CHAPTER 7

Intellectual Property Rights

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CONTENTS

7.1. INTRODUCTION

Among the most controversial and intensely scrutinized elements of preferential trade agreements (PTAs) are their obligations concerning intellectual property rights (IPR). The worries associated with these provisions are plentiful: Will they raise the prices of pharmaceutical drugs or agricultural seeds? Will they limit the rights of creative artists? Do they impair the ability of indigenous communities to commercialize traditional forms of knowledge? Such concerns often galvanize opposition to trade agreements, particularly in developing countries.

Given such concerns, why then do countries agree to strong IPR provisions in trade agreements? One answer is that these protections may be beneficial for economic development. The empirical evidence on this proposition, however, is mixed. One study[1] found that strengthening IPR is only one of a broad set of factors necessary for developing countries to attract inward investment and technology transfer. Moreover, if stronger IPR protections are truly good for a country's long-term prospects, then the government could simply seek to act unilaterally. At best, a trade agreement serves as a mechanism to enlist more interest groups to overcome opposition and to raise the cost of possible future back-tracking. However, the benefits of strengthening IPRs and enacting other forms of trade liberalization to attract technology transfer will vary depending on the developing country's profile.[2]

In most instances where IPR provisions are included as part of a trade agreement, there is a larger trade-off at work. The stronger IPR provisions are often conceptualized as part of a bigger bargain. For example, that bargain might involve developing countries obtaining increased market access for agricultural products, raw materials, and low-cost manufactured goods in exchange for advanced economies gaining greater IPR protection and market access for services. After all, the Uruguay Round itself involved the drafting of a new Agreement on Trade-Related Intellectual Property Rights (the TRIPS Agreement) as well as a new General Agreement on Trade in Services (GATS) as part of the overall bargain.

In the quarter century since the TRIPS Agreement was drafted, advanced economies have sought to further strengthen trade rules governing IPR through their preferential trade agreements. Some developing countries have succumbed, lured by the temptation of preferential market access terms for their exports. In modeling such agreements, one study[3] found that stronger IPR provisions are most likely where the developing country's imitative capacity is neither too high nor too low.

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[1] Maskus 2005.
[2] Hoekman, Maskus, and Saggi 2005; Maskus, Saggi, and Puttitanun 2005; Branstetter, Foley, and Saggi 2010.
[3] Hoekman and Saggi 2007.

Once a developing country has succumbed to TRIPS-plus IPR provisions in exchange for better terms for its textiles or agricultural exports, other countries tend to follow. Not wanting Country A's producers to gain an advantage of its own exporters, Country B agrees to the same bargain. Over time, a game of competitive liberalization has played itself out, leading to a series of PTAs with new TRIPS-plus rules.

Competitive liberalization and market access are only part of the story, however. As technology and globalization contribute to increased disaggregation of production, another dynamic has developed - one centered around global value chains. As several authors have highlighted,[4] a range of developing countries now recognize attachment to global value chains as a critical mechanism for sparking a virtuous cycle for economic and social development. To be competitive in the global race to direct regional value chains through their territory, however, countries need to embrace a range of policy actions. Not only must they lower tariffs and non-tariff barriers to allow for the increased flow of inputs, but they also align their domestic rules and regulations to attract investment. Firms based in advanced economies that spearhead these global value chains increasingly rely upon IPR as a key source of their competitiveness. They therefore seek assurances that the markets with which they are integrating will protect their intellectual property at the level necessary for the firm to generate a positive economic return over time. This desire to embed within global value chains has also has fueled the expansion of PTAs with TRIPS-plus rules. There is support for the idea[5] that such PTAs have a positive impact on trade in high-IP goods among certain middle-income countries, but that the dynamic is complex.

Multiple factors, therefore, explain the proliferation of PTAs with robust IPR provisions in deep-integration trade agreements. This chapter provides an overview of this phenomenon. It draws on a new database developed for this study, the content of which is explained below. A preliminary analysis of the data suggests that as of the late 2010s, four major hubs serve as the engines for this phenomenon. The first, and perhaps most well-known, is the United States, which has sought to advance a wide range of TRIPS-plus rules through its deep-integration PTAs. A second is the European Union, whose policies have also shifted in this direction over the past decade. Two others which have not received as much attention are the European Free Trade Area (EFTA) and a set of advanced Asian economies, both of which have also pushed forward with their own deep-integration trade agenda with robust TRIPS-plus IPR rules. Each hub has played a relatively distinct role in the process of driving an IPR-oriented deep integration trade agenda.

Because extensive work has already been done by others on the IPR chapters of PTAs, this chapter opens with a review of the key findings of the major studies to date. It then

[4] See, e.g., Baldwin 2016.
[5] Maskus and Ridley 2017.

provides an overview of the elements of the new database constructed as part of this study. Finally, it offers a few summary statistics before shifting to highlight the salient features of the four hubs, each of which has relied upon IPR provisions to facilitate a vision of deeper integration with its trading partners.

7.2. LITERATURE REVIEW

Over the past decade, the substance of IPR chapters of PTAs has been the focus of a number of studies. One of the most comprehensive was undertaken by the World Trade Organization (WTO). The authors of that study[6] examined 245 PTAs notified to the WTO and in force as of February 2014, and found that slightly more than 70 percent included IP provisions. This share increases dramatically for recent trade agreements, with more than 90 percent of those concluded after 2009 containing an IP chapter.

The study also provides a comprehensive description of the types of IP commitments in trade agreements, as well as the frequency of specific types of commitments. Of those PTAs that include IP provisions, the most common are "softer" ones that simply reaffirm existing commitments and promote cooperation. More than 70 percent of PTAs with IP provisions contain a statement affirming a general commitment to IP protection; more than 60 percent affirm the TRIPS Agreement; nearly half include a reference to World Intellectual Property Organization (WIPO) treaties; and approximately three-quarters include a statement on assistance, cooperation, or coordination. Some provisions explicitly promote technical assistance and capacity building between advanced and developing countries.

Regarding specific areas of IPR, the authors of the WTO study found that the most common provisions concern geographical indications (GIs), copyrights, trademarks, patents, and new plant varieties. The next most common relate to industrial design, followed by traditional knowledge and genetic resources. Among the least common IP provisions are those concerning domain names, layout designs of integrated circuits, and encryption program-carrying satellite signals, all of which are found in fewer than one-fifth of all PTAs that include IP provisions.

The WTO study also analyzed the prevalence of eleven provisions related to pharmaceuticals. Not surprisingly, these provisions are most common in agreements involving only developed countries, and to a much lesser extent, in agreements between developed and developing countries. The most common provisions, found in approximately one-third of the PTAs with IP provisions, are those concerning patentability criteria or patent subject matter, and those concerning compulsory licensing. Approximately one-quarter of the PTAs include a provision concerning data protection.

[6] Valdés and McCann 2014.

Based on a weighting of the 32 different types of IPR provisions analyzed, the authors generated an aggregate overall score for each agreement. On the basis of this score, the agreements were sorted into one of three categories according to their level of IP content - high, moderate, or negligible. The 176 agreements fell roughly equally into the three categories. Interestingly, however, while the overwhelming majority of PTAs signed by the United States and EFTA can be classified as high content, fewer than half of those signed by the EU and Japan meet this threshold.

Concurrent with the WTO study, another study[7] analyzed 256 PTAs notified to the WTO as of March 2013. Although drawing from the data source as the WTO study, the author of this second study adopted a slightly less restrictive view of what constitutes a PTA with an IPR provision. Consequently, this study included analysis of 25 PTAs that the authors of the WTO study would later exclude in their analysis. The second study also focused more on substantive provisions concerning enforcement rather than IPR provisions impacting public health. That study found similar patterns in terms of the IP subject areas covered by the PTAs, but also found a high variance in the number of IP provisions in PTAs between developing countries. About half of developing country PTAs included only one article within the treaty itself, while half included a specific annex or chapter on IP.

A more recent study[8] reviewed 357 PTAs that discuss IPR in a general or specific manner. This study focused on measuring three different concepts: the degree of IPR protection, the degree of IPR enforcement, and the coherence with multilateral IPR rules. For each concept, the authors devise an index with a series of questions to measure the variable.

Not surprisingly, the authors found that PTAs involving the United States have the highest degree of IPR protection, followed by those with Japan, the Republic of Korea, and EFTA. North-South PTAs have the highest degree of protection, while South-South PTAs have the lowest, with intra-African PTAs lacking any IPR protection. In terms of enforcement, the patterns are roughly the same, but with Japan's containing the strongest provisions. Finally, PTAs involving EFTA, Japan, and Korea have the highest level of coherence with multilateral treaties—exceeding those of the US and EU. Intra-European treaties also include many more requirements for accession to IP-related treaties than similar PTAs in the Americas or Asia.

In addition to the three comprehensive analyses discussed above, several other studies have focused on IPR provisions in PTAs concentrated in a given region. One study examined 42 PTAs involving the Asia-Pacific region, finding great variation across these agreements.[9]

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[7] Seuba 2013.

[8] Elsig and Surbeck 2016, based on the dataset developed by Dür, Baccini, and Elsig 2014 as part of the Design of International Trade Agreements (DESTA) project.

[9] Puutio 2013.

It found that agreements between Asia-Pacific countries and the US or EU tend to have the most inflexible IPR provisions, demanding high standards even from poorer developing countries. By contrast, agreements involving Japan, Singapore, and Korea tend to show greater flexibility across the range of negotiating partners. Many PTAs involving China contain some mention of IPR, but the depth of commitments required is not necessarily very high. Another study focused on Asia[10] discusses how PTAs interact with other regional initiatives, such as efforts by the Association of Southeast Asian Nations to increase IPR harmonization in the region.

Two other studies[11] provided excellent overviews of the salient features of the TRIPS-plus provisions found in US, EU, and other PTAs. Another study[12] examined the degree of norm conflict and coherence across not only PTAs, but also bilateral investment treaties. Yet another study focused on specific TRIPS-plus provisions have affected the development and implementation of IPR regimes in developing countries, leading to shared challenges across countries.[13]

7.3. METHODOLOGY

This study arises out of the database constructed as part of the World Bank's Evolution of Deep Trade Agreements project. The study is based on the 295 PTAs signed through December 2016, and does not reflect PTAs signed in 2017 or later (e.g., the EU-Japan Economic Partnership Agreement). Efforts were made to update the contents of the PTA if it underwent any changes during the ratification period or renegotiations following the initial signing, as was the case for the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP).

A team of seven researchers at Harvard Law School identified possible elements of IPR-related disciplines within the PTAs; these elements were then coded. The process of identifying these fields and developing the coding template was an iterative process, whereby non-random groups of selected PTAs across time periods, negotiated by a diverse set of governments, were examined in batches. During each iteration, relevant provisions were identified. This allowed for the creation of a preliminary template, which was then revised again with the next batch, until the researchers were relatively confident that they had identified the relevant universe of potential elements and created a robust template.

Based on this template, each agreement was coded by one researcher and subsequently checked by another. Each team of researchers involved at least one individual with experience

[10] Quirino, Fider, and Gaba 2009.
[11] Fink 2011; Roffe and Spennemann 2014.
[12] Ruse-Khan 2011.
[13] Biadleng and Maur 2011.

in intellectual property law and one with experience in international trade law. Errors and coding inconsistencies were subsequently resolved by the group as a whole, in consultation with the principal investigator. Altogether, a total of 120 fields were coded for each agreement. These fields can be grouped across a range of categories, described below:

• **Accession to/ratification of existing international IP agreement(s):** Coding for whether the agreements require the parties to accede to 15 international IP agreements, with each listed as a separate field. Examples include the Patent Cooperation Treaty, the Union for the Protection of New Varieties of Plants (UPOV) Convention of 1991, the WIPO Copyright Treaty, the WIPO Performances and Phonogram Treaty, and the Trademark Law Treaty.

• **Incorporation of existing international IP agreements:** Coding for whether the PTA explicitly incorporates the TRIPS Agreement and/or other multilateral IP agreements to which both parties are a party. Doing so renders these agreements subject to the dispute settlement mechanisms of the PTA.

• **Exhaustion:** Coding for whether the PTA either provides for national exhaustion of IPRs or preserves the flexibility for each country to determine its own exhaustion scheme.

• **Trademarks:** Coding for 16 fields that capture the range of trademark-related obligations found in PTAs, including many TRIPs-plus obligations. Some of the fields concern the scope of trademarks for which protection must be given (e.g., sound marks, collective marks) or the terms of protection. Others concern systemic issues governing trademarks (e.g., classification system, recordal) or procedural issues related to cancellation.

• **Geographical indications (GIs):** Coding for a number of possible strategies to address GIs in PTAs. Examples include stipulating the scope of protection for GIs, designating a list of specific GIs to be protected, and stipulating that GIs can be registered or protected through a trademark system.

• **Copyright and related rights:** Coding of 14 different fields to capture the various requirements in PTAs concerning copyright and related rights, including a term of protection beyond that required by the TRIPS Agreement, broadcast rights, and various exclusive rights. The coding also covers whether or not the PTA addresses newer issues not discussed in the TRIPS Agreement, such as requirements for digital rights management and protection against the circumvention of technological protection measures.

• **Patents:** Coding of 15 different fields capturing a range of TRIPS-plus provisions related to patents. These types of provisions are among the most controversial in PTAs. They cover a wide range of issues including new use and/or new process patents for a known product, adjustment of the length of patent term, patent linkage, and patent revocation.

• **Data protection/protection of undisclosed information:** Coding for whether the PTA includes TRIPS-plus provisions that provide for a minimum term of protection for undisclosed test or other data for a new pharmaceutical product, agricultural chemical, and biologics. These types of provisions are also highly controversial, as countries may use PTAs that include these provisions to further specify the requirement of Article 39 of the TRIPS Agreement.

• **Industrial designs:** Coding for whether the PTA requires protection of industrial designs, including design systems.

• **Biodiversity/traditional knowledge:** Coding for whether the PTA includes a provision recognizing the importance of biodiversity and/or traditional knowledge, including commitments to preserve and protect.

• **Domain names/country names:** Coding for whether the PTA includes any provision for settling disputes related to country-code, top-level domain names, as well as any provision to prevent the misleading commercial use of a country name.

• **Enforcement:** Coding for more than 20 enforcement-related provisions found in various IPR chapters to capture whether the PTA reiterates and/or elaborate upon the various enforcement requirements discussed in the TRIPS Agreement.

• **Transparency/cooperation:** Coding for whether the PTA includes requirements for greater transparency of registrations for trademarks, GIs, industrial designs, and new plant varieties. Also coding of four additional fields to attempt to capture any requirement for greater cooperation and/or harmonization among PTA partners on IPR-related issues.

Beyond simply coding for whether or not a particular provision is included in the PTA, the database also includes information about the enforceability of the provision. Researchers highlighted whether or not the PTA contained binding language with state-to-state dispute settlement (DS); or contained binding language ("must," "shall") but without a formal DS mechanism, or included a best-endeavor provision, or included no binding language whatsoever.

Altogether, 105 PTAs were coded. Note that the number of PTAs coded in this study is significantly fewer than that of the previous major studies, some of which examined more than twice as many PTAs, for two reasons. First, the overall goal of the World Bank project has been to analyze deep-integration trade agreements. Whereas earlier studies examined all PTAs with any mention of IPR, this study chose to exclude trade agreements with only shallow IPR commitments (e.g., a general provision discussing IPR) that did

not promote any meaningful integration. Second, the specific goal of this study has been to provide a broader and more comprehensive analysis of the specific IPR commitments in PTAs than what exists to date. Unlike other previous major studies, this study did not seek to create yet another numerical index to measure the depth of all PTAs with IPR provisions. Instead, a decision was made to examine in-depth the most critical subset of PTAs, with the greatest variety of TRIPS+ provisions, to understand how this facilitates trade integration.

Finally, a few limitations in the coding methodology should be noted.

First, in line with what was agreed upon among the principal investigators for the Deep Integration project, this study employs a binary coding methodology. Consequently, it is only able to capture whether or not a particular IPR-related provision is included in a given PTA. Except for enforceability, it does not distinguish among variations in the legal commitment, as would be possible using a non-binary variable. For example, a PTA in which the term of protection for undisclosed data is five years and one in which is ten years are coded the same (as 1), even though the depth of commitment clearly differs between these agreements. Another example is that the database does not distinguish between a PTA with a long list of specific GIs to be protected and one with a short list; both would be coded as simply including a list. To compensate for this limitation, the template includes additional columns to allow for a form of non-binary coding.

Second, the various fields are not of near-equivalent importance, and the database is not intended to be used to measure the strength or depth of a PTA's IPR content through a simple counting exercise, or through one which applies weights to the various binary fields. Different fields present a vastly different impact on populations. For example, new IPR requirements on pharmaceuticals can exert an extremely different impact on citizens' welfare than those for industrial designs. The hope is that future researchers will use the information captured in this database to tailor an approach specific to their specific research question, rather than simply add up the number of commitments to reflect a proxy for depth.

In most instances, the IPR chapters of the 105 PTAs were written in English. However, in instances where the Spanish or French text was authoritative, a researcher fluent in the language was assigned to perform the coding exercise, with another researcher conversant in the language assigned to check the coding.

While this approach sought to minimize coding errors, some errors may exist because of the complexity of the IPR provisions and the varied approaches taken in drafting the legal text. As these are discovered, the coding will be updated in the database.

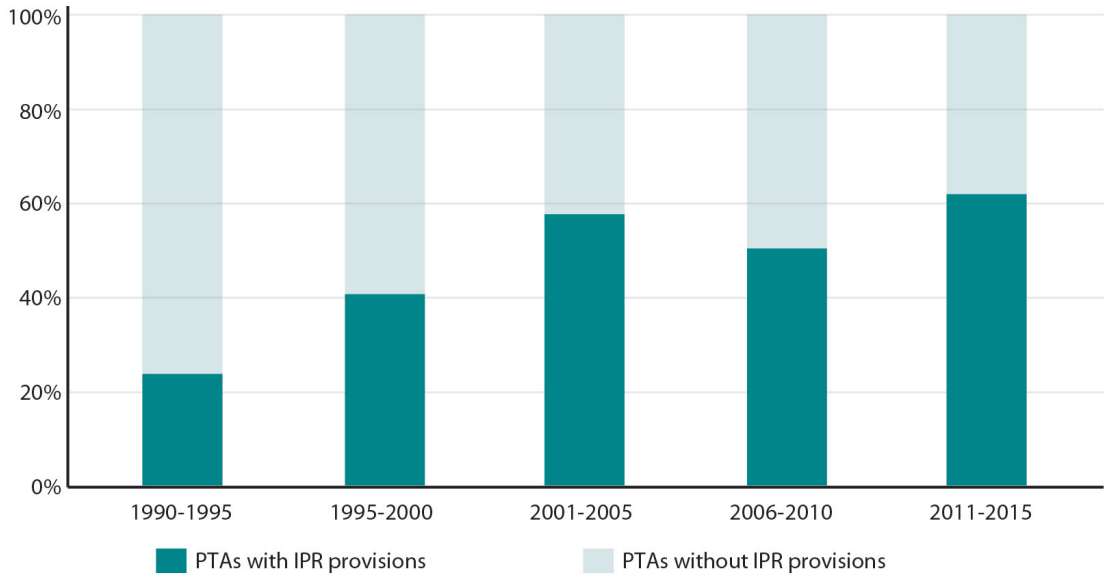
7.4. FINDINGS

This study examines the specific modes through which particular major trading powers - the US and European countries - have sought to use IPR-related provisions to advance their vision of deeper integration with their trading partners. Although there are some similarities in the objectives sought, there are also vast differences among these approaches. This section seeks to draw attention to such differences.

7.4.1 Prevalence in PTAs

The inclusion of IPR-related provisions in PTAs is a relatively recent phenomenon (Figure 7.1). Prior to the WTO's creation in 1995, a handful of PTAs, such as the North American Free Trade Agreement, included an IPR chapter. These helped to lay the groundwork for the TRIPS Agreement. Subsequently, IPR provisions have become more commonplace.

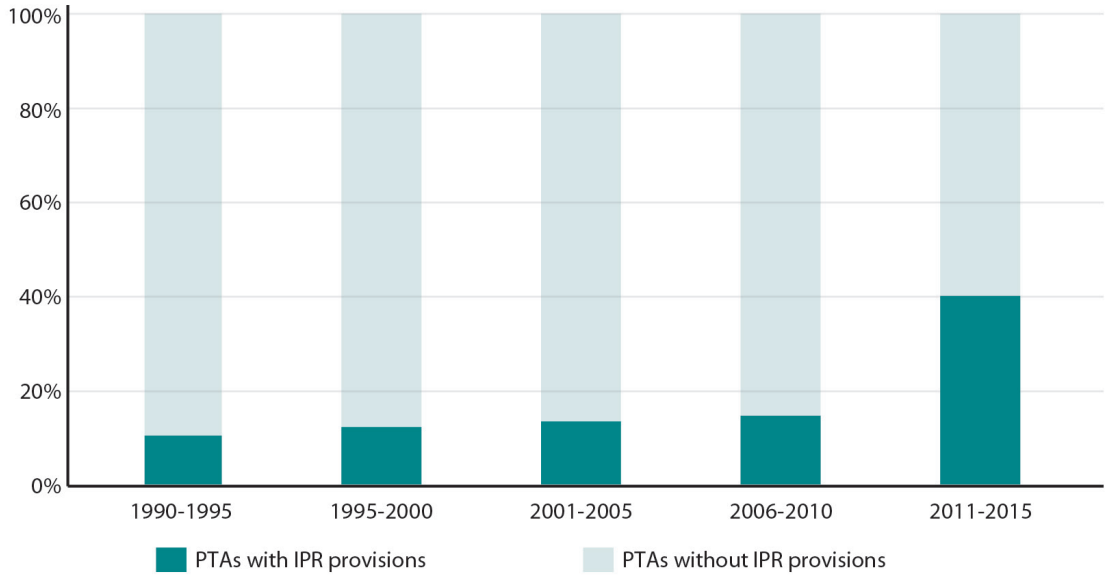
Figure 7.1: Percentage of PTAs with IPR-related provisions, 1991-2005



Several factors precipitated their growing presence in trade agreements. First, not entirely satisfied with the outcome of the TRIPS bargain, interest groups in developed countries pressed their governments to expand on IPR commitments through the pursuit of TRIPS-plus obligations in PTAs. Second, with the expansion of offshoring and outsourcing, stronger IPR protection became a major market access and investment concern for multinational corporations. Finally, the growth of digital technologies has also contributed to the increased economic importance of IPRs to firms engaged in cross-border trade.

Until recently, these provisions were found primarily in PTAs involving developed countries Figure 7.2 shows that through 2000, only about 10 percent of PTAs between developing countries included any form of IPR-related provisions through 2000. This percentage increased between 2001 and 2010, but only slightly.

Figure 7.2: Percentage of PTAs concluded among developing countries with IPR-related provisions, 1991-2005



After 2010, however, the prevalence of IPR-related provisions in PTAs between developing countries increased significantly, to about 40 percent of all such PTAs between 2011 and 2015. This important shift suggests that at least a number of developing countries have internalized the need for IPRs to allow for deeper integration via PTAs. Why might this be the case?

One explanation is that as firms in developing countries have become more deeply embedded in global value chains over the past decade, their needs have come to reflect more closely that of firms in advanced economies. Therefore, they too seek higher levels of protection for their firms via trade agreements. Participation in global value chains shifts the economic interest of firms in developing countries, and/or causes these firms to internalize norms held by other firms with which they have developed linkages.

Another explanation is that the shift has been government driven rather than firm driven. This may be the case because the TRIPS Agreement does not contain a most-favored-nation (MFN) exception for PTAs, akin to GATT Article XXIV or GATS Article V. Therefore, once a country agrees to a higher level of IPR protection in a trade agreement, it must extend this higher level of protection to not just its PTA partner, but to all WTO members on an MFN basis. Therefore, even if Country B agrees to a higher TRIPS-plus standard in a PTA

at the behest of Country A, it may nevertheless turn around and demand the same standard of Country C in a subsequent trade agreement. After all, through its PTA with Country A, it has already granted such a benefit to Country C; it simply seeks a reciprocal arrangement.

This logic is in line with the findings of an early study[14] that PTAs are clearly a driver for IP reform in developing countries. That study suggested that entering into a PTA with robust IPR obligations can lead the government of a developing country to revisit a number of matters, including trade agreements with third parties.

With these trends in mind, the study now examines specific forms of deep-integration IPR chapters that have proliferated in recent years.

7.4.2 US PTAs

The quintessential model of a TRIPS-plus IPR chapter is that sought by the United States in its PTAs. Several earlier studies[15] have examined the salient features of this model in detail. The aim here is not to provide a comprehensive accounting of these features, but instead offer a sense of the depth of commitments sought by the US on IPRs.

As a condition for deeper integration with the US economy, US trade negotiators typically demand that PTA partners agree to an extensive number of IPR-related obligations. In short, they demand that the PTA partners bring themselves to a higher level of IPR protection, including adopting rules that may be similar to those of the US. Not surprisingly, this has engendered much controversy. Although the level of economic development differs quite significantly across trading partners, the types of IPR commitments sought by US negotiators are relatively consistent.

Why is this the case? One recent study[16] has argued that US trade negotiators have little flexibility to do otherwise because their hands are tied by Congress. Although Congress has the constitutional power to regulate foreign commerce, Congress has regularly delegated this power to the Executive Branch through the grant of Trade Promotion Authority. In doing so, Congress lays out explicit objectives for what it expects of US trade negotiators. In its latest incarnation, the 2015 Bipartisan Congressional Trade Priorities and Accountability Act states that one of the principal negotiating objectives shall be "ensuring that the provisions of any trade agreement governing intellectual property rights that is entered into by the United States reflect a standard of protection similar to that found in United States law."[17]

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[14] Bladgleng and Maur 2011.
[15] Including, most notably, Roffe, Spennemann, and von Braun 2010.
[16] Claussen 2018.
[17] Bipartisan Congressional Trade Priorities and Accountability Act of 2015, §2(b)(5)(A)(i)(II).

This includes "providing for strong protection for new and emerging technologies and new methods of transmitting and distributing products embodying intellectual property, including in a manner that facilitates legitimate digital trade."[18] Yet another requirement is "to secure fair, equitable, and nondiscriminatory market access opportunities for United States persons that rely upon intellectual property protection."[19] In light of these requirements, the US has set forth a relatively clear template for the IPR chapters in its PTAs, and this template has evolved only moderately over time.

Several scholars[20] have argued that the consistency of IPR chapters in US PTAs is due to the fact that the negotiators are captured by private industry. They have highlighted how the various US trade advisory committees with privileged access to trade negotiators are disproportionately represented by lobbyists from the pharmaceutical, entertainment, and software industries. Until the membership of these committees is more balanced, the content of US IPR chapters is likely to remain relatively consistent across agreements, reflecting the TRIPS-plus demands sought by such industries.

Among the most controversial demands are the TRIPS-plus provisions sought for patents and pharmaceutical test data. Most US PTAs require patent term extension to compensate for delays under certain circumstances, such as during the regulatory approval process. Some PTAs also clarify the circumstances under which a compulsory license can be issued pursuant to the TRIPS Agreement; these are most restrictive in the US PTAs concluded with other advanced economies. Several US PTAs also expand the scope of patentability. For example, some require that patents be made available for new uses or for new methods of a known product. One area where there is considerable variation across US PTAs is with regard to whether the trading partner must provide patents for plants and animals. Some US PTAs require that this be the case, whereas others ask only that the PTA partner make "reasonable efforts" to do so.

In addition, whereas the TRIPS Agreement requires only that test data submitted to obtain marketing approval be protected against "unfair commercial use," US PTAs set forth an explicit minimum term of protection for undisclosed test or other data. This includes data on new agricultural chemicals as well as pharmaceutical products. Furthermore, in some PTAs, additional protection may be triggered by the provision of "new clinical information." Over the years, the language of the requirement for pharmaceuticals has evolved to include a new indication, formulation, or administration method for an already-approved pharmaceutical product as well as for a pharmaceutical product containing a new chemical entity. Most recently, the US has sought a minimum term of protection for biologics as well.

[18] Ibid, §2(b)(5)(A)(ii).
[19] Ibid, §2(b)(5)(B).
[20] See, e.g., Sell 2003; Moberg 2014.

Another area where the US PTAs have been a trailblazer is with respect to new technologies. The US requires that its PTA partner adopt a range of technological protection measures to guard against infringement, including banning circumvention devices and providing for criminal liability in the case of willful infringement for commercial purposes. Several US PTAs incorporate elements of the US Digital Millennium Copyright Act, requiring that trading partners limit the liability of internet service providers as long as they take down infringing content upon notification. In addition, US PTAs are among the very few that contain an explicit requirement for the settlement of disputes related to top-level domain names (e.g., .com, .net).

On copyright term, since the US-Singapore PTA was signed in November 2000, the US has insisted that the term be the life of the author plus 70 years. Where the copyright term is decided based on other criteria, the US has insisted that it be at least 70 years from the publication or creation of the work. Certain PTAs, such as the US-Oman PTA, have resulted in even longer terms.

With regard to trademarks, the US has also demanded that its PTA partners adopt certain TRIPS-plus requirements. Some examples include a requirement that trademarks include collective and certification marks, that certain types of signs must be eligible for trademark protection, and that sound and scent marks must be eligible for trademark protection. In addition, the US has also demanded the adoption of certain procedural requirements to allow for examination of/opposition to a trademark application and an application to cancel a trademark. In addition, the US has sought to require the establishment of an electronic trademark system and to prohibit recordal of a trademark license to establish license validity or as a condition for use.

Finally, on enforcement, the US has sought TRIPS-plus obligations that expand on what it views as one of the weaker elements of the TRIPS Agreement. For example, several US PTAs require that border authorities shall have *ex officio* authority to detain suspected counterfeit or pirated goods, and to order their destruction. In addition, border authorities are required, under US PTAs, to allow for application by the rights holder to detain and suspend the release of any infringing good. Many US PTAs also require that infringing goods, if not destroyed, must be disposed of outside of the normal channels of commerce.

In sum, the US has pursued an aggressive effort to elevate and expand the standards of IPR protection through its PTAs, in line with what Congress has demanded of US trade negotiators. Countries aspiring to deeper economic integration with the US through a trade agreement know well in advance what types of IPR commitments are expected of it in exchange.

The end result is that developing countries have been confronted with a difficult choice as far as whether this trade-off is worthwhile, given the uncertainty of future benefits arising out of having a preferential trade arrangement with the US. Some eventually determine that the

price is too high, especially given domestic political sensitivities surrounding pharmaceutical products, traditional knowledge, and biodiversity. For instance, exploratory negotiations with the Southern African Customs Union and with Thailand failed to progress to actual PTAs, in part due to IPR demands by US negotiators. Other developing countries agree to US demands begrudgingly, because, although they view the IPR concessions as costly, they deem them to be outweighed by the benefits of deeper integration with the US. Finally, some countries do so willingly because they view the higher IPR standards as in their long-term interests. The net effect is that US PTAs have become an important instrument to persuade (or pressure) a limited set of countries to adopt stronger IPR standards than are provided for by the TRIPS Agreement, especially in light of the negotiating stalemate at the WTO.

7.4.3 European Union PTAs

European Union PTAs also use the allure of preferential trade access to demand higher IPR standards from trading partners. Over time, the scope of EU negotiating issues for IPR has expanded, as well as the depth of the TRIPS-plus provisions sought through the negotiations. Two factors have driven this evolution.

First, there has been a shift in the EU's conception of the role of trade agreements in managing its bilateral economic relationships with the African, Caribbean, and Pacific (ACP) countries, many of which are former colonies of EU member states. Originally, these trade relationships were managed through a series of non-reciprocal commitments, as set forth in the Lomé Convention signed in 1975 between the European Economic Community and 71 ACP countries, and the subsequent Conotou Agreement between the EU and ACP countries, signed in 2000. These agreements sought very little in the way of TRIPS-plus obligations. However, in 2006, the European Commission put forward the "Global Europe" strategy, through which trade agreements would serve as a tool to deepen Europe's economic relationships and global competitiveness. Stronger and more robust IPR rules came to be viewed as a necessary vehicle to deepen the trade and investment relationships necessary to achieve this vision.

Soon after this shift occurred, two studies[21] highlighted the potential for a wider range of issues to be considered in the EU's negotiations with ACP countries. A later study[22] then explored the bargaining power of developing countries vis-à-vis the EU in these negotiations, and how asymmetries in these power relationships enabled the EU to impose standards similar to those found in its legislation without giving much consideration to the domestic conditions of developing countries.

[21] Shabalala and Bernasconi 2007; Third World Network 2009.
[22] Moerland 2017.

Second, over the same period of time, the EU accelerated its conclusion of PTAs with upper-middle-income developing countries and advanced economies (e.g., Korea, Singapore, and Canada), many of which were already used to embracing high-standard IPR chapters as part of their PTAs. This was, in part, to ensure that European exporters were not placed at a competitive advantage vis-à-vis American or Japanese exporters, which were also deepening their economic relationships with key countries.

This shift in the profile of PTA partners has also contributed to the expanding scope and depth of IPR provisions sought in the EU's PTAs. Traditionally, the IPR provisions of EU PTAs have focused most actively on obligations concerning geographical indications. One concern of European producers of agricultural products as well as wine and spirits has been the relative laxness of countries, particularly in the so-called "New World," to allow for use of geographical names as long as the use does not mislead consumers as to the true origin and nature of the product. Some examples of the type of use that European producers deem problematic include "Champagne-like sparkling wine" or "locally made Parma ham." Many EU PTAs have included a list of specific GIs that must be protected by both parties. As a result, non-original producers in the PTA partner must phase out their use of the geographical name altogether. Several EU PTAs also require that the PTA partner establish a dedicated system for GI protection, as opposed to doing so via the trademark system. This is in stark contrast to the approach taken by US PTAs.

While TRIPS-plus commitments on GIs remain an important negotiating priority for the EU, other TRIPS-plus obligations have also entered into EU PTAs that are similar to those found in US PTAs. For example, several EU PTAs now require accession to the International Convention for the Protection of New Plants (UPOV Convention). They also seek patent term extension in the case of unreasonable delays. In addition, several stipulate terms for the protection of undisclosed test data, similar to terms found in US PTAs.

The same is true for copyright-related provisions. Recent EU PTAs stipulate a minimum copyright term and require that certain rights be provided to performers of unfixed (live) performances, similar to US PTAs. In addition, EU PTAs also include TRIPS-plus provisions to guard against circumvention of technological protection measures and against alteration of rights management information.

EU PTAs have also aggressively expanded on IPR-related obligations related to enforcement. These obligations have been heavily influenced by the EU's own approach, notably including Directive 2004/48 and two regulations dealing with border measures.[23] The enforcement obligations seek to expand the authority of border authorities and judicial authorities in combating infringement, including of pirated copyright products, counterfeit goods, and goods that violate a design right or GI.

[23] Fink 2011.

One area where the EU has been more open to developing countries' interests, if only indirectly, is with regard to provisions on biodiversity and traditional knowledge. For example, as part of the sustainable development provisions in a PTA, there may be a mention of the Convention on Biological Diversity and the need for appropriate measures to preserve traditional knowledge, including working towards the development of internationally agreed *sui generis* models for their legal protection.

Lastly, it is worth noting that EU PTAs can serve as a mechanism for dealing with intra-EU issues concerning IPR. Consider the example of the World Intellectual Property Organization (WIPO) Copyright Treaty and the WIPO Performances and Phonograms Treaty. Several EU member-states had signed but not ratified the treaties by the time they entered into force in 2002. As part of the EU-Chile PTA, however, the parties agreed to accede to the treaties by January 1, 2007. At the time of the negotiations, Chile had already ratified the agreement, so the main burden of this obligation fell upon the EU. Following EU enlargement in 2004 and 2007, a situation arose in which some EU member states had already ratified the treaties whereas others had not. However, earlier PTA commitments had already locked the entire EU into doing so. This helped spur the EU as a whole to ratify the treaties in late 2009, albeit nearly three years later than the deadline set forth in the EU-Chile PTA.

7.4.4 European Free Trade Area PTAs

The four countries that account for EFTA - Iceland, Liechtenstein, Norway, and Switzerland - all operate as part of the European Single Market, but not as part of the European Union's customs union. Despite the relatively small size of their economies, the EFTA nations serve as yet another hub for PTAs with deep-integration IPR chapters. Although they share many points of overlap with the US and EU, the EFTA PTAs nevertheless have their own distinctive qualities, which allow them to emerge as yet another model.

While much of the focus has been on the EU's policies toward advancing TRIPS-plus provisions in its PTAs, the EFTA nations have advanced a similar agenda with more than 20 countries. These include a wide range of developing countries, such as Mexico, Morocco, Montenegro, and Ukraine.

Certainly, a number of the IPR provisions found in the EFTA PTAs resemble those of the US and EU. For example, EFTA nations also seek for their trading partners to sign on to the WIPO internet treaties as well as the UPOV Convention. They also seek to expand IPR enforcement provisions, including clearly stipulating the range of power and authority of judicial and border authorities to combat infringement. However, a few distinctions are worth noting. In contrast to US and EU PTAs, the IPR provisions in EFTA PTAs do not focus as heavily on copyright-related issues. With the exception of the EFTA PTAs with the Balkan countries, many of the other EFTA PTAs do not insist on a copyright term beyond that provided by the TRIPS Agreement. Nor do they clarify the rights associated with unfixed performances, an issue that is addressed in most US and many EU PTAs.

As is true of the US and EU PTAs, EFTA PTAs also include a TRIPS-plus obligation for patent term extension in the case of unreasonable regulatory delays. They also include requirements for the protection of undisclosed test data for agricultural chemicals and pharmaceuticals. Obligations concerning test data exclusivity are found in a much greater proportion of EFTA PTAs than EU PTAs, reflecting the relative importance of pharmaceutical exports for certain EFTA countries, most notably Switzerland.

Despite overall similarity in the scope of coverage for pharmaceutical issues, there are two interesting divergences found in particular EFTA trade agreements. The first is the inclusion of a disclosure requirement for the origin or source of genetic material in patent applications in the EFTA-Colombia PTA. This type of disclosure has been a long-sought-after goal of developing countries that are concerned with multinational corporations deriving unfair profits from biological material and/or traditional knowledge.[24] It is notable that EFTA nations were open to Colombia's request for inclusion of a disclosure requirement whereas the US and EU were not.

The second concerns the inclusion of a compensatory alternative to a fixed term of exclusivity for undisclosed test data. This can be found in the EFTA-Korea PTA. Some scholars[25] have advocated the inclusion of this option to foster competition, and by implication, lower drug prices.

Altogether, the EFTA PTAs represent yet another model for how advanced economies have sought to promote deeper integration with TRIPS-plus provisions, while seeking to accommodate the interests of trading partners. While much of the spotlight has been on the US and EU, the EFTA countries have managed to carve out their own distinctive approach.

7.4.5 PTAs of advanced Asian economies

Finally, a number of advanced economies in the western Pacific have emerged as yet another focal point for IPR chapters with robust TRIPS-plus rules. These include Australia, Japan, Singapore, and Korea. Many of these countries have PTAs with one another. Many also have PTAs with the US and/or the EU. Through these interactions, they have emerged as leading proponents of robust TRIPS-plus rules in PTAs.

The priorities of the four advanced Asian economies are not necessarily identical. Japan, for example, has been a leading proponent of plant patenting,[26] although Japanese negotiators traditionally have not insisted on accession to a wide range of IPR treaties as an offensive demand for their PTAs, but they are not averse to their inclusion, if the PTA partner should so request. By contrast, Australia has insisted on accession to a range of treaties in its PTA with the Association of Southeast Asian Nations (ASEAN), including the WIPO internet treaties and the UPOV Convention.

[24] Fink 2011.
[25] For example, Reichman 2004.
[26] Lindstrom 2010.

Over time, there has been considerable variance among these PTAs. For example, the Australia-China PTA is much lighter in terms of IPR demands, even though the PTA itself is clearly intended to foster closer integration between the two economies. Overall, however, as these Asian countries have engaged in greater number of PTAs, they have gradually become accustomed to more robust IPR rules and have sought to advance them on their own accord in PTAs with other countries.

With the conclusion of the CPTPP by eleven Asia-Pacific nations (including Australia, Japan, and Singapore), there is now much greater convergence along the lines of a single set of IPR rules. The CPTPP includes one of the highest-standard TRIPS-plus IPR chapters of any PTA. While the withdrawal of the US from the agreement led to the suspension of ten IPR provisions, the vast majority of the original IPR chapter remained squarely in place.[27] This includes several TRIPS-plus requirements on trademarks, patent revocation, and enforcement powers for judicial and border authorities. While one might have once supposed the high-standard IPR rules to be American-led demands, the CPTPP experience makes clear that this is not the case. Rather, the CPTPP represents rules that advanced Asian economies have internalized and are advancing on their own accord as they integrate among themselves and with others in the Asia-Pacific.

7.5. CONCLUSIONS

With the growing importance of knowledge-driven innovation, one of the core elements of a deep integration trade agreement is a set of robust rules governing IPR. Dissatisfied with what they viewed as inadequate protections arising out of the TRIPS Agreement, several advanced economies have sought to advance TRIPS-plus rules in their PTAs. As this chapter has discussed, the move toward broader and more enforceable IPR commitments has been driven by four different sets of WTO members: the US, the EU, EFTA, and a group of advanced economies in the western Pacific. While there is considerable overlap in what they seek, there are also important differences in areas such as GIs, biodiversity, and biologics.

In the coming decade, three important questions are likely to rise to the fore: The first is whether any additional hubs will develop beyond the four mentioned above. To date, all of the hubs pushing forward with TRIPS-plus rules in PTAs are composed of advanced economies. However, as this chapter has noted, the frequency with which IPR-related provisions are included in PTAs concluded among developing countries has increased since 2011. Will this eventually result in a group of developing countries with a deep integration trade agenda to develop their own hub (e.g., a Pacific alliance in Latin America)? Or will the major centers for the development of TRIPS-plus rules remain in the advanced economies?

[27] Including provisions concerning patent term adjustment, biologics, copyright term, trademark protection, rights management information, protection of encrypted program-carrying satellites, legal remedies, and safe harbors. See Trans-Pacific Partnership Ministerial Statement, November 11, 2017.

A second question is whether there will be further consolidation of the existing models of IPR-related provisions that have arisen out of the four hubs. Already, there are cross-regional PTAs forming across some of these hubs, especially between the advanced Asian economies and the other hubs. With the US and EU already actively exploring the possibility of a trans-Atlantic PTA and the US open to rejoining the CPTPP, additional possibilities exist for further deep integration. How will this affect the development of TRIPS-plus rules and norms? Will this lead to even greater harmonization amongst the major economies? If so, will this be along the lines established in CPTPP, given its first-mover status as a mega-regional PTA, or be based on another model?

Finally, how will the growing expectation among some economies that some robust IPR rules must be in place affect the future of deep integration trade relationships? For example, divergent viewpoints over the depth of TRIPS-plus IPR provisions have emerged as a sticking point in the Regional Comprehensive Economic Partnership (RCEP) negotiations among some Asian and Pacific states. Will this lead some major developing countries, such as India or South Africa, to eventually succumb to PTAs with strong IPR obligations? Or will they choose to remain outside of the universe of deep integration PTAs that tie together global value chains because they deem the costs of joining to be too high? Furthermore, as the 2018-19 Sino-US trade war has highlighted, the failure to have an enforcement mechanism for agreed-upon IPR rules can generate economic uncertainty and temporary disruptions for a deeply integrated economic relationship. PTAs serve a valuable role in mitigating this risk. If a deep integration proceeds between two trading partners without a PTA, will this mean more frequent recourse to power to resolve IPR-related tensions?

What is clear is that IPR-related provisions are likely to continue serving as a flashpoint for deep integration PTAs, much as they have done so far. The purpose of this study has been to build a database that captures the richness and depth of such provisions. While much of the existing academic literature has focused on pharmaceuticals and copyright as the crux of this flashpoint, there is much more in the way of other issues, such as TRIPS-plus provisions on enforcement or industrial design, which may also impact the formation of value chains. The hope is that this database will allow academic researchers, policymakers, and civil society groups to better explore the depth of these phenomena, so that they can answer the questions over trade and IPR that inevitably will arise as technology drives deeper economic integration.

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