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ORIGINAL ARTICLE

Designing Competition Clauses in Preferential Trade Agreements

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Abstract
Competition policy is one important aspect of trade liberalization. However, when examining preferential trade agreements (PTAs), a major type of policy tools to liberalize trade, competition provisions are revealed not to be uniformly distributed across these treaties. What explains the variation in the design of competition clauses in PTAs? Borrowing insights from the rational design of international institutions and combining them with those from treaty ratification and policy diffusion literatures, I identify five major causal mechanisms through which competition provisions are incorporated into PTAs. In evaluating them, I employ a range of operationalization techniques to capture the proposed mechanisms. A treaty-level analysis of 319 PTAs over the period 1960–2015 lends strong and robust support to most of the hypothesized relationships. By integrating theoretical frameworks across international political economy literatures with that from law and economics scholarship, this study demonstrates the utility of political science thinking to the real-world international law-making.

Keywords: Competition policy; preferential trade agreements; institutional design; trade liberalization; treaty depth

1. Introduction

Trade and competition are intimately related. Anti-competitive business practices endanger gains from trade (WTO, 1997). To regulate these practices, in addition to using domestic policy instruments, states have made persistent efforts to internationalize competition regulation since the 1948 Havana Charter. When such efforts faltered within the multilateral frameworks, preferential trade agreements (PTAs) became a primary vehicle to institutionalize competition regulation at a plurilateral level (Anderson et al., 2018). The strength of such competition regulation, however, varies widely across PTAs (Büthe, 2007; Bradford and Büthe, 2015; Büthe and Cho, 2017; Bradford and Chilton, 2021).

A growing body of literature has been devoted to understanding this variation, and although it has generated important insights into this phenomenon, such research is dominated, with a few notable exceptions, by researchers working in the areas of law and economics. (Brusick et al., 2005; Sokol, 2008; Teh, 2009; Bradford and Büthe, 2015; Anderson et al., 2018; Laprévote, 2019; Bradford and Chilton, 2021; Ikejiaku and Dayao, 2021). Competition provisions in PTAs deserve more attention from international political economy scholars, not only because its practical significance has become vital in trade, investment, and development (Bartók and Miroudot, 2008; Sokol, 2008; Voigt, 2009; Büthe, 2019), but also because it provides a valuable venue to further develop existing theories on the design of international institutions.

In this study, I take up the task of explaining the variation of competition provisions in PTAs. Drawing on the literature on the design of international institutions and combining it with the

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literature on treaty ratification and policy diffusion, I identify five major causal mechanisms through which competition provisions are composed in PTAs. To evaluate them, I employ a range of operationalization techniques to capture the proposed mechanisms. A treaty-level analysis of 319 PTAs over the period 1960–2015 offers strong and robust support for most of the hypothesized relationships.

This study seeks to extend current scholarship on various fronts. First, it adds to a burgeoning strand of literature on competition clauses in PTA (Büthe, 2007; Bradford and Büthe, 2015; Büthe and Cho, 2017; Bradford and Chilton, 2021). It not only tests the conventional strategic enforcement thesis in a more rigorous environment, but also theorizes and evaluates a set of influential factors that shape competition provisions in PTAs. Second, it links to the broad scholarship on the design of PTAs (Baccini et al., 2013). For example, recent research has examined the determinants of dispute settlement provisions (Allee and Elsig, 2016) and labor standards in PTAs (Raess et al., 2018; Wang, 2020). Focusing on competition provisions in PTAs, this study serves as a useful addition to this growing literature. Additionally, in a more general sense, through the examination of such important provisions as competition, it confirms a number of key propositions made in the design of international institutions literature, from both power-based (Allee and Peinhardt, 2014; Simmons, 2014) and rational calculation approaches (Koremenos et al., 2001; Koremenos, 2005). Finally, it also enriches our understanding of the relationship between trade and competition policy (Bradford and Chilton, 2019). Empirical results in this study reveal that policy makers do not consider that competition policy can complement trade. Rather, they tend to believe that trade liberalization renders it less necessary to install extensive competition clauses in trade agreements.

The rest of this article is structured as follows. First, I provide a brief background on competition provisions in PTAs. Second, I review extant literature on the design of competition provisions in PTAs. Third, I present theoretical arguments and empirical expectations. I then give details on data, operationalization, and estimation strategy in the research design section. Fourth, findings are then discussed, followed by checking their robustness. I conclude with a summary and a discussion of the implications.

2. Background: What are Competition Provisions in PTAs?

Competition provisions in PTAs are internationalized competition policy through trade agreements. Competition policy encompasses a wide range of rules, measures, and instruments (Dawar and Holmes, 2012). Competition law is one essential component of it. Competition law refers to legal instruments that governments use to discipline anticompetitive practices, such as agreements between firms that restrict competition or abuse dominant business positions, which can lead to 'artificially high prices, predatory pricing, and price fixing' (Dawar and Holmes 2011, 349). The logic behind national competition laws is that by maintaining a free and fair market competition process, the efficiency of resource allocation will be improved and total social welfare will therefore be maximized. Competition policy also encompasses governmental measures that are employed to determine the conditions of competition and actions that foster competition, such as privatization, deregulation, and enforcing national treatment. In this sense, competition policy has a broader application as it concerns behavior of both governments and firms (Hoekman and Mavroidis, 2002; also see Bradford and Büthe, 2015; Bradford and Chilton, 2019; Büthe, 2019).

PTAs normally contain two types of provisions that are pertinent to competition policy. First are general provisions 'concerning market access, non-discrimination, or import/export restrictions' that 'may have a direct or indirect impact on competition policy' (Laprévote, 2019, p. 5). Second are competition-specific provisions. Also according to Laprévote (2019), most PTAs currently in force 'devote specific provisions or even entire chapters to competition-related

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matters' (p. 6), although they differ greatly in the extensiveness of these provisions. These provisions often cover obligations to

> '(i) promote competition; (ii) adopt or maintain competition laws; (iii) regulate designated monopolies, SoEs, and enterprises entrusted with special or exclusive rights; (iv) regulate state aid and subsidies to provisions; (v) lay down competition-specific exemptions; (vi) abolish trade defenses; or set forth (vii) competition enforcement principles; (viii) co-operation and co-ordination mechanisms; and (ix) principles governing the settlement of competition-related disputes' (Laprévote, 2019, 6).[1]

As listed above, PTAs vary in both the number of provisions that aim to foster free and fair competition and the level of cooperation in each of these provisions. In this article, I focus on the former, which is termed the ambition of competition clauses in PTAs.[2] Further, in a more abstract way, these competition-specific provisions can be grouped into two categories: harmonization of competition rules among signatories, and cooperation on competition-related issues (Cernat, 2005). The free trade agreements signed by the EU often contain the former type of provision, such as the 1994 EU–Poland Europe Agreement, whereas the US and Canada tend to include the latter in their trade agreements, such as the 2002 Canada–Costa Rica Free Trade Agreement (Holmes et al., 2005).

Regardless of the types of competition provisions in PTAs, they are designed to achieve the possible welfare gains from trade liberalization pursued by these agreements (Mathis, 2005). Next, I will briefly discuss the current scholarship on the determinants of competition clauses in PTAs.

3. Extant Literature: Why are Competition Provisions Incorporated into PTAs in the Way They Are?

Scholars have primarily relied on two theoretical frameworks to explain the design of competition policy in domestic laws and PTAs. The first one is strategic enforcement (Guzman, 1998; Guzman, 2004). It contends that a state's preference over competition policy is a function of its trading status. As a net exporter, it will prefer lax regulations in overseas markets in order to shift costs to foreign producers while keeping benefits for domestic consumers. Conversely, as a net importer, it will demand tighter regulations in domestic markets to achieve the same goal. Empirical research, however, does not entertain conclusive findings on the validity of this theoretical explanation. Bradford and Büthe (2015) merely find somewhat mixed and vague evidence for it: negative comity, which intends to prevent selective enforcement, is rare in PTAs, although provisions that require notifying the other party before action are fairly common, which are also expected to achieve a similar effect. Ikejiaku and Dayao (2021) argue that current institutional arrangements in the EU and the US make strategic enforcement more likely, but give no concrete evidence.

The second framework is built on the effect of liberalization on competition policy. Two opposing views emerge. According to the first view, free trade substitutes competition policy, as removing market barriers improves competition (Helpman and Krugman, 1989; Blackhurst,

[1]This list is largely similar to the one identified by the OECD (2005), but with some salient differences. For the sake of comparison, it is documented here: 1. Measures relating to the adoption, maintenance, and application of competition law; 2. Provisions relating to the cooperation and coordination of activities by competition law enforcement bodies; 3. Provisions relating to anti-competitive acts and measures to be taken against them; 4. Provisions relating to non-discrimination, due process, and transparency in the statement and application of competition law; 5. Provisions to exclude the use of anti-dumping measures against the commerce of signatories; 6. Provisions concerning the circumstances and conditions under which recourse to trade remedies (such as anti-dumping measures, countervailing duties, and safeguards) are permitted; 7. Provisions relating to the application of dispute settlement procedures in competition policy-related matters; 8. Provisions relating to flexibility and progressivity, sometimes referred to as special and differential treatment (SDT) provisions.

[2]I thank the editors for suggesting the term ambition, which is more conceptually inclusive and therefore suitable to the context of this article.

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1991; Melitz and Ottaviano, 2008). In other words, trade liberalization makes antitrust regimes redundant. Therefore, trade will reduce the utility of competition policy both domestically and internationally, including its inclusion and strength in PTAs.

In contrast, the second view advocates for a complementary relationship between trade and competition policy (Bartók and Miroudot, 2008; Bond, 2013; Bradford and Büthe, 2015). This is so because market integration not only creates more opportunities for cross-border collusion but also facilitates it by increasing costs of detecting and punishing it (Bradford and Büthe, 2015). Early economic modeling reveals that liberalization indeed leads to expansive competition policy in places where trade restrictions are removed (Richardson, 1999; Horn and Levinsohn, 2001). Empirical findings that are more recent lend support to this view. Bradford and Büthe (2015) show that positive comity clauses, indicating a very high level of commitment to legal coordination to strengthen transnational enforcement, appear in almost half of the PTAs they examined. Similarly, Bradford and Chilton's (2021) nuanced descriptive statistics uncover that competition provisions in PTAs are enforceable and their members are overwhelmingly committed to international cooperation regarding competition policy. Although domestically focused, Bradford and Chilton's (2019) research confirms that free trade has contributed to more sophisticated competition laws since the 1950s.

Other works also note that market power plays a significant role in designing competition provisions in PTAs (Büthe, 2007; Büthe and Cho, 2017). However, extant literature omits possible mechanisms that are identified by scholarship in the international political economy, particularly in international institutions, i.e., asymmetrical bargaining power, rational design, policy adjustment costs, and diffusion. Exploring these mechanisms can help scholars better appreciate the complexity in political processes that shape the design of competition clauses in PTAs. In addition, heuristic as the results are in the literature, there is no direct test of the widely adopted strategic enforcement mechanism in a multivariate environment (for example, Bradford and Büthe, 2015). Filling this gap will reinforce our confidence in findings on the strategic enforcement mechanism as it will be evaluated jointly with competing explanations advanced in this study.

I improve on the existing literature by providing a multi-factor explanatory framework that incorporates insights from both IPE and legal scholarships, and carefully operationalize and rigorously test the proposed mechanisms. Moreover, in order to more precisely pinpoint the theorized co-variation between state's multiple calculations and treaty provisions on competition policy, I relax the strong assumption made by Bradford and Büthe (2015) about what type of clauses are driven by strategic enforcement.

4. Theoretical Explanations and Expectations

I identify five theoretical mechanisms through which competition policy is incorporated into PTAs at various degrees. They are asymmetrical bargaining power, enforcement, uncertainty, policy adjustment costs, and diffusion. These five mechanisms are organized into three broad categories according to the level of analysis at which each is proposed to work: inter-state level, domestic level, and system-state level. Table 1 displays each explanation and its corresponding level of analysis. Below I will elaborate them in order.

Table 1. Analytical levels of explanations

Level of analysis	Theoretical explanations
Inter-state level	Asymmetrical bargaining power
Domestic level	Enforcement
	Uncertainty
	Policy adjustment costs
System-state level	Diffusion

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4.1 Asymmetrical Bargaining Power

Power shapes treaty making and design (Odell, 2000; Thompson, 2010). Economic treaties often reflect the preferences of states with market and capital power. For example, the literature on bilateral investment treaties (BITs) has demonstrated that states with poor economic performance are more likely to accept BITs that capital-exporting states prefer (Simmons, 2014), and that states with a smaller economy tend to agree on third-party arbitration clauses in BITs that are demanded by these capital-exporting states (Allee and Peinhardt, 2014). When applying this logic to bargaining on competition clauses in PTAs, we should expect that the balance of economic power or lack thereof to affect the design of these clauses. Recent studies show that economically powerful countries are able to ensure the competition provisions in PTAs stay closer to their ideal points than their less economically powerful counterparts. Büthe and Cho (2017) find that the EU's antitrust agreements with Brazil, China, and India are distinct from those with states that have less economic influence, as the former agreements effectively mirror these large developing economies' preferences. In contrast, the European Union's 1995 agreement to form a customs union with Turkey strictly requires the latter to bring its domestic law to be in accordance with that of the European Union (Bradford and Chilton, 2021).

Economically powerful countries are mostly found in the developed world. When it comes to trade agreement negotiations, some of these developed countries even act in concert, as indicated in the examples given above of the EU. Therefore, the preferences of economically powerful countries over competition policy are significant in the design of competition provisions in PTAs. In general, the developed countries prefer tighter regulations of anti-competition practices. The US led tmodern competition law development through the passage of the Sherman Act of 1890 and the Clayton Act of 1914. In 1957, six major European economies (Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany) incorporated competition policy into the Treaty of the European Community (Papadopoulos, 2010). In the following decades, Germany stood out among these countries through increasingly tighter competition legislations due to its staunch defense of the free market against monopolies (Papadopoulos, 2010). Outside of Europe, Japan has maintained strong competition law since the end of World War II (Bradford and Chilton, 2018). Both Canada and Britain considerably strengthened their respective competition laws during the 1970s (Bradford and Chilton, 2018). Therefore, developed countries tend to hold strong positions in competition policy. Moreover, as the major source of foreign direct investment, developed countries especially prefer to coordinate competition regulations through international instruments, such as treaties, as doing so can reduce impediments to transnational commercial activities in host countries (Jenny, 2020).

In contrast, for many countries in the developing world, competition policy is a local issue with many variations, and should be the concern and responsibility of the national governments. International coordination does not facilitate the implementation of competition law and thereby fails to enhance the business environment as it omits diverse complexities and challenges facing these countries. Hence, developing countries may agree on the general idea of competition policy but do not wish to incorporate into international agreements the competition clauses entailing precise obligations that restrict their domestic policy autonomy (Jenny, 2020). They are better off keeping their competition laws distinctly local (Cheng, 2020). Also, developing nations often express different understandings of the scope of competition law and policy than their developed counterparts. For example, developing countries may 'enthusiastically support infant industry policies for selected manufactured products and business service-including limits on competition' (Hufbauer and Kim, 2009, p. 331). This policy position supposedly prevents their substantive cooperation with the developed participants in PTAs on competition issues. Therefore, the final outlook of competition provisions in a PTA is contingent on the balance of economic power in its negotiation. Expectedly, a large number of developed participants in PTAs will tip the power balance toward their policy preferences, producing extensive competition clauses.

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Hence, we have the following hypothesis:

H1: The number of developed nations in a PTA is associated with its ambition of competition clauses.

4.2 Enforcement

The enforcement argument is twofold.[3] The first is strategic enforcement. When a state heavily relies on exports, it is inclined to advocate easy regulations of anti-competitive practices in destination states. Conversely, when a state receives large imports, it likely supports rigorous policies that protect competition in its own jurisdiction (Bradford and Büthe, 2015; Ikejiaku and Dayao, 2021). Guzman's (1998) parsimonious model reveals that net exporters prefer no regulations as they do not bear the welfare losses caused by monopolistic behavior but do care about gains for their firms, whereas net importers indiscriminately block all the perceived anti-competitive practices regardless of the global welfare effects as they have to confront the welfare losses for domestic consumers. The fact that many countries with strong exporting industries grant exemption to their export cartels in competition law illustrates this point, including Germany, Japan, the United Kingdom, and the United States (Guzman, 1998, 1514, fn 35&36). Therefore, high trade surplus discourages states from supporting the inclusion of broad competition provisions in PTAs.

The second part of the enforcement problem concerns state capacity. The literature on treaty enforcement reveals that state capacity affects the extent to which a treaty is implemented in a signatory. A state that maintains strong control over its territory, competent bureaucracy and effective judiciary is more likely to enforce provisions contained in treaties by which it is legally bound (Simmons, 2003; Freeman, 2013; Berliner et al., 2015; Cole, 2015). If a state knows it would be practically unable to keep some of its promises, if they were included in treaties, it would hardly be likely to make them in the first place.[4] Reputation is at stake. Poor reputation owing to the failure of carrying out contractual obligations can be consequential (Tomz, 2007; Crescenzi et al., 2012). This is particularly true of treaties based on reciprocity, such as trade agreements. As a result, high state capacity renders it more possible for a state to accept greater treaty burdens. In the case of designing competition provisions in PTAs, states that can enforce laws domestically with efficacy should have less opposition to inserting many competition clauses in these agreements. Therefore, we have the following hypotheses:

H2a: Large trade surpluses between member states are associated with a less ambitious design of competition clauses in PTAs.

H2b: High governance competence of member states is associated with an ambitious design of competition clauses in PTAs.

[3]In this study, enforcement does not mean or imply that there is a high level of centralization in terms of dispute settlement. As a matter of fact, states often make reservations on dispute settlement mechanism when it comes to disputes that arise from the competition clauses. For example, one of the most recent PTAs, the RCEP, ends its Competition Chapter (Chapter 13) with Article 13.9, Non-Application of Dispute Settlement: 'No Party shall have recourse to dispute settlement under Chapter 19 (Dispute Settlement) for any matter arising under this Chapter.' Chapter 16 of the CPTPP, also on Competition, ends with the same. Article 16.9: Non-Application of Dispute Settlement, 'No Party shall have recourse to dispute settlement under Chapter 28 (Dispute Settlement) for any matter arising under this Chapter.' Thanks to Reviewer 1 for this suggestion.

[4]Surely, this is not always the case. For example, autocratic states ratify human rights treaties to signal that they are capable of repression despite the treaty obligations (Vreeland, 2008). However, human rights treaties are not reciprocity based and therefore fundamentally different from those that are reciprocity based (Keohane, 1986).

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4.3 Uncertainty

The rational design of international institutions literature suggests that uncertainty plays a big role in the architecture of international institutions. First, member states are concerned about the behavioral uncertainty of others regarding treaty promises (Koremenos et al., 2001; Koremenos, 2005). States may deviate from treaty provisions they have agreed to implement. Other members lack such information or find it very costly to acquire. Hence, to avoid receiving a temptation payoff due to asymmetrical information, states often seek indication that such uncertainty might be mitigated. For instance, in the crisis bargaining literature, enjoying opposition parties' support or even acquiescence can be evidence of the incumbent government's resolve (Schultz, 1998). In other words, states pay close attention to others' ability to credibly convey their commitment. They indeed use various methods to communicate their sincerity (Fearon, 1997; Morrow, 1999). Among other things, the democratic regime should be able to reduce the perceived uncertainty of their future behavior when it comes to treaty implementation, as constituencies can electorally punish leaders for failing to keep international promises (Dai, 2005). Current scholarship on international cooperation does find consistent and strong evidence that democracies are more likely to honor their treaty promises (Mansfield et al., 2002; Leeds et al., 2009; von Stein, 2015). Therefore, the strong presence of democratic members in a treaty will enhance the prospect of its being complied with. Logically, the treaty will also likely contain clauses that aim for deep and meaningful cooperation. By applying it to competition policy, a large number of democratic members in PTAs should be able to ameliorate this uncertainty issue and hence deepen cooperation on regulating anti-competitive practices. The depth of competition clauses in PTAs will thus be greater.

Second, the state of the world is another matter on which states can hardly obtain strong certainty and thus affects international institutional design (Koremenos et al., 2001). For example, after a treaty enters into force, its member states may experience significantly slow economic growth or confront adverse macro-economic conditions. Such untoward events will likely undermine the ability of a treaty member to continue carrying out its contractual obligations and will therefore diminish expected gains for others from future cooperation. Foreseeing this scenario, states are inclined to lower the level of cooperation by including shallow treaty provisions.[5] Therefore, when such uncertainty is high, the depth of treaty design tends to be low.

H3a: Low uncertainty of state behavior induced by the strong presence of democratic members is associated with an ambitious design of competition clauses in PTAs.

H3b: High uncertainty of the state of the world held by member states is associated with a less ambitious design of competition clauses in PTAs.

4.5 Policy adjustment costs

Policy adjustment costs affect the design of international institutions too. The literature on the politics of international treaties reveals that when states need to engage in costly policy adjustments after an agreement at issue enters into effect, they prefer not to ratify it (Goodliffe and Hawkins, 2006; Wang, 2016; Cheong and Kim, 2022). Therefore, many international agreements do not contain hard legal rules that stipulate precise behavioral prescriptions and impose a third-party judicial process in the instance of disputes (Abbott and Snidal, 2000; Kahler, 2003). In other words, states prefer superficial cooperation that prescribes minimum policy changes. They find it easier to comply with the agreements that codify such shallow cooperation (Downs et al., 1996).

[5]Making a shallow agreement is not the only way to deal with uncertainty. States can design escape clauses to address the same issues (Rosendorff and Milner, 2001; Baccini et al., 2013).

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Similarly, when it comes to the competition clause design of PTAs, we should expect that states are prone to negotiating very generic provisions that lack specific behavioral expectations when they believe they will be required to overhaul their existing competition legal system to meet the standards of a trade agreement that they are about to enter. In other words, if a state has only weak competition laws, then highly legalized competition clauses in PTAs will imply greater costs of changing domestic policies to ensure compliance, which it does not want to bear. However, when a state is already equipped with strong competition laws, then it has no issues with including rigid competition clauses in PTAs, as there is no need for it to bring domestic regulations to reach international standards embedded in trade agreements which it plans to accept. This partly explains why PTAs between previously socialist countries do not contain substantial competition clauses (Laprévote, 2019), where effective domestic competition law is often lacking. Therefore, such a state will prefer loose competition regulations in PTAs in the first place.

H4: The anticipated minimum changes of domestic laws to stay consistent with competition provisions as issues are associated with an ambitious design of these clauses in PTAs.

4.6 Diffusion

Treaty commitments diffuse (Elkins et al., 2006; Baccini and Koenig-Archibugi, 2014). States as agents bring about this diffusion. There are two ways that competition clauses spread across PTAs. First, states' experience with competition clause design in existing PTAs should affect their choice in future trade agreements. States that have already joined PTAs with highly legalized competition clauses will prefer a similar design in the trade agreements they are negotiating, and vice versa. Put differently, a state's preference over competition clauses revealed through existing PTAs is very likely to travel to the next one that it will enter. Therefore, states' track record of treaty design regarding competition policy should be an effective predictor of their preferred bargaining position, which tends to be manifest in subsequent treaty negotiation. A recent study has convincingly revealed that contents in PTAs do migrate from one to another sequentially (Allee and Elsig, 2019).

When members of current PTAs with extensive competition clauses come together to negotiate a new trade agreement, these preferences will govern its design, from which a similar set of provisions will result. This theoretical reasoning resembles that of path dependence in domestic politics. Initial institutional choices are sticky and can constrain the later ones in similar scenarios (Pierson, 2000; Copelovitch and Putnam, 2014). The path dependence in international institutional design has unveiled itself in the evolution of the World Health Organization (Hanrieder, 2014). Dispute settlement mechanisms also migrate from one PTA to another (Jo and Namgung, 2012). In the case of competition provisions in PTAs, path dependence may take the form of recurring similar clauses across treaties.[6] Simply put, these clauses diffuse.

In addition, the GATT/WTO may expose states to and help them internalize new policy thinking on regulating and protecting competition through trade agreements. States are socialized to accept a new behavioral standard, or a new norm (Finnemore, 1996; Kelley, 2004; Checkel, 2005; Baccini and Koenig-Archibugi, 2014). It is undeniable that neither the GATT nor the WTO successfully produced binding rules that systemically control anti-competitive conduct in international trade. However, the mechanisms created in both have facilitated the diffusion of the idea that competition policy matters in trade liberalization. For example, GATT adopted 'the 1960 Decision on Arrangements for Consultations on Restrictive Business Practices', which 'recognized that restrictive business practices "may hamper the expansion of world trade and the economic development in individual countries and thereby frustrate the benefits of tariff reduction and removal of quantitative restrictions"'. *Ad-hoc* mechanisms were also frequently employed to address relevant issues during the GATT years.

[6]From a transaction cost perspective, the same inference can be drawn, as the design on competition clauses in pre-existing PTAs lower the cost of drafting new ones. Thanks to Reviewer 2 for this point.

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The WTO, as a successor to the GATT, has achieved significant progress in fusing competition policy with trade liberalization. It has made competition policy an integral part of the 'WTO accession packages (i.e., the sets of undertakings that are adopted in relevant Protocols when new members join the WTO)' and of its trade policy review mechanism (Anderson et al., 2018, p. 10). In addition, the WTO has been active in carrying out the study of how competition policy affects trade and development, which helps disseminate and strengthen the idea among members that competition policy should be taken seriously in trade liberalization (Anderson et al., 2018, p. 10). As a result, when a PTA negotiation is conducted among a large group of GATT/WTO members, it will likely include extensive competition clauses,[7] reflecting a collectively more positive attitude toward coordinating competition policy among these members. Indeed, the WTO has left a remarkable and indelible imprint on the contents of PTAs (Allee et al., 2017).

H5a: More states who are already members of trade agreements that contain ambitious competition clauses are associated with an ambitious design of competition provisions in subsequent PTAs.

H5b: More GATT/WTO members are associated with an ambitious design of competition clauses in their PTAs.

5. Research Design

5.1 Data

The dependent variable is the ambition of competition provisions in PTAs. The Design of Trade Agreements (DESTA) project carefully codes competition clauses in PTAs (Dür et al., 2014).[8] It employs a series of indicators to cover the different aspects of these clauses.[9] Specifically, DESTA uses the following questions to construct these indicators: 1. Does this agreement include a competition chapter? 2. Is there a provision on undertakings not to distort competition? 3. Is there a provision on the exchange of information or notification? 4. Is there a provision on a general institution responsible for competition? 5. Is there a provision on the establishment of specific

[7]However, it could also be the case that GATT/WTO members may feel frustrated with the failure of the multilateral institution to legalize competition policy. Despite their efforts and limited achievements (Anderson et al., 2018), the GATT/WTO largely represents the failure of multilateralism in creating a global regulatory system to promote and preserve free and fair market competition. Although the intention to do so and the general policy direction have existed since the founding of the GATT, no subsequent rounds of trade negotiations produced any concrete rules and thus made no progress in that regard. This situation was not improved after the WTO succeeded the GATT. The General Council of the WTO removed competition policy from the Doha agenda in 2004 due to the deadlock in the previous years (World Trade Organization, 2004). Meanwhile, the membership of the successor has considerably expanded, which almost renders it impossible to achieve any consensus on substantial issues, especially the ones that require harmonization of considerably divergent national policies, such as competition policy (Jackson, 2006). In particular, developing countries often express high suspicion of globalizing competition policy through multilateral trade agreements, despite the shared recognition that competition policy is of vital importance (Bhattacharjea, 2006; Gerber, 2007). As a consequence, frustration with the GATT/WTO likely prompts states to pursue substantial cooperation on competition regulations through PTAs. Empirically, we should hence expect that such frustration grows with a state's duration of its membership in the GATT/WTO as well as its effect on treaty design. In robustness checks, when I include this variable, it is statistically insignificant and negatively signed, suggesting that frustration with the GATT/WTO does not drive the design of competition clauses in PTAs (Supplementary Table A2 in online Appendix B).

[8]Capitalizing on their pioneering domestic competition law index (Bradford and Chilton, 2018), Bradford and Chilton (2021) provide a new dataset on competition clauses in PTAs that quantifies fine institutional details. The correlation between the two datasets is greater than 0.85. Since legal nuances are not the focus of this study, I therefore stick to the DESTA coding throughout the empirical testing. As part of the robustness checks, I rerun the model on Bradford and Chilton (2021). The results remain largely consistent.

[9]Please refer to The Design of Trade Agreements (DESTA) CODEBOOK for more details (Dür et al., 2014) using the link: www.designoftradeagreements.org.

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bodies for competition? 6. Is there a non-binding provision on the coordination among national authorities? 7. Is there a binding provision on the coordination among national authorities? 8. Is there a provision on the creation of a common authority/institution on competition? 9. Is there a provision on monopolies and/or cartels? 10. Is there a provision on mergers and/or acquisitions? 11. Is there a provision on state-owned enterprises? 12. Is there a provision on state aid? 13. Is there a provision on subsidies? For each question, if the answer is yes, then it is assigned 1; otherwise 0.

As we can see, these questions capture the scope/level of cooperation among states on competition in PTAs. The assumption here is that, the more such provisions are included in trade agreements, the broader the scope of cooperation on the competition policy. Therefore, I treat these values additive and thus create an aggregate index based on their sum for each treaty. The resulting variable is a continuous one, ranging from 0 to 11 in the sample. The higher value indicates ambitious competition provisions, and vice versa. For example, African the Economic Community (1991) made no competition commitments, which therefore receives a value of 0. The Costa Rica-Peru Free Trade Agreement (2011) contains a moderately ambitious design of competition provisions, which has a value of 5. The EFTA–Mexico Free Trade Agreement (2000) assumes a value of 11, indicating widely spanning competition clauses in it. Figure 1 displays evolution in the ambition of competition provisions in PTAs across time. The frequency is shown, i.e. the total number of PTAs signed in a given year that contain a specific level of ambition of competition provisions.

With regard to explanatory variables, I employ the number of OECD countries in a PTA to proxy the bargaining power asymmetry. A similar approach has been used in Allee and Elsig (2016). I expect that more OECD countries will increase the depth of cooperation on competition policy in PTAs. To capture the first mechanism of enforcement, I construct a variable, trade surplus, which is calculated for each state within a PTA as the sum of dyadic trade surplus (in natural log) between itself and other members of the treaty.[10] Following the weakest link principle (Bacciniet al., 2015), I select its minimum value for each treaty. Bilateral trade data come from the Correlates of War project (Barbieri and Omar Keshk, 2016). For the second mechanism of enforcement, I operationalize it using state capacity, the data on which are taken from Hanson and Sigman (2021). I adopt the level of democracy to measure the uncertainty of state behavior, data which are obtained from the Polity IV project (Marshall and Jaggers, 2012). Using the World Development Indicators (WDI) (World Bank, 2016), I then calculate the variance of each member's GDP growth rate over the previous 5 years to approximate the uncertainty of the state of world. Again, I take the minimum values for both variables.

To ascertain policy adjustment costs, I focus on domestic competition laws. Taking advantage of the Competition Law Index (Bradford and Chilton, 2018), which is the first systemic effort to codify competition laws around the world over a long time span using a highly refined matrix and which has been utilized in recently published empirical work (Bradford and Chilton, 2019), I pick the minimum level of competition law among the member states of a PTA.

To operationalize the first diffusion mechanism, I use data on the design of competition policy in PTAs (Dür et al., 2014) to calculate the average level of ambition of competition provisions in all the preexisting PTAs to which a member state belongs in a given year. The smallest value of it within each PTA is selected. The second diffusion mechanism is captured by the number of states with membership in the GATT/WTO. Table 2 summarizes the hypotheses, corresponding variables, and their expected signs.

I finally control for a number of potential confounders. First, I isolate the potential impact of the number of members, which previous literature shows affect treaty design (Koremenos et al., 2001). Second, I take into account the divergence of economic power using within-treaty variance of GDP. GDP data are from the WDI. Last, I consider the ratio of dyads that share linguistic affinity over the total number of dyads within a PTA, as cultural

[10]The formula is $\ln\left(\sum_{i \neq j} (\text{Exports} - \text{Imports})_{ijt}\right)$, in which i and j represent member states in a PTA and t is year.

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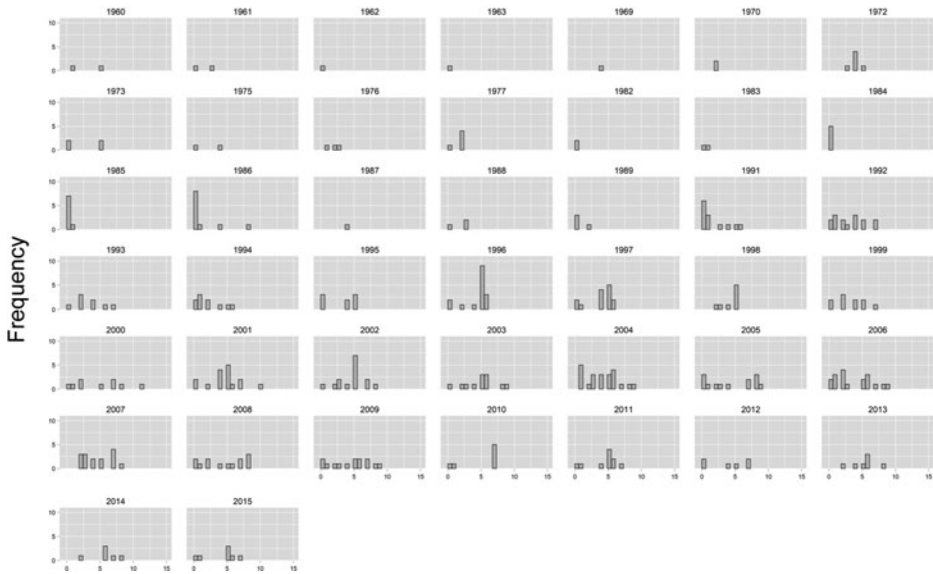

Figure 1. The Ambition of Competition Provisions in PTAs: 1960–2015

Table 2. Operationalization of explanatory variables in hypotheses

Hypothesis	Operationalization	Expected sign
Asymmetrical bargaining power	Number of OECD members	+
Enforcement	Trade surplus, state capacity	–, +
Uncertainty	Democracy, 5-year GDP growth variance	+, –
Policy adjustment costs	Domestic competition laws	+
Diffusion	Average level of ambition of competition provisions in preexisting PTAs, Number of GATT/WTO members	+, +

similarity may lower the cost of negotiation. Data on linguistic affinity are taken from Baccini and Dür (2015).

The resulting observations are 378 in the fully specified model, covering 319 PTAs from 1960 to 2015. In the DESTA, PTAs that change over time are assigned the same treaty numbers. For example, the African Economic Community was established in 1991, and admitted South Africa in 1997. These count as two observations but share the same treaty number 3. The Andorra and EC trade agreement was signed in 1989, and added Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia in 2003, Bulgaria Romania in 2005, and Croatia in 2011. These count as four observations under the treaty number 28. In addition, identical members may alter treaties subsequently, which are treated as different treaties despite the identical member composition (i.e., Argentina and Uruguay trade agreements 1984 and 2003). In robustness checks, when I take into account these two coding choices, the results are in line with those from the main analysis.

Each explanatory variable is lagged one year to deal with potential reverse causality. The final sample comprises cross-sectional data with PTAs as the unit of analysis. I use an OLS estimator to

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evaluate the proposed hypotheses. The standard errors are clustered on treaties. The equation that will be estimated is as follows:

$$\begin{aligned} \textit{Competition policy}_i = {} & \beta_0 + \beta_1 \textit{OECD members}_i + \beta_2 \textit{Trade surplus}_i + \beta_3 \textit{State capacity}_i \\ & + \beta_4 \textit{Demmocracy}_i + \beta_5 \textit{Variance in GDP growth}_i \\ & + \beta_6 \textit{Domestic competition laws}_i \\ & + \beta_7 \textit{Average level of ambition of competition provisions in preexisting PTAs}_i \\ & + \beta_8 \textit{Number of GATT/WTO members}_i + \beta_9 \textit{Number of members}_i \\ & + \beta_{10} \textit{Variance of GDP}_i + \beta_{11} \textit{Ratio of linguistic affinity}_i + \varepsilon_i \end{aligned}$$

In above equation, i indicates a PTA.

5.2 Findings

Table 3 reports the estimation results. Columns 1–5 show results on individual mechanisms. Column 6 displays results when all proposed mechanisms are estimated together. First, the number of OECD members is positive and statistically significant at the 99% confidence levels. In other words, divergence in bargaining power strongly predicts the level of ambition of competition provisions in PTAs, providing clear-cut evidence for H1. Second, the enforcement problem is also validated. Both trade surplus and state capacity achieve expected signs and statistical significance at the 95% and above confidence levels. Greater trade surplus dissuades states from engaging in ambitious cooperation on competition in PTAs, adding credence to H2a. Meanwhile, higher governing capacity predisposes states to commit to substantial competition policy in PTAs, comporting to H2b. Third, the evidence is mixed for uncertainty hypotheses. A higher level of democracy, an indicator of lower behavioral uncertainty, improves the ambitious level of competition clauses in PTAs only with the presence of another uncertainty variable. H3a thus receives weak support. Similarly, the uncertainty of the state of the world, as measured by the variance of GDP growth rates over a 5-year period, assumes consistent negative signs, echoing the expectation, but attains statistical significance merely in the absence of other mechanisms and cofounding factors, thereby lending limited support to H3b.

Fourth, the hypothesis of policy adjustment costs (H4) secures its confirmation. Rigorous domestic competition laws, indicating lower anticipated costs of adjustment if PTAs with a given level of competition provisions are concluded, are positively correlated with the ambition of competition provisions in PTAs. This relationship is statistically significant at the 99% confidence level. Fifth, diffusion mechanisms are partially verified. Participation in the existing PTAs with an ambitious design of competition clauses leads to a similar design in ensuing trade agreements, which is in line with H5a. In the meantime, the findings fail to provide consistently supportive evidence for H5b that the clustering of GATT/WTO members facilitates the institutionalization in PTAs of the unrealized proclivity for ambitious competition clauses on a global level in the two multilateral institutions.

Regarding controls, the number of members does not exert any statistically significant effect on the design of competition provisions in PTAs, in line with existing research (Baccini et al., 2015). Divergence in economic power as captured by within-treaty variance of GDP shows no discernible effect as well. This is expected, as GDP can merely reflect power difference but omits policy preferences. For example, large developing countries do not necessarily prefer expansive competition provisions in PTAs (Büthe and Cho, 2017). The number of OECD members, however, effectively combines both, which picks up the effect of asymmetrical bargaining power more readily. Surprisingly, when more negotiating states share linguistic affinity, they

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Table 3. What explains the ambition of competition provisions in PTAs

DV = Ambition of competition provisions in PTAs Causal mechanisms	*Explanatory variables*	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bargaining power	*Number of OECD members*	0.259***					0.146***	0.119**
		(0.033)					(0.051)	(0.053)
Enforcement	*Trade surplus*		−0.085***				−0.095***	−0.079***
			(0.022)				(0.024)	(0.027)
	State capacity		1.282***				0.875***	0.958***
			(0.148)				(0.191)	(0.221)
Uncertainty	*Level of democracy*			0.091***			0.017	0.025
				(0.018)			(0.021)	(0.023)
	Variance of GDP growth rates			−0.007***			−0.002	−0.002
				(0.002)			(0.003)	(0.004)
Policy adjustment costs	*Domestic competition laws*				0.056***		0.039***	0.044***
					(0.012)		(0.013)	(0.014)
Diffusion	*Average level of ambition of competition provisions in preexisting PTAs*					−0.064	0.420***	0.423***
						(0.189)	(0.148)	(0.161)
	Number of GATT/WTO members					0.080**	0.043	0.036
						(0.034)	(0.036)	(0.039)
Confounding factors/ controls	*Number of members*							0.037
								(0.030)
	Variance of GDP among PTA members							−0.016
								(0.026)

(*Continued*)

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Table 3. (*Continued.*)

DV = Ambition of competition provisions in PTAs Causal mechanisms	*Explanatory variables*	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ratio of linguistic affinity							−5,768.913**
								(2,727.298)
	Constant	3.200***	2.694***	3.434***	3.027***	3.232***	2.092***	2.151***
		(0.138)	(0.174)	(0.138)	(0.173)	(0.162)	(0.224)	(0.278)
	Observations	452	452	435	435	452	378	378
	R-squared	0.076	0.158	0.066	0.048	0.019	0.233	0.258

Notes: Robust standard errors in parentheses.
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

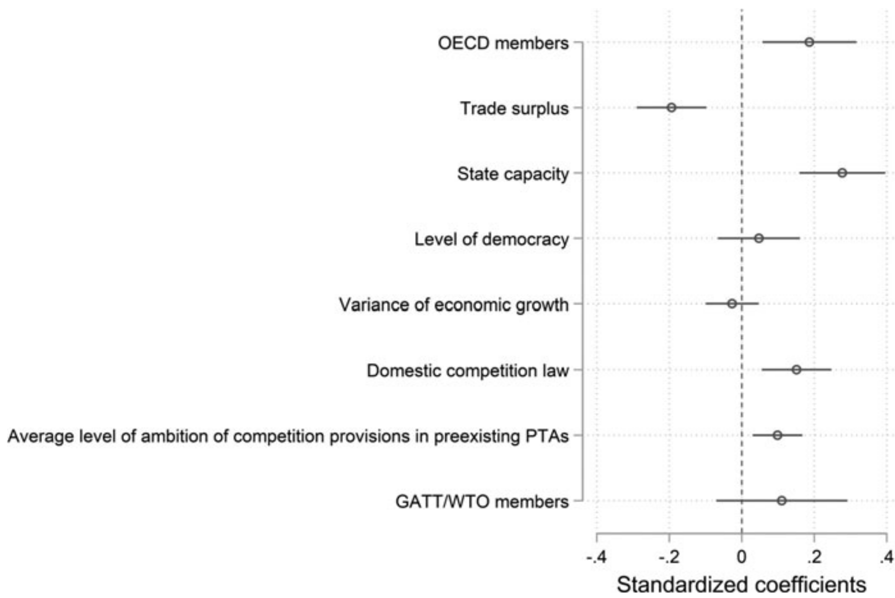

Figure 2. Standardized coefficients
Note: The 95% confidence intervals are shown.

are less likely to include extensive competition clauses in their PTAs, which finding entails further exploration in further research.

To compare the magnitude of the effects across independent variables, I plot the standardized coefficients in Figure 2 based on model 6 in Table 3. As it evidently depicts, the largest influential factor is state capacity, whereas the smallest one is the average ambitious level of competition provisions in extant PTAs.

Figure 3 displays graphs for the effects on the level of ambition of competition provisions in PTAs of individual explanatory variables that are statistically significant at the conventional levels while holding others constant at their means.

I also calculate the substantive effects of the explanatory variables (Table 4). To do so, I summarize each variable in the sample, and find out their respective means and standard deviations. I then calculate how much change in the dependent variable one standard deviation of increase from mean in each explanatory variable causes while holding others constant. One standard deviation increase from the mean of the number of OECD members, i.e. from one OECD member to 4, raises competition ambition in PTAs by 0.45, about 31% of one standard deviation of the dependent variable (which is 2.65). Similarly, the same quantity of change in trade surplus decreases competition ambition in PTAs by 0.34, roughly 10% of one standard deviation of the dependent variable. By the same logic, state capacity contributes to 0.55 units of increase in competition ambition in PTAs, approximately 17% of one standard deviation of the dependent variable. Domestic competition laws add about 23% of one standard deviation of the dependent variable. Competition ambition in preexisting PTAs strengthens competition ambition in the following PTAs by 11% of one standard deviation of the dependent variable. Combining these changes together, they can generate roughly 3 points of increase in the level of competition ambition, which is the improvement from Central American Free Trade Agreement (CAFTA)–Dominican Republic (2004) trade agreement with 1 in competition ambition to Czech and Slovak Republic–EFTA (1992) with 4 in competition ambition, from Australia–Papua New Guinea (1991) with 1 in competition ambition to EFTA–Poland (1992) with 4 in competition ambition, or from Association of Southeast Asian Nations–China Services agreement (1997) with 4 in competition ambition to EC–Korea (2010) with 7 in competition ambition.

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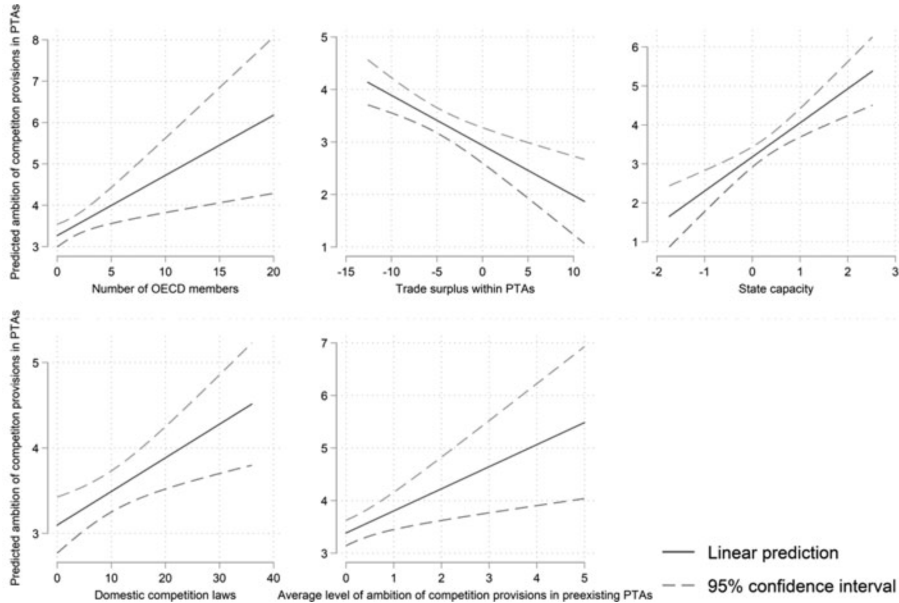

Figure 3. What explains the ambition of competition provisions in PTAs: Out of sample predictions
Note: This figure is created based on model 6 in Table 3. Only statistically significant variables are shown.

Table 4. What explains the ambition of competition provisions in PTAs: Substantive effects

Explanatory variables	μ → μ+σ	Δ in competition policy in PTAs (% of SD)
Number of OECD members	1 4	+0.45 (31%)
Trade surplus	−5 0.39	−0.54 (20%)
State capacity	0.27 1.09	+0.74 (28%)
Domestic competition laws	8 18	+0.42 (16%)
Average ambitious level of competition provisions in existing PTAs	0.07 0.58	+0.22 (8.2%)

Note: Table 4 is created based on model 6 in Table 3. Only statistically significant variables are shown.

5.3 Further Tests

The complementarity thesis argues that trade liberalization reinforces competition policy at both domestic and international levels (Bradford and Büthe, 2015; Bradford and Chilton, 2019). To isolate this cofounding effect, I construct three different variables for further estimations: bilateral imports, bilateral exports, and dyadic trade dependence.[11] Again, I select minimum values within a PTA for each. The results are presented in Table 5. As we can see, all three variables are signed negatively, suggesting potentially suppressing effects. However, only one acquires conventional statistical significance. These findings seem to imply that there exists somewhat substitution between competition provisions in PTAs and trade liberalization, counter to the prediction of the complementarity thesis. At least it is intended so by decision makers who design competition provisions in PTAs.

[11]Dyadic trade dependence is calculated as the ratio of trade flows of a dyad over total trade volume of one constituent state in that dyad.

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Table 5. What explains the ambition of competition provisions in PTAs: Considering the complementarity thesis

DV = Ambition of competition provisions in PTAs	(1)	(2)	(3)
OECD members	0.107*	0.104*	0.107*
	(0.062)	(0.060)	(0.060)
Trade surplus	−0.096*	−0.098*	−0.089**
	(0.056)	(0.056)	(0.034)
Bilateral imports	−0.103		
	(0.065)		
Bilateral exports		−0.109*	
		(0.058)	
Dyadic trade dependence			−2.146
			(1.706)
State capacity	0.905***	0.897***	0.975***
	(0.336)	(0.322)	(0.251)
Level of democracy	0.095***	0.096***	0.055**
	(0.030)	(0.030)	(0.026)
Variance of economic growth	−0.003	−0.007	−0.002
	(0.022)	(0.021)	(0.004)
Domestic competition law	0.043**	0.041**	0.045***
	(0.018)	(0.018)	(0.015)
Average level of ambition of competition provisions in existing PTAs	0.655***	0.643***	0.752***
	(0.149)	(0.151)	(0.164)
GATT/WTO members	0.009	0.011	0.007
	(0.045)	(0.044)	(0.044)
Number of members	0.042	0.042	0.062*
	(0.032)	(0.032)	(0.033)
Variance of GDP among PTA members	0.016	0.042	−0.047
	(0.070)	(0.069)	(0.036)
Ratio of linguistic affinity	−6,440.518**	−7,123.188***	−7,115.258***
	(2,831.981)	(2,576.819)	(2,385.636)
Constant	2.255***	2.242***	2.166***
	(0.495)	(0.494)	(0.358)
Observations	228	227	288
R-squared	0.311	0.319	0.284

Notes: Robust standard errors in parentheses
***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

I also perform an analysis by types of PTAs: bilateral and plurilateral (including all non-bilateral types). The results are plotted in Figure 4. They reveal further variation in the working of mechanisms emerging from the whole-sample estimation. Among the proposed mechanisms, strategic enforcement as measured by trade surplus, policy adjustment costs as measured

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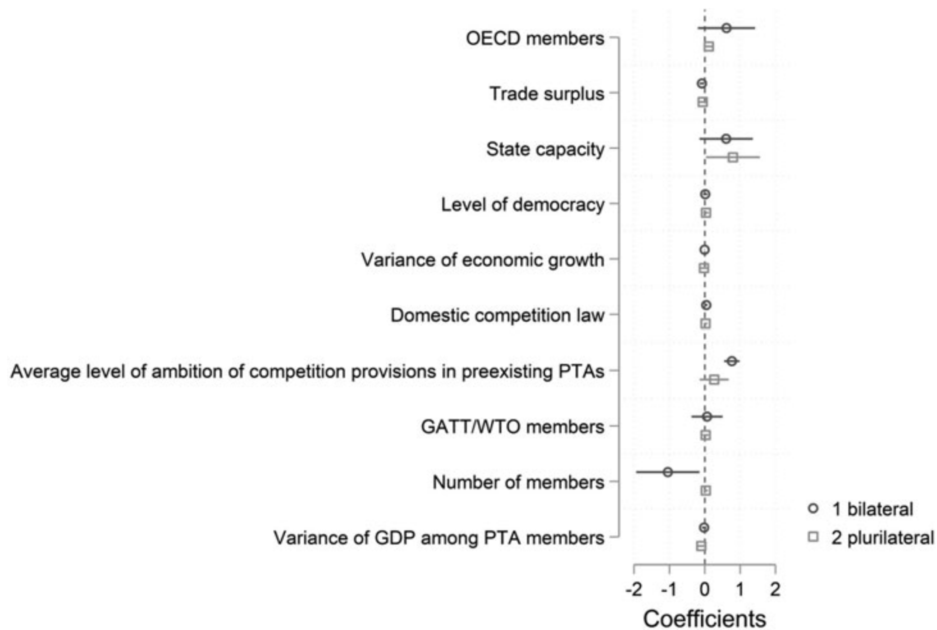

Figure 4. What explains the ambition of competition provisions in PTAs: Bilateral vs. plurilateral
Note: The ratio of linguistic affinity is omitted to increase the legibility as its magnitude is unproportionally large. The 95% confidence intervals are shown.

by domestic competition law, and treaty diffusion as measured by competition provisions in other PTAs drive the design of competition clauses in bilateral PTAs. In contrast, the asymmetrical bargaining power as measured by the number of OECD members and enforcement as measured by state capacity are the major driver of the design of competition provisions in plurilateral ones.

5.4 Robustness Checks[12]

To ensure the main results are not unique to certain variable construction, model specifications, estimation strategy, or sample sizes, I run a series of robustness checks. First, I experiment with alternative operationalization strategies for all proposed mechanisms. To start, I use the ratio of OECD countries in a PTA to capture divergence in bargaining power. Second, I adopt the minimum overall trade surplus (in natural log) between a member state of a PTA and all other states in the world to replace the specific within-treaty dyadic trade surplus as employed in the main analysis. Third, I calculate the variance of state capacity within a PTA to approximate member states' ability to implement it. Fourth, I select the median democracy level within a PTA to capture the uncertainty of behavior. Fifth, I utilize 5-year (prior to signing a PTA) inflation averages of member states to measure the perceived uncertainty of the state of the world within a PTA. Sixth, I employ the median value of domestic competition laws within a PTA as a proxy of policy adjustment costs. Similarly, I take the median depth of competition clauses in previous PTAs of members in a PTA as a measurement of the first proposed diffusion mechanism. Finally, I calculate the ratio of GATT/WTO member over the total number of states in a PTA to operationalize the second diffusion mechanism. Results from all alternative measurements retain consistency with those in the main analysis (Supplementary Table A1).

[12]For the sake of space, supplementary tables are stored in an online appendix.

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Then, I control for dyadic dependence on FDI, the ratio of alliance,[13] and the duration of GATT/WTO membership within each PTA. None of these possible confounding variables achieves conventional statistical significance. The inference on proposed hypotheses from the main analysis remains unchallenged (Supplementary Table A2).

Afterwards, I use the Comparative Competition Law Preferential Trade Agreements (PTA) Dataset (Bradford and Chilton, 2021) to replace the data taken from the DESTA. With the exception of asymmetrical bargaining power and PTA diffusion, results on all other proposed mechanisms echo those from the main analysis (Supplementary Table A4).

Furthermore, there might be a concern that what drives states to enter into a PTA also affects the design of competition provisions in it. To mitigate such concern, I therefore estimate a Heckman selection model to control for the possible selection issue in PTA making and see how that issue affects the design of competition provisions in a dyadic environment. When I remove the selection effect, the results still strongly support all the hypotheses except trade surplus (Supplementary Table A5).

Moreover, I drop cases with duplicate treaty numbers and treaty names in turn. The results from these two data manipulations exhibit great accordance with what is revealed in the foregoing analysis (Supplementary Table A6). Finally, I perform an ordered probit estimation. The results resemble those from the main model.

6. Conclusion

In this study, I explore the determinants of competition provisions in PTAs. Drawing on insights from both IPE and law and economics literature, I propose five explanations. A treaty-level analysis of 319 PTAs from 1960–2015 provides strong and robust evidence for most of these theoretical conjectures. Specifically, I find that strong bargaining power enjoyed by developed countries increases the ambition of competition provisions in PTAs. Trade surplus, an indicator of strategic enforcement, indeed favors a less ambitious design of competition provisions in PTAs. States with high competence facilitate the adoption of ambitious competition provisions into PTAs. Similarly but to a much lesser and inconsistent extent, a large presence of democratic states somewhat reduces the perceived behavioral uncertainty of members and therefore increases the ambitious level of competition provisions in PTAs. The uncertainty of the state of the world also rarely affects the competition clause design. States with rigorous competition laws fear less the costs of policy adjustment after a trade agreement is signed with ambitious commitment to competition provisions and hence collectively embrace an extensive design. States' participation in existing PTAs that are equipped with substantial competition provisions are inclined to carry this preference into future ones, thereby multiplying PTAs with a similar design. However, more GATT/WTO members present in the negotiation of a PTA seldom make it more likely to incorporate ambitious competition provisions into the agreement. Additionally, the impact and its magnitude of these proposed mechanisms vary with the type of PTAs. Finally, there is no evidence for the assumed complementarity between trade liberalization and competition provisions in the trade agreements.

This study makes contributions to scholarships on competition provisions in PTAs and the design of PTAs in particular, and on the design of international institutions in general. It also aids researchers in better grasping the relationship between trade and competition policy. Through analyzing the case of competition clause design in PTAs, this study confirms insights from the international institution literature and the law and economic scholarship and expands both. Asymmetrical bargaining power, reflecting the economic dominance of OECD countries

[13]Dyadic dependence on FDI is the ratio of FDI stock from a treaty member over a host state's total FDI stock from all treat members with a PTA. Similar to the ratio of linguistic affinity, the ratio of alliance is calculated by dividing the numbers of dyads that share alliance ties by total dyadic ties in a PTA. Again, the weak link principle is applied to select values for each variable.

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and their policy preferences, indisputably influences the design of competition clauses in PTAs. This is not surprising, as PTAs have been used as a strategic tool to pursue foreign policy goals by developed countries (Wesley, 2008). Robust evidence in support of the enforcement mechanism reveals that negotiating states are governed by their respective trade surpluses in trade agreement bargaining, lending strong credence to the strategic enforcement thesis in the law and economic literature as its impact on the design of competition clauses remains distinct and significant across econometric settings. Evidence for enforcement in regard to state capacity also reaffirms the enforcement consideration prevalent in the design of international institutions literature, by showing that states pay intensive attention to each other's ability to carry out treaty promises. However, when it comes to competition clause design, states do not give much consideration to uncertainty – be it the willingness to comply or the sustainability of favorable conditions – which qualifies the application of one theoretical pillar in the design of international institutions literature. Moreover, in line with the diffusion scholarship in international political economy, treaty design does diffuse from one to another. There is path dependence in states' accepted design of competition clauses in PTAs, as future design closely follows the prior ones. Last but not least, the absence of complementarity between trade liberalization and competition clauses in PTAs promotes us to ponder more on their relationship.

This study echoes and extends the current literature on the design of PTAs (Baccini et al., 2015; Lechner, 2016). If we have to generalize, then in a very abstract fashion, trade cooperation and broad economic cooperation is rendered possible by facilitative domestic political and economic conditions as well as differentially positioned bargaining preferences and accumulated international experiences. From a perspective of legal scholarship, this study demonstrates the utility of international relations scholarship in exploring the sources of the institutional variation in international law. In this sense, it humbly adds to the broad efforts to seek and establish the political foundation of international law (Hafner-Burton et al., 2017).

Practically, the findings in this study suggest that coordination among OECD countries can increase the extensity of competition clauses. Furthermore, to enhance cooperation or harmonization in competition policy, states with such preferences might want to focus on domestic reforms in legislation and judicial administration in their targets by providing needed support. This can be done across regimes. Also, invoking existing competition clauses can be a good negotiating tactic.

Given the exercises in this study, I am optimistic that there are two related directions along which scholars may consider pursuing fruitful research. First, it might be meaningful to deploy the findings in this study to explain other significant provisions in PTAs, such as those on environment and taxation, as well as to the design of other important economic treaties, such as bilateral investment treaties. Doing so will promisingly extend current intellectual horizons on these mentioned areas (see Allee and Peinhardt, 2010; Simmons, 2014; Morin et al., 2017; Thompson et al., 2019; Noonan and Plekhanova, 2020). Second, unpacking PTAs' impact on trade and foreign direct investment based on differential provisional designs will effectively push forward the existing studies (i.e., Büthe and Milner, 2008; Büthe and Milner, 2014). Some latest research has already demonstrated the fruitfulness of such endeavor (i.e., Brandi et al., 2020).

Supplementary Materials. To view supplementary material for this article, please visit https://doi.org/10.1017/S1474745623000307.

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