any real value between ‘0’ and ‘1’ and they allow for varying degrees of membership that go far beyond the presence/absence indicated by dichotomies” (Pennings, 2003, p. 2).

The calibration of the entire model is presented in the “Appendix.” Within the calibrated table, the cases are given membership scores in each set (for the condition and the outcome) where the scores indicate the degree to which cases are out of or inside the set. For instance, for the set of “high mobilization” – 0 is fully not mobilized, 0.4 is relatively mobilized, 0.5 the cross-over point indicating absolute ambiguity, 0.6 relatively highly mobilized, and 1 fully mobilized compared to other sectors.

All of the conditions are calibrated by applying *qualitative calibration*. Qualitative calibration was employed because all of the conditions needed subjective evaluation when assigning values – mostly based on theoretical expectations and based on the empirical details of each dispute. Variances depending on the intrinsic qualities of each case can only be accounted for by subjective evaluation of the conditions for each case. The details of the qualitative anchors (for each condition) as well as the maximum ambiguous points of 0.5 are all presented in the “Appendix.”

In order to explain the behavior of the EU in facing litigation at the WTO, I take each and every response of the EU to a dispute settlement filing individually as a unit of analysis – $N: 31$, presented in the “Appendix.” Four important points need to be raised with regard to the universe of cases. First, the so-called joint disputes are not included in the sample, following the work of Busch and Reinhardt (2006), where multiple complainants litigated the EU via separate disputes. They are counted as one simply because the EU enacts one response to them. For instance, when Canada and the USA separately requested consultations with the EU with regard to its tariff measures on agricultural products in the genetically modified organisms (GMOs) dispute, the issue was settled via one single consultation. Secondly, the status of certain disputes was not updated by the WTO and they were probably settled outside the reference of the WTO dispute settlement, which effectively made them missing values. However, process tracing was conducted in order to find out the details of their status through official sources of the EU Commission EURLEX, and secondary sources such as Inside US Trade and various news outlets. Disputes for which no information was available anywhere were taken out of the sample. Thirdly, there were disputes where the EU was exonerated and the targeted measures in the dispute were found consistent with WTO law. Since the EU did not need to change its behavior they were taken out of the sample. Lastly, only the disputes from 1995 until 2012 are included because most of the disputes initiated after 2012 are still ongoing, and the most consistent and reliable data are available until 2012.

For the outcome of “timely compliance,” I first code the disputes that resulted in a mutually agreed solution and did not escalate to the panel stage. These disputes are treated as resulted in timely compliance since both parties agreed to not escalate these disputes to the panels – indicating both sides’ willingness and a clear change in behavior from the defendant is observed. For the empaneled disputes, I calculate the length of time (in months) from the circulation of the final panel report – whether that is the original panel or the appellate panel report – until the EU satisfied its partner’s demand by correcting the targeted measure, which may be enacting new legislation or amending the existing one. Subsequently, I

operationalize “timely compliance” as being 15 months, which is based on the limit given to the implementation of a panel ruling, as required by the Article 21.3 (b) of the Dispute Settlement Understanding (DSU) of the WTO. Since defendants often employ all their legal resources at the WTO DSM to engage in delay tactics and postpone compliance by misusing the arbitrated reasonable period (Zimmermann, 2006; Shoyer *et al*, 2005), I take the WTO-required timeframe to be a justified threshold to consider “timeliness” in meeting a trade partner’s demand. Thus, the disputes that were resolved before (and including) 15 months are included in the set of “timely compliance” and the disputes that were resolved after the DSU-required timeframe are not. Since there is high variation in the time it takes the EU to bring compliance following WTO disputes, I further operationalize the outcome condition by using 6-level calibration depending on how fast or slow it took the EU to meet its trade partners’ demands in each dispute – detailed in the “Appendix.”

For the condition of “high GVC integration,” I calculate the extent of the targeted sector’s reliance on intermediate products as well as its foreign direct investment (FDI) stocks. Both the intermediate consumption and the FDI of a sector equally contribute to its international orientation (Manger, 2012; Baccini *et al*, 2014), which increases its demands for low trade barriers. If a sector has low integration, there would be significantly less push for compliance in the absence of gains to be realized from lowering trade barriers – leading the EU to prolong the dispute.

Firstly, the sector that is targeted by the dispute is identified. Indeed, besides very few disputes that target horizontal measures – which are legislative measures that impact a large array of sectors rather than a specific one – WTO disputes typically benefit or injure certain sectors. Subsequently, the respective sector’s import dependence as a share of its total output is calculated by using the EU Commission sponsored World Input Output Database (WIOD) that utilizes EU-level trade data for various sectors. The value of intermediate consumption per sector varies greatly within the EU – indicating the extent of the sector’s dependence on global supply chains. A high percentage of intermediates per sector would mean that the sector is using the majority of its intermediate products from outside (extra-EU) sources, giving a rough measure of its GVC integration. A disadvantage of this indicator is that the data are available at the aggregate sector level, such as the “Manufacturing of Textile Products,” even though some disputes involve a very specific product – e.g., the EU-Chile dispute on the trade description of scallops.

Secondly, the FDI stocks of the EU’s targeted sector are measured. For each targeted sector, the OECD FDI database is used to single out the real amount of outward investment stocks the targeted sector had in the year of the dispute. The

outward investment of a sector reveals how much the sector has internationalized its production overseas. As a result, this two-tailed measure gives me a reliable indicator of the level of GVC integration for the targeted sector in the WTO dispute, which is then operationalized by using 6-level calibration. I take the average import dependence and FDI stocks of sectors and consider them to be in the set of “high integration” if their import dependence and outward FDI stocks are both above the average. Note that import dependence of sectors and FDI are highly (positively) correlated. Yet in the few instances where there was a contradiction, I used import dependence because EU FDI values are overstated since they are a combination of EU member states’ FDI, not differentiating between intra-EU and extra-EU values.

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For the condition “high mobilization,” two indicators are used that define the extent of a sector’s level of mobilization at the EU level that is presumed to put pressure on policymakers – the Herfindahl–Hirschmann Index (HHI) and the ratio of employment of the sector to the total employment in the EU. The HHI is a common measure of market concentration that estimates the size of firms in relationship to the sector they operate in, which effectively indicates the level of consolidation of a sector. I work with the assumption that sectors that are highly concentrated, where only a number of firms dominate a sector, are more likely to exert pressure on policymakers, because they face fewer collective action problems (Poletti and De Bièvre, 2014). After calculating each EU-wide sector’s HHI, I also look at the percentage of the employment of the targeted sector in relation to the total employment within the EU (for the year of the dispute). The ratio of a sector’s employment is used to triangulate the HHI as a proxy for mobilization (Hoffman and Kim, 2009). The data on employment were collected from EUROSTAT, and raw data for HHI calculation (based on top firms’ revenues and market share for each sector) were taken from each firm’s financial accounts. The condition is operationalized by using 6-level qualitative calibration.² Following the European Commission’s guidelines on sector concentration³, I consider sectors to be in the set of “high mobilization” if the sector has an HHI ratio of 1000 or more (for the year of the dispute). Furthermore, whenever HHI is not available, I consider sectors that have more than 1.3 million employees to be in the set of “high mobilization.”

For the condition “high export dependence,” I analyze the targeted sector’s export dependence on the litigant(s). I first calculate the respective sector’s total output (for the whole world) and compare that to its output to the complainant(s). For the joint disputes where there was more than one complainant, I take into account each complainant’s export market in calculating the EU’s export dependence. This ratio basically reveals how much the EU’s targeted sector depends on the

complainants' export market, determining the extent of the sector's export dependence. The data were collected from the World Bank's World Integrated Trade Solutions (WITS), which has EU-level data at the sector level (both imports and exports), and is operationalized by using 6-level calibration.⁴ I take the average value of sectoral export dependence as my threshold and consider targeted sectors to be in the set of "high export dependence" if they are above the average value of export shares and gradually increase their level of dependence – detailed in the "Appendix."

Necessary and Sufficient Conditions for Timely Compliance

My expectation is that characteristics of the targeted sectors in the EU can account for the timely resolution of disputes at the WTO. I expect multiple conditions to produce the outcome of "timely compliance" in a multi-causal fashion, combinations of the conditions leading to the outcome. By using fuzzy-sets, more variation is allowed to see the relations between different sectoral factors that would account for the EU's decision to meet its trade partner's demands in a timely manner. There are two different kinds of causal conditions that may produce the outcome: necessary conditions and sufficient conditions. The necessary conditions would imply that the outcome is the subset of a condition, e.g., mobilization, where every instance of timely compliance involves a mobilized sector. In contrast, a sufficient condition would imply that the condition, e.g., mobilization, is a subset of the outcome, timely compliance. However, it is important to note that a factor can be necessary without being sufficient.

The analysis of necessity of the outcome of timely compliance is presented in Table 1. Mobilization and integration are both necessary for the outcome of timely compliance given their high consistency – i.e., the degree to which a relation of necessity between the two conditions and the outcome of timely compliance is met in my dataset, a notion comparable to "significance" in statistical analyses (Thiem, 2010:6). In addition, both of the conditions also have high coverage scores, which refer to the empirical relevance of these two conditions within the dataset (Legewie, 2013:14). Results thus indicate that these two conditions cover most of the cases that produce the outcome, and are consistently observed to be a superset of the outcome of compliance. Furthermore, I theorized that the combination of all the conditions together – as indicated on the 4th row of Table 1 – would be a necessary condition for timely compliance. The analysis produced different results than my expectations, and all the conditions – combined using the Boolean addition – have quite low consistency to be considered necessary for the outcome of timely compliance. This surprising result is due to the fact that export dependence is not observed to be a necessary condition for the outcome – contrary to theoretical expectations. In disputes where the

targeted sector is mobilized and integrated into GVCs, the EU meets its trade partner's demands in a timely manner – even without export dependence. This would further suggest that sector preferences in trade liberalization are not heavily dependent on export markets. Although it has been suggested in the literature that the threat of retaliation due to export dependence would shape economic actor preferences toward trade liberalization, this argument is challenged here. Results rather suggest that being dependent on export markets of final products does not constitute a necessary condition to prefer trade liberalization – at least not in response to a large majority of WTO disputes.

Table 1

Analysis of necessity: Conditions leading to the outcome of timely compliance

Condition	Consistency of necessity	Coverage of necessity
High mobilization (MOBIL)	0.868	0.823
High integration to GVCs (INTEG)	0.846	0.875
High export dependence (EXPD)	0.516	0.797
High mobilization and integration, and export dependence (Boolean addition)	0.495	0.900

Analysis of Sufficiency

Table 2 below presents the results from the analysis of sufficiency. Each row of the truth table presents a potential configuration of the reported conditions. For each configuration, the total number of cases that fall into that category as well as the number of cases that produced the outcome is also reported. In return, the sufficiency inclusion score indicates how often the outcome of timely compliance was present, given the presence of the explanatory conditions reported in the respective row, in comparison with the total presence of those conditions (Thiem and Dusa, 2012). As such, the sufficiency inclusion score takes into account the varying degrees of the presence of each condition in producing the outcome. For instance, for the truth table row 1, the analysis indicates that 15 disputes consisted of the conditions “high mobilization,” “high integration,” and the absence of “high export dependence” of varying degrees, and within those 15 disputes, 14 of them resulted in timely compliance. Calculating each dispute's conditions' varying values, the sufficiency inclusion score

reports a very high number of 0.915, indicating a highly significant relationship between the two conditions and the outcome.

Table Row	INTEG	MOBIL	EXPODP	N	Sufficiency inclusion	N that produced the outcome	Corresponding cases
Analysis of sufficiency (truth table): Conditions leading to the outcome of timely compliance							
Row	INTEG	MOBIL	EXPODP	N	Sufficiency inclusion	N that produced the outcome	Corresponding cases
1	1	1	0	15	0.915	14	DS7, 72, 141, 153, 154, 219, 263, 283, 286, 299, 301, 313, 349, 376, 385
2	1	1	1	5	0.900	4	DS172, 260, 290, 316, 397
3	0	1	0	4	0.889	3	DS 69, 134, 326, 389
4	0	1	1	4	0.822	2	DS 9, 27, 48, 292
5	1	0	0	2	0.961	2	DS231, 405
6	0	0	1	1	–	–	–
7	1	0	1	0	–	–	–
	0	0	0	0	–	–	–

Two further points warrant attention with regard to the analysis of sufficiency. Firstly, the highest inclusion score can be observed on row 5, which indicates that even without mobilization and export dependence, the disputes that targeted the EU's highly GVC-integrated sectors resulted in timely compliance. However, considering that the number of cases in this configuration is only two, the results should be interpreted with caution. Secondly, timely compliance is produced in five disputes *without* GVC integration – reported in row 3 and 4 – suggesting that the domestic political dynamics of WTO dispute settlement in the EU would deserve further case-sensitive study. In sum, the analysis is comprehensive enough to confirm that the EU's responses to litigation at the WTO is significantly affected by the presence of highly mobilized sectors integrated into global value chains that press for compliance in order to enjoy value-added trade.

While the analysis highlights the importance of mobilization and GVC integration of targeted sectors, the relationship between export dependence and timely compliance is not substantiated. This may be due to the substitutability of the complainant's market; the vulnerability of a sector may depend on whether or not the complainant's market is substitutable, which means the sector in question may have the chance to shift its end sales to other markets without incurring additional costs. Moreover, for a sector that is highly import dependent and highly integrated into chains of production, low barriers in processing goods accrue benefits high enough to counter the costs of shifting end sales to other export markets. This would mean that a sector's preference for trade liberalization would be shaped more by its international orientation in production rather than the sales of its products.

EU Responses to Litigation at the WTO: Disputes Initiated by Brazil and India

In order to unpack the mechanisms that lead the EU's GVC-integrated sectors to mobilize and press their preferences, I choose two cases for comparative process tracing and take two responses to litigation that produced different outcomes where the EU acted as a defendant. I compare the EU's response to a complaint brought by India involving the EU's definitive anti-dumping (AD) duties on cotton-type bed linen to its response to a complaint filed by Brazil with regard to the EU customs classification of frozen chicken. Following the logic of factor-centric research design (Gschwend and Schimmelfenning, 2007), I selected these two cases on the basis of the conditions I found to be significant in QCA. These two cases reflect the interaction of both the targeted sectors' degree of GVC integration and their political mobilization. Both disputes triggered political mobilization from the targeted sectors that were integrated to GVCs, but the European textile sector that was targeted in the bed linen dispute depended on significantly lower imports. Moreover, the EU's response was significantly different in meeting its trade partner's demands in these two disputes. Thus, by examining these two cases I can demonstrate the potential importance of mobilized sectors' GVC integration in bringing the EU to meet its trade partners' demands in a timely manner in the WTO dispute settlement.

On October 11, 2002, the government of Brazil requested consultations with the EU and claimed that the customs classification of exported frozen chicken cuts was unfairly characterized in the EU's schedule and was subjected to higher tariffs at the border, therefore violating WTO law. The EU Commission issued Regulation 1223/2002 on the July 8, 2002, regarding the salt content of meat imports, which meant that products where the salt was added only for the purpose of

preservation could be considered under the category of “salted meat”; if not for preservation, the product could fall under the category of “frozen meat,” applying a significantly higher tariff rate (Horn and Howse, 2008). This change in classification had come into place upon the request of the European Association of Poultry Processors and Poultry Trade (AVEC) who claimed that the new tariff classification simply closed a legal loophole and allowed the European poultry producers to level the playing field with exporters from third countries (AVEC, 2005). This meant that the poultry products exported from third countries were to be considered under the frozen meat classification, drastically raising the applicable tariff from 15 % to almost 60 % (Ibid). Brazil, later joined by Thailand, argued that the EU was breaching its tariff commitments and simply reclassified the product in order to receive higher customs duties and to protect the European producers of poultry products.

The dispute escalated to the panel stage, and the panel concluded that the EU’s measure of applying a higher customs tariff was inconsistent with its obligations (WTO, 2005). The EU subsequently appealed the ruling but the Appellate Body upheld its conclusion, leaving the EU to either correct the measures or face authorized retaliation. In response, the European Commission adopted Regulation 949/2006 that implemented the panel ruling and brought the dispute to an end by meeting the demands of its partners at the DSM in a timely manner.

In comparison, the EU’s dispute with India with regard to definitive anti-dumping duties on cotton-type bed linen demonstrates a completely different picture. The Indian government requested consultations with the EU on August 3, 1998, due to Council Regulation 2398 of 1997, which imposed AD duties on cotton bed linen imports from India. The AD duties imposed by the EU protected the domestic cotton and textile sector from alleged dumping practices by Indian firms exporting at an unfair price, i.e., sold at a significantly lower price than in the Indian domestic market. The AD measures had come into place upon the request of the European Committee of Cotton and Allied Textiles Sectors – aka Eurocoton (Dutta, 2006). India claimed that the EU’s methodology in calculating the tariffs was unfair and biased and the determination of the injury not objective and consistent with WTO law. The dispute escalated to the panels, which mostly sided with India by confirming that the EU had acted inconsistently with the AD agreement when calculating AD duty rates and injury. The EU appealed the decision but the Appellate Body upheld the findings and subsequently asked the EU to bring its WTO-inconsistent measures in line with WTO law (WTO, 2001).

The EU initially signaled that it would comply with the decision and adopted the Council Regulation 1644/2001, claiming that it faithfully implemented the panel ruling. However, India opined that the new regulation was still inconsistent with the WTO AD Agreement and decided to request a compliance panel, which found the EU in violation again (WTO, 2002). As a response, the EU finally complied by enacting the Council Regulation 2239/2003 – almost 4 years after the circulation of the Appellate Body decision.

The political dynamics behind these two disputes reveal a conflict between two groups of political actors. On the one hand, import-competitors were pressing for non-compliance and continued protection, and on the other, GVC-integrated firms who depended on imports from abroad were lobbying for compliance instead. In the bed linen dispute, the political conflict started with the mobilized European textile and cotton producers who rallied behind Eurocoton and initiated an anti-dumping investigation against products from India, Pakistan, and Egypt – prompting the Council to impose the definitive AD duties (De Bièvre and Eckhardt, 2010). However, the pro-protectionist position of Eurocoton clashed with the interests of import-dependent firms who wanted access to cheaper imports. The European Free Trade Association (FTA) who was representing importers of linens and fabrics, instead demanded compliance. The importers argued that the AD duties made their production and sales more costly and that the Commission acted “completely inconsistent” with its promises (European Report, 2002). In the course of the dispute, FTA filed an *amicus brief* to the WTO panel, complained to the Commission, and (unsuccessfully) litigated the Council to invalidate the AD duties (WTO, 2000; FTA, 2002; ECJ, 2000). Yet, Eurocoton was later joined by the European umbrella organization representing textile producers, the European Apparel and Textile Organisation (EURATEX), stating that India was requesting market access without opening its own market and that “the European industry cannot and will not accept such hypocrisy” (EURATEX, 2002). With the primarily textile-producing southern member states in a majority, the Council continued to resist policy change until after the WTO adopted its (rarely invoked) Article 21.5 compliance panel report that found the EU to be in non-compliance – the last procedural step before retaliation can be requested from the Dispute Settlement Body (DSB) of the WTO.

In contrast, in the Brazilian dispute regarding the classification of chicken products, the pro-compliance pressure coming from the European poultry importers and traders prevailed over the livestock producers who attempted to protect their production and resist compliance with the WTO-inconsistent measures. After succeeding in changing the tariff classification of salted chicken, European producers of poultry products, represented by AVEC, lobbied the Commission to

keep the measure in place and pleaded that “half a million jobs would be lost in the poultry industry” if the EU complied with the ruling (USDA, 2005a, b). However, the EU policymakers faced an opposing pressure from the European poultry importers who rallied behind the International Meat Traders Association (IMTA), representing European warehouse operators and major retailers. Arguing that imports were serving the EU’s “healthy appetite” (Brydges, 2005) IMTA lobbied the Commission and the Members of the European Parliament with the Brazilian delegate in Brussels (IMTA, 2011). EU Commission and member states further faced litigation at the European Court of Justice (ECJ) by a Dutch importer of poultry products, who was successful in receiving a favorable ruling from the ECJ that invalidated the regulation (ECJ, 2007). In the end, the pressure from the importers who wished to enjoy access to cheaper imports prevailed and convinced the EU to remove the WTO-inconsistent trade barriers, overcoming the resistance against timely compliance.

In conclusion, I can surmise that the time it took the EU to meet its trade partners’ demands at the WTO was considerably faster when the EU’s targeted sectors were mobilized and highly import dependent and hence favorable to trade liberalization in response to WTO litigation. The import dependence of these sectors indicates their reliance on international production chains, which in turn shaped their preferences toward advocating less trade barriers.

Conclusion

In this article, I analyzed the EU’s record as a defendant in WTO trade disputes and investigated its responses to disputes filed from 1995 until 2012. Starting from a theoretical perspective that domestic actor preferences decisively influence outcomes, I argued that when the defendant faces litigation targeting a sector that is mobilized, highly integrated to GVCs, and dependent on the complainants export market, the sector’s trade-liberalizing preference leads the EU to meet its trade partners’ demands faster.

The qualitative comparative analysis conducted revealed that targeted sectors’ mobilization and GVC integration are both necessary and sufficient conditions for the outcome of timely compliance. The findings further demonstrate that export dependence of the EU’s targeted sector is neither a sufficient nor a necessary condition for bringing disputes to a timely resolution. This may be due to the EU’s high diversification of export markets, making export markets substitutable, and making the EU less vulnerable to retaliation. It is also possible that when assessing their interests, the targeted sectors’

preferences may be more shaped by the internationalization of their production networks rather than by the end sale of their goods and services.

The relationships pointed at through the QCA analysis were further expanded with case studies tracing the role of different EU sectors in the EU's response to WTO litigation. By doing so the findings of the article contribute to the literature on compliance and propose a novel explanation to the question under which conditions states comply with WTO agreements. I suggest that compliance is more likely when mobilized domestic economic actors are highly integrated in GVCs. When the targeted sectors are import-dependent ones that heavily internationalize their production, they are likely to mobilize and press their trade-liberalizing preferences to policymakers, who then bring forth compliance following disputes.

The study further contributes to the literature on GVCs, and the results advance the general proposition that GVCs promote further liberalization. Even though the trade-liberalizing impact of these transnational chains of production has been demonstrated in bilateral agreements, this article shows that the expansion of internationalization also has the potential to remove trade barriers multilaterally at the WTO. By demonstrating that GVC integration helps explain WTO members' propensity to comply with WTO rules, the article has also been able to challenge the argument that high export dependence – and the associated threat of retaliation would do much of the explanation. More generally, by examining the domestic political implications of WTO dispute settlement, the article contributes to the literature on legalization of international governance, shedding light on the underlying mechanisms that shape governments' behavior in judicial international organs like the WTO DSM.

Lastly, and most importantly, in order to understand the impact of these transnational networks, more detailed hypotheses might need to be postulated and tested, especially with regard to the *position* of specific firms and sectors within a chain of production. Rather than examining “GVC integration,” future projects could look at where a firm or a sector is located in the value chain and if this variance is associated with a different trade policy preference, which would eventually help identify more specific hypotheses with regard to the impact of GVCs.

Notes

- 1 Admittedly, the article would benefit from including political salience and veto players as additional conditions that might impact the EU's behavior at the WTO DSM but unfortunately I could not integrate these two potential sources of variation mainly due to data limitations. Yet, I do not believe my design suffers from the absence of these conditions. The political salience of a dispute is captured by the level of mobilization it generates – mobilized actors bring the disputes to the attention of the media and the public in the first place. Therefore, I consider political salience to be a function of political mobilization. With regard to the impact of veto players, the missing data prevented me from conducting a comprehensive analysis but I added a supplementary analysis to the “Appendix” to tease out the potential significance of this variable.
- 2 HHI data are only sporadically available. Since there is no systematic data available on sector concentration at the EU level, I calculated HHI from available firm-level data and generalize it.
- 3 See: European Council Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings – accessible via: [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52004XC0205\(02\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52004XC0205(02)).
- 4 For World Input Output Database, see: www.wiod.org/new_site/database/niots.htm. For WITS, see: <http://wits.worldbank.org>
- 5 5 See <https://mgmt.wharton.upenn.edu/profile/1327> for the PolCon database.

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Appendix: Domestic Political Implications of Global Value Chains: Explaining EU Responses to Litigation at the World Trade Organization

Additional Qualitative Comparative Analysis (QCA): The Impact of Veto Players on Compliance at the WTO DSM

In my primary analysis, I was not able to use the number veto players as a potential explanatory condition that might impact the EU's record of compliance at the WTO DSM. The reason is that there is no systematic data available on veto players of the EU for each and every policy change enacted. The only comprehensive data source is the widely used Political Constraints (PolCon) database of Witold Henisz, which does not have values for the EU government.⁵ The PolCon database also does not include information on veto players whose consent is necessary to bring policy change for each and every piece of enacted legislation, which is the appropriate variable for my analysis.

In response, I tried to compile a dataset and outline the number of veto players whose consent was necessary to enact legislation in response to WTO litigation for the disputes lodged against the EU. I tracked the EU's domestic legislative changes following every single WTO dispute but I could only locate 14 domestic policies that were passed in response to a WTO dispute. Considering that only works in the field who use veto players as a variable are the ones that conduct case studies, I am not surprised by this limitation. This means that I have veto players information for about 45 % of my sample, which is too low to conduct a reliable analysis. However, I decided to run the analysis in order to show the potential impact of veto players by arbitrarily coding the number of veto players. Considering that the EU government inherently has substantial checks and balances within, I characterized the average veto players' capacity of the EU to be "relatively high" and then used this coding for the missing values. The results of this illustrative analysis are outlined below.

Analysis of Necessity and Sufficiency

As shown in Table 3, the analysis of necessity with the condition of "low veto players" reveals that targeted sectors' mobilization and GVC integration remain the two most significant conditions for timely compliance. The examination demonstrates that neither veto players nor the combination of veto players with sectoral mobilization and GVC integration qualify to be considered necessary for the outcome of timely compliance. The analysis of sufficiency shown in Table 4

below paints a similar picture. It seems that sector mobilization and GVC integration are both necessary and sufficient conditions for timely compliance without veto players.

Condition	INTEG	MOBIL	EXPODP	VETO	<i>N</i>	Sufficiency inclusion	<i>N</i> that produced the outcome	Consistency of necessity	Coverage of necessity
Necessity of the conditions leading to the outcome of timely compliance									
Condition							Consistency of necessity	Coverage of necessity	
Sector high mobilization (MOBIL)							0.868	0.823	
Sector high integration to GVCs (INTEG)							0.846	0.875	
High export dependence (EXPD)							0.516	0.883	
Low number of veto players (VETO)							0.670	0.897	
High mobilization, integration, and low veto players (Boolean addition)							0.626	0.934	
<i>N</i> : 31									

Table 4

Sufficiency of the conditions leading to the outcome of timely compliance

Row	INTEG	MOBIL	EXPODP	VETO	<i>N</i>	Sufficiency inclusion	<i>N</i> that produced the outcome	Corresponding cases
1	1	1	0	0	10	0.915	9	DS: 141, 153, 154, 219, 263, 283, 299, 313, 349, 385
2	1	1	0	1	5	0.947	5	DS: 7, 72, 286, 301, 376
3	1	1	1	0	5	0.896	4	DS: 172, 260, 290, 316, 397
4	0	1	0	0	4	0.878	3	DS: 69, 134, 326, 389
5	0	1	1	0	4	0.818	1	DS: 9, 27, 48, 292

6	1	0	0	1	1	0.979	N that produced the outcome	DS: 231
Row	INTEG	MOBIL	EXPODP	VETO	N	Sufficiency inclusion		Corresponding cases
7	1	0	0	0	1	0.955		DS: 405

The first row in Table 4 shows that of the disputes that affected mobilized and GVC-integrated sectors, 9 out of 10 resulted in timely compliance. These results are substantively similar to the primary results obtained in the article, but there seems to be an important caveat revealed in this sufficiency analysis. We can see on the 2nd row that of the disputes that targeted mobilized GVC-integrated sectors *and* needed the consent of low numbers of veto players for policy change, all of them resulted in timely compliance. Even though such a combination of conditions is quite unlikely – only 5 disputes are under this configuration – it does reveal an important detail.

Moreover, Tables 5 and 6 below are the results of the QCA excluding the missing values on veto players, which means the analysis loses more than half of the original observations – I thought readers might be interested to see the results for illustrative purposes. The examination demonstrates low number veto players to actually have a relatively high consistency level as a necessary condition for timely compliance. Also, the first row of Table 6 shows that the combination of the three conditions, “high sector mobilization,” “high sector integration to GVCs,” and “low veto players” results in timely compliance for all the disputes that fall under that configuration.

Table 5

Necessity of the conditions leading to the outcome of timely compliance (without the missing values)

Condition	Consistency of necessity	Coverage of necessity
High mobilization (MOBIL)	0.795	0.833
High integration to GVCs (INTEG)	0.886	0.907
High export dependence (EXPD)	0.477	0.840

Low number of veto players (VETO)						0.727	0.889	
Condition	INTEG	MOBIL	EXPODP	VETO	N	Sufficiency inclusion	N that produced the outcome	Coverage of necessity corresponding cases
N: 14								

Table 6

Sufficiency of conditions leading to the outcome of timely compliance (without missing values)

Row	INTEG	MOBIL	EXPODP	VETO	N	Sufficiency inclusion	N that produced the outcome	Corresponding cases
1	1	1	0	1	5	0.966	5	DS: 7, 72, 286, 301, 376
2	1	1	0	0	4	0.880	3	DS: 141, 219, 299, 313
3	0	1	1	0	2	0.789	0	DS: 27, 48
4	1	0	0	1	1	0.000	1	DS: 231
5	1	1	1	0	1	0.950	1	DS: 397
6	1	0	0	0	1	0.950	1	DS: 405
7	0	0	0	1	–	–	–	–
8	0	0	1	1	–	–	–	–
N: 14								

However, although the analyses above reveal some association of veto players with compliance, both the necessity and the sufficiency analyses reiterate the significance of mobilization and GVC integration. Even when including veto players, the

results are substantively similar to the primary analysis outlined in the article and affirm that the EU brings forth timely compliance as a response to WTO disputes when the targeted sectors are mobilized and integrated to GVCs. Therefore, I refrain from making a conclusive statement about the impact of veto players on compliance across the board, but considering the data limitations, and the observed association I outlined above, the relationship between veto players and compliance would perhaps be better unpacked with alternative research designs.

Descriptive Appendix

Disputes Lodged Against the EU at the World Trade Organization Dispute Settlement Mechanism

Description of the dispute	Complainant(s)
DS7 – <i>Trade Description of Scallops</i>	Peru, Chile, Canada
DS9 – <i>Duties on Imports of Cereal and Grains</i>	Canada, USA
DS27 – <i>Regime for the Importation, Sale and Distribution of Bananas</i>	Guatemala, Honduras, Mexico, Ecuador, Panama, Colombia, USA
DS48 – <i>Measures Concerning Meat and Meat Products (Hormones)</i>	Canada, USA
DS69 – <i>Measures Affecting Importation of Certain Poultry Products</i>	Brazil
DS72 – <i>Measures Affecting Butter Products</i>	New Zealand
DS134 – <i>Restrictions on Certain Import Duties on Rice</i>	India, Thailand, Uruguay
DS141 – <i>Anti-Dumping Duties on Imports of Cotton-Type Bed Linen</i>	India
DS153 – <i>Patent Protection for Pharmaceutical and Agricultural Chemical Products</i>	Canada
DS154 – <i>Measures Affecting Differential and Favourable Treatment of Coffee</i>	Brazil
DS172 – <i>Measures Relating to the Development of a Flight Management System</i>	USA
DS219 – <i>Anti-Dumping Duties on Malleable Cast Iron Tube or Pipe Fittings</i>	Brazil

Description of the dispute	Complainant(s)
DS231 – <i>Trade Description of Sardines</i>	Peru
DS260 – <i>Provisional Safeguard Measures on Imports of Certain Steel Products</i>	USA
DS263 – <i>Measures Affecting Imports of Wine</i>	Argentina
DS283 – <i>Export Subsidies on Sugar</i>	Thailand, Australia
DS286 – <i>Custom Classification of Frozen Boneless Chicken Cuts</i>	Thailand, Brazil
DS290 – <i>Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs</i>	Australia, USA
DS292 – <i>Measures Affecting the Approval and Marketing of Biotech Products</i>	Canada, USA, Argentina
DS299 – <i>Countervailing Duties on Dynamic Random Access Memory Chips</i>	Korea
DS301 – <i>Measures Affecting Trade in Commercial Vessels</i>	Korea
DS313 – <i>Anti-Dumping Duties on Certain Flat Rolled Iron or Non-Alloy Steel Products</i>	India
DS316 – <i>Measures Affecting Trade in Large Civil Aircraft</i>	USA
DS326 – <i>Definitive Safeguard Measures on Salmon</i>	Chile, Norway
DS349 – <i>Measures Affecting the Tariff Quota for Fresh or Chilled Garlic</i>	Argentina
DS376 – <i>Tariff Treatment of Certain Technological Products</i>	Japan, Taiwan
DS385 – <i>Expiry Reviews of Anti-Dumping and Countervailing Duties Imposed on Imports of PET</i>	India
DS389 – <i>Certain Measures Affecting Poultry Meat and Poultry Meat Products</i>	USA
DS397 – <i>Definitive Anti-Dumping Measures on Certain Iron or Steel Fasteners</i>	China
DS405 – <i>Anti-Dumping Measures on Certain Footwear</i>	China

Dispute Settlement No.	Timely Compliance	High GVC integration	High Mobilization	High export dependence
Dispute information		Reason to be excluded from the sample		
DS246 – <i>Conditions for the Granting of Tariff Preferences to Developing Countries</i>		Horizontal measure		
DS315 – <i>Selected Customs Matters</i>		Horizontal measure		
DS408 – <i>Seizure of Generic Drugs in Transit</i>		Horizontal measure		
DS104 – <i>Measures Affecting the Exportation of Processed Cheese</i>		Information unavailable		
DS266 – <i>Export Subsidies on Sugar</i>		Information unavailable		
DS337 – <i>Anti-Dumping Measure on Farmed Salmon from Norway</i>		Information unavailable		
DS400 – <i>Measures Prohibiting the Importation and Marketing of Seal Products</i>		Information unavailable (outcome still pending)		
DS115 – <i>Measures Affecting the Grant of Copyright and Neighbouring Rights</i>		Measure challenged against a single member state (Ireland)		
DS135 – <i>Measures Affecting Asbestos and Products Containing Asbestos</i>		EU exonerated		

Calibration of the Cases: Characteristics of Sectors in Each Dispute Initiated Against the EU

Dispute Settlement No.	Timely Compliance	High GVC integration	High Mobilization	High export dependence
7	0.6	0.6	0.6	0.4
9	0.6	0.4	0.6	0.6
27	0.2	0.4	0.6	0.6
48	0.2	0.2	0.6	0.6
69	0.4	0.4	0.6	0.2

Dispute Settlement No.	Timely Compliance	High GVC integration	High Mobilization	High export dependence
72	0.6	0.6	0.6	0.2
115	0.6	0.4	0.4	0.6
134	0.6	0.4	0.6	0.2
141	0.2	0.6	0.8	0.2
153	0.6	0.8	0.8	0.2
154	0.6	0.6	0.6	0.2
172	0.6	0.6	0.6	0.8
219	0.8	0.6	0.6	0.2
231	0.8	0.6	0.4	0.2
260	1	0.6	0.8	0.8
263	0.6	0.6	0.8	0.2
283	0.6	0.6	0.6	0.2
286	0.6	0.6	0.6	0.2
290	0.6	0.8	0.6	0.8
292	0.2	0.4	0.8	0.6
299	0.8	0.8	0.6	0.4
301	1	0.6	0.6	0.2
313	1	0.8	0.8	0.4
316	0	0.6	0.8	0.8
326	1	0.4	0.6	0.4

Dispute Settlement No.	Timely Compliance	High GVC integration	High Mobilization	High export dependence
349	0.8	0.6	0.8	0.2
376	0.8	0.8	0.6	0.4
385	0.6	0.8	0.6	0.2
389	0.6	0.4	0.6	0.4
397	0.6	0.8	0.6	0.6
405	0.6	0.6	0.4	0.4

Details of the Coding Method: Qualitative Calibration

Outcome: Timely Compliance

The disputes that were resolved via a mutually agreed solution were considered in the set of “timely compliance.” For the empaneled disputes, if they are resolved within 15 months, they are considered to be in the set of “timely compliance,” which is the required time limit by the Dispute Settlement Understanding for the implementation of panel rulings.

0 Still in non-compliance – the demand has not been met.

0.2 Extremely untimely – e.g., 56 months.

0.4 Untimely meeting of trade partner’s demand, yet still relatively close to a timely limit – e.g., 19 months.

0.5 Maximum ambiguous point where I can’t decide whether or not the EU’s response was (un)timely.

(earlier than, and including, 15, is considered in the set of “timely compliance”)

0.6 Considered timely compliance but still quite late – e.g., 14 months.

0.8 Extremely timely, significantly faster than the operationalized limit – e.g., 4 months.

1 Meeting a partner's demand almost without a hesitation, perhaps within a month or so.

Conditions

High GVC Integration

It is a composite measure calculated by looking at 2 indicators. Firstly, the targeted sector's outward FDI stocks are used, obtained from OECD Statistics. Secondly, the targeted sector's import dependence is used – which refers to the amount of imports a sector uses for its output. Import dependence is calculated by using World Input Output Table Database (WIOD). Note that import dependence of sectors and FDI are highly (positively) correlated, yet in the instance where there was a contradiction, import dependence is taken as reference of GVC integration because FDI data are combined of EU member states' FDI, and in the face of a national bias in EU-wide statistical measures, investment is not differentiated between intra-EU and extra-EU. Therefore, it can be argued that FDI data are overstated and thus import dependence is more reliable as an indicator of internationalization of production.

0 Completely not integrated – 0 % import dependent and 0 EUR in outward FDI stocks.

0.2 Demonstrates some level of integration – up to 2 % import dependent and holding up to 20 billion EUR in FDI stocks.

0.4 Moderately integrated but not sufficient enough to be “highly integrated” – up to 4.8 % import dependent and holding up to 49 billion EUR in FDI stocks.

0.5 Completely ambiguous to call EU's sector integration to GVCs “high” or “low” – exactly 4.8 % import dependent and holding 49 billion EUR in FDI stocks – both are average values of import dependence and FDI.

0.6 Integrated sector, based on both FDI and import dependence, but still relatively low – between 4.8 and 6 % import dependent and holding between 49 and 59 billion EUR in FDI stocks.

0.8 Very high integration – over 6 % import dependent and holding over 59 billion EUR in FDI stocks.

1 Highest level of observed integration – 10 % import dependence and above, and holding over 100 billion EUR in FDI stocks.

High Mobilization

It was originally designed as a composite measure using both HHI and employment figures, but the problem of accessing HHI data further limited the calculation of the measure. I used HHI if and when available; otherwise, only use the percentage of employment (of the targeted sector) as a proxy.

0 Completely not mobilized – lower than 500 HHI score and less than 1 million persons employed.

0.2 Some level of mobilization – up to 700 HHI score and 1 million persons employed.

0.4 Relatively mobilized, yet not enough to be considered “highly mobilized” – up to 1000 HHI score and 1.3 million persons employed.

0.5 Maximum ambiguous point to call the sector’s mobilization “high” or “low” – exactly 1000 HHI score and 1.3 million employed.

0.6 Considered to have the minimum requirements to be in the set of “high mobilization” – HHI score between 1000 and 1500 and the number of employed between 1.3 and 2 million.

0.8 Highly mobilized – HHI score of more than 1500 and more than 2 million persons employed.

1 Highest possible levels of mobilization – HHI score of 2000 and employment of 9 million (the highest observed levels).

High Export Dependence

The measure is the export dependence of the targeted sector to the complainants' market. Each targeted sector's total value of exports to the complainant (for the year of the dispute) is collected from World Integrated Trade Solutions (WITS). The real values of exports to the complainant(s) are then calculated against the total exports of the sector, which gives the export shares of the targeted sector to the complainant(s). For the conjoined disputes with more than one complainant, export values are combined to give a reliable measure of export dependence. The 6-level calibration is calculated according to the average export dependence of the EU, which is 7.28 %. The minimum value of the EU's sectoral export dependence is 0.1 percent and the highest is 24.9 percent.

0 No export dependence – no observable exports to the complainant.

0.2 Some export dependence, no significant threat of retaliation – up to 3 percent export dependent.

0.4 Relatively high export dependence, not enough to be considered to have “high” retaliatory capacity – between 3 and 7.2 percent export dependent.

0.5 Maximum ambiguous point: Not able to decide if the EU has “high” or “low” export dependence to the complainant – exactly 7.2 percent export dependent.

0.6 In the set of “high export dependence” but relatively close to being considered “not so high” – between 7.2 and 18 percent export dependent.

0.8 Very high export dependence, significantly higher than the 7.2 threshold, potentially able to press a significant threat of retaliation – between 15 and 24.9 percent export dependent.

1 The highest export dependence of the sector to the complainant's market – 24.9 percent or more export dependent (the highest observed value).

Low Number of Veto Players

The measure considers the number of veto players in the EU government whose consent was necessary to bring domestic policy change in response to WTO litigation. A “low” amount of veto players refers to a policy change that required an executive action – e.g., commission regulation – and a high number of veto players refer to a policy that required a legislative action – e.g., Ordinary Legislative Proposal (OLP) of the EU parliament and of the Council. It is important to note that within the set of “high number of veto players” I consider legislations that required unanimity in the Council to be “very high” number of veto players.

0 No consent is required from any veto players of the EU – practically an empty classification.

0.2 Low number of veto players whose consent was necessary to enact policy change – i.e., EU Commission directives and regulations.

0.5 Maximum ambiguous point: Not able to decide if the number of veto players in the EU is “high” or “low” for the enacted legislation.

0.6 High number of veto players whose consent was necessary to bring policy change – i.e., Ordinary Legislative Proposal (OLP) with qualified majority voting (QMV) in the Council.

(I consider the EU to be composed of high number of veto players in the absence of any other information available about the policy that was modified or withdrawn)

0.8– Very high number of veto players whose consent was necessary to bring policy change – i.e., unanimity in the
1 Council as well as the consent of the parliament.

(The classification of “very high number of veto players” incorporates the highest number of veto players available in the EU – therefore policy change should be potentially the hardest. I thus consider disputes in this category to be fully in the set of “high number of veto players” and code 1 for their value in the set instead of 0.8)

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