Connecting regimes: Preferential Trade Agreements and the management of the intellectual property rights regime.

by

Manfred Elsig[1], Jesslene Lee[2], Soo Yeon Kim[3], and Andrew Lugg[4]

Abstract

International agreements, such as preferential trade agreements (PTAs), increasingly reference international institutions in related policy fields, creating what many have called international regime complexity. Yet, we still lack a complete understanding of what motivates this behaviour. Here, we argue that states strategically reference their preferred norms and institutions in adjacent forums to make regime complexes more compatible with their preferences. Crucially, however, which parties succeed depends on the power and preferences of the negotiating countries. We examine this strategy of "connecting" through an analysis of new data on the design of intellectual property rights (IPR) provisions in nearly 500 PTAs between 1992 and 2018. We differentiate between the connections preferred by developed countries, which aim to reinforce the role of the World Trade Organization (WTO) and the World Intellectual Property Rights Organization (WIPO), against those preferred by developing countries who seek to advance alternative norms and institutions. Econometric analyses of our novel data support our claims that countries actively attempt to create connections across regimes to advance their interests.

Word count: 9876

Keywords: regime complexity, preferential trade agreements, intellectual property rights

Acknowledgements
The authors wish to thank Sam Brazys, Floor Doppen, Andreas Dür, Charles Hankla, Yumi Park, and Stephanie Rickard for extensive comments on earlier versions of the manuscript. We also thank the many comments and suggestions from participants at the 2023 American Political Science Association (APSA) Annual meeting and the 2024 Political Economy of International Organizations (PEIO) conference. All errors are our own.

[1] World Trade Institute, University of Bern.
[2] University of Toronto.
[3] University of British Columbia.
[4] University of Nevada Las Vegas.

Introduction

Many issue areas in international relations are governed by multiple, overlapping institutions, giving rise to what has been variously termed regime complexes, regime complexity, and global governance complexes. Much existing work suggests that this overlap leads to the fragmentation of international law, as it creates inconsistency of rules, duplication of tasks, and contestation over which institutions and rules states should use (Alter and Meunier 2009; Orisini et al., 2013; Raustiala and Victor 2004; Morse and Keohane 2014; Alter and Raustiala 2018). Yet, recent research also suggests that fragmentation is not an inherent feature of all regime complexes (Eilstrup-Sangiovanni and Westerwinter 2022; Green 2022; Henning and Pratt 2023). Instead, studies find that there is often considerable order (Eilstrup-Sangiovanni 2022), including stable divisions of labor (Gehring and Faude 2013, 2014) and patterns of deference between institutions within regime complexes (Pratt 2018).

What we know less about, however, is how states contribute to order (or disorder) within a given regime complex. In other words, do states adopt strategies that make regime complexes more or less fragmented? In this paper, we theorize that states engage in "connecting," which is a strategy of making explicit references to preferred institutions when negotiating new international legal agreements. Importantly, connecting is used by states to increase the degree to which a given regime complex is preference compatible. Thus, some states engage in connecting to harmonize rules around a single, dominant set of institutions, which they can accomplish by creating more order in the regime. In contrast, other states will create connections to promote alternative rules within the regime, fostering more fragmentation. The extent to which they do this, however, will depend on their preferences towards the regime as well as their ability (power) to do so in different negotiating forums.

To assess our theoretical perspective, and to better understand how states attempt to manage the evolution of rules within regime complexes, we examine the intellectual property (IP) and trade regime complex. The analysis focuses on governance of the trade-related IP rights shared between the World Trade Organization (WTO), the World Intellectual Property Rights Organization (WIPO), and other international conventions and treaties that are formally connected to obligations contained in preferential trade agreements (PTAs). The trading system, as well as the interplay (and overlap) between the trading system and the IP regime, has been a frequent object for studying regime complexity (Busch 2007; Meunier and Alter 2009, Dupont and Elsig 2017; Helfer 2004). The IP regime complex is an interesting case given that the creation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) under the auspices of the WTO in 1995, as well as efforts by developing countries to develop "counter-regime norms" in other venues, has sparked concerns about pervasive regime shifting (Helfer 2004, 2009). Thus, there seem to be both centrifugal and centripetal forces at play simultaneously, with countries promoting different sets of institutions.

In this paper, we examine how states may strategically use PTAs as a vehicle to strengthen (or weaken) IP governance by connecting IP commitments in PTAs with relevant international treaties and institutions. States with an interest in strong IP protections globally, primarily advanced industrial economies and states with a strong stake the WTO system, make connections to the WTO and WIPO in an attempt to harmonize the rules across these two institutions and to elevate hard law obligations through provisions in PTAs. PTA commitments that provide for enforcement of obligations in external treaties, for example, may have the effect of "hardening" soft law where existing commitments may not be enforceable. In this sense, these connections are an effort to build coherence and establish order within the larger regime

complex.[5] We also argue that PTAs with memberships of developing countries, who prefer less stringent IP protection on average, will make references to alternative IP institutions and norms that seek to challenge the dominant WTO and WIPO rules, thereby contesting the industrialized countries' preferences. Ultimately, PTAs are an important legal battleground where states seek to promote their preferred norms in the IP regime, but depending on their preferences, this entails fostering connections to a different set of international institutions.

To empirically evaluate our argument, we employ network analysis and multivariate statistical analyses on data that comprehensively tracks IP provisions in PTAs (Surbeck 2019). These data allow us to empirically assess the frequency and strength of connections to the core TRIPS agreement and WIPO conventions, as well as alternative IP instruments, including the convention on biological diversity (CBD), among others. Several findings stand out. First, we show that countries with a preference for strong IP protections make regular connections to core institutions in the IP regime complex in their PTAs. This includes references to TRIPS and WIPO conventions, as well as stronger, more substantive connections to both. Second, we show that these connections are especially prevalent in North South PTAs, suggesting that global north countries use their leverage to push for connections to their preferred institutions. Third, we show that influential developing countries also push for connections to counter regime institutions in North South agreements, but that these seem to be less strong on average than those advocated by developed countries.

Research is just beginning to theorize about the process of political contestation that takes place as actors within regime complexes compete. Here we evaluate this process theoretically and empirically to better understand how states navigate regime complexity to advance their

[5] See also Morin (2009) who has been sceptical about the effectiveness of such an approach.

preferences. Our results have important implications for scholarship on international relations, trade agreements, and the regime complex governing IP. Broadly, the results show how states strategically use PTAs to navigate regime complexity in IP. Some countries seek to establish connections that strengthen the core rules and institutions, whereas others aim to foster counter-regime norms. By exploring how these connections are made, as well as which actors are likely to make them, we can better understand the evolving architecture of global governance in IP.

Regime complexity and international economic law

There is a newfound appreciation by IR and legal scholars that in most issue areas there exist multiple, overlapping institutions, often with distinct rules and varied constellations of actors. This has led to an explosion of research on what has been termed regime complexes, regime complexity, and global governance complexes. The central insight of this literature is that international rulemaking does not proceed on a "blank slate" (Alter and Raustiala 2018, p. 330). Instead, most issues areas are characterized by overlapping, nested, and parallel institutional fora, which affects how actors behave both within and across the myriad institutions of global governance (see Helfer 2004; Alter and Meunier 2009; Orsini et al., 2013; Jupille, et al., 2013; Morse and Keohane 2014; Lipscy 2017; Pratt 2018; San-Giovanni and Westerwinter 2022; Henning and Pratt 2023).

The predominant definition of a regime complex is "an array of partially overlapping and non-hierarchical institutions that includes more than one international agreement or authority" (Alter and Raustiala 2018 p. 333). Given the lack of hierarchy inherent in this definition, many scholars have theorized – and several have empirically shown – that regime complexes can lead to a fragmentation of international rules. In particular, much scholarship has emphasized that the

presence of multiple institutions gives states (and other actors) opportunities for regime shifting (Helfer 2004), forum-shopping (Busch 2007), and other strategies of contestation (Morse and Keohane 2014) that can generate rule inconsistency and duplication and lead to enforcement problems (Alter and Meunier 2009). Others emphasize how the presence of multiple institutions in an issue area affects actors' strategic calculations, generating a politics of institutional choice and creation (Jupille, Mattli, and Snidal 2013; Kastner et al., 2018; Vabulas and Snidal 2013, 2021), which can affect the functioning and centrality of existing institutions (Lipscy 2017; Pratt 2020; Clark 2021; Eilstrup-Sangiovanni 2022).

Recent research, however, challenges the notion that regime complexes are inherently un-ordered (or non-hierarchical), or that regime complexity is always an obstacle to effective cooperation. For example, recent scholarship suggests that there can be significant divisions of labor that develop within regime complexes (Gehring and Faude 2014). Studies show that IOs regularly defer to others' authority (Pratt 2018) and often pool their resources collectively (Clark 2021). Other research shows that many international institutions are created with explicit linkages to existing institutions, which means that they are nested in larger institutional assemblages (Shanks et al., 1996; Aggarwal 1998; Johnson 2017; Lugg 2024), and that legal agreements frequently cite or re-use international rules (Alschner and Skougarevskiy 2016; Allee, Elsig and Lugg 2017a; Allee and Elsig 2019; Peacock et al., 2019; Chaisse et al., 2022; Clark and Pratt 2024). Importantly, these newer approaches suggest that the degree of order (or disorder) within a regime complex is a function of the political choices and strategies of the actors in the regime complex, as well as features of the complex itself. For example, recent contributions have proposed alternative conceptualizations of regime complexes, such as the global governance complex (Eilstrup-Sangiovanni and Westerwinter 2022) or adopted a broader

definition (Henning and Pratt 2023), which does not assume an absence of hierarchy to be a constitutive feature. Instead, these approaches suggest that the degree to which a given complex is ordered should vary across issue area and over time.

Ultimately, an important research frontier is to better understand several core dynamics of regime complexes. First, research needs to address variation in the ordering principles across regimes and over time. Some complexes are more orderly and hierarchical than others, but the sources of this variation are still poorly understood. Second, we need to better understand how states (and other actors) attempt to navigate complexity through the adoption of what has been called "complexity management" (Oberthür and Stokke 2011 p. 6; Eilstrup-Sangiovanni and Westerwinter 2022 p. 247). One such strategy is to layer, link, or nest new institutions on-top of existing ones, which has thus far been observed in several different contexts (Aggarwal 1998; Reinsberg and Westerwinter 2021; Allee et al., 2017; Lugg 2024). However, what this looks like, and whether these linkages are created to promote more coherent cooperation or contest existing cooperation is still poorly understood. This paper begins to fill this gap by examining the dynamics of institutional connections in the regime complex governing IP and trade. It highlights the role of PTAs in reinforcing and bringing greater coherence to the WTO, WIPO, and related agreements that are included as part of the TRIPS agreement. The analysis models the drivers of these institutional connections, locating their origins in the interests and institutional preferences of the states that bargain over IP commitments in PTAs.

The intellectual property – trade regime complex

The IP regime was never self-contained. Interactions with the trade regime go back to the early 20th century with numerous examples of cross-fertilization (see Cottier, Sieber-Gasser and

Wermelinger 2015). Yet, the overlaps and connections received a new quality with the creation of the WTO in 1995 and the legal commitments concluded through the TRIPS agreement. As Abbott writes, "WIPO was perceived as an ineffectual institution because its governing agreements failed to adequately prescribe the types of IP protection sought by the developed countries, and because the WIPO arrangement lacked an effective enforcement mechanism" (2000 p. 66). The TRIPS agreement strengthened the WIPO-administered treaties as it directly incorporated a set of WIPO conventions to which not all former GATT members were party, but, more importantly, it also bound future WTO Members. For instance, with respect to the WIPO-administered Berne Convention on Copyrights, Article 9 of the TRIPS agreement clearly states that "Members shall comply with Articles 1 through 21 of the Berne Convention (1971) and the Appendix thereto." Due to the WTO's relatively strong enforcement tools through third-party dispute settlement, the WIPO regime therefore underwent a "hardening" of law as WIPO standards originally seen as optional became quasi mandatory (see Shaffer and Pollack 2010). Dupont and Elsig (2017) describe this as a controlled "border shift", supported by a strong convergence among key actors in the respective regimes about the need for stringent IP rules (see also Sell 2003).

The TRIPS agreement explicitly connects the WTO with WIPO in governing intellectual property. The preamble notes the signatories' desire to "establish a mutually supportive relationship between the WTO and the World Intellectual Property Organization (…) as well as other relevant international organizations."[6] The TRIPS agreement also integrates commitments in four specific existing treaties: the Paris Convention of 1967, the Berne Convention of 1971, the Rome Convention of 1961, and the Treaty on Intellectual Property in Respect of Integrated

[6] Preamble, TRIPS Agreement.

Circuits (IPIC Treaty) of 1989. These treaties are applied to varying degrees within the scope of the TRIPS agreement.[7] In terms of the relationship between TRIPS and these treaties, the former explicitly provides that there be no derogations from existing obligations in the latter.[8]

Since the 2000s and mounting difficulties in WTO negotiations, research has focused increasingly on how PTAs incorporate WTO-type IP rules (Allee, Elsig and Lugg 2017b). They find that 60% of IP chapters in PTAs make references to the WTO. In addition, more than 10% of the IP chapter of PTAs are copied directly from the TRIPS agreement. Other work has focused on the degree to which IP commitments go beyond WTO rules, so-called TRIPS+ obligations (Morin and Surbeck 2020). They find that deeper agreements correlate with TRIPS+ provisions and that economic asymmetry and the strength of domestic IP law matter. Similarly, Dür and Mödlhamer (2022) show that major trading powers when negotiating with lower-income developing countries push for such provisions, whereas non-Western powers pursue alternative templates. They find that Brazil, Russia, India, and China sign shallower PTAs when it comes to IP (TRIPS-).

While there is increasing evidence that leading WTO Members have tried to strengthen IP rules within the trade regime, we know surprisingly little about what drives negotiators in bilateral and plurilateral trade talks to connect trade-related IP rules back to the "original" property rights regime represented by WIPO. Connections can affect the content and norms of the "receiving" institution, can influence how the "targeted" regime operates politically, and may lead to coordination attempts to actively manage the resultant regime overlap. In addition,

[7] The TRIPS agreement covers: i) Copyright and Related Rights; ii) Trademarks; iii) Geographical Indications; iv) Industrial Designs; v) Patents; vi) 6. Layout-Designs (Topographies) of Integrated Circuits; vii) Protection of Undisclosed Information; and Control of Anti-Competitive Practices in Contractual Licences.
[8] TRIPS agreement, Article 2 (Intellectual Property Conventions), paragraph 2: 'Nothing in Parts I to IV of this Agreement shall derogate from existing obligations that Members may have to each other under the Paris Convention, the Berne Convention, the Rome Convention and the Treaty on Intellectual Property in Respect of Integrated Circuits.'

connections can affect the focality of the "source" regime and strengthen its importance and reach. In his work on the trade-IP linkage, Helfer (2009) focuses on what he calls "regime-shifting" which he sees as enabling "both powerful and weaker states and their allies to relocate rulemaking initiatives to international venues concerned with other issue areas—such as foreign investment, human rights, public health, and biodiversity." He argues that the EU and the US after the creation of the WTO treaties and incorporation of key WIPO conventions into trade governance focused their efforts on strengthening IP rules beyond the WTO negotiation rules (so-called TRIPS+). In line with this, Dür and Mödlhamer (2022) find that the US often goes beyond WTO rules in their PTAs.

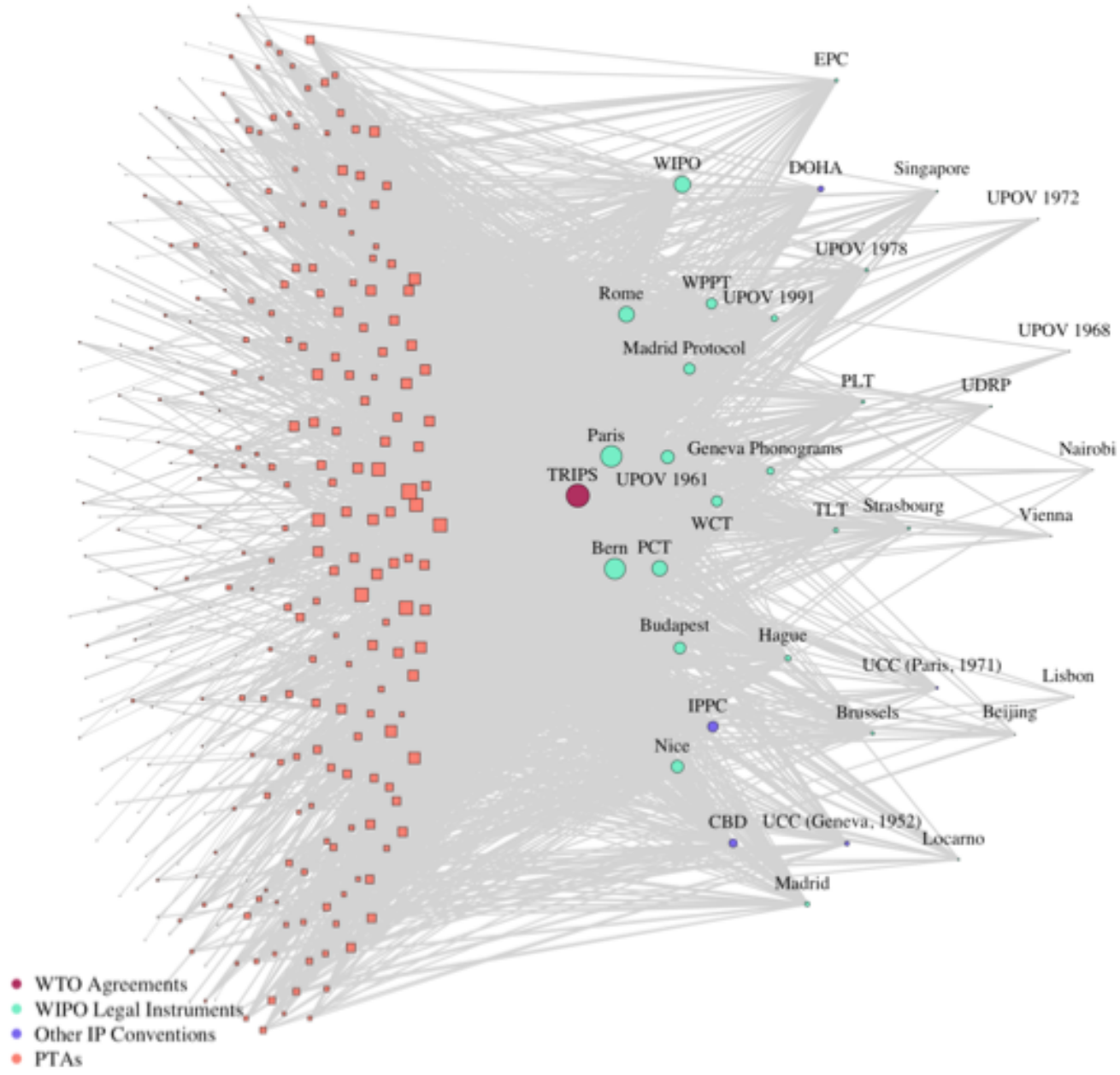
Yet, Helfer (2009) also provides evidence that opponents of WTO-type IP rules directed their attention to other institutions where norms and decision-making processes are aligned with their interests and influence. For example, treaties and organizations such as the Convention on Biological Diversity (CBD) and the Food and Agricultural Organization (FAO) promote biodiversity or plant genetic sources and consider these as public goods and foresee limitations for access and use by private IP owners.[9] These institutions are therefore more in line with the goals of IP sceptics.[10] In addition, the US and the EU have comparably less influence in these fora.[11] And finally, the FAO and CBD provide more access points to civil society organizations allowing opportunities for coalition-building against industrialized countries.

[9] On WTO and CBD relations, see also Rosendal 2001.
[10] Dür and Mödlhamer (2022) use text analysis of PTAs to show that emerging economies adopt different and competing IP rights in PTAs than the Western powers.
[11] The US has not ratified the CBD convention.

Visualization using Network Analysis

The connections between IP provisions in trade agreements and the IP regime can be modeled using a bipartite network. A bipartite network models the connections between two sets of nodes. In this case, one set of nodes comprise the treaties referenced in PTAs, and the other set consists of the PTAs themselves. Figure 1 presents a bipartite network linking IP conventions with PTAs. On the left-hand side of the graph, the nodes (as orange-colored squares) represent PTAs, while on the right-hand side of the graph the nodes consist of specific IP institutions. There are lines (edges) running between the PTAs and IP treaties indicating when a given PTA refers to a particular IP treaty. The PTA may refer to multiple IP conventions, thus resulting in more than one edge between the PTA on the left and the IP treaties on the right. The lines or edges are also weighted by the strength of obligation, which has three levels. Where there is no mention of a particular treaty, there is no edge. Where there is a link represented by the edge, it is weighted by whether there is a reference (=1); reaffirmation of certain parts (Articles, Paragraphs) and obligation of compliance (=2); or commitments towards accession (=3), where the last level (3) represents the strongest IP provision.

Figure 1. Bipartite Network of Connections to IP Institutions in PTAs.



The network graph in Figure 1 tells us how PTAs are linked to international conventions in the area of IP governance. Specifically, it shows that the WTO's TRIPS agreement is the most heavily cited treaty for governing intellectual property related to trade. Clustered around TRIPS are the nodes for the Paris, Bern, and Rome agreements as well as the WIPO convention, all of

which are referenced in TRIPS Article 2, paragraph 2. Overall, Figure 1 shows that in the regime complex governing the trade-IP relationship there is a hierarchy of institutions centered on the TRIPS agreement and its related conventions under the WTO. Thus, there is both consistency and coherence with the WTO in the regulation and management of IP rights covered in PTAs. The objective of this study is to investigate the factors that drive this feature of the regime complex. The analysis focuses on the attributes of the parties and how they contribute to the bargaining dynamic that produces connections between IP provisions in PTAs and relevant international conventions.

Theory – connecting regimes

Our theoretical approach builds on existing literature on the dynamics of regime complexes, as well as work on the IP regime more specifically. Our central argument is that countries attempt to navigate regime complexity by making and reinforcing connections to their preferred institutions, which they hope will strengthen their preferred standards. Yet, how they do this, and which institutions they connect to will be determined by their power and preferences. Crucially, the type of connections states build depends on the starting point of the rules in the regime. If the dominant norms in the regime are preference-compatible, then states will seek to promote coherence in the regime by making connections to and among the elemental institutions that they prefer. This diminishes the legitimacy of alternative rules, which reduces the chance that states will forum-shop or regime shift away from the dominant norms while also increasing the cost of opting out. Moreover, this connection-building helps the resilience of the core rules in the regime through a hedging strategy such that the dominant norms in the regime will persist even if one (or more) of the elemental institutions weakens. In other words, connecting is a

strategy that helps states establish and reinforce legal standards and patterns of authority within the regime complex.

In contrast, if the dominant or emergent norms in the regime are preference-incompatible, then states will seek to promote connections to alternative institutions and rules in the regime complex, engaging in a strategy of contestation that seeks to move the regime towards their preferred rules. This is similar to what others have called a strategy of "contested multilateralism", except that the strategy here is not competitive regime creation nor is it regime shifting (Morse and Keohane 2014; Henning and Pratt 2023). Instead, the goal is to increase the legitimacy of the rules at alternative institutions; by building connections this will enhance their legitimacy thereby challenging the dominant rules.

Our general framework builds upon several strands of IR theory. First, we build upon power-based theories of cooperation, which suggest that the uneven distribution of power impacts how global governance is designed and maintained (Gilpin 1981; Krasner 1991; Gruber 2000; Voeten 2001; Ikenberry 2001; Drezner 2007; Stone 2011; Allee and Peinhardt 2014). In the present context, this means that the strategies that states adopt vis-à-vis the IP regime will depend on their ability to translate their preferences to outcomes via power. Second, we build upon recent work on the contextual design of international institutions, which assumes that states' behavior in an issue area is in part determined by the current configuration of global governance in that area, including the number, type, and density of existing institutions (see Jupille, Mattli, and Snidal 2013; Reinsberg and Westerwinter 2021; Eilstrup-Sangiovanni 2021). This view suggests that states choose different regime management strategies depending upon the institutional context at a given point in time. We differ from extant theories in an important regard, however. Here we do not assume that powerful states prefer informal cooperation (Stone

2013) or that they disproportionally benefit from fragmentation (Drezner 2009). Instead, we assume that the strategies that states adopt will depend on their ability to pursue their preferences as well as the current configuration of the given regime. Thus, powerful states may seek to create connections among multiple institutions, even if doing so is costly, in order to promote coherence that helps advance their interests and maintains the overall resiliency of the regime.

In the present context, this means that states with a preference for strong IP protections will seek to promote coherence among their preferred IP institutions, whereas states with a preference for looser IP standards will promote alternative institutions that challenge these prevailing norms.[12] In the international trading system, PTAs are a particularly important venue in which this contest takes place. PTAs can be thought of as an institutional blank slate – countries can choose to negotiate with whomever, and they can include whatever provisions they can get a partner or partners to agree to. Indeed, we see wide variation in the actual legal language contained in PTAs; some contain extensive text devoted to matters including IP and other "behind the border" issues, whereas others contain relatively shallow provisions (Dür et al., 2014; Allee and Elsig 2016). For this reason, PTAs can be used to layer new commitments on top of existing obligations (Faude 2020), and there is extensive evidence that states, including powerful states, reference and copy-paste their favored legal text strategically in them (Allee and Lugg 2016; Allee and Elsig 2016; Castle 2023). In this sense, PTAs can play a similar role to that of informal intergovernmental organizations (Vabulas and Snidal 2020), which can be deployed by powerful states to seek "hegemonic consensus" and by weaker powers to pursue counter-regime strategies. Similarly, other studies show that states can build support for international legal norms by referencing past lawmaking (see Allee et al. 2016; Arias and Shaffer

[12] Our theory is state centric. This implies that firms in global north and south countries have preferences for stronger and weaker IP protections respectively, which likely masks heterogeneity.

forthcoming).[13] In sum, we expect that PTAs serve as an important institutional outlet for states as they attempt to make connections to the IP regime, but that the nature and form that these connections take will be determined by their power and interests.

Our first set of expectations, therefore, is that states with a preference for strong IP protections are more likely to create connections to the core institutions of the regime in their PTAs, thus linking and strengthening the governance of IP explicitly within these institutions. We expect that the promoters of strong IP rights will make references to WTO treaties as well as WIPO conventions, as these reflect the current, dominant norms articulated by the advanced industrial countries, including the US, EU, Japan, and others. WIPO-administrated conventions, such as the Rome Treaty on Copyrights, the Paris Treaty on Industrial Designs or the Patent Law Treaty, are considered to be aligned with providing private IP holders necessary protection against infringements of a set of IP rights related to patents, copyrights and trademarks. Importantly, countries will make connections to the TRIPS agreement and WIPO treaties in the same PTA, enhancing coherence and their position in the regime complex.[14] This is particularly important as this indicates that states will establish connections to multiple elemental institutions in an effort to build resiliency into the regime. Furthermore, we also expect that states with a preference for strong IP protections will seek to make highly legalized, or strong, connections to the rules contained in these institutions. Doing so can serve to re-affirm and strengthen existing rights but also incorporates dynamic and future developments that may occur in these institutions.[15] By incorporating legal commitments to accede to certain IP conventions and

[13] There is also a robust literature on citations to international legal rulings which shows a similar dynamic, namely that strategic citations can enhance the legitimacy and authority of favored norms and institutions (e.g., Lupu and Voeten 2012; Alschner and Charlotin 2018).
[14] In their work on WTO presence in PTAs, Allee, Elsig and Lugg (2017) show that IP references in PTAs are overwhelmingly affirmative in nature.
[15] Interview with IPR expert and EFTA negotiator, 14 November 2023.

making these commitments applicable under the general PTA dispute settlement mechanism, these connections also serve to make the content of IP conventions enforceable.[16] In other words, these stronger connections can harden what were previous soft law commitments while also reinforcing hierarchy in the regime complex more broadly.

Hypothesis 1: States with a preference for strong IP protections will make connections to their preferred institutions, including the WTO TRIPS agreement and core WIPO conventions, in their PTAs.

Hypothesis 2: States with a preference for strong IP protections will make highly legalized (strong) connections to the WTO's TRIPS and WIPO conventions in their PTAs.

At the same time, PTAs are negotiated in the shadow of power. Thus, the extent to which a given PTA connects to the IP regime, and the nature of those connections, will be determined by the relative power and interests of the states at the negotiating table. Importantly, PTAs provide states a different forum through which to make institutional connections, such that the degree to which they promote connections in these typically smaller negotiating fora will be of central concern. We expect that global north countries, who have a preference for strong IP connections, will be particularly likely to use PTAs with global south countries as a vehicle to make connections to TRIPS and WIPO conventions. In a smaller negotiating forum, which may be bilateral, global north countries have asymmetric influence, where they can use market access to push for concessions on stringent IP rules. Moreover, global south countries are also those that are more likely to be critical of or challenge strong IP norms/rules more generally (see also Dür and Mödlhamer 2022). Thus, global north countries will view connections to their preferred institutions as particularly valuable in the context of a north-south agreement. In contrast,

[16] Interview with IPR expert and EU negotiator, 28 November 2023.

making these regime connections in north-north treaties will be less of a priority, as these countries already have strong protections domestically. This motivates the following hypotheses:

Hypothesis 3: PTAs including a global north and global south partner are more likely to reference the WTO's TRIPS and core WIPO conventions.

Hypothesis 4: PTAs including a global north and global south partner are more likely to make highly legalized (strong) references to TRIPS and WIPO conventions.

To this point, we have generated hypotheses with respect to how advanced industrial countries with a preference for strong IP protections make connections to the TRIPS agreement as well as core WIPO conventions. However, our theoretical perspective also suggests that countries with a preference for counter regime rules, particularly special and differential treatment for developing countries in the IP issue area, will use PTAs to make connections to alternative parts of the regime complex. We expect that these sceptics will focus on institutions that question granting private actors wide-ranging protection, which they view as leading to market domination, higher prices, and unfair sharing of the benefits. We expect, therefore, PTAs formed by these countries will include references to the Doha WTO Waiver on public health. The Waiver is an inner-WTO compromise that addresses the concerns of developing countries concerning public health emergencies. It allows for the bypassing of stringent IP rights to provide easier access to compulsory licensing and exporting of essential medicines.[17] We also expect more attention to IP-related rules in the CBD and conventions administered by organizations skeptical of strong IP protections, such as the FAO. In terms of the FAO, we consider the International Plant Protection Convention (IPPC) managed under its auspices. As

[17] Drezner argues that the US tried to water down and restrict the Doha WTO waiver through its PTAs (Drezner 2007).

was the case with advanced industrial countries with a stake in strong IP protections, we expect that developing countries will primarily push for counter-regime norms in their north-south agreements. These are the subset of agreements that matter the most for the development of the regime complex. Moreover, many south-south agreements are unlikely to cover IP protections at all given that theses PTAs are often shallow and only liberalize some trade in goods, thus the IP issue may never make it on the negotiating table, creating the potential for false negatives. This motivates the following hypotheses:

Hypothesis 5: Developing countries will push for special and differential treatment with respect to IP provisions by referencing alternative institutions within the IP regime, including the IPCC, the CBD treaty, the Geneva conventions on copyrights, and the Doha Waiver in their North-South PTAs.

Research Design

To evaluate our theory, we utilize comprehensive data on the references contained in the IP provisions of the full universe of PTAs signed since World War II (Surbeck 2019), which is integrated in the DESTA database.[18] The data distinguish between simple references to IP treaties, reaffirmations of rights and obligations under these legal instruments, and, at the strongest level of commitment, obligations to accede to agreements and conventions for PTA partners not yet members. Below, we provide some examples of how these connections are phrased in legal language in PTAs.

The first example is drawn from the Columbia-Peru-EC Agreements of 2012 in which we find both a reaffirmation of existing rights under the WTO TRIPS Agreement as well as extended obligations to accede to a WIPO convention (chapter 3, article 202):

[18] See www.designoftradeagreements.org.

"The Parties shall abide by the rights and obligations existing under the Paris Convention and the TRIPS Agreement (…) The European Union and Colombia shall accede to the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks adopted at Madrid on 27 June 1989 (hereinafter referred to as the 'Madrid Protocol') within 10 years from the signature of this Agreement. Peru shall make all reasonable efforts to adhere to the Madrid Protocol (…) The European Union and Peru shall make all reasonable efforts to comply with the Trademark Law Treaty adopted in Geneva on 27 October 1994 (hereinafter referred to as the "Trademark Law Treaty"). Colombia shall make all reasonable efforts to adhere to the Trademark Law Treaty."[19]

Second, an example of a connection to a counter-regime can be found in the Andean-Mercosur PTA of 2004. In addition to references to the WTO, we find explicit mentioning of the CBD (Article 32):

"The Signatory Parties shall be governed by the Agreement on Trade-Related Aspects of Intellectual Property Rights of the WTO, as well as by the rights and obligations contained in the 1992 Convention on Biological Diversity. They shall also seek to develop norms and disciplines for the protection of traditional knowledge."

[19] According to the EU, the expression "shall" makes the commitments legally enforceable through the PTA dispute settlement mechanism (Interview with IPR expert and EU negotiator, 28 November.2023).

Similarly, we find in an PTA between Canada and India the explicit need to protect biological diversity (Article 612):

> *"As signatories, both parties reaffirm their commitment to the Convention on Biological Diversity with a view to respecting both parties' sovereign rights over their biological and genetic resources while facilitating access to those resources. In particular, both parties recognize the importance of Article 8.j which stipulates: "Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices".*

A third example relates to the TRIPS Waiver. We find many PTAs that emphasize the flexibility agreed within the WTO. For instance, the PTA between Japan-Peru from 2011 simply states in Art. 188 and the IP chapter.

> *"This Chapter should be interpreted and implemented in a manner supportive of the Parties' rights to take measures to protect public health in accordance with the TRIPS Agreement and the decisions by the Ministerial Conference or the General Council of the WTO, related to the TRIPS Agreement and public health."*

Dependent variables

In our analyses we focus on references to institutions in the IP and trade regime complex. For this we utilize a battery of manually coded dependent variables that measure connections to IP institutions as well as their strength.[20] Table A1 and A2 in the appendix summarize these variables. For hypotheses 1 through 4 we use 5 dependent variables, each of which assesses a positive connection to the IP regime complex. The first dependent variable, *TRIPS (0/1)*, is a dichotomous variable that tracks whether the PTA references the 1995 TRIPS agreement. The second dependent variable is *WIPO (0/1),* which is a dichotomous variable that tracks whether the PTA references any core WIPO treaties. The third dependent variable is *TRIPS Strength*, which is an ordinal variable with 4 categories indicating the strength of the TRIPS references: 0 indicates no TRIPS reference; 1 indicates a reference to TRIPS; 2 indicates a clear reaffirmation of specific legal language contained in TRIPS, and; 3 indicates an intent to accept all the current and future obligations contained in TRIPS. For the fourth dependent variable, we use the variable *WIPO Strength* which is a non-negative count variable that tracks how many of 22 WIPO IP treaties are reaffirmed in the PTA.[21] For the fifth dependent variable, we use the variable *TRIPS + WIPO* which is an ordinal variable that measures whether the PTA includes a reference to MFN treatment of IP, a reaffirmation of WIPO, at least one additional WIPO convention, and a reaffirmation of TRIPS.

In order to assess connections to institutions that promote counter-regime norms, we use 6 dependent variables that track connections to alternative IP institutions. The first is *IPCC (0/1)*, which indicates whether the PTA references the 1951 International Plant Protection Convention.

[20] Because we look at references to IP institutions, we do not assess whether copy-pasting of legal language occurs in the PTA. We view instances of copy-pasting as complementary but distinct dynamics. Moreover, because we do not track instances of copied language, we view our resulting statistical analyses as conservative.
[21] These include the 1961 treaty on industrial designs, 1968 Locarno Treaty, UPOV 1961.

The Convention provides for developing standards under the auspices of the FAO and focuses on trade-induced risks that limit the scope of IP holders. The second dependent variable is *CBD (0/1)*, which indicates whether the PTA references the 1992 Convention on Biological Diversity. The Convention advocates a fair and equitable sharing of benefits arising from the use of genetic resources. The third dependent variable, *UCC Geneva (0/1)*, captures whether the PTA references the 1952 Universal Copyright Convention signed in Geneva, which was negotiated in UNESCO and was set-up as a clear alternative to the Berne Convention. The fourth dependent variable, *UCC Paris (0/1)*, tracks whether the PTA references the 1971 Universal Copyright Conventions signed in Paris, which follows the UCC Paris. The fifth dependent variable is *TRIPS Doha (0/1)*, which measures whether the PTA references the 2001 TRIPS Waiver signed in Doha. The Waiver provides legal exemptions from the TRIPS agreement. And, finally, the sixth dependent variable, *Any Counter Regime (0/1)*, tracks whether the PTA references any of the previous 5 treaties.

Independent variables

For hypotheses 1 and 2, we evaluate the extent to which states with preferences for strong IP protections make connections to the core institutions of the IP regime in their PTAs. As far as we know, there is no single measure that perfectly captures preferences for IP protection, thus we rely on the variable *IP earnings,* which is the total payments between residents and nonresidents for the use of IP, including patents, trademarks, copyrights, industrial processes, and designs, as well as royalty payments related to the domestic production of materials with copyrights including software, books, and music.[22] We divide this measure by GDP measured in dollars for

[22] We use the indicator BX.GSR.ROYL.CD.

each country, and we then take the natural logarithm of the average value across all PTA signatories.

Hypotheses 3 and 4 evaluate the extent to which bargaining dynamics between the global north and the global south drive connections to the IP regime. Our argument suggests that PTAs with members from the north and south are most likely to include connections to the IP regime as these are the PTAs where global north countries are most likely to push for strong connections to their preferred institutions. Therefore, we create three dichotomous variables for each possible PTA membership composition: *North North*, *North South*, and *South South*.[23]

Finally, hypothesis 5 evaluates whether countries who are influential global south members make connections to institutions that reinforce counter regime norms within the IP regime complex. To test this hypothesis, we include the variable *WTO G20 Group,* which includes 23 countries at the WTO that have formed a coalition intending to advance developing country interests.[24]

Control variables

We include several control variables to guard against alternative explanations. First, we include *Democracy*, which is the average polyarchy score for all members of the PTA taken from the VDEM data (Coppedge et al. 2024). We include this because we believe regime type characteristics associated with democracy are likely to influence whether countries include references to international law in general. Second, we include *PTA Depth*, which is the most

[23] Global north countries include Australia, Canada, Japan, New Zealand, United States, and all Western European countries.
[24] These include Argentina, Bolivia, Brazil, Chile, China, Cuba, Ecuador, Egypt, Guatemala, India, Indonesia, Mexico, Nigeria, Pakistan, Paraguay, Peru, Philippines, South Africa, Tanzania, Thailand, Uruguay, Venezuela, Zimbabwe.

common measure of PTA depth taken from the DESTA database (Dür et al., 2014). We include this variable given the fact that deeper agreements are more ambitious on average and so are more likely to include IP provisions. Third, we include *Year*, which is the year of signature of the PTA. Over time PTAs have become deeper on average, suggesting that newer generation treaties are more likely to mention IP.

Regression model specifications

We estimate 16 different models with our primary dependent variables. For all models with dichotomous dependent variables, including models 1, 2, 6, 7, and 11 through 16, we use logistic regression. For models 4 and 8, which are both non-negative count variables that are overdispersed, we use negative binomial regression. For models 3, 5, 8, and 10, which are ordinal, we use ordered logit.

Regression Results

Table one evaluates hypotheses 1 and 2 which argue that states with preferences for strong IP protections build connections between their preferred institutions in the IP regime complex using PTAs. Overall, the results provide strong support for this proposition. The variable *IP Earnings* is in the expected positive direction and statistically significant in 4 of the 5 models. Particularly important, is that it is significant at the 99% level in model 5 which shows that PTAs composed of states that earn substantial IP royalties are more likely to include strong references to both the WIPO and TRIPS regimes into their PTAs. There are no major surprises with respect to the control variables. The coefficient for *Democracy* is positive and statistically significant at the 99% level in all 5 models, indicating a robust association between average level of democracy of

PTA members and connections to core IP institutions in the regime complex. Furthermore, the coefficient for *PTA Depth* is also positive and statistically significant at the 99% level in all models. As expected, this indicates that deeper agreements are more likely to make connections. Finally, the coefficient for *Year Signed* is also positive and statistically significant in all models, indicating that connections have been increasing over time.

Importantly, the results are also substantively significant. Table 2 summarizes the predicted values of the dependent variables in each model, holding all other variables in the models at their observed values, while varying the value of the primary independent variable, *IP Earnings*, from the 10^{th} percentile to the 90^{th} percentile. For model 1 we see that increasing the value of *IP Earnings* yields an increase in the predicted probability of a PTA referencing TRIPS by 27%. For model 2, increasing the value of *IP Earnings* increases the predicted probability of a WIPO reference by 53.55%. For Model 3, which is an ordinal variable, interpretation is slightly different. Here we use the predictions from the model for the observance of a 2, which is the most observed positive category. The predicted probabilities suggest that the probability of observing 2 increases by approximately 35% in response to a change in *IP Earnings*, with similar increases in probability for other values of the dependent variable. For model 4, we see that increasing the value of *IP Earnings* increases the expected count of WIPO conventions referenced from 3.5 to nearly 5, an increase of approximately 40%. Finally, we see from model 5 that the probability of observing a 4 in the WIPO + TRIPS variable – the highest value – goes up by approximately 128% as *IP Earnings* increases.

Table 1. Preferences for Strong IP Protections and Connections to the IP Regime Complex.

	Model 1 TRIPS (0/1)	Model 2 WIPO (0/1)	Model 3 TRIPS Strength	Model 4 WIPO Strength	Model 5 TRIPS + WIPO
IP earnings (average logged)	0.165*	0.234***	0.193**	0.078	0.260***
	(0.0881)	(0.0845)	(0.0833)	(0.0649)	(0.071)
Democracy (average)	2.904***	2.798***	2.729***	2.166***	2.884***
	(0.795)	(0.751)	(0.744)	(0.552)	(0.628)
PTA Depth	0.450***	0.515***	0.368***	0.296***	0.333***
	(0.0943)	(0.0860)	(0.0863)	(0.0645)	(0.072)
Year Signed	0.114***	0.069***	0.105***	0.099***	0.034*
	(0.0272)	(0.0172)	(0.0247)	(0.0133)	(0.020)
Constant	-230.6***	-140.5***		-197.9***	
	(54.67)	(34.45)		(26.70)	
cut1			211.6***		67.5***
			(49.57)		(40.3)
cut2			211.7***		68.5***
			(49.57)		(40.29)
cut3			216.7***		69.5***
			(49.68)		(40.3)
Cut4					70.3***
					(40.3)
lnalpha				0.966***	
				(0.107)	
N	363	503	363	503	363
AIC	374.9	445.2	517.8	1834.0	1129.0
BIC	394.3	466.3	545.1	1859.3	1148.4

Standard errors in parentheses. All significance tests two tailed.
* p<0.1; **p<0.05; ***p<0.01

Table 2. Predicted Values for Models 1 through 5.

Dependent Variable	Independent Variable	Change	Prediction	Change in Prediction
Model 1: *TRIPS (0/1)*	*IP Earnings*	10th percentile	0.463	
		90th percentile	0.588	27.00%
Model 2: *WIPO (0/1)*	*IP Earnings*	10th percentile	0.282	
		90th percentile	0.433	53.55%
Model 3: *TRIPS Strength*	*IP Earnings*	10th percentile	0.407	
		90th percentile	0.549	34.89%
Model 4: *WIPO Count*	*IP Earnings*	10th percentile	3.567	
		90th percentile	4.997	40.09%
Model 5: *WIPO + TRIPS*	*IP Earnings*	10th percentile	0.108	
		90th percentile	0.246	127.78%

Note: All predictions are average marginal effects for a change in IP Earnings using the observed values in the models for other variables. For models 1, 2, 3, and 5 the predictions are predicted probabilities. For model 4 the predictions are predicted counts. For model 3 the reported change is the change observed when the value of TRIPS Strength is 2. For model 5 the reported probabilities are when WIPO + TRIPS is a 4.

Table 3 evaluates hypotheses 3 and 4 which theorize that connections to the WTO and WIPO are more likely, and will be stronger, in North South PTAs than in other PTAs. The regression results strongly support this argument. Across all five dependent variables we see that the coefficients for *North South PTA* are positive and statistically significant, at the 95% level or higher in 3 models and at the 99% level in the remaining 2. This provides support for our central contention, showing that North South PTAs are more likely to include connections to these core IP institutions. Interestingly, we see that the coefficient for both *Average GDP* and *IP Earnings* fail to reach statistical significance in these models. This result suggests that even though developed countries have a strong generalized preference for making connections, they value them more and are likely to push for them harder in North South agreements. The other control variables perform largely in line with previous models. Again, *Democracy* is highly correlated

with connections to core IP institutions, and we also see that deeper and more recent PTAs are more likely to include connections.

Importantly, the results are also substantively significant. Table 4 shows the changes in predicted values for the dependent variables in models 6 through 10 when the treaty is North South, holding all other variables in the models at their observed values. The predictions for model 6 show that a *North South* PTA is about 72% more likely to have a TRIPS reference. The predictions for model 7 show that a *North South* treaty is about twice as likely to have a WIPO reference. For model 8, which is ordinal, we again focus on instances where the dependent variable can take on a value of two, which is the most numerous non-zero value. The predictions show that a *North South* agreement is approximately 73 percent more likely to be a two. The predictions for model 9 show that *North South* PTAs are expected to reference nearly 7 WIPO conventions, an increase of about 157 percent over the baseline. Finally, the results from model 10 suggest that a North South PTA is approximately 275 percent more likely to have a reference to MFN, WIPO, and TRIPS all in the same PTA.

Table 3. North South Bargaining and Connections to the IP Regime Complex.

	Model 6 TRIPS (0/1)	Model 7 WIPO (0/1)	Model 8 TRIPS Strength	Model 9 WIPO Strength	Model 10 TRIPS + WIPO
North South PTA	1.737**	1.742***	1.622**	0.943**	0.605***
	(0.779)	(0.573)	(0.733)	(0.397)	(0.235)
South South PTA	0.505	0.0869	0.511	0.242	0.346
	(0.937)	(0.730)	(0.864)	(0.549)	(0.281)
GDP per capita (average)	0.00463	-0.00658	0.0109	-0.0103	0.00738
	(0.0189)	(0.0161)	(0.0164)	(0.0111)	(0.00458)
IP Receipts (average, logged)	0.0209	0.0511	0.0301	0.0226	0.0391
	(0.108)	(0.108)	(0.102)	(0.0838)	(0.0391)
Democracy (average)	2.331***	2.270***	2.190***	2.184***	0.993***
	(0.851)	(0.834)	(0.785)	(0.595)	(0.295)
PTA Depth	0.358***	0.439***	0.261***	0.260***	0.102***
	(0.101)	(0.0917)	(0.0930)	(0.0682)	(0.0315)
Year	0.122***	0.0892***	0.113***	0.105***	0.0135
	(0.0279)	(0.0192)	(0.0253)	(0.0144)	(0.00825)
Constant	-247.5***	-181.8***		-212.2***	-27.88*
	(56.06)	(38.27)		(28.80)	(16.57)
cut1			229.6***		
			(50.84)		
cut2			229.8***		
			(50.84)		
cut3			235.0***		
			(50.96)		
lnalpha				0.927***	-16.04
				(0.109)	(558.9)
N	363	503	363	503	363
AIC	366.9	425.4	507.9	1831.5	1119.4
BIC	398.0	459.2	546.9	1869.5	1154.4

Standard errors in parentheses. All significance tests two-tailed.
* p<0.1; ** p<0.05; *** p<0.01

Table 4. Predicted Values for models 6 through 10.

Dependent Variable	Independent Variable	Value	Prediction	Change in Prediction
Model 6: *TRIPS (0/1)*	*North South*	0	0.435	
		1	0.749	72.18%
Model 7: *WIPO (0/1)*	*North South*	0	0.274	
		1	0.550	100.73%
Model 8: *TRIPS Strength*	*North South*	0	0.395	
		1	0.682	72.66%
Model 9: *WIPO Count*	*North South*	0	2.708	
		1	6.950	156.65%
Model 10: *WIPO + TRIPS*	*North South*	0	0.092	
		1	0.346	276.09%

Note: All predictions are average marginal effects for a change in the specified independent variable using observed values in the models. For models 1, 2, 3, and 5 the predictions are predicted probabilities. For model 4 the predictions are predicted counts. For model 3 the reported change is the change observed when the value of TRIPS Strength is 2. For model 5 the reported probabilities are when WIPO + TRIPS is a 4.

Finally, table 5 presents results for hypothesis 5, which tests whether PTAs comprised of members of the G20 group of developing countries at the WTO – those most likely to challenge the industrial countries' norms – are more likely to make connections to alternative IP instruments. Recall, however, that we expect this dynamic to primarily be operative with respect to North South PTAs as we do not expect many South South PTAs to have IP chapters at all, let alone sophisticated attempts to challenge prevailing regime norms. Overall, the results are somewhat supportive of our central contention. All of the coefficients for *WTO G20 Group* are in the expected positive direction. Moreover, the coefficient is statistically significant at the 95 percent level or better in models 11, 13, and 16. In models 12 and 14 the coefficient is positive and statistically significant at the 90 percent level in a one-tailed test. The coefficient is positive but not statistically significant in model 15. Importantly, we see that the coefficient is positive and statistically significant at the 95 percent level in model 16, which tracks whether the PTA mentions any counter regime institutions. This result gives us confidence in the general tenor of

the results, suggesting that North South PTAs with a least one WTO G20 member are more likely than other treaties to mention at least one counter-regime legal instrument or institution.

An explanation for the finding for the Doha Waiver could be that countries such as the US and other highly developed countries have sought to re-emphasize the importance of the Doha Waiver as well, contrary to many expectations at the time. This might be the result of existing fears that PTAs could be used to water down the inner-WTO compromise. A more detailed look at US PTAs post Doha provides interesting evidence that the US has overwhelmingly embraced the compromise and was not trying to limit the extent to which the Waiver applied. Noteworthy is the PTA between the US and Morocco, where a side letter became an integral part of the treaty. The letter dated 15 July 2004 and signed by Taïb Fassi Fihri, Minister Delegate for Foreign Affairs and Cooperation, addressed to the acting USTR Robert Zoellick, states that both parties have reached a common understanding that the IP obligations in the treaty:

> *"do not affect the ability of either Party to take necessary measures to protect public health by promoting access to medicines for all, in particular concerning cases such as HIV/AIDS, tuberculosis, malaria, and other epidemics as well as circumstances of extreme urgency or national emergency. In recognition of the commitment to access to medicines that are supplied in accordance with the Decision of the General Council of 30 August 2003 on the Implementation of Paragraph Six of the Doha Declaration on the TRIPS Agreement and public health (WT/L/540) and the WTO General Council Chairman's statement accompanying the Decision (JOB(03)/177, WT/GC/M/82) (collectively the "TRIPS/health solution")."*

Table 5. Counter Regime IP Institutions in North South PTAs.

	Model 11 IPCC (0/1)	Model 12 CBD (0/1)	Model 13 UCC Geneva (0/1)	Model 14 UCC Paris (0/1)	Model 15 TRIPS Doha (0/1)	Model 16 Any Counter Regime (0/1)
WTO G20 Group	1.298**	0.877*	1.407**	1.535*	0.293	1.284**
	(0.594)	(0.565)	(0.620)	(0.967)	(0.664)	(0.532)
IP Receipts (average, logged)	0.265	0.0265	-0.764**	-0.616	0.689	0.407
	(0.350)	(0.354)	(0.381)	(0.517)	(0.458)	(0.354)
GDP per capita (average)	-0.134***	-0.0469*	0.0427	0.0564	0.0311	-0.0491**
	(0.0347)	(0.0266)	(0.0296)	(0.0461)	(0.0305)	(0.0250)
Democracy (average)	1.526	0.321	-0.749	-4.374	-0.585	-0.231
	(2.084)	(2.070)	(2.432)	(3.454)	(2.440)	(1.850)
DESTA depth	0.529**	0.224	0.193	0.686	1.435***	0.467**
	(0.237)	(0.216)	(0.261)	(0.515)	(0.432)	(0.188)
Year	0.199***	0.259***	0.137**	0.0443	0.139*	0.166***
	(0.0504)	(0.0642)	(0.0590)	(0.0760)	(0.0816)	(0.0440)
Constant	-398.7***	-520.9***	-283.6**	-98.32	-284.8*	-331.6***
	(101.4)	(129.3)	(119.3)	(152.5)	(164.5)	(88.66)
N	168	134	168	160	85	168
AIC	100.8	109.8	96.48	53.67	84.50	126.2
BIC	122.7	130.1	118.3	75.20	101.6	148.1

Standard errors in parentheses. Models 11,13,15,16 use two-tailed significance tests; 12 and 14 are one tailed.

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

The substantive effect of our counter regime dependent variables should be interpreted with caution given that they are weaker than the models related to connections to the core institutions of the regime. However, they are informative nonetheless, and do show in several instances that G20 members are substantially more likely to include references to counter regime institutions in their PTAs. Table 6 below summarizes the substantive significance of several of what we consider the more illustrative variables. Chief among them, the predicted probabilities from model 16 show that a North South PTA with a WTO G20 member is about 56 percent more likely to reference at least one counter regime institution.

Table 6. Predicted Probabilities for models 11 through 16.

Dependent Variable	Independent Variable	Change	Prediction	Change in Prediction
Model 11: IPCC (0/1)	*WTO G20 Group*	0	0.22	
		1	0.333	51.36%
Model 12: CBD (0/1)	*WTO G20 Group*	0	0.228	
		1	0.334	46.49%
Model 13: UCC Geneva (0/1)	*WTO G20 Group*	0	0.063	
		1	0.182	188.89%
Model 14: UCC Paris (0/1)	*WTO G20 Group*	0	0.019	
		1	0.074	289.47%
Model 16: Any Counter Regime (0/1)	*WTO G20 Group*	0	0.264	
		1	0.412	56.06%

Note: All predictions are average marginal effects for a change in the specified independent variable using observed values in the models.

Robustness checks

The supplemental appendix contains a series of robustness checks. First, we show that models 1 through 5 are robust to alternative measures of preferences for strong IP protections. Second, we

demonstrate more nuanced results with respect to North South PTAs. We show, for example, that connections to developing countries preferred IP institutions are stronger as the difference in GDP between the largest and smallest country in a PTA increases. We also show that this effect is pronounced in North South PTAs; increased asymmetry in GDP in north-south agreements increases the likelihood of connections to TRIPS as well as strong IP connections to both WIPO and TRIPs.

Discussion and Conclusion

The results in this paper have important implications for the study of international relations, as well as the study of PTAs and IP rights. Broadly, they suggest that states strategically use newer instances of international cooperation, in this case PTAs, to create connections to their preferred institutions in regime complexes. By strategically layering connections in these newer venues, we argue that states can seek to strengthen their preferred rules, as well as build resiliency should one or more of the elemental institutions in that complex be weakened in the future. In the case of states with a preference for dominant norms in a regime complex – in this instance strong IP protections for their industries – this entails making connections to core institutions as well as simultaneous connections to multiple. In the case of states with preferences for alternative norms, this entails attempting to create connections to institutions more in line with their preferences.

This helps advance our understanding of the politics of international regime complexity. First, it shows that states adopt different regime management strategies as has been theorized in the literature (Eilstrup-Sangiovanni 2022; Green 2013; Oberthür and Stokke 2011; Henning and Pratt 2023). Here we show that states contextually design PTAs so that they make connections to their preferred institutions. This linkage strategy, we argue, is an attempt by some actors to

promote coherence in the regime complex (see also Abbott 2014; Abbott and Faude 2022; Reinsberg and Westerwinter 2021). Second, we show that it is unlikely that all actors adopt this strategy uniformly. Instead, counties with counter-regime preferences will use the same legal terrain – PTAs in this case – to promote connections to alternative institutions. This builds upon emerging research documenting the different strategies states adopt to contest multilateralism in complex issues areas (Morse and Keohane 2014; Lipscy 2017), including those adopted by weak states (Snidal et al., 2024). Future research should further untangle this dynamic, as it has important implications for understanding how contestation unfolds in regime complexes. Some accounts suggest that competition should diminish hierarchy, and hence promote fragmentation (Kijima and Lipscy 2023), but the way this competition plays out, and its ultimate effect, is also impacted by the relative power of the competing states, as well as the intensity of their preferences. It is likely that the ability (and success) of creating linkages also varies systematically in other ways as well.

Our findings also have important implications for PTAs and the IP regime. One central dynamic is that even though the advanced industrial states have clearly sought to use PTAs to make connections to their preferred IP institutions, we do not know what the consequences of this strategy have been. Has this led to convergence in global standards? Or, alternatively, have counter-regime strategies lead to fragmentation? Relatedly, how has the adoption of these linkage strategies by states affected the day-to-day management of the regime? For example, have bureaucrats at elemental institutions had to expend additional resources to promote coherence and monitor complex treaty obligations? Similarly, has the layering of additional commitments created new costs for states and economic actors, who may be unsure of their obligations and legal requirements? Future research should focus on understanding how these

connections affect not only the functioning of the regime, but also the strategies adopted by other participants.

Ultimately, the IP regime remains one of the most contested issue areas in global economic governance, as the negotiation history of trade agreements such as the CPTPP and the EFTA-India PTA demonstrate. Our contribution has been to show that states attempt to use PTAs to make connections to their preferred IP institutions, which they hope will help advance their interests. Future studies should further examine this dynamic so that we have a better sense of how this strategy has affected the development of the IP regime over time as well as how this dynamic plays out in other issue areas. Moreover, here we have adopted a state-centric view where we assume strategic decision-making. However, non-state actors, including personnel at IOs and non-state actors, likely also contribute to the development of the regime and, in some cases, states may be behaving more reactively. We hope that future studies can further elaborate these processes to advance our understanding of the IP regime as well as regime complexes more generally.

Bibliography

Abbott, F. M. (2000). Distributed governance at the WTO-WIPO: an evolving model for open-architecture integrated governance. *Journal of International Economic Law*, *3*(1), 63-81.

Abbott, K. W. (2014). Strengthening the transnational regime complex for climate change. *Transnational Environmental Law*, *3*(1), 57-88.

Abbott, K. W., & Faude, B. (2022). Hybrid institutional complexes in global governance. *The Review of International Organizations*, *17*(2), 263-291.

Aggarwal, V. K. (1998). Institutional nesting: Lessons and prospects. *Institutional Designs for a Complex World: Bargaining, Linkages and Nesting*.

Allee, T., & Peinhardt, C. (2014). Evaluating three explanations for the design of bilateral investment treaties. *World Politics*, *66*(1), 47-87.

Allee, T., & Elsig, M. (2016). Why do some international institutions contain strong dispute settlement provisions? New evidence from preferential trade agreements. *The Review of International Organizations*, *11*, 89-120.

Allee, T., & Lugg, A. (2016). Who wrote the rules for the Trans-Pacific Partnership?. *Research & Politics*, *3*(3), 2053168016658919.

Allee, T., Elsig, M., & Lugg, A. (2017). Is the European Union Trade Deal with Canada new or recycled? A text-as-data approach. *Global Policy*, *8*(2), 246-252.

Allee, T., Elsig, M., & Lugg, A. (2017). The ties between the world trade organization and preferential trade agreements: A textual analysis. *Journal of international economic law*, *20*(2), 333-363.

Allee, T., & Elsig, M. (2019). Are the contents of international treaties copied and pasted? Evidence from preferential trade agreements. *International Studies Quarterly*, *63*(3), 603-613.

Alschner, W., & Skougarevskiy, D. (2016). Mapping the universe of international investment agreements. *Journal of international economic law*, *19*(3), 561-588.

Alschner, W., & Charlotin, D. (2018). The growing complexity of the International Court of Justice's self-citation network. *European Journal of International Law*, *29*(1), 83-112.

Alter, K. J., & Meunier, S. (2009). The politics of international regime complexity. *Perspectives on politics*, *7*(1), 13-24.

Alter, K. J., & Raustiala, K. (2018). The rise of international regime complexity. *Annual Review of Law and Social Science*, *14*, 329-349.

Arias, S. B., & Shaffer, R. (forthcoming). You Had Me at Citation: How Citations Increase Support for United Nations Resolutions. *Journal of Peace Research.*

Busch, M. L. (2007). Overlapping institutions, forum shopping, and dispute settlement in international trade. *International Organization*, *61*(4), 735-761.

Castle, M. A. (2023). How do global trade rules evolve? Strategic sequencing in international economic law. *Review of International Political Economy*, *30*(4), 1387-1412.

Chaisse, J., Elsig, M., Jusoh, S., & Lugg, A. (2022). Drafting investment law: Patterns of influence in the Regional Comprehensive Economic Partnership (RCEP). *Journal of international economic law*, *25*(1), 110-128.

Cottier, T., Sieber-Gasser, C., & Wermelinger, G. (2015). The dialectical relationship of preferential and multilateral trade agreements. *Trade cooperation: the purpose, design and effects of preferential trade agreements. Cambridge University Press, Cambridge*, 465-496.

Clark, R. (2021). Pool or duel? Cooperation and competition among international organizations. *International Organization*, *75*(4), 1133-1153.

Clark, R., & Pratt, T. (2024). The Art of Imitation: IO Legitimacy and Strategic Treaty Design. Political Economy of International Organizations, Stockholm, Sweden. https://www.peio.me/wp-content/uploads/PEIO16/submission_163.pdf

Elsig, M., & Dupont, C. (2017). *Performance and international organisations' borders: The case of the World Trade Organization* (pp. 376-403). Cambridge University Press.

Drezner, D. W. (2007). The new new world order. *Foreign Aff.*, *86*, 34.

Drezner, D. W. (2009). The power and peril of international regime complexity. *Perspectives on politics*, *7*(1), 65-70.

Dür, A., Baccini, L., & Elsig, M. (2014). The design of international trade agreements: Introducing a new dataset. *The Review of International Organizations*, *9*, 353-375.

Dür, A., & Mödlhamer, C. (2022). Power and innovative capacity: Explaining variation in intellectual property rights regulation across trade agreements. *International Interactions*, *48*(1), 23-48.

Eilstrup-Sangiovanni, M., & Westerwinter, O. (2022). The global governance complexity cube: Varieties of institutional complexity in global governance. *The Review of International Organizations*, *17*(2), 233-262.

Eilstrup-Sangiovanni, M. (2022). Ordering global governance complexes: The evolution of the governance complex for international civil aviation. *The Review of International Organizations*, *17*(2), 293-322.

Gehring, T., & Faude, B. (2013). The dynamics of regime complexes: Microfoundations and systemic effects. *Global governance*, 119-130.

Gehring, T., & Faude, B. (2014). A theory of emerging order within institutional complexes: How competition among regulatory international institutions leads to institutional adaptation and division of labor. *The Review of International Organizations*, *9*, 471-498.

Gilpin, R. (1981). *War and change in world politics*. Cambridge University Press.

Green, J. F. (2013). *Rethinking private authority: Agents and entrepreneurs in global environmental governance*. Princeton University Press.

Gruber, L. (2000). *Ruling the world: Power politics and the rise of supranational institutions*. Princeton University Press.

Henning, R.C., & Pratt, T. (2023). Hierarchy and differentiation in international regime complexes: A theoretical framework for comparative research. *Review of International Political Economy*, *30*(6), 2178-2205.

Helfer, L. R. (2004). Regime shifting: the TRIPs agreement and new dynamics of international intellectual property lawmaking. *Yale J. Int'l L.*, *29*, 1.

Helfer, L. R. (2009). Regime shifting in the international intellectual property system. *Perspectives on politics*, *7*(1), 39-44.

Ikenberry, G. J. (2001). American power and the empire of capitalist democracy. *Review of International Studies*, *27*(5), 191-212.

Johnson, T. (2013). Institutional design and bureaucrats' impact on political control. *The Journal of Politics*, *75*(1), 183-197.

Jupille, J. H., Mattli, W., & Snidal, D. (2013). *Institutional choice and global commerce*. Cambridge University Press.

Kastner, S. L., Pearson, M. M., & Rector, C. (2018). *China's strategic multilateralism: Investing in global governance*. Cambridge University Press.

Krasner, S. D. (1991). Global communications and national power: Life on the Pareto frontier. *World politics*, *43*(3), 336-366.

Lipscy, P. Y. (2017). *Renegotiating the world order: Institutional change in international relations*. Cambridge University Press.

Lugg, A. (2024). Re-contracting intergovernmental organizations: Membership change and the creation of linked intergovernmental organizations. *The Review of International Organizations*, 1-33.

Lupu, Y., & Voeten, E. (2012). Precedent in international courts: a network analysis of case citations by the European Court of Human Rights. *British Journal of Political Science*, *42*(2), 413-439.

Morin, J. F., & Surbeck, J. (2020). Mapping the new frontier of international ip law: Introducing a trips-plus dataset. *World Trade Review*, *19*(1), 109-122.

Morse, J. C., & Keohane, R. O. (2014). Contested multilateralism. *The Review of international organizations*, *9*, 385-412.

Oberthur, S., & Stokke, O. S. (Eds.). (2011). *Managing institutional complexity: regime interplay and global environmental change*. MIT Press.

Orsini, A., Morin, J. F., & Young, O. (2013). Regime complexes: A buzz, a boom, or a boost for global governance. *Global governance*, *19*, 27.

Peacock, C., Milewicz, K., & Snidal, D. (2019). Boilerplate in international trade agreements. *International Studies Quarterly*, *63*(4), 923-937.

Pratt, T. (2020). Value differentiation, policy change, and cooperation in international regime complexes. *Unpublished paper*.

Pratt, T. (2018). Deference and hierarchy in international regime complexes. *International Organization*, *72*(3), 561-590.

Raustiala, K., & Victor, D. G. (2004). The regime complex for plant genetic resources. *International organization*, *58*(2), 277-309.

Reinsberg, B., & Westerwinter, O. (2021). The global governance of international development: Documenting the rise of multi-stakeholder partnerships and identifying underlying theoretical explanations. *The Review of International Organizations*, *16*, 59-94.

Shaffer, G., & Pollack, M. A. (2010). How Hard and Soft Law Interact in International Regulatory Governance: Alternatives, Complements and Antagonists. *World Scientific*.

Sell, S. K. (2003). *Private power, public law: The globalization of intellectual property rights* (Vol. 88). Cambridge University Press.

Stone, R. W. (2011). *Controlling institutions: International organizations and the global economy*. Cambridge University Press.

Shanks, C., Jacobson, H. K., & Kaplan, J. H. (1996). Inertia and change in the constellation of international governmental organizations, 1981–1992. *International organization*, *50*(4), 593-627.

Stone, R. W. (2013). Informal governance in international organizations: Introduction to the special issue. *The Review of International Organizations*, *8*, 121-136.

Surbeck, J. (2019). *Intellectual property rights in preferential trade agreements: Mapping the content, analysing the design, studying the effects* (Doctoral dissertation, Wirtschafts-und Sozialwissenschaftliche Fakultät der Universität Bern).

Vabulas, F., & Snidal, D. (2013). Organization without delegation: Informal intergovernmental organizations (IIGOs) and the spectrum of intergovernmental arrangements. *The Review of International Organizations*, *8*, 193-220.

Vabulas, F., & Snidal, D. (2020). Informal IGOs as mediators of power shifts. *Global Policy*, *11*, 40-50.

Vabulas, F., & Snidal, D. (2021). Cooperation under autonomy: Building and analyzing the Informal Intergovernmental Organizations 2.0 dataset. *Journal of Peace Research*, *58*(4), 859-869.

Voeten, E. (2001). Outside options and the logic of Security Council action. *American Political Science Review*, *95*(4), 845-858.

Appendix 1. Dependent Variables Used in Analysis.

Table A1. Dependent variable descriptions for primary statistical analysis.

Variable Name	Variable Type	Description	Models
TRIPS (0/1)	Dichotomous	Does the PTA include a reference to the 1994 TRIPS agreement? (0 = no; 1 = yes)	1,6
WIPO (0/1)	Dichotomous	Does the PTA include a reference the 1967 WIPO Convention? (0 = no; 1 = yes)	2,7
TRIPS Strength	Ordinal (0-3)	The strength of the reference to the TRIPS agreement. (0 = no TRIPS reference; 1 = reference to TRIPS; 2 = reaffirmation of specific TRIPS obligations and intent to comply; 3 = expression of intent to accede to TRIPS.)	3, 8
WIPO Strength	Count (0-22)	Count of 22 WIPO conventions referenced.[1]	4, 9
TRIPS + WIPO	Ordinal (0-5)	Strength of TRIPS and WIPO reference (sum of TRIPS reference; TRIPS Most-favored-nation and National Treatment affirmation; 1 or more WIPO Treaties referenced)	5,10
IPCC (0/1)	Dichotomous	Does the PTA reference the 1951 International Plant Protection Convention? (0 = no; 1 = yes)	11
CBD (0/1)	Dichotomous	Does the PTA reference the 1992 Convention on Biological Diversity? (0 = no; 1 = yes)	12
UCC Geneva (0/1)	Dichotomous	Does the PTA reference 1952 Geneva Universal Copyright Convention? (0 = no; 1 = yes)	13
UCC Paris (0/1)	Dichotomous	Does the PTA reference the 1971 Paris Universal Copyright Convention? (0 = no; 1 = yes)	14
TRIPS Doha (0/1)	Dichotomous	Does the PTA reference the 2001 Declaration on the TRIPS Agreement and Public Health? (0 = no; 1 = yes)	15
Any Counter Regime (0/1)	Dichotomous	Does the PTA reference at least one of the following, IPCC, CBD, UCC Geneva, UCC Paris or TRIPS Doha? (0 = no; 1 = yes)	16

Note: Data is based on original data collected in Surbeck 2019. The column "Models" denotes which statistical model the variable is used as a dependent variable for in tables 1,3, and 5 in the article.
[1]The 22 WIPO conventions included in this variable are listed in table A2 below.

Table A2. List of WIPO Administered Treaties contained in Variable *WIPO Strength.*

Treaty Name	Year Signed
Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations	1961
Paris Convention for the Protection of Industrial Property	1883
Bern Convention for the Protection of Literary and Artistic Works	1886
WIPO Copyright Treaty	1996
WIPO Performances and Phonograms Treaty	1996
Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of their Phonograms	1971
Beijing Treaty on Audiovisual Performances	2012
Singapore Treaty on the Law of Trademarks	2006
Geneva Trademark Law Treaty	1994
Patent Law Treaty	2000
Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite	1974
Nairobi Treaty on the Protection of the Olympic Symbol	1981
Budapest Treaty on the International Recognition of the Deposits of Microorganisms for the Purposes of Patent Procedure	1977
Hague Agreement Concerning the International Registration of Industrial Designs	1925
Lisbon Agreement for the Protection of Appellations of Origin and their International Registration	1958
Madrid Agreement Concerning the International Registration of Marks	1891
Protocol to the Madrid Agreement Concerning the International Registration of Marks	1989
Patent Cooperation Treaty	1970
Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks	1979
Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks	1973
Locarno Agreement Establishing an International Classification for Industrial Designs	1968
International Convention for the Protection of New Varieties of Plants	1961

Appendix 2. Alternative Regressions Models.

Table A3: Per Capita GDP and IP Institutional connections.

	Model 1 TRIPS (0/1)	Model 2 WIPO (0/1)	Model 3 TRIPS Strength	Model 4 WIPO Strength	Model 5 TRIPS + WIPO
avg_gdp_pc_1000	0.0262**	0.0228***	0.0285***	0.00287	0.0337***
	-0.0105	-0.00861	-0.00968	-0.00654	-0.00835
avg_polyarchy	2.169***	2.725***	2.086***	2.876***	2.796***
	-0.738	-0.741	-0.692	-0.573	-0.581
desta_pta_depth	0.432***	0.523***	0.350***	0.323***	0.307***
	-0.0955	-0.0862	-0.0874	-0.0664	-0.0732
year_signature	0.118***	0.0841***	0.111***	0.114***	0.0463**
	-0.0258	-0.0171	-0.0236	-0.0132	-0.019
_cons	-239.7***	-172.5***		-230.3***	
	-51.81	-34.19		-26.5	
cut1			224.3***		95.20**
			-47.38		-38.08
cut2			224.5***		96.20**
			-47.38		-38.08
cut3			229.6***		97.28**
			-47.49		-38.09
lnalpha				1.055***	
				-0.105	
cut4					98.12**
					-38.1
N	409	626	409	626	409
AIC	407.1	474.2	552	1916.6	1063.4
BIC	427.1	496.4	580.1	1943.3	1095.5

NOTE: Standard errors in parentheses. All significance tests two-tailed.
* p<0.1 **p<0.05 *** p<0.01

Table A4: Average Patents Logged and IP institutional connections.

	Model 1 TRIPS (0/1)	Model 2 WIPO (0/1)	Model 3 TRIPS Strength	Model 4 WIPO Strength	Model 5 TRIPS + WIPO
log_patents	0.0474	0.209***	0.0530	0.105**	0.0693*
	(0.0618)	(0.0592)	(0.0553)	(0.0429)	(0.0454)
avg_polyarchy	2.665***	3.333***	2.625***	2.849***	3.369***
	(0.703)	(0.722)	(0.668)	(0.526)	(0.571)
desta_pta_depth	0.498***	0.512***	0.417***	0.260***	0.395***
	(0.0966)	(0.0872)	(0.0876)	(0.0704)	(0.0731)
year_signature	0.118***	0.0609***	0.110***	0.0948***	0.0440**
	(0.0263)	(0.0195)	(0.0239)	(0.0147)	(0.0196)
_cons	-239.2***	-127.6***		-192.3***	
	(52.63)	(39.11)		(29.45)	
cut1			223.2***		91.14**
			(47.81)		(39.13)
cut2			223.4***		92.16**
			(47.81)		(39.13)
cut3			228.4***		93.20**
			(47.91)		(39.14)
lnalpha				1.003***	
				(0.108)	
cut4					93.98**
					(39.14)
N	393	521	393	521	393
AIC	398.6	451.3	545.1	1856.2	1044.3
BIC	418.5	472.5	572.9	1881.8	1076.1

NOTE: Standard errors in parentheses. Significance tests for Models 1 – 4 are two-tailed tests. Model 5 is one-tailed.

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

Table A5. GDP Share difference and IP institutional connections.

	(1) TRIPS (0/1)	(2) WIPO (0/1)	(3) TRIPS Strength	(4) WIPO Strength	(5) TRIPS + WIPO
gdp_share_diff	0.774*	0.844**	0.484	0.134	1.127***
	(0.444)	(0.427)	(0.410)	(0.271)	(0.347)
log_ip_receipts	0.0401	0.109	0.0569	0.0727	0.114
	(0.108)	(0.105)	(0.101)	(0.0820)	(0.0857)
avg_gdp_pc	0.0294**	0.0271**	0.0301**	0.00140	0.0349***
	(0.0142)	(0.0122)	(0.0126)	(0.00855)	(0.0108)
avg_polyarchy	2.547***	2.485***	2.320***	2.185***	2.782***
	(0.857)	(0.832)	(0.790)	(0.610)	(0.679)
desta_pta_depth	0.378***	0.465***	0.298***	0.289***	0.250***
	(0.0997)	(0.0892)	(0.0907)	(0.0664)	(0.0752)
year_signature	0.113***	0.0683***	0.106***	0.0982***	0.0353*
	(0.0274)	(0.0178)	(0.0248)	(0.0133)	(0.0199)
_cons	-230.0***	-140.1***		-197.5***	
	(54.98)	(35.66)		(26.86)	
cut1			215.3***		72.64*
			(49.86)		(39.98)
cut2			215.4***		73.63*
			(49.86)		(39.98)
cut3			220.5***		74.73*
			(49.97)		(39.99)
lnalpha				0.964***	
				(0.107)	
cut4					75.60*
					(40.00)
N	363	503	363	503	363
AIC	371.5	440.9	514.7	1837.7	980.5
BIC	398.8	470.5	549.8	1871.5	1019.5

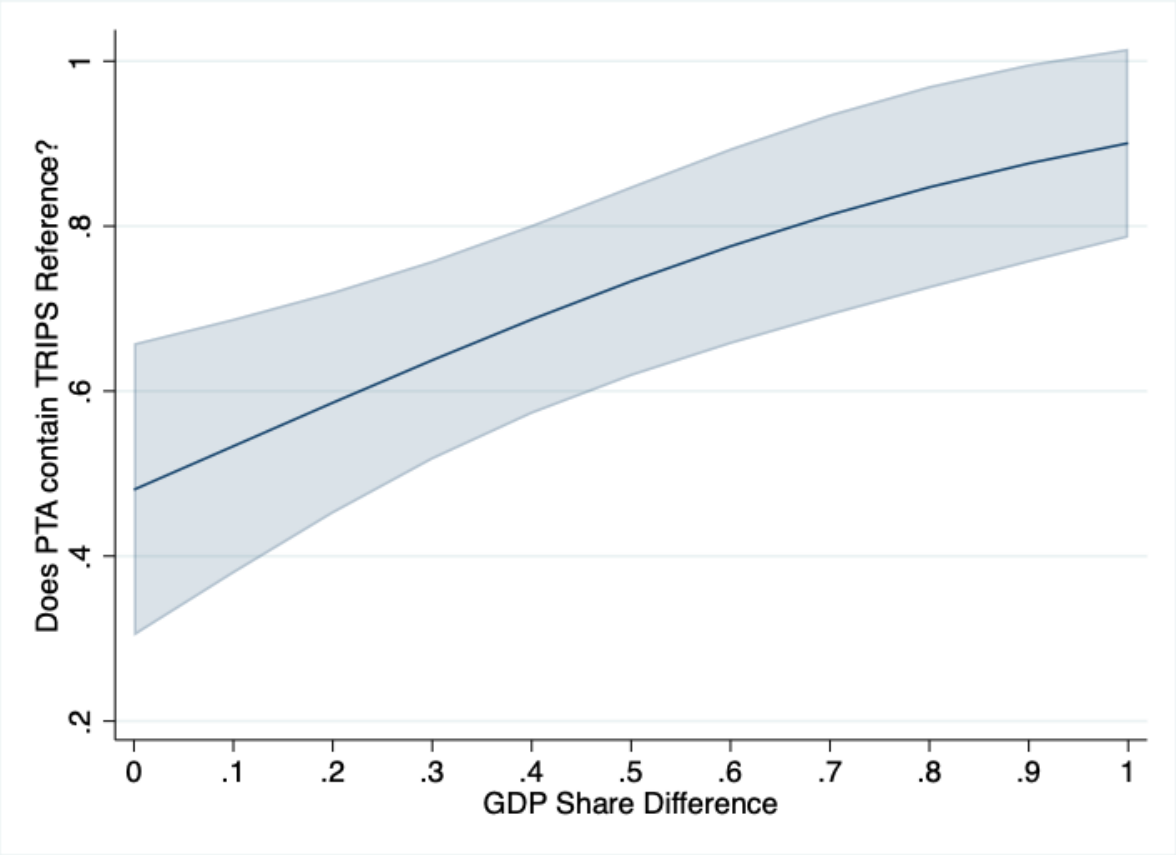
Standard errors in parentheses. All tests two-tailed. * p<0.1; **p<0.05; ***p<0.01.

Table A6. Effect of North South PTA and Difference in GDP Share on inclusion of TRIPS and WIPO connections.

	Model 1 TRIPS (0/1)	Model 2 TRIPS + WIPO
north-south PTA	0.328	-0.0893
	(0.691)	(0.487)
gdp_share_diff	0.345	0.548
	(0.498)	(0.417)
North-south PTA X gdp_share_diff	2.494*	1.795**
	(1.302)	(0.714)
avg_gdp_pc_1000	-0.00340	0.0217*
	(0.0171)	(0.0121)
log_ip_receipts	0.0248	0.0817
	(0.109)	(0.0854)
avg_polyarchy	2.677***	2.877***
	(0.879)	(0.678)
desta_pta_depth	0.354***	0.207***
	(0.103)	(0.0770)
year_signature	0.117***	0.0368*
	(0.0278)	(0.0200)
N	363	363
AIC	362.0	971.4
BIC	397.0	1018.2

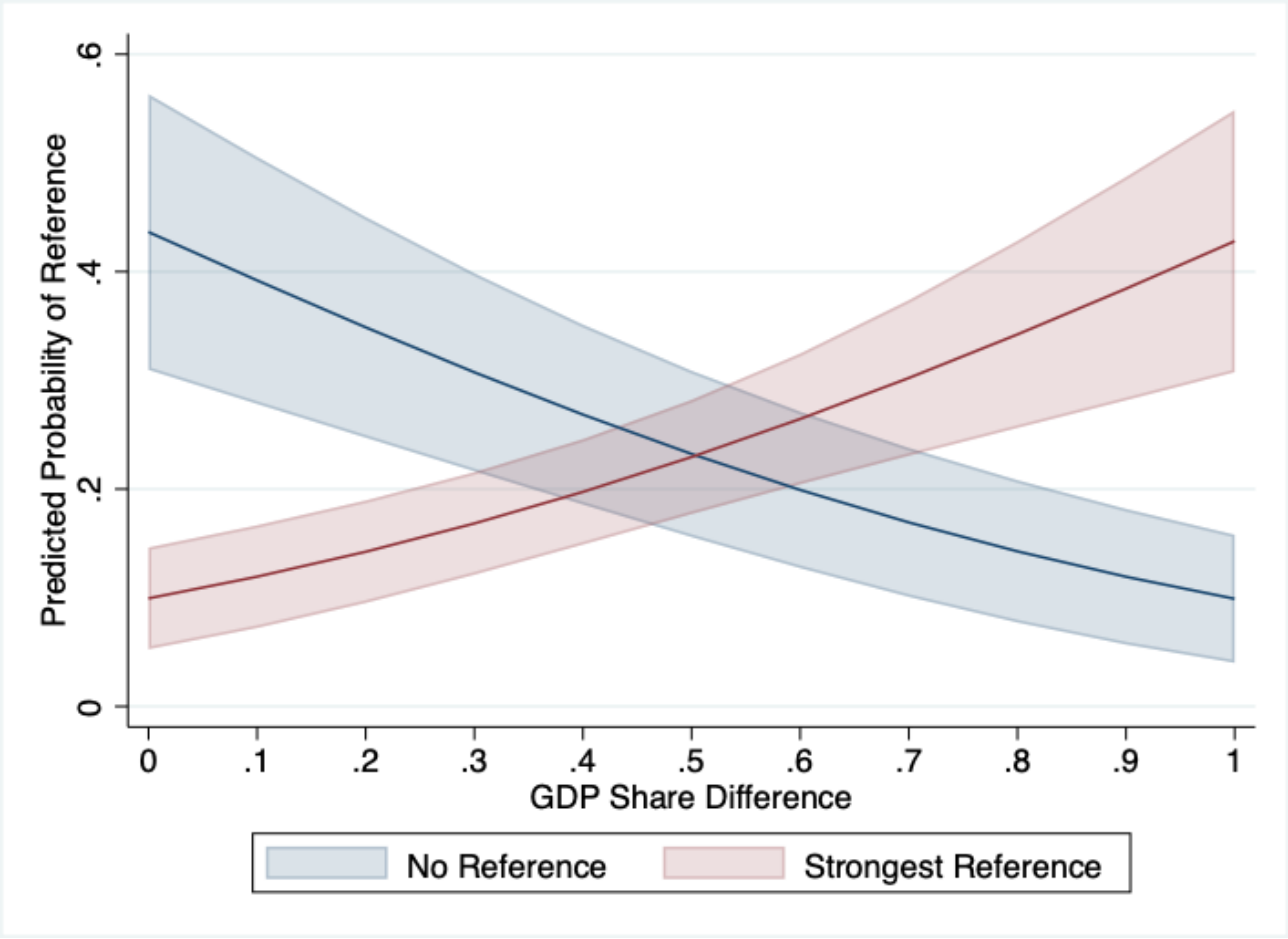
Standard errors in parentheses. All significance tests two-tailed. Constant and cut points omitted for presentation purposes. Full results available on request. *p<0.1; **p<0.05; ***p<0.01.

Figure A1. Predicted Probability of TRIPS Reference for North South PTA conditional on Bargaining Asymmetry.



Note: Predicted probabilities from model 1 in table A6.

Figure A2. Predicted Probability of Low versus High Strength IP References for North South PTA conditional on Bargaining Asymmetry.



Note: Predicted probabilities are from value 0 compared to value 4 from table A6 model 2.