Reputation as a Binding Constraint : How States Navigate TRIPS Flexibilities

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Abstract

To alleviate the distributional consequences of multilateral trade agreements on intellectual property, international trade organization preserves the rights to invoke certain exceptions with no strings attached. When do nations explore this freedom, and how does international institution govern the abuse? In this paper, I argue that states leverage on these escape clauses to defend national interests against coercion in bilateral trade negotiations. If a signatory abuses such remedies beyond restoring the balance in concession, however, then other parties inform third countries of its opportunistic behaviors for punishment, whose monitoring and communication are mediated by the institution. To test my arguments, I collect new datasets on TRIPS Flexibilities and the scope of intellectual property protection varying across bilateral treaties from 1995 to 2012. A longitudinal network analysis corroborates my claims, where I also find that nations care about reputation to various degrees, depending on how many neighbors maintain a 'good' image in the world economy. The results demonstrate how escape clauses serve the needs of the weak in a disciplined manner.

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1 Introduction

On May 30th, 2000, the United States filed a complaint over Brazil to WTO Dispute Settlement Body (DSB), consulting its violation of Article 3 and 27 under the Trade-Related Aspects of Intellectual Property Rights (TRIPS). The issue at hand was Brazil's 1996 Industrial Property Law, which required "local working" or manufacture among foreign investors. In the presence of any "failure to manufacture or incomplete manufacture of the product", this national law could allow the Brazilian Ministry of Health to license anti-retrovirals, such as efavirenz or nelfinavir, without consent from their foreign right-holders (Champ and Attaran, 2002).

After 18 years, on March 23rd, 2018, the US filed another consultation to WTO DSB, citing the same articles under TRIPS, but at this time on China. The Chinese IP laws challenged by the US and EU include its Administration of Registration of Technology Import and Export Contracts, promulgated in 2001, which require cooperative join-ventures with local producers from foreign-invested enterprises. The United States Trade Representative (USTR) alleged both Brazilian and Chinese policies discriminate foreign intellectual property (IP) owners from nationals and infringe their rights to prevent users from using patented products without consent.

How were the two disputes settled? Against Brazil, the USTR dropped the case in 2001 and its representative Robert Zoellick left a commentary on the opening day of a United Nations AIDS summit, defending the US' interests to "protect intellectual property rights without compromising ... efforts to combat HIV/AIDS". On the other hand, for China, the USTR refused to withdraw its consultation but instead litigated once again on the same subject matter in 2018, followed by another complaint from the EU.

Where does this discrepancy in US' attitudes toward its trading partners stem from? I argue that the amount of concessions the US attempted to achieve out of Brazil and China prior to these disputes brought the difference in their resolution, and this series of events exemplify how international trade institution governs members' opportunistic behavior on the trade remedies.

WTO provides its signatories with a set of flexibilities in TRIPS so that member states can mitigate their distributional concern while enforcing the multilateral trade agreement, using its exceptions. In the early 2000's when Brazil's annual GDP was below 10% of the US, Brazil had a legitimate ground to defend its national interest in public health and invoke one of the TRIPS provisions, compulsory licensing, to strike a balance between the US and Brazil's welfare gains from trade. Indeed, Brazil succeeded in gaining support for its rationale from other third-parties, including the EU, and eventually led to a Declaration of Commitment on HIV/AIDS, adopted by the UN Generally Assembly in 2001.

Once China became the second largest economy in the late 2010's, however, its appeal to WTO's deference to each member's regulatory authority under TRIPS, *ex-officio* actions, was no longer tenable, especially to those who believed their mutual concession has been eroded by its illegitimate stance. In such cases, I argue international trade institution allows the victim, the US in this case, to inform others of its disregard for reciprocity, thereby obstructing its path to sign new trade agreements with third parties. The US' dissemination of information about the Chinese government's lack of enforcement of the TRIPS agreement in the TRIPS Council, whose market has been isolated from the world since then, shows how reputational damage as punishment mechanism operates in the global IP regime and its norms are collectively enforced.

This article makes contribution to the existing literature on rational design of international trade institutions in three major pillars. First, as long as the origins of demand for flexibility are concerned, the extant literature focuses on uncertainty, both domestic (Rosendorff and Milner, 2001) and international (Koremenos, Lipson, and Snidal, 2001*a*; Koremenos, 2005), while research on other sources of state preferences on flexibility have largely been ignored, such as distribution (Koremenos, Lipson, and Snidal, 2001*b*; Koremenos, 2001). Providing an historical overview of TRIPS, this paper highlights how states' competing interests in distributing the benefits of cooperation could also lead to inclusion of flexibility provisions that enable international trade institutions to sustain cooperation among nations in the long run (Rosendorff, 2005).

Second, for their functionality, I describe how these exceptions are designed to help the less developed balance their power against industrialized countries in bargaining. The broader literature on international organization suggests that "powerful states structure such organizations to further their own interests but must do so in a way that induces weaker states to participate" (Abbott and Snidal, 1998), but no research has shown how escape clauses meet this objective. In this paper, I show how the exceptions available in TRIPS allow states to nullify their unwanted concessions, and illustrate how WTO members have institutionalized the safety-net effects of exceptions by suspending non-violation complaints over the TRIPS agreement up to date.

Lastly, as to how international trade institutions govern potential abuses of these escape clauses, I provide empirical evidence on how WTO allows its members to punish each other's opportunistic behaviors. The earlier studies have left cautionary notes on states' opportunistic behaviors as side effects of institutional flexibility, suggesting that more binding and inflexible rules can lower "the chances that governments will behave opportunistically by invoking phony criteria for protecting their industries" (Goldstein and Martin, 2000) or "the demand for hard law should be especially strong when the risks of opportunism are high" (Abbott and Snidal, 2000). In align with more recent studies (Rosendorff and Milner, 2001; Rosendorff, 2005; Pelc, 2009, 2014, 2016), this article also challenges such skepticism but instead by looking at the impact of reputational damage to those abusing the escape clauses with no strings attached. In so doing, I describe how WTO facilitates monitoring and communication among its member states.

To substantiate my claims, I collected a new dataset on the exceptions available in TRIPS and the scope of IP protection varying across bilateral treaties, and adopted a new quantitative approach to dealing with endogeneity and selection in network analysis. While other databases provide a universe of preferential trade agreements and a wide range of proxies for concession (Dür, Baccini, and Elsig, 2014), these datasets do not capture IP provisions in detail, such as patents, that are nullifiable by TRIPS flexibilities. Although the details could be measured, by using other longitudinal models for network, one cannot disentangle higher-order dependencies

among nations, such as their social influence and selection. I overcome these challenges by constructing a new dataset and using a dynamic model for network analysis (Snijders, 2011).

I find empirical evidence that lends support to my arguments. These findings include that WTO members who make more unilateral concessions to their trading partners are more likely to enact national IP laws pertaining to TRIPS flexibilities. If these member states exploit the provisions upon receiving mutual concessions, however, then these nations are less likely to be able to sign new bilateral trade agreements as well as investment treaties with third parties. I also find that WTO members are more likely to exploit the same amount of TRIPS exceptions as their trading partners, when these agreements are weighted by their reciprocal concessions.

The remainder of this article proceeds as follows. In the first section, I provide an historical overview of the TRIPS agreement. In the following two sections, I introduce my arguments on how its exceptions shield WTO members from coercion and how WTO governs their abuse through monitoring and communication. After delineating my empirical strategies, I test the main hypotheses using large-N statistical network analyses, followed by robustness checks and text analyses. The last chapter discusses the implications for further research.

2 Flexibilities under the TRIPS agreement

What is the TRIPS agreement? TRIPS is one of the multilateral trade agreements that were signed by 123 countries at the end of the Uruguay Round to protect intellectual property rights. Administered by WTO since 1995, TRIPS inherits the principle of national treatment from its predecessor, the 1884 Paris Convention for the Protection of Industrial Property. It also adopts several key concepts of intellectual property rights from the 1886 Berne Convention for the Protection of Literary and Artistic Works, such as the term of protection and country of origin.

Similar to WTO's other multilateral trade agreements, to overcome these earlier dialogues on intellectual property rights that were legally not binding, TRIPS accords the Most-Favored Nation (MFN) status to all WTO members, and also obligates its member states to meet the

minimum requirements for IP protection with different deadlines for ratification. These include patents to be granted for the minimum of twenty years and criminal procedures to be added in case of infringement, such as imprisonment and monetary fines for remedy, among many others. Industrialized groups agreed to reflect these minimum standards on legislation by 1996, while others were given another 4 years for ratification; this transition period was extended to 2006, and later to 2013 and 2016 for the least developed countries (LDC) (Deere, 2009).

The TRIPS agreement has several unique features as a multilateral trade agreement. For the general principles that undergird WTO and its trade law, for instance, the 1994 General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS) allow WTO member states to be exempt from extending their preferential treatment under bilateral trade agreements to all other WTO members in article 24 and 5, respectively. But for TRIPS, exceptions to the MFN rule are not automatically applied unless states notify the exemptions in the TRIPS Council. This implies if two states in WTO agree to extend the term of protection for patents in a preferential trade agreement, all non-contracting parties who signed TRIPS can also get to enjoy the same amount of concessions from these signatories.

In the domain of dispute settlement procedures, TRIPS also differs from GATT and GATS on whether WTO members are able to file consultation against measures that erode benefits accruing from these trade agreements, whose cases are known as "non-violation complaints" or "nullification or impairment" (Bagwell and Staiger, 2004). Based on article 23 of GATT and GATS, states who join WTO can ask its dispute settlement panels to adjudicate their claims, provided that they negotiated concessions whose achievements have been adversely affected by others' unilateral actions. In so doing, complainants are able to recover the balance of benefits struck during the multilateral trade negotiations. Under paragraph 2 of article 64 in TRIPS, however, its signatories temporarily decided not to file non-violation complaints related to the TRIPS agreement[1]. This moratorium was to last for the initial 5 years after TRIPS went into force in 1995, whose term has been extended since then after the 2001 Doha Round.

[1] TRIPS: 'NON-VIOLATION' COMPLAINTS (ARTICLE 64.2)

2.1 The Doha Development Round

The most prominent feature of the TRIPS agreement is summarized under article 1 that states "Members shall be free to determine the appropriate method of implementing the provisions of this Agreement within their own legal system and practices", which was re-emphasized throughout the 2001 Doha Development Round. During this negotiation, the members from developing countries and LDCs expressed their concern over whether TRIPS could threaten their national interests in public health, and announced that "each member has the right to grant compulsory licenses and freedom to determine the grounds upon which such licenses are granted"[2].

What led to the conflict of interest in enforcing TRIPS among WTO members in 2001? As shown in the previous trade dispute between the US and Brazil in 2000, without any safeguard, such as compulsory licensing, the exclusive and proprietary nature of intellectual property was bound to generate the winners and losers globally. In the 1980's and 1990's, most applications of intellectual property rights around the globe were occupied by residents from major economies, such as Japan, whose producers took up the top 5 major patent applications in manufacturing[3]. During the Uruguay Round, therefore, it was mainly lobbyists from pharmaceutical, electronic, software, agrochemical, and entertainment industries in the US who pushed the government to recruit other industrialized countries, such as the EU and Japan, to include intellectual property protection as a part of the deal during the Uruguay Round (Deere, 2009).

On the other hand, other states such as Brazil and India maintained that "the GATT's purview be limited to trade in goods and argued that WIPO was a more appropriate and competent forum for multilateral IP negotiation" at a GATT experts meeting in 1985 (Deere, 2009). As expected, it was these weak states who failed to organize their common interests between 1986 and 1994 and fell victim to WTO disputes on TRIPS afterwards; similar to Brazil, the US and EU sued India for its lack of pharmaceutical and agrochemical patent protection in 1997.

[2]Doha Declaration on the TRIPS Agreement and Public Health (November 14th, 2001)
[3]Top 100 patent applicants worldwide, WIPO

Then why did less developed nations sign the trade agreement in the first place? It turns out TRIPS initially embraced a series of "rights, options, safeguards, and ambiguities" that enable states to meet their public policy objectives, known as "TRIPS Flexibilities", whose availability was not widely recognized by WTO member states until they adopted the Doha Declaration on the TRIPS Agreement and Public Health in 2001 (Deere, 2009). Other than compulsory licensing, these provisions include the exhaustion of rights[4] in article 6, whose regime is left to the discretion of each state, and exceptions to exclusive rights of patent for non-commercial usage under article 30, which allows other drug producers to use patented products for their research and thereby develop generic drugs until the term of protection for the original product expires.

As article 1 of the TRIPS agreement suggests, these safeguards are distinguished from other escape clauses in WTO, like anti-dumping duties or countervailing statutes, in a sense that its member states can easily explore these clauses without verifying the existence of measures that provoke governments to use these exceptions for compensation. To illustrate, as of 2006, Brazil adopted a national regime for exhaustion so that IP right-holders[5] in Brazil can challenge any imports unauthorized by the owners. In such cases, the Brazilian government is not obliged to justify their choice of regime to other WTO members, who also have their rights reserved under article 6 of TRIPS to choose their own regime to regulate parallel imports. On April 7th, 2000, for the first time in its history, WTO and its Appellate Body confirmed that such flexibilities are not inconsistent with the TRIPS agreement, when the EU challenged Canada's Patent Act and its section 55.2(1) that allows for non-commercial usage of drugs in its pharmaceutical industry.

For other provisions whose conditions for usage are listed, including compulsory licensing of article 31, these requirements frequently contain ambiguous or broadly defined terms, such as "reasonable", which save for each state "some scope for interpretation and 'reading between the lines' when it comes to implementation" (Deere, 2009).

[4]Intellectual property rights are "exhausted" in a sense that, after the owner authorizes the sale of IP-related products, the owner can no longer claim his or her right over its reselling.

[5]Such reselling of non-counterfeit products from one region to another without authorization of IP owners is called parallel import.

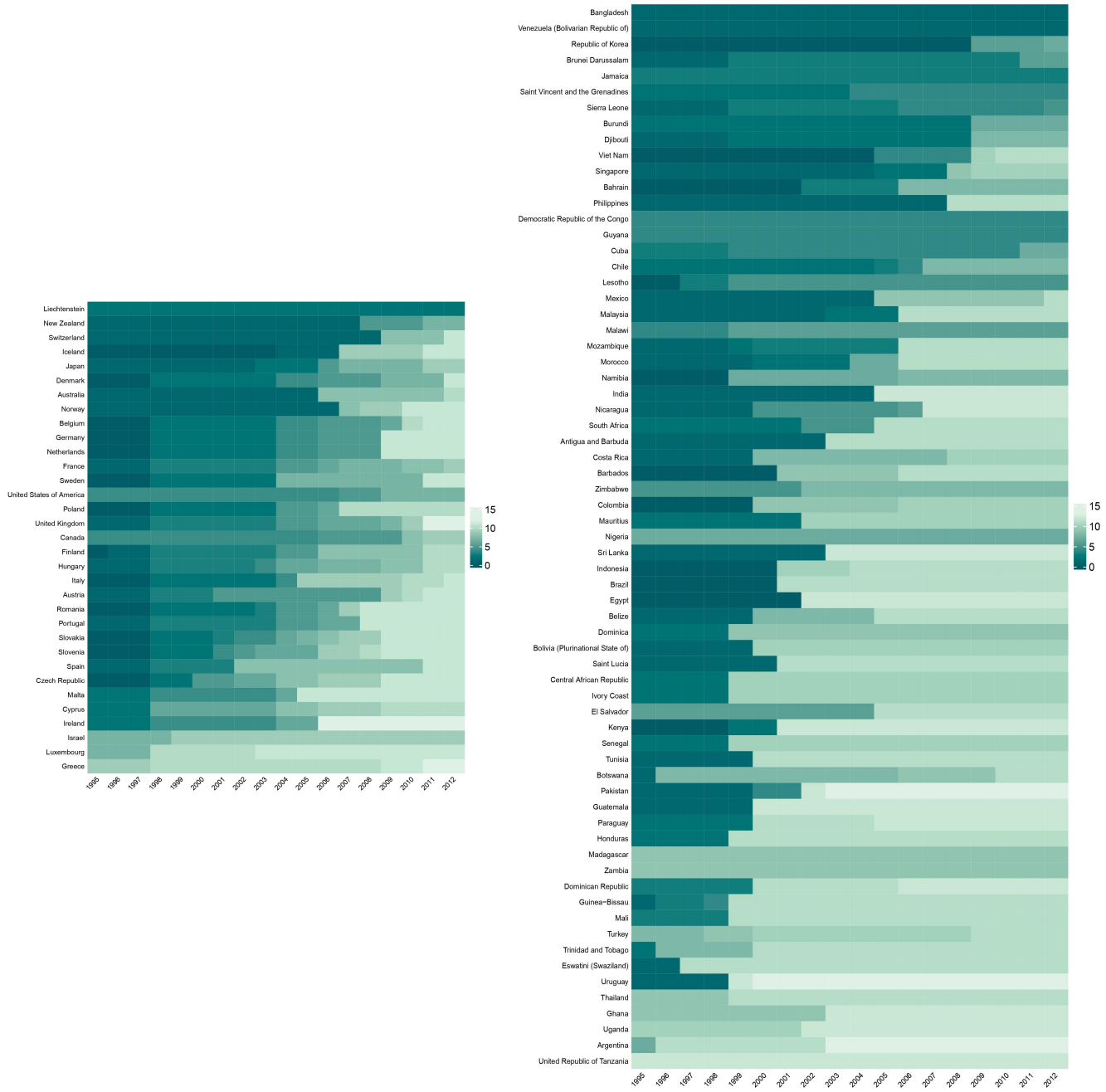

Figure 1: **Cross-national Variation of TRIPS Flexibilities between 1995 and 2012** These figures present how many national IP laws corresponding to TRIPS safeguards the initial members of WTO have enacted since 1995, whose results are divided into groups of countries from the North and South, respectively. These heatmaps suggest that developing and the least developed countries have exploited the escape clauses available in TRIPS more intensively than developed countries until 2012, but their within-group variations also increased rapidly over time where a number of less developed countries started to explore TRIPS Flexibilities after 2001.

3 Flexibilities against Coercion

What's puzzling then is why some countries have exploited TRIPS Flexibilities to advance their national interests, while others have not capitalized on these exceptions to maximize their own benefits, as shown in the above figure. What brings such cross-national variation?

The broader literature on escape clauses in IPE clearly highlights interdependence among nations and their strategic actions on each other's policies as a source of variation in flexibility. Using an infinitely repeated prisoner's dilemma with two players, Rosendorff and Milner (2001) and Rosendorff (2005) show that some costs of deviation, or escape clauses in agreements, can bring more efficient outcomes. For cases where more than two states are involved, the record of invoking these clauses can be taken as leaving precedents, whose strategic values hinge on the participation of third-parties in the dispute settlement procedure (Busch and Reinhardt, 2006; Busch and Pelc, 2010; Johns and Pelc, 2014; Bechtel and Sattler, 2015; Johns and Pelc, 2016, 2018). In that case, Pelc (2014) finds that WTO member states file complaints on safeguards strategically under WTO DSP as a way of controlling their precedential values.

For other exceptions where it is unnecessary for WTO members to verify "the severity and exogeneity of circumstances", such as security exceptions, Pelc (2016) suggests states will shy away from such de-facto non-binding exceptions as "by exercising an ill-defined, unconstrained exception, countries risk normalizing its exercise, making it more likely that others will exercise it in return". This implies that if some countries have already exercised these exceptions, then other states can easily take advantage of their current state of the world and eschew the risks of being the first opportunist, which makes the cross-national variation plotted in figure 1 even more puzzling. Why do some states then take the risk of normalizing the practice, while others still abstain from doing so once the exercise has already been regularized?

This article also focuses on the role of interdependence between countries, but instead by zooming in the degree of pressure they create and the amount of concession they achieve under

bilateral trade agreements or investment treaties. The neo-classical theory on gains from trade assumes perfect competition and constant returns-to-scale to show the optimality of free trade, compared to autarky, leading to the conclusion that two states sign bilateral trade agreements because they want to. For trade policies whose market structures are ought to be monopolisitc, such as those of intellectual property, however, Grossman and Lai (2004) shows that only states from the North have incentive to lengthen its term of protection. For bilateral treaties signed between countries from the North and South, therefore, one can hardly comprehend why and how provisions on intellectual property protection are included without suspecting the presence of mediators, such as externality, the exertion of power, or the availability of issue linkage.

The existing scholarship on intellectual property rights provides empirical evidence on how much pressure less developed countries receive when signing bilateral treaties with nations with higher innovative capacity, and how it shapes their preference on multilateral versus bilateral agenda settings. Shadlen (2005), for instance, demonstrates the trade-off between concessions states from the South must make, such as their ability to design industrial policies, and their benefits of market access to the world economy is less salient under the multilateral framework than bilateral ones. Shadlen, Schrank, and Kurtz (2005) offer empirical findings that support the argument, where WTO members and those receiving more reciprocal concession from the US are more likely to regulate piracy on software.

As to when WTO member states use TRIPS safeguards more often, my argument is that countries who receive more pressure from their trading partners to make *unilateral* concession are more likely to exploit flexibility provisions in TRIPS. If a member state exercises its power through coercive diplomacy and seeks unilateral concession through bilateral channels, then WTO allows its trading partner to leverage escape clauses available in TRIPS to nullify these unfair concessions and compensate the welfare loss. In that case, third-parties as audience are more likely to regard the usage of exceptions as legitimate, which in turn prevents the stronger party from appealing erosion of its earlier achievement through WTO DSP.

This functionality of escape clauses, which I call **the safety-net effect** of TRIPS exceptions, was initially institutionalized under paragraph 2 of article 64 in the TRIPS agreement where WTO member states agreed not to apply non-violation complaints over the multilateral trade agreement until 1999. If one of the contracting parties who signed bilateral trade agreements can verify that its benefits accruing from their treaties have been adversely affected by the other party's regulatory measures, then the complainant is allowed to ask WTO DSB and its panels to adjudicate their claims, based on article 23 of GATT. For TRIPS, however, WTO members reached a consensus during the Uruguay Round on postponing its application for intellectual property protection so that countries could secure 'room for maneuver' against others' claims.

But how do we know that this moratorium mainly served the needs of WTO members with less development capacity in defending their national interest against others' coercion? When WTO members discussed over whether the moratorium should be extended beyond the initial five years, it turns out to be mostly states from the South, such as Argentina, Brazil, India, Sri Lanka, etc., who "believe that the application of non-violation and situation complaints to the TRIPS Agreement ... threatens to upset the delicate balance of rights and obligations in the TRIPS Agreement by elevating private rights over the interests of the users of intellectual property"[6]. Among industrialized nations did Canada and Australia also take their collective voices as a legitimate concern, and lent credence to their arguments by stating that "a major concern continues to be the potential for diluting or rendering obsolete the acknowledgments, principles and objectives in the TRIPS Agreement through the use of 'non-violation' for purposes other than those that what would logically have been intended by Members"[7].

Hypothesis 1. *WTO members who make more unilateral concessions to their trading partners are more likely to invoke TRIPS Flexibilities.*

[6]Non-Violation and Situation Nullification or Impairment under the TRIPS agreement – Communications from Argentina, Bolivia, Brazil, Colombia, Cuba, Ecuador, Egypt, India, Kenya, Malaysia, Pakistan, Peru, Sri Lanka and Venezuela (October 30th, 2002) [IP/C/W/385]

[7]Further Consideration of Non-Violation Nullification or Impairment under the Agreement on Trade-related Aspects of Intellectual Property Rights – Communications from Canada (March 29th, 2001) [IP/C/W/249]

4 Evolution of Norms on TRIPS Flexibilities

Looking at the previous hypothesis, one might ask 'out of expectation that their achievement of *unilateral* concessions is nullifiable by the weak, if the strong address *reciprocal* or *mutual* concessions, then will such offers induce more self-disciplined behaviors from the less powerful vis-à-vis TRIPS Flexibilities?' My argument is simply 'no', because the rights and freedom of WTO member states to use the exceptions are unconditional and therefore these countries are still tempted to invoke the escape clauses to maximize their own welfare, no matter what. This explains why states' opportunistic behaviors on TRIPS Flexibilities merit further discussion.

How are potential abuses of these loopholes governed? A substantial body of literature in IR on international institution introduces escape clauses of different sorts and thereby uncovers various mechanisms by which member states' egoistic actions are controlled. When it comes to anti-dumping duties and countervailing statutes, Rosendorff (2005) shows how their inclusion under the 1994 GATT enables its signatories to signal their willingness to restore the balance under cooperation before they actually escape from contractual obligations. Taking the status quo as an equilibrium, Kucik and Reinhardt (2008) control endogeneity and selection biases and thereby document empirical regularities that support the argument. Even if international institution cannot specify all contingencies for punishing escapes in the shadow of the future, states still appeal to some safeguards and exceptions insofar as they help countries verify "the severity and exogeneity of the domestic circumstances" (Pelc, 2009, 2016).

But for the exceptions under TRIPS, the extant frameworks are less applicable. Except for the minimum standards for IP protection, for instance, no obligations are defined over most TRIPS flexibility provisions. For the safeguards with some conditions listed, such as threats to public health for compulsory license, the terms used also sound so vague in the eyes of foreign countries[8] that governments are less bound by domestic constraints to rationalize their choice.

[8]For this reason, WTO members actively pose questions on each other's legislation and its national IP laws through the TRIPS Council, and document their communications every year on the website.

4.1 Reputational Damage as Punitive Measure

In this paper, I argue that the extent to which WTO members exploit TRIPS Flexibilities is restrained by those who fall victim to their opportunistic behaviors. In specific, if one seeks to maximize its own welfare by invoking the escape clauses upon receiving reciprocal concessions from the other, in which case the former is attempting to revoke its payment to be made in exchange of transfer from the latter, I argue that the other party inflicts reputational damage to its counterpart by alarming third parties. In that case, non-contracting parties become more hesitant to sign bilateral trade agreements or investment treaties with the egoistic state, whose disregard for the principle of reciprocity or time-inconsistency would already be recognized by other states. I call this mechanism **the selection effect** of TRIPS Flexibilities.

This reputational scheme in international trade institution partly explains why only some developing countries and LDCs afford the higher standards of IP protection than those under TRIPS, whose provisions in bilateral trade agreements are known as "TRIPS plus" (Maskus, 2000; Deere, 2009). For example, after a free trade agreement (FTA) with ASEAN has been stalled since 2009, the EU had a series of bilateral trade negotiations with ASEAN members, including Thailand and Singapore, to sign FTAs individually. After a decade of trade talks, however, only Singapore and Viet Nam reached agreement with the EU and concluded their FTAs, while negotiations with Thailand are still on hold as of 2021[9]. Why is this?

Despite other significant factors of domestic politics, such as the stability of its democratic regime, it turns out that Thailand had some serious trade disputes with the US from 2006 to 2009, who in fact signed a Trade and Investment Framework in 2002 as a stepping stone for FTA. After 2006, however, the Thai government forced the US pharmaceuticals, such as Merck and PhRMA, to issue license on non-AIDS-related drugs as well as AIDS-related ones several times at a lower price, allegedly without proper prior negotiations with the IP rights holders

[9] "Trade negotiations between the EU and ASEAN member states"

that are mandated under the TRIPS agreement[10]. Only after the US elevated Thailand to its Priority Watch List under Section 301 in 2007, the Thai Commerce Ministry promulgated not to list more US drugs under its compulsory licensing policy in 2009.

In the middle of the US-Thailand trade dispute was the European Commissioner, Peter Mandelson, who wrote a letter to Thailand's new Minister of Commerce as of 2008 and said that European pharmaceuticals are also concerned about its frequent issuance of compulsory license and the new minister must strive to "revive Thailand's image among foreign investors"[11]. The draft of EU-Thailand FTA revealed in 2013 shows that the EU thereby required greater protection for investments[12], whose stalemate demonstrates how magnificent the reputational blow was; had it not been for its abuse of compulsory license to the US, Thai would have been able to strike a deal with the EU without accommodating its further demand for protection.

In comparison, although both Viet Nam and Singapore amended their national IP laws in 2006 and 2008 to leave open the possibility of compulsory license, these ASEAN members have no records of issuing compulsory license over foreign-owned drugs in practice after their FTAs with the US went into force in the early 2000's. Presumably, these developing countries then "were able to resist even stronger demands" for IP protection from the EU thereafter based on a good faith, while preserving their access to EU markets and its technology (Maskus, 2000).

Hypothesis 2. *WTO members who invoke more TRIPS Flexibilities than their trading partners upon receiving mutual concessions are less able to sign new trade agreements with a third party.*

4.2 Partially Established Norms

Then, it follows from the first two hypotheses that WTO member states have less incentives to abuse their rights to invoke TRIPS Flexibilities, or exploit the escape clauses more than do others, as long as there are on-going reciprocal concessions placed between two countries. This

[10]There is an on-going debate over whether Thailand violated TRIPS. For more discussions, check Ho (2011).
[11]Letter from EU Trade Commissioner Mandelson to Thai Minister of Commerce Mingkwan Saengsuwan
[12]EU-Thailand FTA - investment chapter (draft, 2013)

is largely because when the benefits of preserving bilateral trade agreements are unbalanced, it provides legitimate grounds on which one of them can explore TRIPS exceptions to restore their balance of benefits in cooperation. In contrast, if one signatory seeks new opportunities out of TRIPS escape clauses by using them more than does the other, in spite of their bilateral treaties that already put in place mutually beneficial concessions, then such deviation is likely to remain sub-optimal in the long run as it entails reputational damage to defector and thus no additional benefits of signing new trade agreements with a third party will be available in the future. Putting these together, I call this equilibrium[13] **the peer effect** of TRIPS Flexibilities.

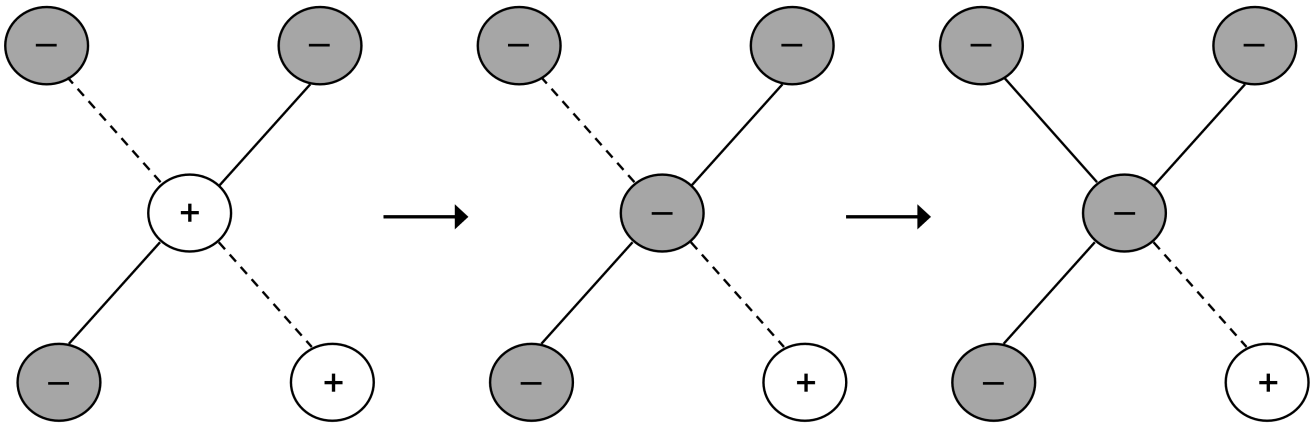

Figure 2: **Evolution of Norms on TRIPS Flexibilities : the Peer and Selection effects** This figure encapsulates how the norms evolve through punishment, where the solid lines indicate bilateral trade agreements with reciprocal concessions while the dashed lines denote prospective treaties. Nations refrain from the overuse of TRIPS Flexibilities, out of fear that their abuse (+) would trigger punishment by peers who fall victim, and thereby maintain a good reputation (–) so as to sign new trade agreements with other states who do not incur additional search costs.

The peer effects illuminate which states care more about reputation in the global economy: nations who interact more closely with those who manage their reputation through reciprocal concessions are also the ones who strive to maintain a 'good' image. To put it another way, an actor's reputation does not hinge on strangers he or she stumbles upon on a street one day.

[13] Sartori (2002) proposes an endogenous model of reputation with more than two players, and finds that actors maintain a good reputation in the equilibrium "to attain a mutually beneficial trade of issues over time".

Rather, one's reputation relies more on the peers with whom he or she interacts everyday and how they evaluate his or her treatment of companions, and it is someone nearby who punishes when a person misbehaves. Likewise, when a country abuses its rights for safety at the cost of others, it is the trading partners whose preference on TRIPS safeguards are more distant from the egoist's new trade policies that exert more social influence by blaming its strategic choices.

What role do the dynamics of reputation play in establishing norms on TRIPS Flexibilities? The earlier works on the evolution of norms in international relations highlight reputation as a punishment mechanism, because "when the authorities accuse someone of doing something wrong, others are called upon to denounce the accused", and point out that reputation can only *partially* establish new norms (Axelrod, 1986). When there are a number of players, however, Keohane (1984) and Axelrod and Keohane (1985) clearly demonstrate how these new norms cannot be sustained efficiently without international institutions as newly established, albeit partially, norms cannot be diffused widely without a channel of information (Keohane, 1986). The political and informational effect of international organization is found significant across foreign policies; these issue areas range from international trade and FDI (Büthe and Milner, 2008) to international monetary policy (Simmons, 2000) and economic sanctions (Martin, 1994).

Inter-state communications monitored by the TRIPS Council exemplify how international trade institutions also facilitate the diffusion of nations' updated beliefs on each other's type. As the body responsible for administering operation of TRIPS, the TRIPS Council manages communication among WTO members in a number of ways by which the norms on TRIPS exceptions wax and wane. For example, the council publicizes their exchange of questions and replies as follows, where countries publicly share their experience of FDI into other economies as a way to seek support for their IP agenda. Apart from arranging questions and answers on national legal systems, the council also works as a forum to discuss several key issues, where WTO member states openly share their perspectives on how to balance competing interests between private actors and the public, and the owners and the users under private sectors, in

intellectual property protection. These monitoring activities are designed to resolve conflicts of interest among nations in TRIPS "without the need for recourse to dispute settlement", which acknowledges sovereign rights for the safeguards and thus incurs higher costs for enforcement. The reports published voluntarily by each member state on others' egoistic actions, such as follows, are also what renders more efficient their communications administered by the council; those who are more vulnerable to others' national regimes are also the ones who publicize the information for other audiences without incurring additional costs for its dissemination.

> *"...The United States is concerned that China is becoming one of the world's top producers and exporters of counterfeit and infringing automotive parts, pharmaceuticals, and other products affecting the health and safety of consumers. For example, US automotive companies have identified hot spots for these activities in the cities of Cixi, Wenzhou, Yuhuan and Changzhou, and the provinces of Zhejiang, Jiangsu, Guangdong, Shandong, Hunan, Shanghai and Hebei. What concrete steps is China taking to improve IPR protection and enforcement for this industry overall? ..."*
> – **Transitional Review Mechanism of China: Communication from the US** [IP/C/W/453]

> *"...The United States offers this submission on enforcement of intellectual property rights and supply chain management as a contribution to the constructive exchange of information, within the TRIPS Council, on the experiences of Members in implementing Part III of the TRIPS Agreement. The United States reiterates its view that enforcement-related challenges surrounding infringement of intellectual property rights are of concern to all Members. In this light, the TRIPS Council can continue to make a positive contribution to addressing these problems through a constructive exchange of views and experiences ...."*
> – **Securing Supply Chains Against Counterfeit Goods: Communication from the US** [IP/C/W/570]

Figure 3 summarizes how WTO members' debate on the exceptions evolved for the past two years in the TRIPS Council, prior to the outbreak of COVID-19. To be sure, states have failed to reach consensus on how to utilize TRIPS flexibilities in regulatory practices globally. The sponsor-cosponsor network, however, suggests that to a large extent their preferences on each agenda are aligned by their bilateral economic relations; Singapore and South Korea, for example, have signed FTAs with both the US and EU that incorporate TRIPS-plus measures, such as the term of patent protection extended from twenty to fifty years, and these trading partners are the ones who in fact support the theme set by the US and EU.

Hypothesis 3. *WTO members with more mutual concessions between them are more likely to invoke the same amount of TRIPS Flexibilities.*

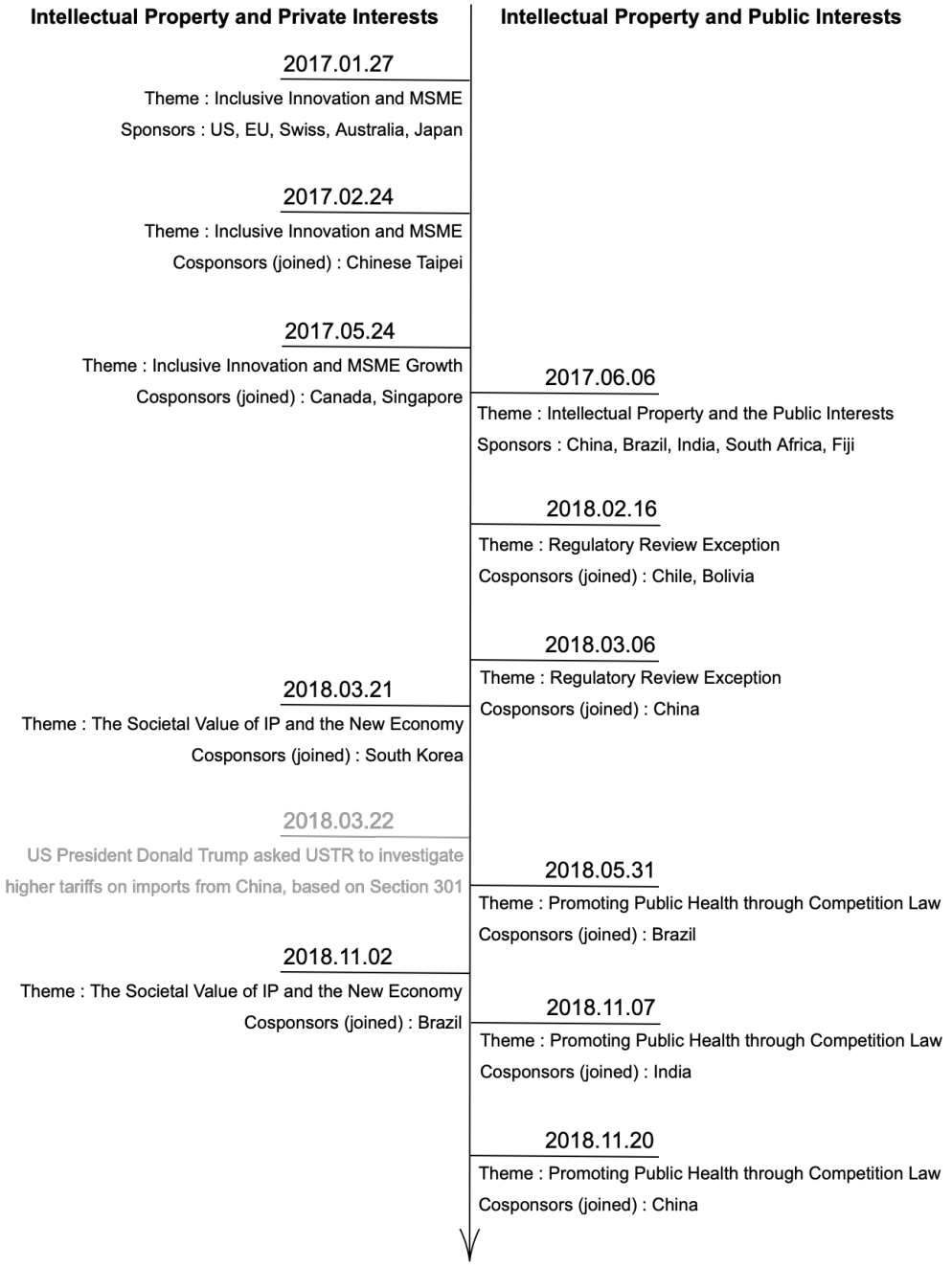

Figure 3: **Inter-state Communications in the TRIPS Council: between 2017 and 2018** This diagram illustrates how norms about TRIPS Flexibilities evolved between 2017 and 2018 under the TRIPS Council. WTO member states on the left who cosponsor the agenda set by the US and EU, such as Singapore and South Korea, are mostly developing countries who also adopt TRIPS-plus measures under their bilateral trade agreements with the US and EU.

5 Empirical Strategy

To test the aforementioned hypotheses poses several empirical challenges. First and foremost, there are no publicly available datasets that measure the amount of TRIPS Flexibilities each WTO member has explored and the degree of unilateral versus mutual concessions that states have addressed under bilateral trade agreements or investment treaties since 1995. While some research projects conducted earlier do provide comprehensive databases on these agreements, such as Dür, Baccini, and Elsig (2014), while Ginarte and Park (1997) and Park (2008) also offer a broad coverage of indices for patent protection, these readily available datasets are not applicable to test the mechanism highlighted in this project. To investigate whether countries leverage on the safeguards to nullify unwanted concessions, concessions placed by both parties in bilateral trade agreements must be nullifiable by such flexibility provisions in the first place. This requires more fine-grained, issue-specific databases on both preferential trade agreements and the safeguards, such as the term of protection extended for patents under FTAs and the availability of issuing compulsory license in each signatory's legislation.

Next, the choice of quantitative methods should be predicated upon each theory, and the following issues are of particular concern to test the hypotheses. Primarily, country-dyads are no longer independent as a unit of analysis, because how each state interacts with its trading partners is likely to affect its future interactions with non-trading partners, which requires a longitudinal network model for hypothesis testing. But the interconnection between the second and third hypotheses renders even more challenging to test these two claims simultaneously by using network analysis, due to the endogeneity between the amount of TRIPS flexibilities exploited by each country and its likelihood of signing bilateral trade agreements with others. To isolate the informational effect of international trade institution and control for alternative explanations, such as that of WTO accession[14], we also need to restrict our samples into only WTO members with changes in their membership, which generates an unbalanced panel data.

[14]Check Goldstein, Rivers, and Tomz (2007*b*,*a*), Pelc (2011), Davis and Wilf (2017) for more details.

5.1 Data Collection

To overcome the lack of measurement, from scratch I collected information on the legislation of all WTO member states and their existing bilateral trade agreements and investment treaties. In specific, referring to a website[15] administered by the World Intellectual Property Organization, I traced all histories of national IP laws, from the earliest legislation to its latest amendment, that pertain to each TRIPS flexibility provision. In so doing, I also checked the titles unique to individual legal system, known as *sui-generis* system of intellectual property[16]. For each country, I also gathered information across all international trade agreements and investment treaties, including bilateral, regional, and multilateral ones, and examined whether each contains some provisions on intellectual property rights and other relevant issues. These subject matters include the term of protection extended for each type of intellectual property, the establishment of joint committees for alternative dispute settlement, and so on. I provide more details on how these IP-related provisions are identified and put together in the appendix.

National IP Law : TRIPS Flexbilities	N	No	Yes
(article 31) compulsory licensing	164	60 (36%)	104 (64%)
(article 6) exhaustion of rights	164	89 (54%)	75 (46%)
(article 30) research exceptions	164	69 (42%)	95 (58%)
(article 30) regulatory exceptions	164	69 (42%)	95 (58%)
(article 73) security exceptions	164	38 (23%)	126 (77%)
(article 61) criminal sanctions	164	29 (18%)	135 (82%)
(article 29) disclosure flexibilities	164	56 (34%)	108 (66%)
(article 40) anti-competitive clauses	164	135 (82%)	29 (18%)
(article 10) patentability of software	164	37 (23%)	127 (77%)
(article 27) patentability of plants	164	39 (24%)	125 (76%)
(article 27) patentability of natural products	164	65 (40%)	99 (60%)
(article 29) substantive examinations	164	58 (35%)	106 (65%)
(article 65, 66) transition periods	164	152 (93%)	12 (7%)

Table 1: **Summary Statistics on TRIPS Flexibilities**

[15] The WIPO Lex Database

[16] In 2009, the Committee on Development and Intellectual Property (CDIP) in WIPO asked the Secretariat to document all member states' implementation records of TRIPS flexibilities. Since then, the documents collected have been advised by a group of experts in international laws, whose translation into English was also reviewed by each member state during the regular sessions.

International Trade Agreements :	**Bilateral**			**Regional**			**Multilateral**		
Intellectual Property Provisions	N	Mean	St. Dev.	N	Mean	St. Dev.	N	Mean	St. Dev.
patents	543	0.444	0.497	45	0.311	0.468	79	0.203	0.404
trademarks	543	0.424	0.495	45	0.244	0.435	79	0.241	0.430
trade names	543	0.258	0.438	45	0.067	0.252	79	0.063	0.245
trade secrets	543	0.348	0.477	45	0.089	0.288	79	0.076	0.267
domain names	543	0.011	0.105	45	0.000	0.000	79	0.000	0.000
industrial designs	543	0.359	0.480	45	0.311	0.468	79	0.063	0.245
layout designs of integrated circuits	543	0.155	0.362	45	0.067	0.252	79	0.000	0.000
copyright and neighboring rights	543	0.611	0.488	45	0.311	0.468	79	0.494	0.503
enforcement of IP laws	543	0.112	0.316	45	0.178	0.387	79	0.038	0.192
IP regulatory body	543	0.000	0.000	45	0.022	0.149	79	0.000	0.000
industrial property	543	0.602	0.490	45	0.400	0.495	79	0.241	0.430
competition	543	0.068	0.252	45	0.044	0.208	79	0.038	0.192
utility models	543	0.109	0.311	45	0.156	0.367	79	0.038	0.192
transfer of technology	543	0.263	0.441	45	0.000	0.000	79	0.165	0.373
traditional knowledge	543	0.029	0.169	45	0.067	0.252	79	0.114	0.320
traditional cultural expressions	543	0.029	0.169	45	0.089	0.288	79	0.025	0.158
alternative dispute resolution	543	0.015	0.121	45	0.044	0.208	79	0.177	0.384
geographical indications	543	0.182	0.386	45	0.133	0.344	79	0.051	0.221
plant variety protection	543	0.074	0.261	45	0.067	0.252	79	0.025	0.158
genetic resources	543	0.053	0.225	45	0.022	0.149	79	0.089	0.286
other IP related matters	543	0.050	0.218	45	0.044	0.208	79	0.114	0.320
total	543	4.197	3.941	45	2.667	2.495	79	2.253	1.691

Table 2: **Summary Statistics on Trade Agreements and Investment Treaties**

For each country i, then I calculate the accummulated sum z_i of TRIPS safeguards for each year, ranging from 1996 to 2011, as follows where I omit the time index t to avoid the abuses of notation. Because the South often renovate their IP legal systems entirely within a year, like China who had a major shift in its national IP law in 2008, while the majority of nations from the North do so gradually over a long period time, TRIPS flexibility provisions are likely to be correlated with one another for some countries, but not for others. To avoid such issues while probing both the generalizability and scope condition of my arguments, I also conduct the same inferential network analysis across all WTO member states across different subsets of TRIPS Flexibilities l in the following empirical section.

$$z_{il} = \begin{cases} 1 & \text{if country } i \text{ enacts law on escape clause } l \\ 0 & \text{otherwise} \end{cases} \qquad z_i = \sum_l z_{il} \tag{1}$$

When there is at least one bilateral trade agreement or investment treaty that is signed between two states i and j and in force as of year t, I take it as an indicator x_{ij} for economic ties between nations i and j through which one can impose bilateral pressure on the other and induce more concessions out of its trading partner. As to whether a network of agreements is a reliable proxy for social influence in international trade, Carnegie (2014, 2015) introduces a number of cases where coercive diplomacy plays a pivotal role in the negotiation; for example, "the United States warned that it would not renew trade agreements with China, Vietnam, Cambodia, Romania, and Russia until they made political concessions, and China refused to renew many of its trade agreements unless its partners supported its "one China" policy". In a similar vein, coercive diplomacy is also likely to be salient under bilateral trade agreements or investment treaties that contain some intellectual property provisions, which are the main sources of technology transfer for the less industrialized (Branstetter, Fisman, and Foley, 2006) and thus one's threat to terminate these channels could be more intimidating than any other.

$$x_{ij} = \begin{cases} 1 & \text{if there is an agreement in effect between } i \text{ and } j \text{ at time } t \\ 0 & \text{otherwise} \end{cases} \tag{2}$$

How can we measure the degree of concessions, unilateral or reciprocal, placed under these bilateral treaties? I divide different types of intellectual property and its subject matters into two parts n_{ij}, s_{ij} by comparing the dominance of national interests across state on each issue. I did so first by looking at some of the major events in history. After the Berne Convention, for instance, unlike other forms of literary and artistic arts, traditional cultural expressions or folklore had not been recognized as a form of intellectual property rights globally until Bolivia requested UNESCO to add a protocol to the Universal Copyright Convention and declare the Andean melodies as a property in 1973 (Martinet, 2019). Together with utility models, genetic resources, and traditional or indigenous skills, countries from the South failed to enforce their protection under TRIPS, but instead pushed for their protection bilaterally (Deere, 2009).

The tension between the unified framework of patent or trademark and alternative systems for intellectual property, or *sui-generis* schemes, also helps identify competing interests among WTO members in some intellectual property provisions included in bilateral trade agreements. For example, when piracy on plant breeding came to the surface and this issue became more problematic in the 1900's as its counterfeit started to cross the borders, the demands for a new international treaty for plant variety began to rise around the globe. For the lack of harmony in national legal systems, however, some countries opted to accommodate plant varieties under existing patent laws, such as the US and the Plant Patents Act of 1930 whose system was only adopted by a handful of its neighbors, while others tried to introduce new laws that are distinct from Western patent systems, such as those in India and Thailand (Sanderson, 2017). Their conflict of interests in leveling the playing field persisted even after the International Union for the Protection of New Varieties of Plants was signed in 1961 and amended in 1978 and 1991.

The issue of harmonization also rises between trademarks and geographical indications, but at this time between states from the Old World, mostly the EU member states, and those from the New World in the Western hemisphere, including the US and Australia. After the TRIPS agreement was concluded in 1994, whose articles specified protected geographical indications (PGI) for only some local wines and spirits, such as Scotch Whisky, countries known for their other products with special localities, including Venetian Glass and Roquefort Cheese, actively sought the extension of PGI over wider varieties outside of WTO, when other major importing states tried to retain the limit of PGI under WTO while preserving their rights to retail these products, using trademarks. This lack of common grounds culminated in the 2015 Geneva Act to the Lisbon Agreement recently, which only applies between its signatory states under WIPO.

I also assume that some members of WTO are more incentivized to enjoy forum shopping by arranging alternative dispute settlements under preferential trade agreements. As Busch (2007) and Pelc (2016) suggest, those who invoke TRIPS safeguards more frequently than do others without legitimate grounds are expected to shy away from their public record of precedents.

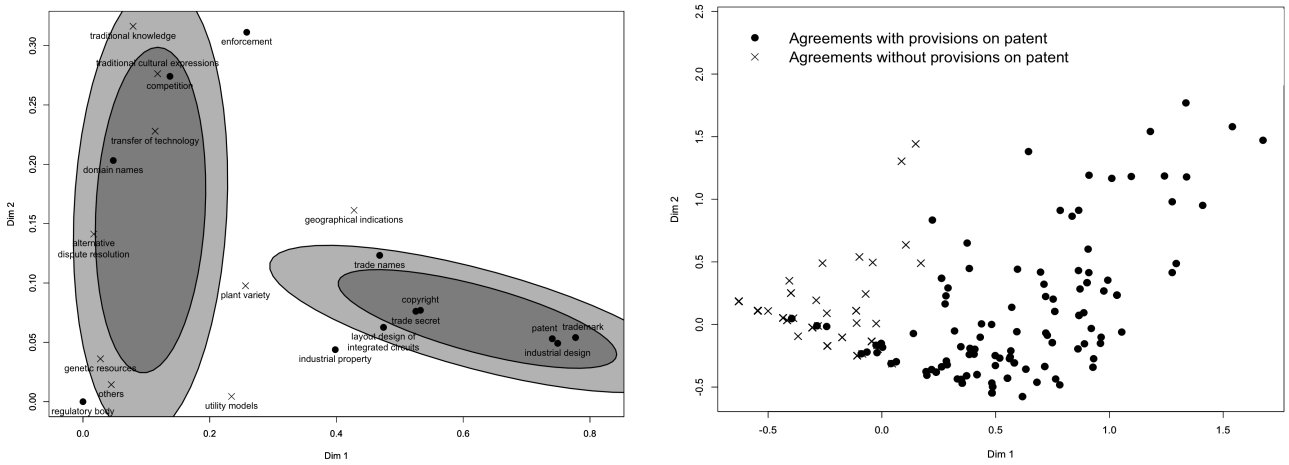

Figure 4: **Spatial Distribution of Intellectual Property Rights Provisions**
These figures summarize the results of exploratory data analysis, using multiple correspondence analysis. The first and second principal components capture more than 50% of total variations. The results demonstrate how spatially disaggregate states' preferences on each IP provision are.

$$n_{ijk} = \begin{cases} 1 & \text{if there is an agreement in effect between } i \text{ and } j \text{ at } t \\ & \text{that contains provisions on subject matter } k \\ 0 & \text{otherwise} \end{cases} \qquad n_{ij} = \sum_{k} n_{ijk} \tag{3}$$

$$s_{ijk'} = \begin{cases} 1 & \text{if there is an agreement in effect between } i \text{ and } j \text{ at } t \\ & \text{that contains provisions on subject matter } k' \\ 0 & \text{otherwise} \end{cases} \qquad s_{ij} = \sum_{k'} s_{ijk'} \tag{4}$$

For the reasons stated above, once the number of intellectual property provisions that are included under each bilateral trade agreement is added separately and stored under n_{ij} and s_{ij} respectively, I then use their absolute difference u_{ij} as a proxy for unilateral concessions placed between countries i and j in their bilateral treaties. For mutual or reciprocal concessions, I use the inverse measure m_{ij} of u_{ij} as follows so that each country's deviation from cooperation in the usage of safeguards is defined, relative to the behaviors of its existing trading partners.

$$u_{ij} = |n_{ij} - s_{ij}| \qquad m_{ij} = \max_{j} u_{ij} - |n_{ij} - s_{ij}| \tag{5}$$

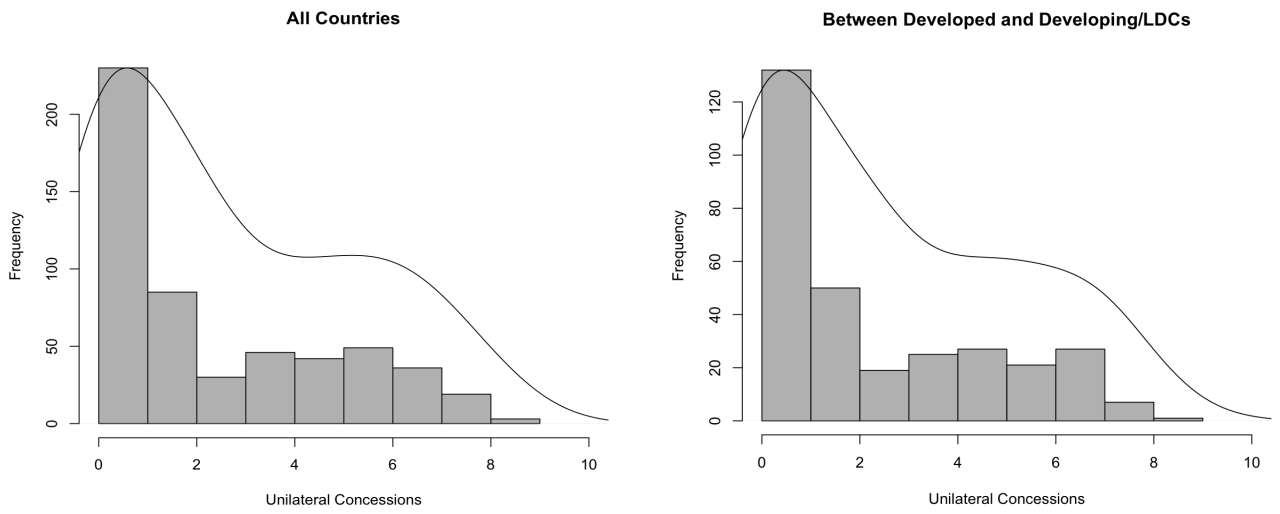

Figure 5: **Empirical Distribution of Unilateral Concession**
These figures describe the empirical distributions of unilateral concessions placed under bilateral trade agreements and investment treaties, where I use the unit-interval [0,1] for bandwidth. The distributions are bi-modal and skewed to the right, which implies that most signatories arrange mutually beneficial concessions under bilateral trade agreements while some states still attempt to achieve more than their counterparts when signing these trade agreements. The distributions remain stable for those signed within each group, using the development index from UNCTAD.

5.2 Model Specification

To model higher-order interactions among nations or systemic factors of international relations accurately is more relevant than ever, especially when the interdependence gets more complex, and the existing IR scholarship introduces many different ways to operationalize the quantities of interest with higher-order dependencies. For a longitudinal analysis, Chaudoin, Milner, and Pang (2015) for instance demonstrate how to model monadic covariates that are endogenously determined by the structure exogenously given, using a spatial autoregressive model. Temporal Exponential Random Graph Model (TERGM) on the other hand takes network as a form of structure among actors, whose attributes are then added as exogenous covariates to estimate distribution of ties formation observed under adjacency matrices. These approaches have been applied to a range of topics from sovereign debt (Ballard-Rosa, Mosley, and Wellhausen, 2021)

to alliance formation (Cranmer, Desmarais, and Menninga, 2012; Cranmer, Desmarais, and Kirkland, 2012) among many other research topics in IR and IPE.

When both individual-specific and relational covariates change across time as a function of each other, Stochastic Actor Oriented Model (SAOM) provides an exceptional venue to model these dynamics that in essence capture feedback processes between states as agents and other systemic factors. This article theorizes that countries explore TRIPS safeguards to the extent that they strike a balance of concession under bilateral trade negotiations, but those who go beyond the limit are bound to lose their reputation and others will be less willing to sign new trade agreements with these countries. To test these arguments then requires simultaneously estimating the effects of network attributes on monadic covariates and vice verse, while the third-party intervention for punishment also calls for modelling endogenous network influence, which can be handled uniquely under SAOM. Using simulation for inference, SAOM can also incorporate compositional change in network, making more use of data without deleting any units when panel data is unbalanced (Steglich, Snijders, and Pearson, 2010; Snijders, 2011).

To operationalize systemic factors that bring changes in network and behavior across time, SAOM assumes that each agent i has discrete choices of creating, terminating, or maintaining its connections $\mathbf{x}$[17] as well as increasing, decreasing, or maintaining the level of its behavior $\mathbf{z}$ at each moment along a continuous time horizon, whose transition follows a Markov process.[18] SAOM then accepts the premise that each outcome $\mathbf{x}, \mathbf{z}$ is chosen by individuals to maximize the objective functions f_i^X, f_i^Z pertaining to each choice variable. By assumption, each of these functions is a linear combination of either exogenous or endogenous covariates, $s_{ip}^X(\mathbf{x}, \mathbf{z})$ and $s_{ip}^Z(\mathbf{x}, \mathbf{z})$, whose corresponding coefficients, β_p^X and β_p^Z, are common across all individuals and thus represent their aggregate preference on these outcomes. Statistical inference is then made

[17] As all actors follow the same protocol when making their own decisions, it reads "i proposes a tie to whichever j maximizes f_i^X, and the tie is created only if it also increases j's utility", given z_i and z_j (Kinne, 2013).

[18] It is worth noticing that every time a structural change is realized along discrete points in time, all actors have complete information about how others have also changed their ties and behaviors (Steglich, Snijders, and Pearson, 2010). This is a crucial part of the assumptions in SAOM that allows us to test the informational effect of international trade institution, given that we fully subset its members and their interactions at each time.

by using a series of simulation where one checks how accurately the data generating process specified by theory recovers the observed outcome in data. More details on these assumptions for inference and the algorithm used for identification in SAOM are discussed in the appendix.

$$f_i^X(\beta, \mathbf{x}, \mathbf{z}) = \sum_p \beta_p^X s_{ip}^X(\mathbf{x}, \mathbf{z}) \qquad f_i^Z(\beta, \mathbf{x}, \mathbf{z}) = \sum_p \beta_p^Z s_{ip}^Z(\mathbf{x}, \mathbf{z}) \tag{6}$$

To deal with complexity of the co-evolutionary process between network $\mathbf{x}$ and behavior $\mathbf{z}$, SAOM employs the method of simulated moments for estimation. In specific, $\hat{\beta}_p^X$ and $\hat{\beta}_p^Z$ are selected to minimize the absolute difference between the values of $s_{ip}^X(\mathbf{x}, \mathbf{z}), s_{ip}^Z(\mathbf{x}, \mathbf{z})$ calculated from data and their expected values, whose samples are repeatedly drawn from a sufficiently large number of simulated network and behavior. These samples of network and behavior are randomly drawn from repeated Markov Chain Monte-Carlo simulations (MCMC) and are used to assess each model fit as well; the faster rate at which both simulated network and behavioral statistics converge into their real values calculated from data, the more accurately each model specifies the underlying data generating process.

To test the safety-net effect of TRIPS Flexibilities, I add the following term in $f_i^Z(\beta, \mathbf{x}, \mathbf{z})$, $\texttt{Unilateral Concession}_{(i,j)}$, where u_{ij} measures the amount of unilateral concession placed under bilateral agreements signed between WTO member states i and j. The first derivative of $s_{i1}^Z(\mathbf{x}, \mathbf{z})$ with respect to z_i then presents the marginal utility of state i in invoking TRIPS Flexibilities z_i, which is equal to the average degree of unilateral concession made to country j with whom country i signed trade agreements or investment treaties before.

$$s_{i1}^Z(\mathbf{x}, \mathbf{z}) = z_i \left(\sum_j u_{ij} x_{ij} \Big/ \sum_j x_{ij} \right) \tag{7}$$

I operationalize reputational damage to individual nation i who abuses TRIPS safeguards, or the selection effect, by incorporating its interaction with party h whose trade agreements or investment treaties with state i came into force as of t, and a third party j. To do so, I first measure the mean amount of mutual concession m_{ij}^* put in place between parties i and

$h \neq j$, $\texttt{Reciprocal Concession}_{(i,h\neq j)}$, using m_{ih}. Similarly, I also calculate the average distance d^*_{ij} between two signatories i and $h \neq j$, $\texttt{Abuse of Flexibilities}_{(i,h\neq j)}$, by comparing how many flexibility provisions parties i and h have exploited upon signing their trade agreements or investment treaties, using a distance measure $d_{ih} = |z_i - z_h|$. Conditional on these events occurring independently, $s^X_{i3}(\mathbf{x}, \mathbf{z})$ as an interaction term between $s^X_{i1}(\mathbf{x}, \mathbf{z})$ and $s^X_{i2}(\mathbf{x}, \mathbf{z})$ then captures how likely it is for country i to be able to sign new trade agreements or investment treaties with third parties j down the road, x_{ij}.

$$s^X_{i1}(\mathbf{x}, \mathbf{z}) = \sum_j x_{ij} m^*_{ij} = \sum_j x_{ij} \left(\sum_{h\neq j} m_{ih} x_{ih} \Big/ \sum_{h\neq j} x_{ih} \right) \tag{8}$$

$$s^X_{i2}(\mathbf{x}, \mathbf{z}) = \sum_j x_{ij} d^*_{ij} = \sum_j x_{ij} \left(\sum_{h\neq j} d_{ih} x_{ih} \Big/ \sum_{h\neq j} x_{ih} \right) \tag{9}$$

$$s^X_{i3}(\mathbf{x}, \mathbf{z}) = \sum_h x_{ih} m^*_{ih} d^*_{ih} \tag{10}$$

Lastly, to examine the peer effect of TRIPS safeguards in the third hypothesis, I include another term $s^Z_{i2}(\mathbf{x}, \mathbf{z})$ under $f^Z_i(\beta, \mathbf{x}, \mathbf{z})$, $\texttt{Collective Enforcement}_{i,j}$, whose derivative equals other parties' mean usage of TRIPS Flexibilities, weighted by mutual concession m_{ij} between countries i and j. When β^Z_2 is positive, this implies that state i whose peers appeal to TRIPS Flexibilities z_j less on average also has incentive to use TRIPS escape clauses less often, given that they address more and more mutually beneficial concessions in their agreements, x_{ij}.

$$s^Z_{i2}(\mathbf{x}, \mathbf{z}) = z_i \left(\sum_j m_{ij} x_{ij} z_j \Big/ \sum_j x_{ij} \right) \tag{11}$$

States sign trade agreements and investment treaties, or fail to do so, for various reasons other than reputation. To control for the alternatives, I also add a battery of control variables widely accepted in the literature. These range from geographical distance between two nations, their trade flows and formal alliance, individual population, GDP per capita, regime type, FDI inflows and outflows as a proportion of GDP per capita. On top of their absolute difference in TRIPS

Flexibilities exploited, I also include how many remedies available in TRIPS each country has explored individually, $\texttt{Flexibilities}_{(i)}$, to isolate the effects of their abuse, which by definition are coined as a relative term. Surely, less developed countries are in a better position than are the industrialized to justify their usage of TRIPS Flexibilities, due to their lack of an "engine for growth". To identify and tease out their unduly usage of such provisions, therefore, it is crucial to control for their individual preferences on these escape clauses.

Following the instructions of SAOM written by its developers (Ripley et al., 2011), some intercepts that are added under SAOM in usual, such as degree centrality for $f_i^X(\beta, \mathbf{x}, \mathbf{z})$ and the linear term z_i for $f_i^Z(\beta, \mathbf{x}, \mathbf{z})$, are not included in my models. This is largely due to the monotonicity of both trade agreement networks $\mathbf{x}$ signed and the safeguards $\mathbf{z}$ exploited up to time t for each country. Unlike other escape clauses, such as antidumping duties where higher tariffs are temporarily imposed for a finite amount of time, each flexibility provision in TRIPS is a non-tariff measure that cannot be undone once translated into each country's legislation or until these laws are amended in the future. Therefore, the linear term z_i is bound to increase along a time horizon and captures most of the variation in a meaningless way unless it is lifted, whose argument applies the same for the bilateral agreements and their density as a network.

6 Results

Table 3 reports the result of my hypothesis testing, where the selection equations at the top contain networks of bilateral trade and investment agreements signed between two states in a given year as dependent variables, while the behavior equations at the bottom take as outcome variables the number of TRIPS Flexibilities each country incorporates into its IP legal system and embraces as a part of its legal practice. The log-odds ratio of each of these two outcome variables is written as a linear combination of endogenous or exogenous covariates, including the quantities of my theoretical interest as well as control variables. Due to the discrete nature of dependent variables in SAOM, how to interpret these coefficients is analogous to analyzing

dichotomous dependent variable models[19]. For instance, the baseline model reaffirms previous findings that democratic leaders engage more actively in signing preferential trade agreements to reassure the public during harsh economic conditions (Mansfield and Milner, 2012) and alliances also generate the positive external effect on trade (Gowa and Mansfield, 1993). SAOM then suggests that a unit-level increase in Polity IV score and the presence of mutual defense treaty increase the likelihood of signing bilateral trade agreements and investment treaties by a factor of $\exp(0.890) = 2.435$ and $\exp(0.657) = 1.929$, respectively.

	(1) Baseline Model	(2) Regional Controlled	(3) Trade Law Controlled	(4) Food Controlled	(5) Health Controlled	(6) Culture Controlled
Reciprocal Concession$_{(i,h\neq j)}$	-0.104 ***	-0.099 ***	-0.103 ***	-0.103 ***	-0.103 ***	-0.103 ***
× **Abuse of Flexibilities**$_{(i,h\neq j)}$	(0.030)	(0.029)	(0.030)	(0.029)	(0.030)	(0.029)
Reciprocal Concession$_{(i,h\neq j)}$	0.468 ***	0.454 ***	0.466 ***	0.469 ***	0.463 ***	0.468 ***
	(0.091)	(0.090)	(0.088)	(0.089)	(0.091)	(0.091)
Abuse of Flexibilities$_{(i,h\neq j)}$	0.090 ***	0.091 ***	0.089 ***	0.090 ***	0.090 ***	0.089 ***
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Distance$_{(i,j)}$	0.400 ***	0.400 ***	0.401 ***	0.401 ***	0.400 ***	0.402 ***
	(0.104)	(0.105)	(0.103)	(0.104)	(0.105)	(0.103)
Alliance$_{(i,j)}$	0.657 **	0.657 **	0.658 **	0.657 **	0.656 **	0.652 **
	(0.282)	(0.277)	(0.282)	(0.284)	(0.286)	(0.274)
Trade$_{(i,j)}$	0.469 ***	0.469 ***	0.468 ***	0.468 ***	0.469 ***	0.468 ***
	(0.053)	(0.052)	(0.052)	(0.055)	(0.052)	(0.052)
GDP per cap$_{(i)}$	1.379 *	1.399 *	1.396 *	1.370 *	1.388 *	1.388 *
	(0.711)	(0.752)	(0.754)	(0.743)	(0.828)	(0.791)
Flexibilities$_{(i)}$	-0.635	-0.660	-0.664	-0.671	-0.679	-0.681
	(0.780)	(0.849)	(0.820)	(0.801)	(0.873)	(0.852)
Democracy$_{(i)}$	0.890 ***	0.902 ***	0.901 **	0.902 ***	0.907 **	0.906 **
	(0.355)	(0.346)	(0.357)	(0.339)	(0.370)	(0.365)
Unilateral Concession$_{(i,j)}$	0.378 ***	0.376 ***	0.375 ***	0.372 ***	0.395 ***	0.369 ***
	(0.134)	(0.133)	(0.128)	(0.130)	(0.132)	(0.122)
Collective Enforcement$_{(i,j)}$	0.282 **	0.282 ***	0.283 ***	0.278 ***	0.302 ***	0.280 ***
	(0.111)	(0.109)	(0.107)	(0.108)	(0.108)	(0.102)
GDP per capita$_{(i)}$	0.071 **	0.069 **	0.070 **	0.069 **	0.071 **	0.070 **
	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.033)
Population$_{(i)}$	0.097 ***	0.096 ***	0.097 ***	0.097 **	0.098 **	0.097 ***
	(0.036)	(0.035)	(0.035)	(0.035)	(0.036)	(0.035)
Democracy$_{(i)}$	-0.023	-0.022	-0.022	-0.022	-0.022	-0.022
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
FDI inflow$_{(i)}$	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007
	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)
FDI outflow$_{(i)}$	0.009	0.009	0.009	0.009	0.009	0.009
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Iterations	5552	5552	5604	5552	5552	5552

[19]Formal proofs on how each actor's profit maximization using evaluation function is linked to dichotomous dependent variable model specification is provided under Snijders (2011).

Table 3: **The Network and Behavioral Effects of TRIPS Flexibilities**
*p<0.1; **p<0.05; ***p<0.01. Standard errors are shown in parentheses. The network evaluation function at the top and the behavioral evaluation function at the bottom are simultaneously estimated in each column, using stochastic actor-oriented model. For all the individual parameters, the t-ratios for convergence are less than 0.1, and the overall maximum convergence t-ratio is less than 0.2 (excellent convergence). Notice that the coefficients for quadratic terms inside the behavioral evaluation function are omitted from this table.

The negative coefficient for interaction term between $\texttt{Reciprocal Concession}_{(i,h\neq j)}$ and $\texttt{Abuse of Flexibilities}_{(i,h\neq j)}$ is statistically significant and buttresses my major claim that countries can only seek new opportunities out of TRIPS Flexibilities at the cost of reputation in the global economy. If a WTO member state attempts to use these trade remedies beyond restoring the balance in concession under bilateral trade agreements, despite the presence of mutually beneficial arrangements already put in place under these promises, then such unruly behavior will give only $\exp(-0.104 + 0.090) = \exp(-0.014) = 0.986$ increase or 1.4% decrease in the likelihood of concluding new trade negotiations with other third parties, ceteris paribus. However, if one invokes these exceptions for the lack of mutual concession under the existing trade agreements, then such decisions do not harm one's image since TRIPS Flexibilities are serving the original policy objectives under these circumstances. In such cases, the chances of signing new agreement or treaty rise by $\exp(0.104 + 0.090) = \exp(0.204) = 1.226$. This finding is also consistent with the significant estimate associated with $\texttt{Unilateral Concession}_{(i,j)}$ in the behavior equation, 0.378, which suggests that countries invoke more of these escape clauses when exposed to more pressure for unilateral concession from their trading partners.

While the first two hypotheses do not tell us which countries care more about reputation when exploring TRIPS Flexibilities, a positive sign in (1) attached to the parameter estimate for $\texttt{Collective Enforcement}_{(i,j)}$ reveals that it is those whose trading partners are more self-disciplined that invoke TRIPS Flexibilities less, despite the fact that international institutions preserve their rights and freedom to use the trade remedies. To interpret this result in detail, we can calculate the net benefits that each country expects out of different numbers of TRIPS Flexibilities, and check how the welfare changes as it signs mutually beneficial agreements or

treaties with states who may or may not opt to explore the same amount of exceptions, using the evaluation function f_i^Z, the estimate for its quadratic term (-0.019), and the coefficient associated with $\texttt{Collective Enforcement}_{(i,j)}$ (0.282). Notice that the other remaining terms are omitted in the following equation, assuming that everything else is equal across country, while $\overline{z}_i$ denotes the average number of TRIPS Flexibilities explored by each state i's neighbors j, weighted by reciprocal concession m_{ij} put in place under their agreements. Each term added is then normalized around the mean $\overline{z}$ averaged across all member states (Ripley et al., 2011).

$$f_i^Z(\beta, \mathbf{x}, \mathbf{z}) = -0.019(z_i - \overline{z})^2 + 0.282(z_i - \overline{z})(\overline{z}_i - \overline{z}) \tag{12}$$

Figure 6 summarizes how each country's welfare depends on the number of escape clauses explored by itself as well as its trading partners. It should be noted that if no reputational concern is present, then as the mean number of TRIPS Flexibilities of its neighbors decreases, then the expected utility of each state should increase in the amount of exceptions to exploit, based on the Prisoner's Dilemma. The exact opposite trend appears, however, whose patterns become more pronounced as the average number of remedies used by its neighbors decreases.

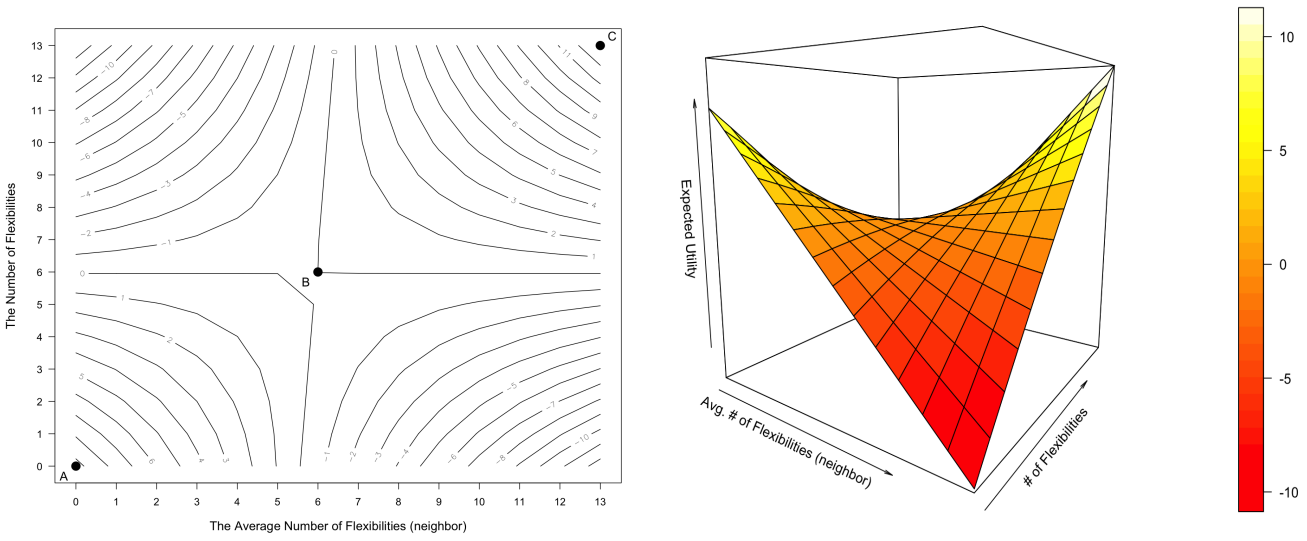

Figure 6: **Reputation and State Preferences on TRIPS Flexibilities**
These figures visualize the peer effects, using contour and 3-D plots. Point B is a saddle point, or unstable critical state, where every country may explore more flexibility provisions available in TRIPS (C) or prevent itself from normalizing their exercise (A) as others would do the same.

What this finding suggests is that the norm on TRIPS Flexibilities, an implicit rule that countries should use the escape clauses to the extent that they restore balance in concession but not beyond that, can only be partially implemented as their commitment to the norm and its enforcement hinges on how others behave. If more and more economically interdependent states stick to the rule, then the cost of reputational blow to egoist state becomes so large that it eventually forgoes the opportunity to behave selfishly. On the other hand, if more nations who can punish each other choose to overuse the remedies, then such collective action would normalize their exercise more rapidly as other states will follow the same route, in which case collective enforcement of the norm turns into a more challenging task globally.

6.1 Robustness Check

Admittedly, there could be more than one causal mechanism that drives the same outcomes, and controlling for alternative explanations is critical in evaluating whether one's theoretical expectation is borne out empirically. In this paper, I check whether the main results remain significant even after I manipulate the outcome variables and regressors in a non-trivial way. In the appendix, I add more control variables and also test my model's goodness of fit.

For our independent variable, I control for regional and other multilateral trade agreements with IP-related subject matters, whose results are shown from (2) to (6) in Table 3. The world economy has experienced a proliferation of bilateral and regional trade agreements since the multilateral ruling seemed to reach its limit in the early 2000's, represented by the gridlock in the Doha Development Round. As to why preferential trade agreements surged, Mansfield and Milner (1999) suggest that the exposure to different domestic and international constraints of politics, such as the demand for protection by other interest groups, can lead to preferential treatment over other like-minded leaders as well as allies. Then it follows from these previous lessons that bilateral trade agreements signed afterward are more likely to reflect their common interests than their competing interests.

In case the proxies I used for unilateral and mutual concessions under the agreements are imprecise, I probe how many provisions on intellectual property rights overlap between regional or multilateral and bilateral trade agreements that each country-pair signed within 3 years. If states sign a regional trade agreement enforcing plant variety protection and they sign another but bilateral treaties thereafter that also contain the same provision, for example, then it is likely that they reached agreement on the provision during bilateral trade negotiation, not because one of them conceded on plant variety protection in exchange of some other alternatives, but due to their alignment of preferences on the subject matter. I apply this logic to various regional and multilateral treaties on other trade-related aspects of intellectual property rights, including but not limited to the agreements administered by the African Intellectual Property Organization (OAPI), the Food and Agricultural Organization (FAO), the International Union for the Protection of New Varieties of Plants (UPOV), and the World Health Organization (WHO), and find that the previous results still remain statistically significant.

I also sort out TRIPS Flexibilities into different categories and test whether states' efforts to maintain a good reputation still remains as a key factor. As noted by the existing literature on flexibility, there exist a broad range of options for escape available in international agreements, ranging from finite duration provisions (Koremenos, 2005) to antidumping duties and countervailing statutes (Rosendorff and Milner, 2001; Rosendorff, 2005), safeguards (Pelc, 2014), and national security exceptions (Pelc, 2016), whose causal stories are not similar from one another. And what has been debated over TRIPS Flexibilities is that, as an amalgam of rights, options, and safeguards with ambiguity, these escape clauses as a whole do not fit perfectly with one of the pre-existing classes (Shadlen, 2004). While compulsory licensing is surely an example of safeguard, for instance, how research exceptions are applied in regulatory practice differs from that of national security exceptions, and the freedom to choose each country's own exhaustion regime does not belong to any of these. That is, despite the fact that article 1 of the TRIPS agreement is universally applied to all of its flexibility provisions, the degree in which WTO

member states can freely do so is still questionable to some remedies available under TRIPS. Therefore, I subtract some of the escape clauses whose conditions, albeit vaguely, are stated in the agreement and check how states' reputational concern unfolds in the remaining provisions.

	(1) Transition Excluded	(2) Safeguard Excluded	(3) Exceptions Excluded	(4) All Three Excluded
Reciprocal Concession$_{(i,h\neq j)}$	-0.105 ***	-0.116 ***	-0.139 ***	-0.168 ***
× **Abuse of Flexibilities**$_{(i,h\neq j)}$	(0.031)	(0.033)	(0.038)	(0.044)
Reciprocal Concession$_{(i,h\neq j)}$	0.462 ***	0.464 ***	0.460 ***	0.462 ***
	(0.090)	(0.092)	(0.083)	(0.081)
Abuse of Flexibilities$_{(i,h\neq j)}$	0.088 ***	0.098 ***	0.120 ***	0.126 **
	(0.034)	(0.037)	(0.044)	(0.055)
Distance$_{(i,j)}$	0.403 ***	0.402 ***	0.409 ***	0.421 ***
	(0.104)	(0.103)	(0.104)	(0.100)
Alliance$_{(i,j)}$	0.657 **	0.653 **	0.656 **	0.697 **
	(0.277)	(0.283)	(0.281)	(0.288)
Trade$_{(i,j)}$	0.465 ***	0.468 ***	0.455 ***	0.448 ***
	(0.053)	(0.053)	(0.051)	(0.052)
GDP per cap$_{(i)}$	1.424	1.347	1.100	1.112
	(0.941)	(0.866)	(1.615)	(1.620)
Flexibilities$_{(i)}$	-0.872	-0.867	-1.717 **	-2.549 ***
	(0.832)	(0.904)	(0.845)	(0.849)
Democracy$_{(i)}$	0.978 **	0.944 ***	1.130 ***	1.299 ***
	(0.384)	(0.352)	(0.340)	(0.336)
Unilateral Concession$_{(i,j)}$	0.356 ***	0.329 ***	0.306 ***	0.188 **
	(0.121)	(0.115)	(0.117)	(0.085)
Collective Enforcement$_{(i,j)}$	0.261 **	0.280 **	0.370 ***	0.320 ***
	(0.102)	(0.114)	(0.137)	(0.118)
GDP per capita$_{(i)}$	0.055	0.059 *	0.030	-0.004
	(0.034)	(0.035)	(0.038)	(0.037)
Population$_{(i)}$	0.098 ***	0.088 **	0.088 **	0.081 **
	(0.033)	(0.035)	(0.038)	(0.036)
Democracy$_{(i)}$	-0.022	-0.031 *	-0.017	-0.043 **
	(0.015)	(0.017)	(0.018)	(0.017)
FDI inflow$_{(i)}$	-0.008	-0.007	-0.006	-0.007
	(0.006)	(0.005)	(0.006)	(0.006)
FDI outflow$_{(i)}$	0.008	0.006	0.012	0.007
	(0.012)	(0.010)	(0.013)	(0.012)
Iterations	5552	5552	5602	5576

Table 4: **The Network and Behavioral Effects of TRIPS Flexibilities**

*p<0.1; **p<0.05; ***p<0.01. Standard errors are shown in parentheses. The network evaluation function at the top and the behavioral evaluation function at the bottom are simultaneously estimated in each column, using stochastic actor-oriented model. For all the individual parameters, the t-ratios for convergence are less than 0.1, and the overall maximum convergence t-ratio is less than 0.2 (excellent convergence).

Table 4 summarizes the results, showing that the rise of reputational concern upon using TRIPS Flexibilities still holds valid after excluding some remedies with contingency plans for their usage. The negative signs for $\texttt{Flexibilities}_{(i)}$, which become more significant as more constrained provisions are excluded from z_i, reaffirms that it is the absence of constraints, or a degree of freedom promised by international trade organization to its member states, that triggers states' concern about their image after the usage in the global economy.

6.2 Monitoring and Communication in the TRIPS Council

Although SAOM allows us to isolate interactions between WTO member states from non-members and empirically test how these countries behave, given "opportunities for change" at each time (Snijders, 2011), the findings only describe international trade institution as an equilibrium or a collection of behaviors and interactions among member states, but without analyzing a set of rules that independently map their policies in a meaningful way. How does international trade organization affect the manner in which nations build up their reputation? What are the institutional rules that raise reputational concern among nations?

Documenting more than 5000 reports submitted to the TRIPS Council, I find that the WTO council provides a set of coherent guidelines that allow its member states to monitor how each country navigates TRIPS Flexibilities and activate the exchange of information and opinions about their misconduct. Based on article 63 of TRIPS, for example, the council obliges WTO members to notify changes in national IP laws and keep their domestic policies transparent. When a member is found to keep its legal system obscure, as is often the case with compulsory licensing, other members pose questions publicly for clarification, whose failures to vindicate cause damages to their image. Similarly, when some members see other countries leverage on the exceptions for antitrust regulation to boost counterfeiting domestically, then the observers "occasionally raise issues before the Council for information-sharing purposes or to discuss the

application of the Agreement in a particular context"[20]. Unsurprisingly, not only are WTO members required to disclose information about their own legislative and regulatory changes in domestic IP regime, but also they are asked under article 63 to make information about other agreements public, including bilateral ones and those administered by other international institutions, should their provisions overlap with the subject matters of TRIPS.

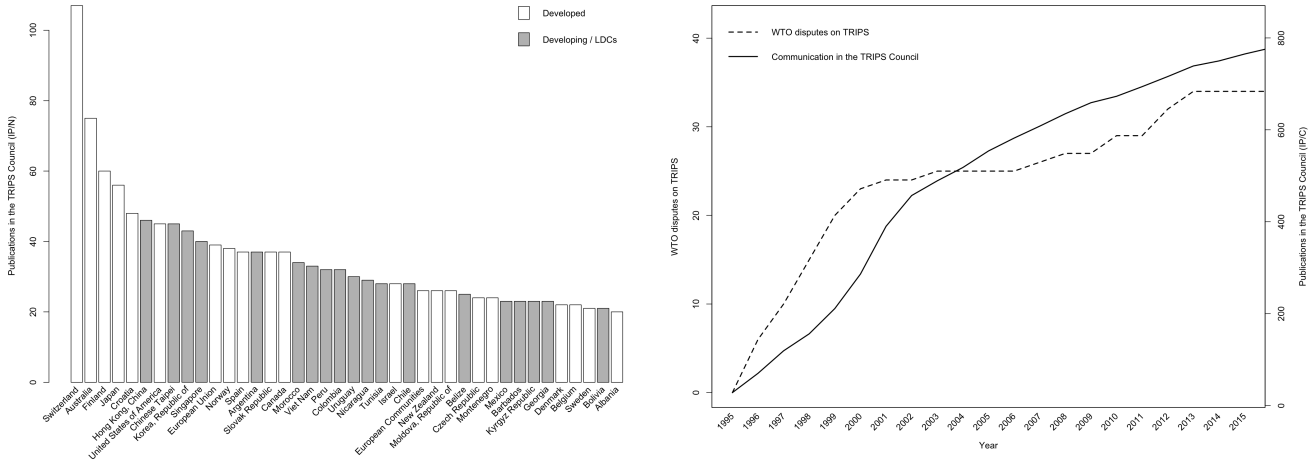

Figure 7: **Notification of IP Laws and Regulation and Communication in the Council** These figures summarize how the TRIPS Council administers TRIPS by mandating notification of national IP laws and regulation and channeling communication among its member countries. The first panel shows that the developing and LDCs who enforced TRIPS-plus measures from 1995 to 2015 also notified their legislative and regulatory changes to the council more frequently than did other members from the South. The right figure reveals that inter-state communication in the council surged after the Doha Round while the dispute settlement bodies remained inactive. Other auxiliary documents, such as addendum and corrigendum, are omitted in these figures.

What are the rules for information sharing under the TRIPS Council designed for? These obligations are put together with the guidance on dispute settlement procedure under part 5 of the TRIPS agreement, titled "Dispute Prevention and Settlement", which indicates that the exchange of information is designed to preempt the employment of other costly and draconian legal processes, such as the adjudication procedures managed by the Dispute Settlement Body (DSB) and the Appellate Body (AB) in WTO. Indeed, when it comes to the TRIPS agreement,

[20] TRIPS Council regular meetings

the dispute settlement procedure has been largely inactive since 2001 when its member states' freedom to use TRIPS Flexibilities were widely recognized around the globe and re-emphasized in the Doha Round, and Figure 7 shows that the TRIPS Council since then assumed the role of enforcing TRIPS by managing monitoring and communication across country. Figure 8 then demonstrates how the TRIPS Council mediates communication among WTO member states as a part of monitoring exercise, where they refer to the TRIPS agreement ("articl", "provis", "trips", "agreement") to challenge others' IP policies ("protect", "infring", "shall", "explain", "describ", "requir"). Overall, the results provide suggestive, if not compelling, evidence that collective monitoring activities administered by international trade organization and followed by the exchange of information between member states are employed in practice as a way of enforcing intellectual property rights protection globally.

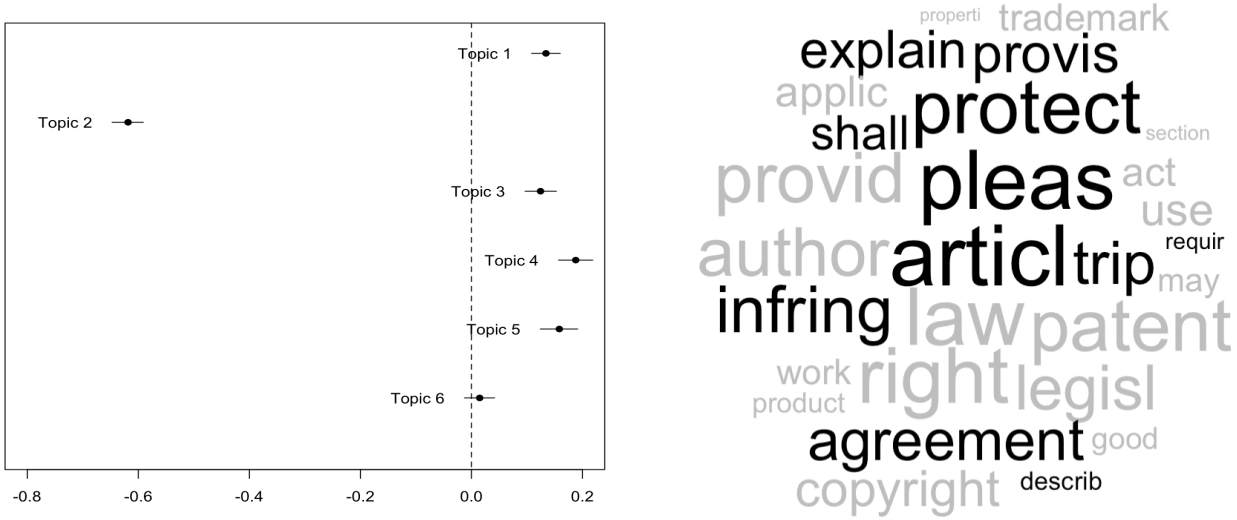

Figure 8: **Difference in Topic Proportions : Targeted (−) versus Untargeted (+)** These figures summarize the results of a structural topic model (Roberts et al., 2014) where I treated the presence of other members mentioned in each document for communication (IP/C) as an observed document-level covariate. The number of topics was chosen, based on the residuals, exclusivity, and congruence of alternatives. The wordcloud on the right highlights some of the keywords, whose font sizes are proportional to their probabilities for Topic 2. The results show how communication in the TRIPS Council functions not only as a forum, but also as a platform to challenge other members' lack of enforcement of the TRIPS agreement.

7 Conclusion

A substantial body of research in IR on flexibility and opportunism identifies different types of flexibility provisions in international agreements, and introduces various causal mechanisms as to when countries exhibit disciplined behaviors. In the shadow of the future, international agreements often include finite duration for renegotiation, in which case states' willingesss to take risks become an important source of cross-national variations (Koremenos, Lipson, and Snidal, 2001*a*; Koremenos, 2005). In the face of other uncertainty, such as electoral turnovers in domestic politics, conditions stated in detail under escape clauses help countries signal their willingness to restore the status quo in the long run (Rosendorff and Milner, 2001; Rosendorff, 2005). In the absence of such *de-jure* constraint in trade remedies, Pelc (2014, 2016) finds that nations are still bound by legal precedents, which function as *de-facto* constraints and create a buffer against their opportunistic behaviors. In such cases, the Dispute Settlement Body (DSB) and the Appellate Body (AB) play a pivotal role, whose rulings enhance the credibility of signaling and act as a major source of creation of legal precedents in the regime.

This paper brings countries' reputational concern over flexibility provisions into the story. In so doing, I look at a set of rights, options, and safeguards included in TRIPS as it fills a void in the literature where the multilateral rulings based on DSB and AB often end up being inactive. As a scope condition of my claims, the absence of contingency for their usage or the lack thereof, I find states' competing interests in protecting intellectual property led WTO to promise their rights and freedom to use the exceptions, TRIPS Flexibilities, whose discretion remains unchallenged by others' complaints under DSB and AB. As to why international trade institution then still matters for governance of these provisions, I additionally show how inter-state communication and monitoring managed by the WTO council boost states' incentives to maintain a good image; otherwise, those who lose credibility will not be able to sign new trade agreements with others on a good faith and enjoy the benefits of cooperation in the long run.

Research questions this paper does not address and leaves for future research are in order. First, the findings in my robustness analyses suggest that some TRIPS Flexibilities, such as compulsory licensing, avail democratic leaders. More studies, therefore, shall be conducted to answer (1) who fall into the winners and losers of intellectual property protection domestically, such as patented medicines in pharmaceutical industry for compulsory licensing, and (2) how domestic political pressures created by the losers lead to differences in the outcome. Second, I also leave unexplained collective action problems of monitoring activities in the WTO council. How are the costs and benefits diffused or concentrated among WTO member states (Johns, 2019)? Why do countries put their own reputation at risk when the information exchanged remains unverifiable? Do power relations also matter in their communication, and if so, what do the roles of international bureaucrat as information provider, such as the Secratriat in the TRIPS council who publishes an annual report, imply for the efficacy of enforcing the TRIPS agreement (Johns, 2007)? Last but not least, how do other international organizations, such as WIPO and UPOV, coordinate with WTO for the global governance of intellectual property rights? How do these organizations communicate with one another in their regular meetings, and what do inter-organizational communications imply for IP regime complexes (Pratt, 2018)?

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