The breadth-depth trade-off and varieties of preferential trade agreements

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The Breadth-Depth Trade-Off and Varieties of Preferential Trade Agreements

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Abstract:

The varieties of preferential trade agreements have increased in recent decades. Regional blocs concluding deals with third-party actors have contributed immensely to these changes in trade agreements. These varieties have motivated our reexamination of the breadth-depth trade-off in trade agreements. We argue that a breadth-depth trade-off is present in initial plurilateral agreements. Large groups of states at this initial stage exhibit greater preference heterogeneity that discourages deeper cooperation. Conversely, we expect the breadth-depth trade-off to be absent in follow-up plurilateral agreements and region-to-third-party agreements. For the former, the initial pacts serve a learning function that enables deeper cooperation. For the latter, institutional mechanisms lessen preference heterogeneity and transforms negotiations to approximate bilateral trade talks that alleviate the breadth-depth trade-off. Our test on 234 trade agreements finds support for our argument. Our paper highlights the importance of distinguishing trade negotiation configurations to better understand how membership affects the depth of agreements.

Keywords: Breadth-Depth trade-off; Depth; Membership; Preferential Trade Agreements

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The study of interstate cooperation has generated several propositions on how characteristics of participating states affects cooperation. One question extant literature has examined is whether and how increasing participation adversely affects the extent or depth of cooperation states establish. This question has especially been investigated in the context of preferential trade agreements. Indeed, several studies have extensively debated the presence, consequences, and potential remedies of this breadth-depth trade-off in preferential trade agreements (Downs et al, 1998; Gilligan, 2004; Koremenos et al, 2001; Slapin and Gray, 2014).

Yet, this extant literature has overlooked the changing landscape of the global trading system and its consequences for the breadth-depth trade-off. In recent decades the number and varieties of preferential trade agreements have increased. Bilateral agreements between two states and plurilateral agreements involving three or more states such as the Association of South East Asian Nations have historically been the most common types of trade agreements. However, since the end of the Cold War two new varieties of trade agreements have emerged and now pervade the global trading system. These are region-to-state agreements, which involve regional blocs like the European Union having a trade agreement with a third-party state, and interregional agreements between two regional blocs such as the Gulf Cooperation Conference - European Free Trade Association Free Trade Agreement. Figure 1 depicts this changing nature and increasing variety of trade agreements between 1950 and 2016.

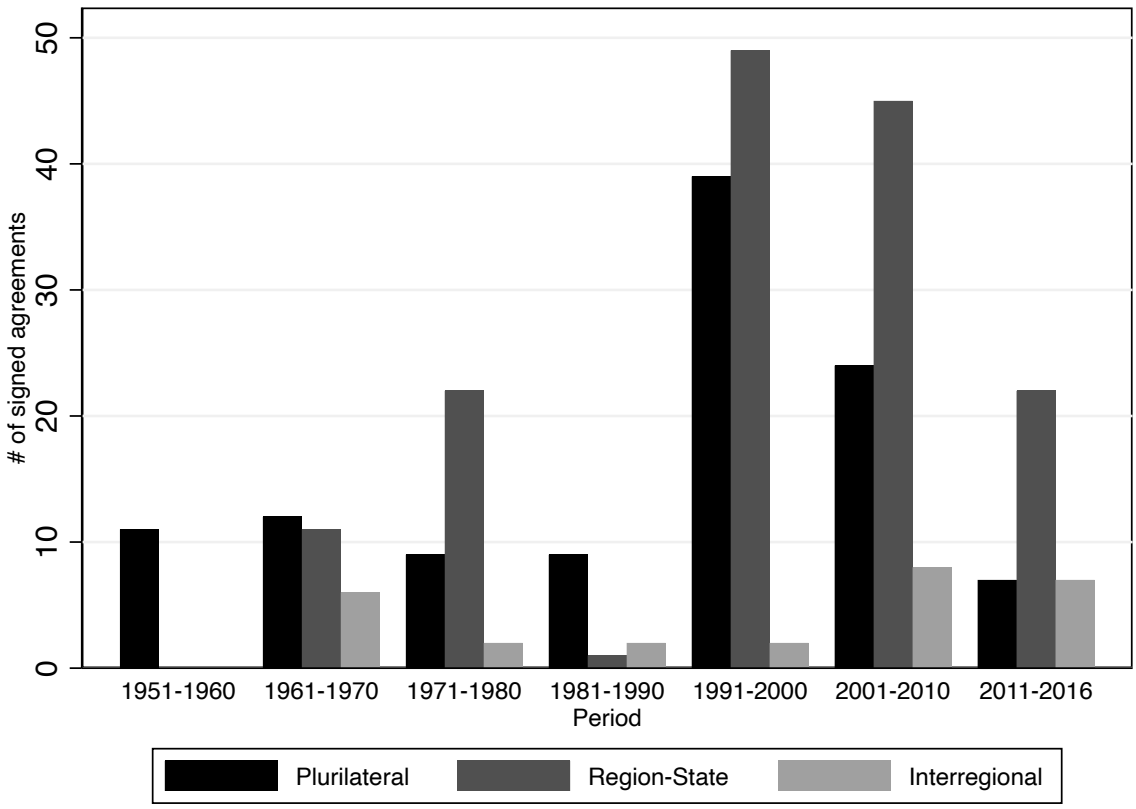

Figure 1. Varieties of Trade Agreements (1951 – 2016). Source: DESTA.

Despite these varieties of trade agreements, no study has yet to systematically investigate whether and how these different trade agreement configurations affect the breadth-depth trade-off. While some trade agreements confirm this trade-off's expectations, for example the 15-member Preferential Trade Area of Eastern and Southern Africa concluded one of the shallowest trade agreements at its founding in 1981, others do not. The 2016 Comprehensive Economic and Trade Agreement (CETA) between the European Union and Canada, a region-to-state trade agreement, is by far the most extensive trade agreement the EU has ever concluded with a third-party state. This is despite CETA being composed of 29 negotiating parties (the EU's 28 and Canada).

Our study addresses this discrepancy by situating the varieties of trade agreements in the breadth-depth trade-off. Specifically, we argue that a breadth-depth trade-off is present in

trade agreements, but under certain and limited conditions. We expect the negative relationship between membership and depth to be present only in initial plurilateral agreements. At this inceptive stage, preference heterogeneity among participants characterizes negotiations since these states may not have previously cooperated to levels envisioned in the trade agreement. These initial pacts may also lack institutional means that can aid in ameliorating the effects of preference heterogeneity that breadth engenders on cooperation depth.

Conversely, we argue that follow-up plurilateral agreements, addenda to initial plurilateral agreements, and region-to-third-party deals are not susceptible to the breadth-depth trade-off. For follow-up plurilateral pacts, the initial deal serves a learning function that aids in ameliorating preference heterogeneity while providing information on states' preferences. This function facilitates the potential conclusion of deeper agreements in the future. For region-to-third-party arrangements, institutional mechanisms of regional blocs can mitigate the impact of preference heterogeneity that accompanies the large membership on the bloc side(s). This mitigation facilitates in transforming region-to-third-party negotiations to approximate bilateral trade talks that are less vulnerable to the breadth-depth trade-off.

We test this argument quantitatively by examining 234 trade agreements drawn from the Design of Trade Agreements database. We find support for this paper's principal claims: the negative association between membership and depth is only present among initial plurilateral trade agreements. For the other types of trade agreements, there is no discernable breadth-depth trade-off. Interestingly, the effect of membership on depth is positive for region-to-third-party agreements. Further examining this positive impact, we find that the effect of membership on the depth of region-to-state agreements, a subset of region-to-third-party agreements, is conditional on these regional blocs' secretariat competencies. More delegation to secretariats of regional blocs reduces the impact of membership on depth of trade agreements regional blocs conclude with third-party states.

This paper makes three contributions to the breadth-depth trade-off debate. First, we disaggregate trade agreements into three observable varieties and investigate their different effects. Second, we build on and test Abbott and Snidal's (2004) pathway to international cooperation framework by specifying the mitigating effect of phased negotiations on the breadth-depth trade-off in plurilateral trade agreements. Finally, our argument contributes to institutionalist and neofunctionalist literatures by highlighting and empirically assessing the role of institutions in addressing preference heterogeneity that can impinge states' ability to enhance cooperation. Applying this logic in a setting different from that neofunctionalists assessed, our argument and findings demonstrate that secretariats of regional blocs can facilitate the conclusion of deeper and new forms of trade agreements beyond plurilateral deals despite large membership sizes.

In the next section, we review literature on the breadth-depth trade-off debate as applied to trade agreements. Next, we develop our argument and include several illustrative examples to map out the theoretical claims. Following our argument, we outline our research design and discuss our findings. We conclude with a summary of our findings and implications emanating from our study.

The Breadth-Depth Trade-Off in Preferential Trade Agreements

The breadth-depth trade-off identifies an inverse relationship between membership size and the depth of cooperation. The crux of this trade-off is that a large membership engenders preference heterogeneity that makes states skeptical of cooperation designs that require tremendous behavior change from the status quo (Downs et al, 1998; Koremenos et al, 2001). While the debate on this trade-off has considered cooperation over various issues including environmental protection (Bernauer et al, 2014; Keohane and Victor, 2011), alliances (Kydd, 2001), the global trade regime (Fernandez and Portes, 1998), and cooperation broadly defined

(Abbott and Snidal, 2000; Stone et al, 2008), our review examines the breadth-depth trade-off debate in preferential trade agreements and regional integration arrangements, the focus of our study. We examine two strands in this literature. The first confirms the breadth-depth trade-off in trade agreements and offers potential remedies. The second is more doubtful of the trade-off, observing the absence of the trade-off and/or identifying conditions when it is present.

Literature in the first strand illustrates problems that the breadth-depth trade-off introduces in trade agreements. Focusing on the experience of European integration, these studies argue increasing membership in trade agreements results in lowest denominator agreements because of unanimity rules that characterize decision-making in trade agreements (Downs et al, 1998; Koremenos et al, 2001; Schneider, 2017; Schulz and Koning, 2000). As unanimity grants each member a veto power, a higher number of negotiating states increases preference heterogeneity and gridlocks decision-making (Schneider and Urpelainen, 2014). The result is shallow agreements that require minimum or no behavior change, making deeper cooperation among parties less likely (Hertz and Leuffen, 2011; Konig, 2007).

While acknowledging these adverse effects of membership on cooperation depth, studies in this first strand further identify potential remedies for the breadth-depth trade-off. Several studies note admission rules and incumbent member strategies that have been used to mitigate the breadth-depth trade-off. Downs et al (1998) argue that the European Union, through sequentially expanding membership while instituting majoritarian voting rules, has mitigated the potential negative impact of membership. Konstantinidis (2008) similarly argues that the six European Economic Community member-states strategically delayed the admission of the United Kingdom, given the potential uncertainty a new member-state could have introduced. Their aim was to tilt "future expansion negotiations in [… their] favor" (Konstantinidis, 2008, p. 422). Leuffen and Hertz (2010) also contend that in the expectation

of new members, existing members may deepen trade agreements before admitting newcomers, to avoid post-accession complications.

Actions taken during bargaining can also help in mitigating the breadth-depth trade-off. McKibben and Western (2014) consider issue-linkage as a potential solution since it provides opportunities to overcome preference heterogeneity via inter-linking different policy areas during negotiations. Others highlight the role of informality in negotiations (Reinhardt, 2001). Bargaining behind closed doors provides more opportunity and space for states to compromise on issues that they cannot compromise in public (Stasavage, 2004). In the long-term, it may lead to the creation of a negotiation culture conducive for deeper agreements despite a large membership (Stasavage, 2004).

In contrast, the second strand of scholars is doubtful of the breadth-depth trade-off in trade agreements. One group offers conditions when the trade-off is likely. Gilligan (2004) argues that the trade-off is only likely in those instances where member-states have to pursue a common policy. Observing European integration, he notes: "as the membership of the EU has grown and become more diverse in terms of policy preferences, the members have been forced to abandon their identical-policy approach in favor of flexibility as a way of getting around the broader-deeper trade-off" (Gilligan, 2004, p. 476). Kelemen, Menon, and Slapin (2014, p. 648 - 650) note that the deleterious impact of membership is only in the short-term; however, breadth can instead "strengthen the role of supranational actors and provide the impetus for institutional changes that facilitate deepening in the long-term."

Another group is even more skeptical of the breadth-depth trade-off in trade agreements. Slapin and Gray (2014), examining officials of regional integration arrangements, find no adverse impact of membership and instead observe that the ambition of these regional integration arrangements increases with size. Similarly, although examining the determinants of expansion of trade agreements, Mansfield and Pevehouse (2013) find that depth does not

affect the decision to expand trade agreement membership. Instead, they observe the importance of political and economic policy similarities in determining trade agreement expansion regardless of the level of depth.

Despite offering an interesting debate on whether and how membership affects trade agreement depth, two issues arise from this literature that our study aims to address. First, extant literature considers membership size as the total number of participating states without distinguishing the different membership configurations of trade agreements. Membership is presented as a conceptual black box that does not vary beyond "less" and "more" regardless of the type of trade agreement. Our study, in contrast, unboxes the notion of membership and shows how membership configurations that characterize the varieties of trade agreements can mediate the impact of breadth on depth.

Second, these studies do not consider whether the bread-depth trade-off's manifestations vary depending on whether the cooperation arrangement is at its initial or follow-up stages. Among plurilateral agreements, several begin with a large membership size at shallow levels of cooperation in line with the breadth-depth trade-off argument. However, despite their membership, some of these arrangements have advanced cooperation later on, suggesting that the breadth-depth trade-off wanes. We explore these two dynamics in the next section and investigate how variations in the design of trade agreements influence the effect of membership on depth.

Varieties of trade agreements and the breadth-depth trade-off

To elucidate on the conditional effect of membership on the depth of trade agreements, we develop two related arguments that place the varieties and temporal stage of trade agreements at the forefront. We consider groups of states aiming to conclude a trade agreement as our units of analysis. States in each respective group, at the outset, share a similar goal of increasing

trade with each other through jointly reducing tariffs. However, these states do not have homogeneous preferences regarding the extent of tariffs reductions nor the number of issues the trade agreement should cover. This variation in preferences has a direct effect on the level of state obligations included in the final trade agreement. For proponents of the breadth-depth trade-off, variation in preferences in a given group increases with the number of participating states. Such variation results in agreements shallow on obligations for states. However, we argue that the relationship between membership and depth of cooperation is more complex and requires a discussion on the mediating effect of the varieties of preferential trade agreements on the extent of cooperation.

The varieties of preferential trade agreements we identified in our introduction offer interesting implications for the breadth-depth trade-off debate. We argue that the negative impact of membership size on depth is absent in region-to-state and interregional agreements. In these types of configurations, states in one or both groups in the negotiations are constituted within formal institutions with secretariats. These secretariats, with varying levels of competencies, can facilitate the reconciliation of heterogeneous preferences of member-states of the given group. Through such mitigation of divergent preferences, the membership size of these groups is unlikely to adversely affect the groups' conclusion of deeper trade agreements with third-party actors, states or other groups.

Our argument extends from that of Downs et al (1998) whose examination of the breadth-depth trade-off identifies majoritarian voting rules as a potential institutional solution. We instead consider another institutional remedy, the delegation of authority to a body within the group such as a secretariat. Delegated with such authority, secretariats of these groups can facilitate the reconciliation of within-group preference heterogeneity and negotiate trade agreements with third-party actors on the groups' behalf. For instance, the institutional structure of the European Union, while delegating authority to negotiate trade agreements to

the Commission, also ensures that the preferences of member-states and other stakeholders are taken into account as the Commission bargains with third-party actors (see Jupille, 1999; Meunier, 2000, 2007). This formal organizational structure can contribute to the group negotiating as a single entity vis-à-vis third-party actors, thus transforming such talks to approximate bilateral negotiations (Elsig and Dupont, 2012). Such bilateral arrangements avail opportunities for negotiating deeper trade agreements, since the de facto number of negotiating parties is two.

The interregional trade agreement between the European Free Trade Association (EFTA) and the Southern African Customs Union (SACU) illustrates this approximation of bilateral setup in action. Article 31 of the 2002 SACU agreement includes provisions stipulating that SACU member-states negotiate as a group with third parties. Similarly, Article 43 of the EFTA Convention delegates to the EFTA Council the responsibility to conclude trade deals with third parties. For both groups, the primary motivation for initiating trade talks was to guarantee favorable market access for their respective businesses (Draper and Khumalo, 2009). This bilateral setup along with their shared motivations facilitated the conclusion of a relatively deep trade agreement between them (Draper and Khumalo, 2009; Gathii, 2011).

The Comprehensive Economic and Trade Agreement between the European Union and Canada also shows how the bilateral setup of region-to-state agreements facilitates deeper trade agreements. The Commission, delegated with formal authority to advance the trade interests of member-states, embraced enhanced bilateral deals such as CETA to secure access to key markets such as Canada's in the face of the slow progress in the World Trade Organization (Allee et al, 2016; Elsig, 2007; Hübner et al, 2017). Negotiating with the Commission, instead of each of 27 member-states individually, enabled Canada and the EU to conclude by far one of the EU's deepest trade agreement with a non-EU state.

We expect a more complicated relationship between membership and depth for plurilateral agreements. We argue the breadth-depth trade-off is present in a subset of plurilateral agreements, initial plurilateral agreements, but absent in follow-up agreements, addenda to these initial plurilateral pacts. We build this argument on Abbott and Snidal's (2004) work on pathways to international cooperation. Abbott and Snidal (2004) acknowledge that cooperation can begin with a large group of states that exhibit heterogeneous preferences. These differences motivate the participating states to initially prefer softer forms of legalization for their cooperation initiative (Abbott and Snidal, 2004). However, such large groups can overtime deepen cooperation as they learn more about each other's' preferences and behavior (Abbott and Snidal, 2004).

We take a similar approach to that of Abbott and Snidal (2004) and apply it to plurilateral trade agreements. Specifically, disaggregating between initial and follow-up plurilateral trade agreements enables us to hypothesize different effects of membership size on depth. We distinguish between these two phases of plurilateral agreements for three reasons. First, some plurilateral deals begin cooperation with a large number of participants with varied preferences. Second, many plurilateral agreements such as the Andean Community are associated with regional integration arrangements that aim to advance cooperation through several iterations.[1] Third, at initial stages plurilateral arrangements may lack the sophisticated institutional mechanisms of remedying the breadth-depth trade-off such as majoritarian decision-making and sequential admission rules that Downs et al (1998) have proposed. Under such circumstances, where cooperation begins with a large membership, we expect membership size to have a negative effect on the depth of the trade agreement.

Crucially, we do not expect follow-up plurilateral agreements to exhibit a breadth-depth trade-off. This is the case because of two reasons. First, the process of concluding the initial agreement enables the negotiating parties to gain more information regarding each other's

preferences that may have been less available at the outset. This learning continues as the initial agreements become effective, reducing the level of preference heterogeneity and in the process creating the possibility of deeper agreements. Second, the initial agreement can include provisions establishing institutional mechanisms that help in ameliorating challenges to cooperation that may have been present during the earlier negotiations. These institutions further enhance learning and information exchange that limit the adverse effect membership size would have if the plurilateral group considers follow-up agreements. Follow-up agreements, if a group of states decide to pursue them, take place in an environment characterized by less preference heterogeneity. We attribute this to learning experience and availability of information states obtained in negotiating and implementing the initial pacts.

The cases of the Preferential Trade Area of Eastern and Southern Africa (PTA) and its follow-up, the Common Market for Eastern and Southern Africa (COMESA), illustrate our theoretical expectations for initial and follow-up plurilateral agreements. In the run-up to the conclusion of the PTA agreement, it became clear that the political and economic heterogeneity of the 15 participating states was going to inhibit a deep trade agreement (Takirambudde, 1993). While a tentative agreement had been signed in 1981, the agreement's effective date was delayed owing to less developed states indicating their unwillingness to massively reduce trade tariffs and fully comply with the PTA agreement (Hall, 1987; Martin, 1989). Finally entering force in 1984, the PTA agreement included provisions that called for a gradual approach to trade liberalization and the establishment of various institutions to facilitate intra-bloc trade and cooperation (Musonda, 1997; Rwegasira, 1997).

In 1993 and with 22 participating states, PTA concluded its follow-up agreement, the COMESA treaty. This treaty goes beyond the PTA agreement, setting out mechanisms for the elimination of trade tariffs and establishment of a customs union and common market. According to Gondwe (1998), the extent of cooperation outlined in the COMESA deal was

made possible by the gradual approach and institutional setup under the PTA agreement. Through the PTA, participating states have also become more cognizant of each other's preferences regarding integration. This has led to the acceptance of multi-speed integration: "COMESA emphasises the need to move forward and that, where consensus cannot be reached, a simple majority decision will be sufficient to initiate joint development" (Gondwe, 1998, p. 18).

In sum, we derive two implications to explain the relationship between membership size and the depth of trade agreements. We expect no discernable breadth-depth trade-off among region-to-third-party (region-to-state and interregional) agreements and follow-up plurilateral agreements. However, the negative effect of membership size on the depth of trade agreements should be present among initial plurilateral trade agreements. We test the following two hypotheses:

H1: The negative effect of membership size on depth is absent in region-to-third-party trade agreements and follow-up plurilateral trade agreements;

H2: The negative effect of membership size on depth is present in initial plurilateral trade agreements.

Data and Method

We test the two hypotheses quantitatively using data drawn from various sources that are operationalized at the trade agreement level composed of groups of states. We primarily rely on the Design of Trade Agreements database (DESTA) that Dür, Baccini and Elsig (2014) developed. DESTA has a wider coverage of the different types of trade agreements and codes various design characteristics of trade agreements including depth, the dependent variable, and membership size. We focus on those preferential trade agreements in the DESTA database composed of three or more states. We exclude bilateral trade agreements because these do not

vary in membership size, a key interest of this paper, compared to membership size among plurilateral, region-to-state, and interregional trade agreements. Additionally, this lack of variation of membership size for bilateral trade agreements makes it impossible to estimate the conditional effect of membership on the depth of this type of trade agreement.

For the dependent variable, we use DESTA's depth measure that is derived from a latent trait analysis estimating 48 depth-related variables. These variables include provisions in trade agreements that address cooperation in trade liberalization, services trade, investments, intellectual property rights, public procurement, and competition (Dür, Baccini and Elsig, 2014). The advantage of the DESTA depth measure over others including horizontal depth indicators of Hofmann et al (2019) is its wider temporal and spatial coverage. DESTA for example, includes a total of 669 trade agreements between 1948 and 2020 compared to horizontal depth indices of Hofmann et al that include 279 trade agreements between 1958 and 2015.

The independent variables of interest are *Membership* and *Agreement Type*. *Membership* is the total number of member-states of each trade agreement calculated using information from the DESTA database. It ranges between three and 91 member-states. We operationalize breadth as membership as we are interested in examining the effect of preference heterogeneity on depth in different configurations of negotiating parties. Our operationalization of breadth as membership is similar to others in extant literature (Downs et al, 1998; Gilligan, 2004).

Our second independent variable of interest, *Agreement Type*, is an ordinal indicator of the trade agreement types we identified previously. This variable measures two different dimensions of trade negotiation: a temporal dimension that distinguishes between initial and follow-up phases of plurilateral agreements and a configurational dimension that differentiates between plurilateral, region-to-state, and interregional arrangements of negotiations. We code

this variable from information from the DESTA database. In testing our argument, we develop interaction terms composed of *Membership* and the varieties of trade agreements coded in *Agreement Type* since our interest is in identifying how the varieties of trade agreements condition the breadth-depth trade-off.

We control for several political, economic, and trade agreement characteristics that previous research has identified as covariates of the depth of trade agreements. Political and economic characteristics are operationalized by calculating the mean values of these indicators for each trade agreement in the years, between one and five, before the conclusion of the trade agreement.[2] Trade agreement characteristics denote design provisions included in the respective trade agreements.

Politically, we control for *Democracies*, *GATT/WTO States*, and *Allies*. Democratic states are more likely to conclude deeper trade agreements (Mansfield et al, 2008). Others have found GATT/WTO membership to be more likely to facilitate the conclusion of trade agreements while trade deals tend to be more likely among alliance partners (Lechner and Wüthrich, 2018; Mansfield et al, 2008).[3] For these political variables, we calculate the mean percentage of the trade agreement's member-states that were democracies, maintained membership in the GATT/WTO, and jointly maintained an alliance partnership before the conclusion of the trade agreement. We code *Democracies* from the dichotomous indicators of democracy that Boix, Miller and Rosato (2013) developed. *GATT/WTO States* is coded from data from the WTO's website on membership. We obtained data used to code *Allies* from Leeds et al (2002).[4]

We include three economic control variables, *Trade*, *Market Size*, and *Income*. High trade volume among members of the trade agreement can motivate the consideration of deeper trade agreements. Additionally, a large cumulative economy comprising potential member-states of the trade agreement and wealthy states may be expected to pursue deeper trade

agreements to reap even more benefits from economic cooperation. Trade, the natural logarithm of the total trade between member-states of the trade agreement, captures the importance of the market the trade agreement would avail to member-states. We obtain data for this variable from trade statistics that Barbieri and Keshk (2016) have assembled. *Market Size* is the natural logarithm of the total Gross Domestic Product (GDP) in constant 2011 US Dollars of the member-states of trade agreement while *Income* is the mean per capita GDP in constant 2011 US Dollars of the member-states of the trade agreement. We draw data for *Market Size* and *Income* from the Penn World Tables (Feenstra et al, 2015).

Finally, we control for flexibility provisions in trade agreements we obtained from the DESTA database. *Flexibility* measures the long-term flexibility provisions in trade agreements that permit member-states to deviate from the agreement due to potential uncertainty. The inclusion of flexibility provisions in trade agreements can assuage states' concerns about uncertain outcomes in the future, thus enabling them to commit to deeper trade agreements (Baccini, Dur and Elsig, 2015).

The assembled data used in the main estimations includes 234 trade agreements—89 plurilateral (40 initial and 49 follow-up deals), 125 region-to-state, and 20 interregional agreements. These data are observed between the years 1951 and 2016. Descriptive statistics are provided in the appendix. We estimate these data using an ordinary least-squares linear regression model with robust standard errors.

Findings

Table 1 presents five models depicting our main results.[5] The first column is the base model that excludes *Agreement Type*. The second column presents estimates with the inclusion of three agreement types (plurilateral, region-to-state, and interregional) in the model. In the third column, we include the interaction terms of these three agreement types with *Membership*. The

fourth column includes four agreement types, disaggregating plurilateral agreements to initial and follow-up deals, in the model. In the fifth column, we include the interaction terms of these four agreement types with *Membership*.

To preview, estimates in Table 1 reveal the absence of a breadth-depth trade-off among region-state, and interregional trade agreements when compared to plurilateral agreements. Crucially, further examination of the results shows that it is only among initial plurilateral trade agreements that membership has a negative relationship with depth.

Table 1. The Conditional Effect of Membership Size on the Depth of Trade Agreements

	(1)	(2)	(3)	(4)	(5)
Membership	0.016***	0.01**		0.01**	
	(0.004)	(0.005)		(0.005)	
Plurilateral × Membership			-0.015*		
			(0.008)		
Initial Plurilateral × Membership					-0.026***
					(0.01)
Follow-up Plurilateral × Membership					0.022
					(0.013)
Region-State × Membership			0.049***		0.061***
			(0.012)		(0.013)
Interregional × Membership			0.026***		0.038***
			(0.009)		(0.01)
Democracies	0.005***	0.006***	0.005**	0.006***	0.005***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
GATT/WTO States	0.007***	0.007***	0.008***	0.007***	0.008***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)
Allies	0.003**	0.003***	0.003***	0.003***	0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Trade	0.116***	0.108***	0.124***	0.116***	0.133***
	(0.028)	(0.031)	(0.03)	(0.034)	(0.032)
Market Size	-0.203***	-0.191***	-0.231***	-0.200***	-0.239***
	(0.047)	(0.05)	(0.049)	(0.052)	(0.051)
Income	0.324***	0.340***	0.328***	0.339***	0.317***
	(0.077)	(0.084)	(0.086)	(0.084)	(0.087)
Flexibility	0.267***	0.275***	0.273***	0.272***	0.27***
	(0.043)	(0.044)	(0.043)	(0.044)	(0.042)
Constant	-2.845***	-3.101***	-2.361***	-2.953***	-2.054**
	(0.622)	(0.784)	(0.78)	(0.808)	(0.816)
Observations	234	234	234	234	234
R-squared	0.507	0.527	0.555	0.529	0.559

Robust standard errors in parenthesis; Statistical significance: *** p<0.01, ** p<0.05, *p<0.1.

The estimates in Table 1 show that when not controlling for trade agreement type (column 1) and the mediating effects of varieties of trade agreements (columns 2 and 4), there is no discernable breadth-depth trade-off. Instead, membership is positively associated with depth. However, the interaction terms in columns 3 and 5 show that *Agreement Type* conditions this effect of membership on depth in interesting ways and helps to clarify when the breadth-depth trade-off, however limited, is present. In column 3, we interacted three agreement types—plurilateral, region-to-state, and interregional—with membership. The estimates presented suggest that only in plurilateral trade agreements does membership have a negative effect on depth. Further investigation of this relationship in column 5 reveals that when disaggregating plurilateral agreements into initial and follow-up deals, it is only among initial plurilateral agreements that a bread-depth trade-off is present.

Figure 2 displays the conditional marginal effects of membership on depth for initial and follow-up plurilateral, region-to-state, and interregional agreements with 95% confidence intervals using estimates from column 5 of Table 1. The figure depicts the effect a one-unit increase in membership has on the dependent variable, depth, for these trade agreement types. A notable observation, in line with our hypotheses, is the negative effect of membership on depth for initial plurilateral trade agreements that can be contrasted with the positive effects of membership on depth among region-to-state and interregional agreements. For follow-up plurilateral agreements, Figure 2 depicts a negative, but not statistically significant effect of membership on depth.

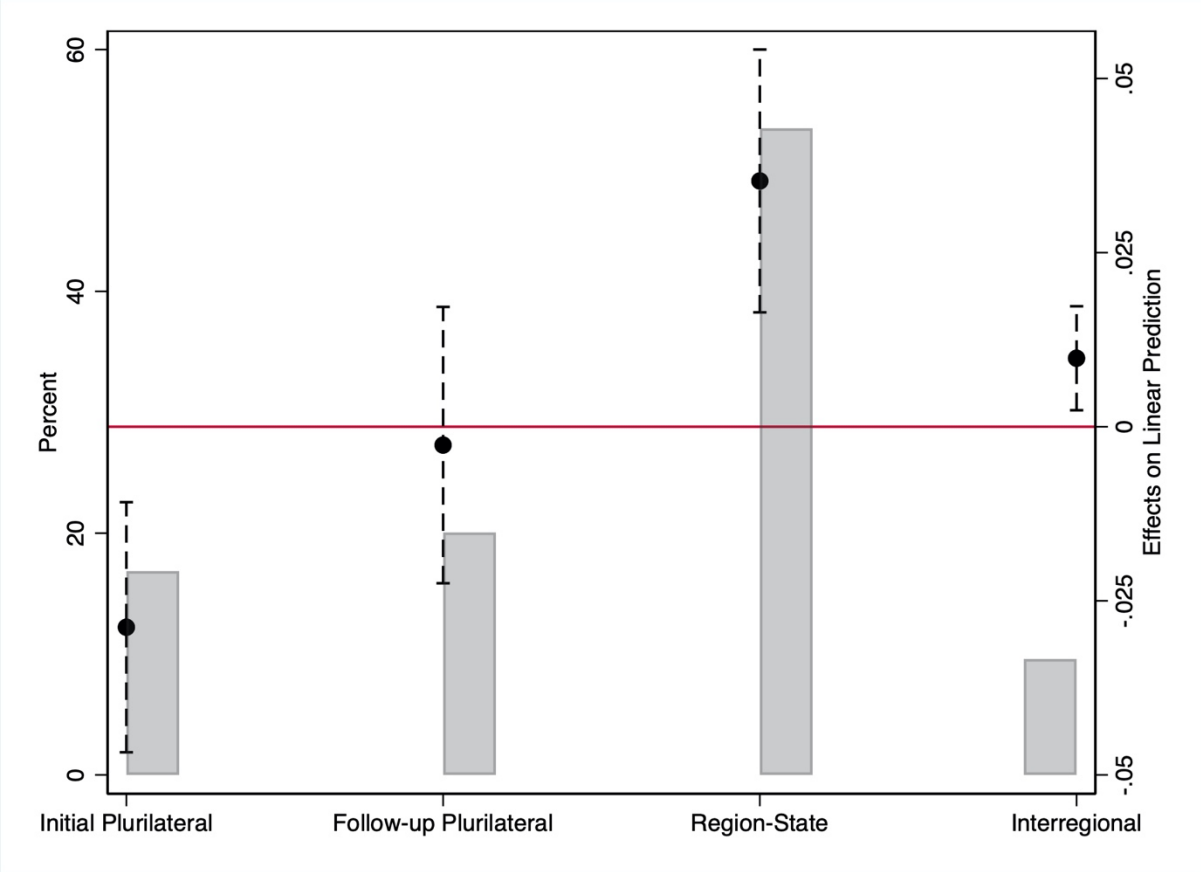

Figure 2. Conditional marginal effects of Membership on Depth for different trade agreement types.

To better interpret estimates in Table 1, we present the linear prediction of the effect of membership on trade agreement depth for the four agreement types from Table 1's column 5 with 95% confidence intervals in Figure 3. This chart further shows the contrasting effects of membership on depth for the different trade agreement types. In the first graph, the breadth-depth trade-off among initial plurilateral agreements is observable. As membership increases, the predicted value of the dependent variable decreases. In the second graph, however, the effect of membership on the depth of follow-up plurilateral agreements is weakly negative. Taken together, these two graphs are instructive: while membership size negatively affects depth initially, its impact on the depth of later plurilateral agreements that build on the original pact wanes. As we argued, the initial agreement may establish an institutional environment that facilitates learning and helps to reduce preference heterogeneity among states that might have been present before the conclusion of the initial agreement. With such heterogeneity lessened,

the possibility of concluding deeper agreements that extend from the initial deal becomes higher even in the presence of a large membership.

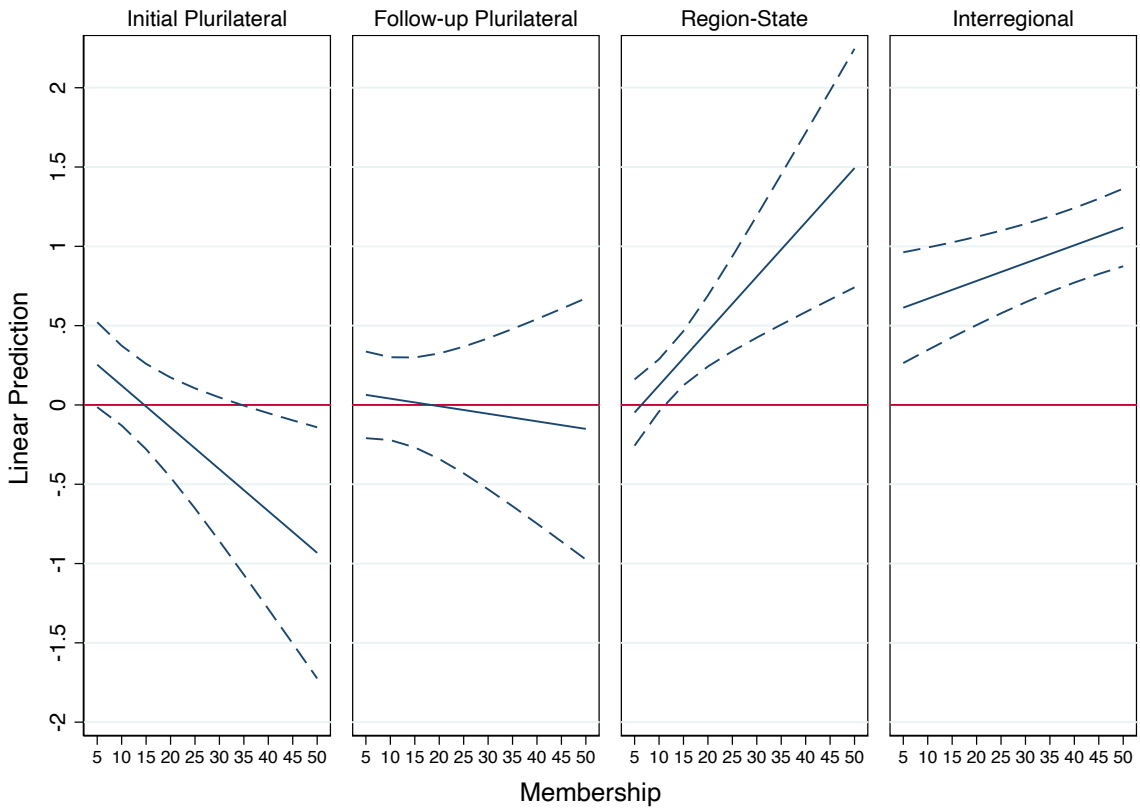

Figure 3. The effect of Membership on Depth for different trade agreement types.

The last two graphs in Figure 3 further support our first hypothesis. In both graphs, the effect of membership on depth increases for region-to-state and interregional trade agreements. Although not relationships we fully developed in our argument, these results are nonetheless in line with our logic. In these agreements, membership increases will be in institutionalized bloc(s) that may have mechanisms to negotiate as units. Such membership increases may contribute to the bargaining leverage of the bloc that can enable it to obtain additional concessions from the third-party with whom it is negotiating a trade agreement, contributing to a deeper pact. In such a scenario, it would be unsurprising for membership to be positively associated with the depth of the trade agreement.

Several control variables are statistically significant in some models, corroborating previous findings. Unsurprisingly and in line with extant research, a high percentage of democracies, GATT/WTO members, and alliance partners in the trade agreement are associated with deeper trade agreements. Trade among agreement partners and agreements concluded by wealthier states tend to be deeper. However, *Market Size* is negatively associated with deeper agreements, a finding that suggests that states that rely extensively on global trade prefer shallower forms of preferential trade agreements. Finally, and unsurprisingly, the presence of flexibility provisions in trade agreements is positively associated with deeper trade agreements.

We conducted several additional tests to assess the robustness of our results that we include in the appendix. First, we reran the model with only the main independent variables, *Membership* and *Agreement Type*. Second, we reran the model with a minimal set of control variables (*Democracies*, *GATT/WTO States*, and *Trade*). Third, we reran the model with an alternative measure of trade, the ratio of intra-agreement trade to the agreement members' total trade with the world.[6] Fourth, we reran the main model with the inclusion of a variable measuring the percentage of militarized interstate disputes involving pairs of states in the same trade agreement.[7] Fifth, we reran the main model with the inclusion of region fixed effects.[8] Estimates from these additional tests support our argument: the effect of membership on the depth of trade agreements is dependent on the type of agreement. A breadth-depth trade-off is observable among initial plurilateral trade agreements only, while for other agreement types membership either does not have any discernable effect or has a positive impact on depth. This positive impact is notable among region-to-state agreements.

In sum, we find support for our argument. A breadth-depth trade-off only occurs in a subset of trade agreements, initial plurilateral deals, and this trade-off dissipates in follow-up agreements to these initial pacts. Initial plurilateral arrangements may serve a learning function

that over time reduces uncertainties and the adverse impact of membership size. We find no discernable breadth-depth trade-off among region-to-state and interregional trade agreements. The formal-institutional characteristic of the "region" side(s) in these deals that transforms negotiations to what resembles bilateral bargaining setups may be explaining this finding.

Testing the Effect of Institutional Mechanisms of Region-to-Third Party Agreements

Our argument assumes that region-to-third party agreements possess institutional mechanisms that mitigate the impact of membership on the depth of these agreements. While we found support for the absence of a breadth-depth trade-off among these trade agreements, our model did not specifically examine the mediating impact of institutions in these trade agreements. These trade agreements however vary in depth and the extent to which they delegate authority to their respective bureaucracies. As such, a crucial relationship to explore to support our argument is whether delegation to regional group secretariats conditions the effect of membership on the depth of region-to-third party agreements.

To test the mediating effect of regional group institutions, we limited our sample to region-to-state agreements and estimated models that included a measure of delegation to international organization bureaucracies that Hooghe and her colleagues (2017) developed. This measure, as we discussed below, encapsulates features of secretariats of international organizations (IOs) that include regional groups like the Andean Community and European Union that have pursued region-to-third-party trade agreements. Our choice to examine region-to-state agreements is because of the large number of these agreements compared to interregional ones. Methodologically, the focus on region-to-state agreements is prudent as it allows us to test the region side's variation in bureaucracies' competencies.

According to Hooghe and Marks (2015, p. 307), delegation is "a conditional grant of authority by member states to […the IO secretariat…] to overcome issue cycling, sustain

credible commitments, provide information that states might not otherwise share and, in general, reduce the transaction costs of decision making." The composite delegation measure Hooghe et al (2017) developed is appropriate for our study as it encapsulates the institutional features that we argued can impact the ability of a regional group to negotiate as a unit. The measure ranges between 0 and 1 with higher values denoting more delegation to secretariats.

The region-to-state subset of our data is composed on 112 agreements concluded by seven regional groups.[9] Given that delegation is measured at regional bloc level, we estimate a linear mixed effects regression model with robust standard errors clustered around the several regional blocs. We also include regional bloc fixed effects to account for unobservable factors unique to the regional blocs that may influence depth. We present estimates in Table 2.

Estimates presented in Table 2 confirm the conditional effect of membership on the depth of region-to-state agreements. In the first column that does not include the interaction term between *Membership* and *Delegation*, a positive association between *Delegation* and depth is notable. As expected, blocs with secretariats possessing more competencies are positively associated with deeper trade agreements between these blocs and third-party states. *Membership* in this first column does not have a statistically significant impact on depth. In the second column, however, a conditional effect of delegation on the impact of *Membership* is reported. With the inclusion of the interaction term between *Membership* and *Delegation*, *Membership* has a negative and statistically significant effect on the depth of region-to-state agreements. However, the interaction term reveals that delegation moderates this effect of membership. Put differently, the effect of membership on the depth of region-to-state agreements is less negative for those agreements involving groups with secretariats possessing more competencies.

Table 2. Delegation and the effect of Membership on the depth of region-to-state agreements

	(1)	(2)
Membership	0.009	-0.336***
	(0.015)	(0.056)
Delegation	6.188***	1.002
	(1.293)	(1.423)
Delegation × Membership		0.558***
		(0.088)
Democracies	0.021**	0.027***
	(0.008)	(0.006)
GATT/WTO States	0.005	0.008*
	(0.006)	(0.004)
Allies	0.002	0.002
	(0.002)	(0.001)
Trade	0.027	0.064***
	(0.038)	(0.018)
Market Size	-0.235*	-0.095
	(0.138)	(0.109)
Income	1.094**	0.517**
	(0.437)	(0.213)
Flexibility	0.187***	0.204***
	(0.034)	(0.031)
Constant	-11.92***	-7.198***
	(3.616)	(1.602)
Observations	112	112
Groups	7	7

Robust standard errors in parenthesis; Statistical significance: *** p<0.01, ** p<0.05 , *p<0.1

Figure 4 that depicts the conditional marginal effects of *Membership* at different levels of *Delegation* with 95% confidence intervals graphically summarizes these findings. These results provide empirical support for one of our argument's assumption: institutional mechanisms in the form of delegation to secretariats of regional groups mitigate the impact of membership on the depth of trade agreements these groups conclude with third-party states. Our findings are robust under different model specifications that we provide in the appendix.[10]

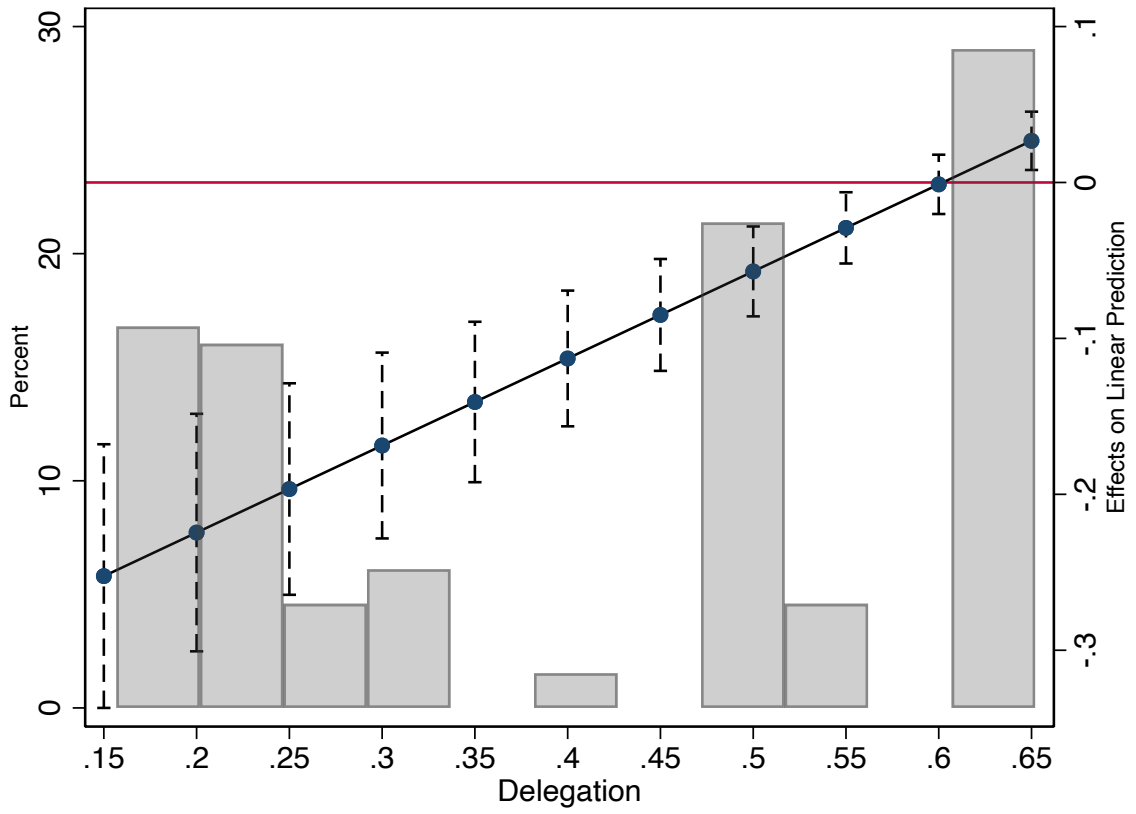

Figure 4. Conditional marginal effects of Membership on Depth for different levels of bloc delegation.

Conclusion

The primary motivation for our reexamination of the breadth-depth trade-off is the increasing varieties of preferential trade agreements. Extant literature has not considered whether the effects of membership on depth are conditional on the membership configurations of the different types of preferential trade agreements. We argued that the breadth-depth trade-off is limited to initial plurilateral trade agreements. For follow-up plurilateral trade deals, such an adverse impact of membership on depth is absent. Additionally, for other types, region-to-state and interregional trade agreements, we found no discernable breadth-depth trade-off and instead a positive impact of membership on depth.

In further investigating the breadth-depth trade-off among region-to-state agreements, we find that secretariats of regional blocs mediate the impact of membership on the bloc side by enabling blocs to negotiate as units. This finding is in line with institutionalist and neo-

functionalist literatures that have identified the roles institutions play in facilitating cooperation. While neofunctionalist literature expects institutions to enhance deeper cooperation among bloc member-states (Stone Sweet and Sandholtz, 1997), our findings extend from this expectation to show that these institutions can also enable deeper cooperation between bloc members and non-members in the form of region-to-third-party trade agreements.

Our study does not claim that membership size is the only key factor in the design of trade agreements. However, the number of states considering formal cooperation directly affects the extent to which state preferences vary. Variation in preferences influences how states design their cooperation arrangements. As such, our study helps to show how such variations in preferences that membership engenders can be less problematic for states seeking to cooperate. In finding that the negative effect of membership on depth is only limited to a subset of plurilateral trade agreements, our study suggests that the breadth-depth trade-off, at least among preferential trade agreements, may not be that dire.

However, our study points at the need to investigate other manifestations of state preference heterogeneity and how they affect the design of trade agreements. Although membership is a plausible proxy for heterogeneity, it is equally reasonable to expect regime type differences, variations in economic policy orientation, among other domestic level factors to capture heterogeneity. Such manifestations of preference heterogeneity go beyond the relationship the breadth-depth trade-off literature hypothesizes and raise questions on how such differences in preferences can affect how states design their trade agreements regardless of membership size.

Our findings raise the need to explore the effects of the institutionalization of regional blocs on the design of preferential trade agreements. One question future research can explore is how the institutional features of regional blocs influence these blocs' pursuit of region-to-third-party agreements. Design features such as delegation and pooling that Hooghe and her

colleagues have developed may influence certain outcomes, including the selection of third-party actors and the negotiation duration of region-to-third-party agreements.

Notes

1. In the DESTA data, while 15-percent of region-to-state agreements were follow-up deals, 52-percent of plurilateral agreements were addendums to the initial pact.
2. The choice of this period to calculate trade agreement means for these variables is driven by data availability.
3. For our study, membership in these multilateral trade arrangements may imply a willingness to conclude trade agreements between a select group of states that go beyond the liberalization efforts of the GATT/WTO.
4. Leeds et al define an alliance as "a formal agreement among independent states to cooperate militarily in the face of potential or realized military conflict."
5. Coefficients for the different trade agreement types, components of *Agreement Type* are not displayed in Table 1.
6. These data are obtained from the International Monetary Fund's Direction of Trade Statistics.
7. Data on militarized interstate disputes are obtained from Maoz et al (2019).
8. These are geographic regions where the member-states of the trade agreements are located: Africa, Americas, Asia, Europe, Intercontinental, and Oceania.
9. The seven blocs are: Andean Community (ANCOM), Association of Southeast Asian Nations (ASEAN), Caribbean Community (CARICOM), Southern Common Market (MERCOSUR); European Community/Union (EC/EU), European Free Trade Association (EFTA), Gulf Cooperation Council (GCC). EC/EU exhibits most within-bloc variation of the variable *delegation* over time; however, there is some within bloc variation in ASEAN, CARICOM, EFTA, and MERCOSUR. The observed variation for the EC/EU is due to this bloc having actively pursued region-to-third-party agreements compared to other blocs. Given the possibility that EC/EU agreements may be driving the estimates of *delegation*, we conducted an additional test with the exclusion of the EC/EU. Estimates are included in the manuscript's appendix.
10. First, we estimated the model excluding agreements the EU concluded with third-party state. Second, we estimated the model with a minimal set of control variables (*Democracies*, *GATT/WTO states*, and *Trade*). Third, we estimated the model with only the main independent variables, membership and delegation).

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