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Striking the Twenty-first Century Trade Agreement: The Case of Intellectual Property in the Trans-Pacific Partnership and US-Northeast Asian Economic Relations

June Park, Centre on Asia and Globalization, Lee Kuan Yew School of Public Policy, National University of Singapore

Trans-Pacific Partnership (TPP) negotiations are reaching their final stage. There is a good chance that they will be concluded within a month or two. While this economic pact presents new directions toward solidifying US linkages to the Asia-Pacific region, the contents of the negotiations—particularly on intellectual property (IP) and investment—present future challenges to US economic relations there. The IP chapter of the TPP, for the most part, has raised public concerns with regard to the impact it will have on access to medicines, as the deal seeks to defend IP rights for pharmaceuticals in the Asia-Pacific. Overall, the end goal of TPP is freer trade. This chapter, however, is geared toward strengthening regulatory measures on IP to achieve stronger protection, specifically on patents and copyright. Here, I investigate why TPP, if signed, would present a challenge to US-Northeast Asian economic relations, which, I argue, will mainly derive from institutional variance in IP enforcement among member states. Based on country-specific cases, I contend that due to the varied experiences of IP enforcement among current and potential TPP members, difficulties in implementing the IP

chapter are inevitable.

At stake in negotiations over IP and its subsequent implementation is US leadership in the Asia-Pacific region. Although for several years there has been talk that TPP is a critical test of US leadership, the focus has usually been on whether Obama was serious enough about it, whether Congress would give him the authority to pursue it, and whether Japan would make essential compromises on agriculture and automobiles (lately, dairy has also been seen as a sticking point for Canada). IP has been depicted as a test of other countries to see if they would accept the high standards sought by US negotiators. Suddenly, in mid-2015, it became clear that long-term protection of US pharmaceuticals and other IP themes, which some in Congress have demanded, is troubling other countries, often for reasons of public health. In August 2015, this stumbling block is in the forefront, testing US leadership, including with Japan in the existing TPP talks, with South Korea in what would likely be the first talks to expand TPP, and eventually, perhaps, even with China.

Intellectual Property in the Trans-Pacific Partnership

The IP chapter, released in different versions by WikiLeaks (2013, 2014, and 2015), has provided a window into how TPP will drastically change IP standards in the Asia-Pacific. Such snapshots have accompanied criticisms of the intent of the IP chapter in general, which presents further regulatory measures beyond the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement within the World Trade Oganization (WTO) framework signed two decades ago.[1] While

all negotiating members of the TPP are members of the WTO and thus parties to the TRIPS agreement, countries have varied widely in their terms of IP enforcement and management beyond TRIPS, given the broad range of enforcement levels that the TRIPS embodied.[2] Following TRIPS, there had been US initiatives to renew the global IP regime via the Anti-Counterfeiting Trade Agreement (ACTA) in 2011, only to be rejected by the European Parliament the next year. Despite shortcomings in its efforts to change the IP environment at the global level, the United States has continuously been striving to elevate IP standards of its trading partners via inclusion of strong IP chapters in bilateral free trade agreement (FTAs). In the context of a regional trade agreement, the IP chapter in the TPP could be viewed as an extended effort along the same lines of strengthening IP regulations and amalgamating bilateral agreements on IP with several countries at one sitting, aiming to reduce the costs, time, and effort in negotiations. IP in TPP is a litmus test for US foreign economic policymaking in global IP regimes.

It is well within the context of the proliferation of bilateral and regional trade agreements beyond the WTO framework that have continued for the past twenty years—accompanied by the dangers of the 'spaghetti bowl effect' leading to discriminative trade policies—that IP in TPP can be negotiated towards the goal of achieving a high-standard agreement in a regional trade framework.[3] However, the varied levels of IP standards and enforcement in the domestic jurisdictions of TPP member states raise skepticism regarding implementation, in case TPP goes into effect. Specifically, on patents and copyright, critics argue that the IP chapter seeks to reflect the interests of multinational corporations (MNCs)—particularly in the pharmaceutical and entertainment industries—rather than the interests of

member states or consumers of the negotiating countries across the board. TPP members will be challenged to meet these requests in IP.

This article investigates the complexities that will arise from implementing IP based on three country-specific case studies: Japan, which is a TPP negotiating party; South Korea, which seeks to join after negotiations have been concluded; and China, which is not a part of TPP. In searching for the roots of potential conflicts, I base my argument on the institutional variance of IP enforcement in the three leading export-oriented economies of Northeast Asia, which currently stand at different points in terms of membership. Japan, despite its strong domestic IP regulations, does not see eye to eye with the United States on the US proposed IP text. South Korea has a FTA with the United States that includes the highest level of IP standards of all US FTAs, and it is rapidly streamlining its IP system with that in mind. China, constantly targeted by the United States for criticisms on piracy, falls very short of establishing its own mechanisms of IP.

Theoretical Framework: Institutional Variance in Intellectual Property

Because TPP is still not a done deal, predicting what TPP member states would accept in the final text for IP is fairly difficult at this point. However, what can be done in terms of analysis is unraveling the roots of the potential challenges in implementation of the IP chapter in the TPP, using a theoretical framework for a comparative analysis of country cases in IP enforcement. Thus far, because of the weight the TPP carries in US strategic planning on Asia, mainstream policy analysis has been focused on the intended impact on strengthening US security ties in

Asia. Nonetheless, when it comes to implementing IP in TPP, countries will not be making decisions based on military interests. They will make decisions based on their institutional experiences in IP, considering the economic gains and losses of implementation and the capacity of IP-related institutions for enforcement.

Institutions, as defined by Douglass North, are humanly devised constraints that structure political, economic, and social interaction.[4] They create order and reduce disorder in exchange. As a global IP regime, TRIPS under the WTO was signed with the intent to integrate WTO member states in IP protection, but the negotiation process toward TRIPS was heavily influenced by MNCs that sought to protect IP in countries of their current or future operations.[5] Institutional variance in IP protection among WTO member countries in the past twenty years under TRIPS was inevitable, as TRIPS did not promise uniform means of integrating the system for IP protection, as a whole, in every jurisdiction.

Institutional variance in IP enforcement grew wider among WTO member states as the world economy entered the digital age and technological advancement. Developed economies sought measures to further protect IP, while developing economies still felt the urge to delay enforcing stringent rules for IP protection. While they sought to secure learning opportunities to absorb foreign technology as well as access to affordable medicines, they were not equipped with sufficient institutional measures and the rule of law for regulating IP. Rising powers that are still developing, such as Brazil and China, pushed for the development of indigenous knowledge as opposed to scientific knowledge—a country-specific defense mechanism that developing countries emphasized at home to fight external pres-

sures for elevating IP standards. For many MNCs, TRIPS was not enough to ensure IP protection in developing countries, by propelling drastic institutional changes toward IP protection. The North-South divide in IP protection in the digital age grew larger, as it derives from the appropriation of biodiversity and indigenous knowledge through patents.[6] The world was changing.

Despite the similarities in the export platforms that major Northeast Asian economies have enjoyed, the background and development of IP—let alone the procedures and laws of IP enforcement—vary significantly across Northeast Asia. A country-specific analysis of TPP's potential impact on IP institutions would be difficult without understanding the pathways of IP institutions under TRIPS. How the countries of Northeast Asia recognized the need for IP protection in their domestic economies and how they interacted with the world in response to global IP regime shifts demonstrate the degree to which they take IP protection seriously and are suggestive of the extent of institutional changes in IP they will be willing to adopt in the near future.

Country Cases: Japan, South Korea, and China

Japan

Among the three countries, Japan places itself closest to the United States in IP protection and management. It is also a participating member of TPP. The Japan Patent Office (JPO) is one of the Trilateral Patent Offices along with the US Patent and Trademark Office (USPTO) and the European Patent Office (EPO), and it has

maintained strong cooperation with the two. It was established pursuant to the Japanese Patent Monopoly Act of 1885, following the Meiji Restoration. The JPO is housed under the Ministry of Economy, Trade, and Industry (METI; formerly MITI), and administers laws in all IP areas—patents, utility models, designs, and trademarks—except for copyright, which is administered by the Agency of Cultural Affairs, a special body of the Ministry of Education since 1968 that promotes Japanese art and culture.

Japan has had its IP system fairly streamlined with the western world. On patents and trademarks, Japan acceded to the Paris Convention for the Protection of Industrial Property in 1899.[7] On copyright, Japan acceded to the Berne Convention, based on the Brussels Act (1948) of the convention and later ratified the Paris Act (1971) of the convention. From 1962, in view of rapid increase of reproduction and communication of authored works, Japan's initial copyright law of 1899 underwent serious revisions by the Copyright System Council, and the new copyright law was enacted in 1971.[8] In 1989, Japan acceded to the Rome Convention (1961) for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, and became party to the TRIPS agreement in 1994.

In 1996, a dispute settlement case in the WTO brought by the United States (DS28) and the European Community (DS42) became a turning point. At the time, Japan's copyright law of 1971 only granted protection to foreign sound recordings produced on or after January 1, 1971, the date on which Japan initiated special protection. The complaints by the United States and the European Community were based on soaring figures of pirated music recordings in Japan throughout the

1980s—which in turn incurred losses on US music industries—and targeted Japan in conflict with TRIPS.[9] Japan made amendments to its copyright law to accommodate points raised in the WTO dispute cases. Into the digital era, Japan acceded to the WIPO Copyright Treaty in 2000, the WIPO Performances and Phonograms Treaty in 2002, and the Beijing Treaty on Audiovisual Performances in 2014.

On copyright, Japan has demonstrated improvement in IP enforcement against counterfeiting and piracy and has pushed for exceptionally strict copyright laws. Prior to TPP, Japan was the first and only country to ratify the multinational Anti-Counterfeiting Trade Agreement (ACTA) in 2012, despite the European Parliament's rejection of the agreement that signaled the death of the deal. None of the other signatories to ACTA—the United States, European Union, Australia, Canada, Mexico, Morocco, New Zealand, and Singapore—actually ratified ACTA.[10] Media attention was drawn to TPP rather than the Japanese government's ratification of ACTA, and there was insufficient public debate on ratifying ACTA in Japan. The public outcry was mainly focused on Japan joining the TPP negotiations, and only after ACTA had been passed did the protest movements begin to grow, albeit to a smaller extent in comparison to those against TPP.

Japan officially joined TPP after careful deliberations under Prime Minister Abe on July 23, 2013. The original IP chapter in the TPP of August 2013, mainly proposed by the United States, sought to alter existing IP regulations in TRIPS to broaden the scope of patents, copyright, and trademarks. According to the secret negotiated draft and country positions on IP (Salt Lake City, Utah, November 19-

24, 2013), none of the countries—even Japan—were willing to accept the initial US proposed IP chapter.[11] Because IP appears to be one of the most difficult areas for negotiation, this chapter was set aside while negotiating other areas. Towards the end of the negotiations in the summer of 2015, it was returned to the table for final negotiations. In the meantime, Congress went through months of wrestling over renewing Fast Track, or Trade Promotion Authority (TPA), which had expired in 2007. Senate approval of TPA renewal in June 2015 gave impetus to the negotiations, and countries that were doubtful about TPP are observing closely as the negotiations draw near to a conclusion.

The updated TPP IP chapter of May 2014 was released on October 16, 2014, and stirred controversy by deleting the option for reducing access to affordable drugs and increasing pharmaceutical industries' ability to retain monopolies. The new text contained measures to force TPP members to enact an automatic monopoly period for market exclusivity for life-saving drugs (i.e., vital generic drugs such as cancer drugs and medicine for communicable diseases), with choices for definitive inclusion within the treaty of 0, 5, 8, or 12 years—while the United States is pushing for the maximum 12 years.[12] Australia and emerging market economies seek five years or lower.[13]

On the IP chapter, Japan is said to have sided with the United States more than any other party in the negotiations, jointly proposing and opposing statutes in the IP chapter text 32 times. Proponents of a lengthened clinical trial period and data protection underline the riskiness and costliness of the development of innovative biologic medicines that would save lives. Japan, indeed, has been leading bio-

logic research in the Asia-Pacific region along with the United States, but whether it sees eye to eye on some provisions is questionable. On copyright, the United States calls for a lengthy duration of copyright protection, which is set at 70 years in the United States and 50 years under TRIPS, and Japan is poised to support the US position depending on the details. However, although Japan has established a strong position on patents and copyrights in the past decade, the contents of the TPP IP chapter are difficult for it as well. At the end of the negotiations, negotiators will attempt to barter to get what they want, presenting conditions that are more favorable than those now present on the table. If Japan succumbs to US requests on IP negotiations, it will seek to gain more in other sections, such as agriculture and automobiles. Based on Japan's previous path of adapting to the global IP regime with rigor, it is not difficult to see that the government wants the TPP deal concluded. However, even for Japan, the IP chapter, as it is currently, would be a daunting task to implement without public dissent.

South Korea

South Korea's IP law dates back to 1908, when the Korean empire that succeeded the Chosun dynasty promulgated decrees in patents, designs, trademarks, and copyright.[14] When Japan colonized Korea in 1910, the royal decrees were replaced by Japanese IP laws with minimal modifications and remained effective until Korea's liberation in 1945. Since the postwar period, South Korea has gradually aligned its IP institutions with the global IP regime; new industrial property laws were enacted in 1961 for patents, utility models, trademarks, and designs. Its patent office, KIPO (Korea Intellectual Property Office; formerly Korean Industri-

al Property Office), was established in 1977 as an external organ of the Ministry of Commerce and Industry. It was not until 1979 that South Korea joined the World Intellectual Property Organization (WIPO), and 1980 that it acceded to the Paris Convention for the Protection of Industrial Property. But with a surge of patent applications, it developed its IP administration system quickly, joining the Patent Cooperation Treaty (PCT) in 1984 and launching the International Patent Training Center in 1987. In 1991, South Korea relocated its patent-related institutions from Seoul to Daejeon, where Daedeok Innopolis—the research and development district established in 1973 under Park Chunghee—is located.[15] Situating the KIPO in Daejeon would facilitate patent application filings and reviews in an efficient manner, with the Seoul branch office serving as the channel for communication with other ministries and business headquarters in the capital.

South Korea has made substantial moves toward IP since the late 1990s, establishing the IP Tribunal, the Seoul branch office of KIPO, and launching the KIPOnet system.[16] As South Korea's research and development generated loads of patent applications, the government is also in support of protecting IP overseas for small and medium-sized enterprises (SMEs) that are in need of legal information. South Korea's SMEs face hardships as opposed to its large conglomerates when encountering IP infringements or when going through the stage of an initial startup in a foreign country. To support SMEs in IP, KIPO and KOTRA (Korea Trade-Investment Promotion Agency) have collaborated to establish IP desks overseas to prevent IP infringement and supply legal information.[17] Since 2004, South Korea has ranked fourth after China, the United States, and Japan in patent applications, and fourth from 2008 in patent grants.[18] But South Korea's develop-

ment of IP systems that have supported its upsurge of patent applications and grants has not been without conflict with its competing trading partners. Major conglomerates—Samsung and LG—have been involved in several patent wars with multinational technology and software corporations. The ongoing smartphone patent litigations with competing global firms Apple, HTC, Xiaomi, Google, and etc., are salient examples of patent wars that its manufacturers face. Conglomerates and SMEs will seek further IP protection for their patents, but whether the general public will easily accept the current IP requirements—provisions on patents, copyright, and trademarks—embodied in the TPP is unclear.

To be sure, South Korea will not be able to join TPP until it has been concluded and a second round of potential member states are invited to join. South Korea has been at the forefront in signing FTAs and RTAs, but policymakers knew that pushing for TPP just after KORUS FTA went into effect would cost them too much political capital, and instead pushed for an FTA with China, South Korea's biggest trading partner. However, with Japan in TPP, it had to rethink its options; not having access to markets under new rules created by TPP would shrink overseas market shares. The strategic implications of the deal also prompted South Korea to seek engagement. Thus, it conducted bilateral consultations with the United States and other TPP member states, but for the purpose of concluding TPP, the Office of the United States Trade Representative (USTR) has advised South Korea to join later. It is highly likely that it would be one of the first countries to join post-conclusion of TPP negotiations.

With regard to the IP chapter it will have to abide by upon joining TPP, South Ko-

rea will most likely be required to implement the highest level of IP standards within a short period of time, as it already has signed a high-standard IP chapter in the KORUS FTA that is in effect. Based on its costly experience in the pharmaceutical policy reform of July 2000, in which the complete separation of medical institutions and pharmacies was carried out, the "evergreening" strategies to lengthen pharmaceutical patent periods would, without doubt, cause a public uproar.[19] For a country that has relied heavily on universal health care, privatization of health care still remains fairly controversial, and TPP is no exception.

China

Among the three countries, China lags most in IP enforcement. It is not difficult to spot street vendors selling pirated DVDs and books. On the Chinese Internet, online streaming of pirated foreign movies, dramas, and songs is available via different channels. Currently, China is not a member of TPP, nor has it exhibited serious interest in joining. When the United States became the main driver of TPP in 2008, it was assumed that one aim was to counterbalance China. This may be true in strategic terms, but the United States has left out China, concerned that having it or any other BRICS country on board would undermine the main purpose of the deal—which is to achieve a high-standard agreement across the Asia-Pacific.

The crucial issue with China in IP is that the laws may be on paper but not implemented properly in practice. China is party to several relevant international conventions. It joined the World Intellectual Property Organization in 1980, acceded

to the Paris Convention for the Protection of Industrial Property in 1984, and then to the Madrid Agreement for the International Registration of Trademarks in 1989. It also entered into a Memorandum of Understanding with the United States to provide copyright protection for American and foreign works on PRC soil. Before joining TRIPS, China even went through a series of negotiations on IP issues and signed the Sino-US Agreement on IP rights in 1995 and 1996. China has a national legal framework for IP protection on patents, copyright, and trademark, established by the NPC Standing Committee, the State Council, and various ministries, before being passed by the National People's Congress (NPC).

Lax regulation is due in large part to the fragmented IP institutions in China. When the State Council was reshuffled in 1998, China's patent office became part of the State Intellectual Property Office (SIPO), which mainly administers patents and has been expanding its capacity to process them but does not administer or enforce other forms of IP. The copyright office is within the National Copyright Administration (NAC), and the trademark office is under the State Administration for Industry and Commerce (SAIC).[20] Fragmented IP institutions have made it harder for the government to clamp down on infringed copyrights. Lax regulations on enforcement continue. China has focused on building up a rigorous domestic patents regime via the SIPO, but a larger number of applications come from foreign entities that seek to protect their patents in China,[21].

A WTO dispute settlement case (DS362) concluded in 2009 concerning China's copyright violations motivated the United States to seek alternative platforms outside TRIPS under the WTO to force IP protection in China. The case brought

to the WTO in 2007 pointed at China's violation of its IP obligations in TRIPS: lack of criminal procedures for people who illegally reproduce copyrighted works (violation of Articles 41.1 and 61 in TRIPS); certain laws allowing for infringing goods to enter the market once their infringing features are removed (violation of Articles 46 and 59 in TRIPS); and China's refusal to grant copyright and related rights to works not authorized (censored) for publication or distribution in China (violation of Article 5.1 of the Berne Convention and Article 9 in TRIPS). The WTO Dispute Settlement Body (DSB) panel ruling found China's copyright law inconsistent with Article 9 and 41.1 of TRIPS, but it did not find China in violation of Article 61. Moreover, while China's customs measures were in partial violation of Article 46, the country was not found in violation of Article 46.[22]

The United States came to understand through this non-violation case based on TRIPS and via the WTO DSB panel ruling that curbing Chinese infringement of IP would be difficult solely using TRIPS under the WTO framework. Following the panel ruling that year, the United States established its Intellectual Property Enforcement Coordinator (IPEC) to be housed in the Office of Management and Budget at the White House, and appointed a former USTR senior counsel for intellectual property issues, Victoria Espinel, as Coordinator. In 2010 and 2013, the IPEC launched the Joint Strategic Plan on Intellectual Property Enforcement, in addition to the annual reports on IP enforcement. The United States also engages in annual bilateral talks—the Strategic & Economic Dialogue—in which it consistently brings up IP issues with China. Inter-government agency networks are also being established, as SIPO is said to be in collaboration with the USPTO to bolster China's IP enforcement mechanism. But without addressing the power structures

of fragmented IP institutions and taking such structures into consideration in policy implementation, IP protection will remain difficult in China. The only alternative of the Chinese government is clamping down on IP infringement, which is highly unlikely. If China intends to join TPP, it will take years for implementation if the current levels of IP protection in China are applied. If it does not intend to join the TPP, the North-South divide in IP will continue. In such a case, China will keep redefining its own IP standards and levels of IP protection.

Conclusion

Supporters of TPP adhere to the logic of strategic alliance for continued US engagement in the Asia-Pacific, and economic benefits that may be reaped out of the deal. However, at least on IP, the varied institutional practices on IP may be a constraint in carrying out implementations of the TPP if passed. Elevating IP standards towards a high-standard agreement may be a priority for the USTR, but because not all countries are on the same page on IP, merely enforcing the rules without considerations of the domestic institutions and markets may cause a backlash. Moreover, the efforts in negotiation will be in vain if concrete measures of enforcement are not discussed. In the longer run, the TPP, if signed and ratified along with the Transatlantic Trade and Investment Partnership (TTIP) and Trade in Services Agreement (TiSA), will contest the preexisting TRIPS in the WTO. But implementation of the IP chapter in TPP will be more difficult than negotiating for it. Both will test US leadership in the face of resistance not only in many countries now engaged in the difficult end game of negotiations over TPP, including Japan, but also in states that may seek to join thereafter and those for

which IP is an enormous barrier.

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1. Currently, the chapters of the TPP negotiations are not available from the USTR, but have been circulated to members of Congress under strict confidentiality. The chapters that were leaked via WikiLeaks are only partial representations of the actual negotiations in TPP. In Article 1 of the TRIPS agreement under the WTO framework, members would be free to determine the appropriate method of implementing the provisions of TRIPS within their own legal system and practice. *See Agreement on Trade-Related Aspects of Intellectual Property Rights*, Part I, art. 1, Apr. 15, 1994, Annex 1C of Marrakesh Agreement Establishing the World Trade Organization, 1869 UNTS 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS Agreement].

2. In Article 1 of the TRIPS agreement under the WTO framework, members would be free to determine the appropriate method of implementing the provisions of TRIPS within their own legal system and practice. See *TRIPS agreement*, Part I, art. 1 (1994).

3. Jagdish Bhagwati, "U.S. Trade Policy: The Infatuation with Free Trade Agreements," in Claude Barfield, ed., *The Dangerous Obsession with Free Trade Areas*, American Enterprise Institute, 1995.

4. Douglass North, "Institutions," *The Journal of Economic Perspectives* 5, no.1 (Winter 1991).

5. Susan Sell, *Private Power, Public Law: The Globalization of Intellectual Property Rights* (Cam-

bridge: Cambridge University Press, 2003).

6. Vavdana Shiva, "Intellectual Property Protection in the North/South Divide," in C. Heath and A. K. Sanders, eds, *Intellectual Property in the Digital Age: Challenges for Asia* (Kluwer Law International), 113-129.

7. Signed in 1883, the Paris Convention was one of the first intellectual property treaties. It created a union for the protection of industrial property, and was based on the general principles of national treatment and priority rights, enabling the applicant from one contracting state to use the initial filing date as the effective filing date in another contracting state, if subsequent applications are filed within 6 months (industrial designs and trademarks) or 12 months (patents and utility models).

8. *Copyright System in Japan*, Japan Copyright Research and Information Center. The new copyright law also incorporated strengthened penal sanctions on the infringement of copyright.

9. Article 14.6 of the TRIPS agreement applies provisions of Article 18 of the Berne Convention to the protection of sound recordings. A country must provide a 50-year term of protection to pre-existing works originating in another WTO member country, if those works have not already enjoyed a full term of protection in both countries. Absence of protection for works between the years 1946 to 1971 under Japanese copyright law was the issue. Since Japan was required to fulfill its TRIPS agreement obligations by January 1, 1996, all recordings produced in other WTO member countries after January 1, 1946 (50 years prior to the date Japan would comply to TRIPS) required eligibility for protection in Japan.

10. "ACTA: Will it ever become a Valid International Treaty?" Intellectual Property Watch, September 13, 2012, http://www.ip-watch.org/2012/09/13/acta-will-it-ever-become-a-valid-international-treaty/. In Japan, approval of ACTA was rushed in a Lower House plenary session by a 217 to 9 vote on October 5, 2012.

11. WikiLeaks contributors, "Secret Trans-Pacific Partnership Agreement (TPP) – IP Chapter,"

WikiLeaks, November 13, 2013, https://wikileaks.org/tpp/. Country positions at Salt Lake City were released on December 9, 2013. They indicated mostly rejections of the US proposed IP chapter.

12. Japan currently bans the development of generic drugs and the release of clinical data for 8 years after a drug is approved for marketing. The United States calls for 12 years of protection for biopharmaceuticals.

13. "Intellectual Property Issues viewed as last TPP hurdle," *The Japan Times*, May 24, 2015.

14. Toshiyuki Kono, ed., *Intellectual Property and Private International Law: Comparative Perspectives* (United Kingdom: Bloomsbury Publishing, 2012).

15. Daedeok Innopolis, formerly Daedeok Science Town, has over 20 major research institutes and over 40 corporate research centers as a science cluster. IT venture firms of South Korea sprang up in this region in the past decade. Numerous educational institutions are located throughout the city of Daejeon, including KAIST.

16. The KIPOnet system integrates information via a computerized administrative process of KIPO, which formerly depended on manual labor for sorting application filings to examination, registration, trial, and publication. Comprised of 44 subsystems, the e-filing system enables online filing for domestic applications as well as PCT (Patent Cooperation Treaty) international applications and Madrid international trademark applications, and is accessible whenever, wherever needed.

17. Currently, KOTRA and KIPO together operate IP-Desks in the United States (New York and Los Angeles), China (Beijing, Shanghai, Qingdao, Guangzhou, and Shenyang), Japan (Tokyo), Germany (Frankfurt), Vietnam (Ho Chi Minh City), and Thailand (Bangkok). While the IP-Desks are intended to support the SMEs with IP issues and to supply legal information, specific legal advice is not offered by IP-Desks, and companies must find legal counseling via law firms of their choice.

18. World Intellectual Property Organization, *World Intellectual Property Indicators*, 2014 ed. (2014).

19. H.J. Kim, W. Chung, and S.G. Lee, "Lessons from Korea's Pharmaceutical Policy Reform: the separation of medical institutions and pharmacies for outpatient care," *Health Policy* 68, no. 3 (June 2004): 267-275.

20. Andrew Mertha argues that China's pathways toward building its domestic IP regime was overtaken by events when the United States engaged China under Special 301 with the goal of strong-arming Beijing to establish an IP regime compliant with international norms and US objectives. In the process, he argues, the exogenous pressures from the United States, combined with interested parties in China, sought to consolidate China's IP regime combining patents, copyright, and trademark under the SIPO, onto the preexisting bureaucratic landscape, resulting in tensions among the bureaucracies in charge of discrete IP rights subfields and disabling effective coordinated enforcement. See Andrew Mertha, *The Politics of Piracy: Intellectual Property in Contemporary China* (New York: Cornell University Press, 2005).

21. As of 2011, domestic patent applications in China comprised utility models (40%), designs (36%), and inventions (24%). Foreign applications, on the other hand, comprised inventions (86%), designs (12%), and utility models (2%). State Intellectual Property Office of the PRC, SIPO Monthly Statistics Report – 2011, 2011, http://english.sipo.gov.cn/statistics/.

22. Non-violation complaints in the WTO DSB require the complainant to demonstrate that it has been deprived of an expected benefit due to another WTO member's action, or due to any other situation that exists. Non-violation claims are essentially possible for goods and services, but are tricky for intellectual property, due to the difficulty of determining to what extent and how they could be brought to the WTO DSB.

Tag

Economic Relations Intellectual property Trade-Related Aspects of Intellectual Property Rights agreement Trans-Pacific Partnership