

The U.S.-China Forced Technology Transfer Dispute

*Peter K. Yu**

I. INTRODUCTION	1003
II. THE WTO DISPUTE.....	1007
A. The Complaint and Its Aftermath	1007
B. Preliminary Analysis	1014
III. THE NORTH-SOUTH DEBATE.....	1025
IV. A COVID-19 REASSESSMENT	1039
V. GOING FORWARD	1047
VI. CONCLUSION	1051

I. INTRODUCTION

The past few years have seen not only a trade war between China and the United States involving tariffs on close to \$750 billion worth of goods,¹ but also multiple complaints filed by both countries before the

* Copyright © 2022 Peter K. Yu. Regents Professor of Law and Communication and Director, Center for Law and Intellectual Property, Texas A&M University. Earlier versions of this Article were presented at Seton Hall Law Review Symposium entitled “Intellectual Property and Technology in the New Global Age,” the “TRIPS Agreement at 25” Symposium at Texas A&M University School of Law, the Sixteenth Annual Works-in-Progress Intellectual Property (WIPIP) Colloquium at the University of Houston Law Center, the Seventh Annual Chinese IP Forum at then John Marshall Law School in Chicago, and the 2018 Asian WTO Research Network Conference at the Faculty of Law of the University of New South Wales in Australia. He is grateful to Wang Heng and Arthur Yuan for their kind invitations and hospitality and to the participants of these events for valuable comments and suggestions. He would also like to thank Wu Wei for research assistance.

¹ See Dorcas Wong & Alexander Chipman Koty, *The US-China Trade War: A Timeline*, CHINA BRIEFING (Aug. 25, 2020), <https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/> (providing a timeline of the tariffs that China and the United States have imposed as part of the trade war). See generally Peter K. Yu, *US-China Intellectual Property Trade Wars*, in RESEARCH HANDBOOK ON TRADE WARS 271 (Zeng Ka & Liang Wei eds., 2022) (discussing the U.S.-China trade war and recent disputes in the intellectual property and technology areas); ANGELA HUYUE ZHANG, CHINESE ANTITRUST EXCEPTIONALISM: HOW THE RISE OF CHINA CHALLENGES GLOBAL REGULATION 203–34 (2021) (discussing the U.S.-China trade war in the antitrust and regulatory contexts); Henry Gao, *WTO Reform and China: Defining or Defiling the Multilateral Trading System?*, 62 HARV. INT’L L.J. (SPECIAL ISSUE) 1, 26–33 (2021) [hereinafter Gao, *WTO Reform*]

Dispute Settlement Body of the World Trade Organization (“WTO”).² A key driver behind these ongoing tensions and conflicts concerns the challenges confronting U.S. technology companies³—both online and offline.⁴ Although the inadequate protection and enforcement of intellectual property rights in China has been the subject of a perennial debate since the mid-1980s,⁵ the recent concerns have raised new

(documenting the U.S.-China trade war); Lee Jyh-an, *Shifting IP Battlegrounds in the U.S.-China Trade War*, 43 COLUM. J.L. & ARTS 147 (2020) [hereinafter Lee, *Shifting IP Battlegrounds*] (discussing the U.S.-China trade war in the intellectual property context).

² In chronological order, these complaints include Request for Consultations by China, *United States—Tariff Measures on Certain Goods from China III*, WTO Doc. WT/DS587/1 (Sept. 2, 2019); Request for Consultations by China, *United States—Tariff Measures on Certain Goods from China II*, WTO Doc. WT/DS565/1 (Aug. 23, 2018); Request for Consultations by China, *United States—Certain Measures Related to Renewable Energy*, WTO Doc. WT/DS563/1 (Aug. 14, 2018); Request for Consultations by China, *United States—Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products*, WTO Doc. WT/DS562/1 (Aug. 14, 2018); Request for Consultations by the United States, *China—Additional Duties on Certain Products from the United States*, WTO Doc. WT/DS558/1 (July 16, 2018); Request for Consultations by China, *United States—Certain Measures on Steel and Aluminium Products*, WTO Doc. WT/DS544/1 (Apr. 5, 2018); Request for Consultations by China, *United States—Tariff Measures on Certain Goods from China*, WTO Doc. WT/DS543/1 (Apr. 4, 2018); Request for Consultations by the United States, *China—Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/1 (Mar. 23, 2018) [hereinafter Second TRIPS Complaint].

³ See Alan O. Sykes, *The Law and Economics of “Forced” Technology Transfer and Its Implications for Trade and Investment Policy (and the U.S.-China Trade War)*, 13 J. LEGAL ANALYSIS 127, 129 (2021) (noting “[t]he centrality of joint venture requirements and equity caps in the current U.S.-China dispute”); Lee G. Branstetter, *China’s Forced Technology Transfer Problem—and What to Do About It 1* (Peterson Inst. for Int’l Econ., Pol’y Brief No. 18-13, 2018), <https://www.piie.com/system/files/documents/pb18-13.pdf> (“The Trump administration’s trade confrontation with China is occurring on several fronts, none more crucial than the dispute over China’s alleged misappropriation of foreign technology.”).

⁴ See generally Peter K. Yu, *The Long and Winding Road to Effective Copyright Protection in China*, 49 PEPP. L. REV. 681 (2022) (discussing the online challenges confronting U.S. copyright industries).

⁵ For this Author’s earlier discussions of the piracy and counterfeiting problems in China, see generally Peter K. Yu, *Intellectual Property, Economic Development, and the China Puzzle*, in INTELLECTUAL PROPERTY, TRADE AND DEVELOPMENT: STRATEGIES TO OPTIMIZE ECONOMIC DEVELOPMENT IN A TRIPS PLUS ERA 173 (Daniel J. Gervais ed., 1st ed. 2007); Peter K. Yu, *From Pirates to Partners: Protecting Intellectual Property in China in the Twenty-First Century*, 50 AM. U. L. REV. 131 (2000) [hereinafter Yu, *From Pirates to Partners I*]; Peter K. Yu, *From Pirates to Partners (Episode II): Protecting Intellectual Property in Post-WTO China*, 55 AM. U. L. REV. 901 (2006) [hereinafter Yu, *From Pirates to Partners II*].

issues that have been lumped together under the umbrella of “forced technology transfer.”⁶

Broadly defined, the term can cover all involuntary forms of technology transfer,⁷ ranging from economic espionage to compulsory licensing and from the mandatory disclosure of trade secrets in administrative proceedings to the misappropriation of intellectual property assets through joint ventures.⁸ Nevertheless, the term’s definition remains unsettled,⁹ and some commentators have questioned

⁶ For discussions of forced technology transfer, see generally Frederick M. Abbott, *Technology Governance in a Devolved Global Legal Order: Lessons from the China-USA Strategic Conflict*, in *A NEW GLOBAL ECONOMIC ORDER: NEW CHALLENGES TO INTERNATIONAL TRADE LAW 197* (Cheng Chia-jui ed., 2022) [hereinafter Abbott, *Technology Governance*]; Frederick M. Abbott, *Under the Radar: Reflections on “Forced” Technology Transfer and the Erosion of Developmental Sovereignty*, 69 GRUR INT’L 260 (2020) [hereinafter Abbott, *Under the Radar*]; Lee Jyh-an, *Forced Technology Transfer in the Case of China*, 26 B.U. J. SCI. & TECH. L. 324 (2020) [hereinafter Lee, *Forced Technology Transfer*]; Dan Prud’homme & Max von Zedtwitz, *Managing “Forced” Technology Transfer in Emerging Markets: The Case of China*, 25 J. INT’L MGMT. 100670 (2019) [hereinafter Prud’homme & von Zedtwitz, *Managing “Forced” Technology Transfer*]; Dan Prud’homme et al., *“Forced Technology Transfer” Policies: Workings in China and Strategic Implications*, 134 TECH. FORECASTING & SOC. CHANGE 150 (2018); Julia Ya Qin, *Forced Technology Transfer and the US-China Trade War: Implications for International Economic Law*, 22 J. INT’L ECON. L. 743 (2019); Yin Qian, *Forced Technology Transfer Performance Requirement in International Investment Agreements—A Chinese Perspective*, 17 J. INTELL. PROP. L. & PRAC. 114 (2022); Jessica Brum, Note, *Technology Transfer and China’s WTO Commitments*, 50 GEO. J. INT’L L. 709 (2019); Branstetter, *supra* note 3.

⁷ See Lee, *Forced Technology Transfer*, *supra* note 6, at 328 (“[Forced technology transfer] refers to an informal government practice which requires the transfer of technology from foreign investors as a condition of market access or investment.”); Prud’homme et al., *supra* note 6, at 150 (“[Forced technology transfer] policies can be defined as government policies meant to increase foreign-domestic technology transfer that simultaneously weaken appropriability of foreign innovations.” (emphasis omitted)); Qin, *supra* note 6, at 745 (using the term “to refer to any situation in which the government requires a foreign firm to share its proprietary information in order to conduct business in the country”).

⁸ See Qin, *supra* note 6, at 745 (distinguishing between “where the transfer is the result of disclosure of proprietary information compelled by administrative processes” and “where the transfer is the result of ownership restrictions on foreign investment, such as mandatory joint venture . . . requirements”).

⁹ See *id.* at 744 (“Though widely used, the notion [of forced technology transfer] lacks a clear definition and is often misunderstood.”); TRADE & AGRIC. DIRECTORATE, ORGANISATION FOR ECON. CO-OPERATION & DEV., INTERNATIONAL TECHNOLOGY TRANSFER POLICIES 3 (2019) (“Efforts to target forced technology transfer are complicated by the sometimes blurred line between voluntary and mutually agreed upon technology transfer and that perceived to be, or that is in fact, compelled.”); Lee, *Forced Technology Transfer*, *supra* note 6, at 346–49 (discussing the difficulty in distinguishing between voluntary and forced technology transfer).

the label's appropriateness.¹⁰ Even for those accepting that *some* technology has been involuntarily transferred, there remains a vibrant debate concerning the scale and scope of such transfer and its ultimate impact on foreign intellectual property rights holders, including those from the United States.

Because the subject of forced technology transfer has been, until recently, underexplored in legal literature¹¹—and, for that matter, in scholarly literature in other fields¹²—this Article utilizes the forum provided by this Symposium to weigh in on the debate. To enhance its analytical focus, the Article closely examines the U.S.-China forced technology transfer dispute, including the WTO complaint that the United States filed against China in March 2018.¹³ It is this Author's hope that a better understanding of this topic will illuminate the debate on intellectual property protection and enforcement in China. Insights gleaned from this topic will also inform similar disputes within the WTO¹⁴ as well as other U.S.-China trade disputes in the intellectual property and technology areas.

¹⁰ See LAWRENCE J. LAU, *THE CHINA-U.S. TRADE WAR AND FUTURE ECONOMIC RELATIONS* 173 (2019) (“[T]he sharing of technology in a joint venture is a voluntary one. The foreign direct investor will have to weigh the benefits of having a local joint-venture partner versus the costs.”); Prud’homme & von Zedtwitz, *Managing “Forced” Technology Transfer*, *supra* note 6, at 2 (“With the important exception of ‘no choice’ policies, foreign [multinational corporations] have some choice about whether or not they want to comply with so-called FTT [forced technology transfer] policies; therefore, ‘forced’ may not be the most accurate word to describe all controversial technology transfer policies in China.”); Zhou Xiaoming, *“Forced Transfer of Technology”: More Myth Than Fact*, CHINA-US FOCUS (Aug. 9, 2019), <https://www.chinausfocus.com/finance-economy/forced-transfer-of-technology-more-myth-than-fact> (stating that “Washington’s accusation is nothing short of a myth” and that “[i]f there is a ‘forcer’ of technology transfer, it would be the invisible hand, the market and the compelling forces of competition”); see also Mark Cohen, *Catching up with the Literature on Forced Tech Transfer*, CHINA IPR (Feb. 27, 2019), <https://chinaipr.com/2019/02/27/catching-up-with-the-literature-on-forced-tech-transfer/> (recounting a webinar organized by Rouse in which speakers discussed the work-arounds to TIER and questioned whether concerns over forced technology transfer were a “yesterday’s issue” for practitioners and businesspeople).

¹¹ The literature has been slowly growing, due in large part to the U.S.-China forced technology transfer dispute. See, e.g., Abbott, *Technology Governance*, *supra* note 6; Abbott, *Under the Radar*, *supra* note 6; Lee, *Forced Technology Transfer*, *supra* note 6; Qin, *supra* note 6; Sykes, *supra* note 3; Yin, *supra* note 6; Brum, *supra* note 6.

¹² Outside legal literature, the rare exceptions are Prud’homme & von Zedtwitz, *Managing “Forced” Technology Transfer*, *supra* note 6; Prud’homme et al., *supra* note 6; Branstetter, *supra* note 3.

¹³ Second TRIPS Complaint, *supra* note 2.

¹⁴ Like the United States, the European Union filed a complaint against China on technology transfer measures. See Request for Consultations by the European Union,

Part II examines the WTO dispute between China and the United States over the issue of forced technology transfer. It offers a critical assessment of the complaint filed by the United States, which alleged violations of the Agreement on Trade-Related Aspects of Intellectual Property Rights¹⁵ (“TRIPS Agreement”). To provide context for this dispute, Parts III and IV explore the longstanding North-South technology transfer debate and the more recent debate on the involuntary disclosure of trade secrets, know-how, and other proprietary information to combat COVID-19. By providing contextual reflections, these two Parts highlight the challenges and complexities in the U.S.-China forced technology transfer dispute. Part V concludes by offering suggestions on how China and the United States can move forward constructively from this ongoing dispute.

II. THE WTO DISPUTE

A. *The Complaint and Its Aftermath*

Even though the inadequate protection and enforcement of intellectual property rights in China has been the subject of a perennial debate since the mid-1980s,¹⁶ the U.S.-China forced technology transfer dispute emerged with the arrival of the Trump administration.¹⁷ During

China—Certain Measures on the Transfer of Technology, WTO Doc. WT/DS549/1 (June 1, 2018) [hereinafter EU Complaint].

¹⁵ Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299 [hereinafter TRIPS Agreement].

¹⁶ See Yu, *From Pirates to Partners I*, *supra* note 5, at 140–51 (providing a history of the tensions and conflicts between China and the United States in the intellectual property area); see also Peter K. Yu, *A Half-Century of Scholarship on the Chinese Intellectual Property System*, 67 AM. U.L. REV. 1045, 1058–73 (2018) (providing a history of intellectual property developments in China in the 1980s and 1990s).

¹⁷ This dispute is not new, even though it has not received much policy attention until the past few years. See OFF. OF THE U.S. TRADE REPRESENTATIVE, FINDINGS OF THE INVESTIGATION INTO CHINA’S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974, at 17 (2018) [hereinafter SECTION 301 INVESTIGATION REPORT] (noting that the policies and practices relating to the use of government intervention to transform China into a world leader in technology “are not necessarily new”); U.S. *Tools to Address Chinese Market Distortions: Hearing Before the U.S.-China Economic and Security Review Commission 2–4* (2018), <https://www.uscc.gov/sites/default/files/Mark%20Cohen%20uscc%20testimony.pdf> (written testimony of Mark A. Cohen, former Senior Advisor to the Director of the U.S. Patent and Trademark Office) (“[F]orced technology transfer . . . was not a significant topic of discussion in the decade following China’s WTO accession. . . . Since that time, this dissenting position regarding the discrimination foreigners face in China’s licensing regime has become the dominant position, as evidenced by the WTO case filed by the Trump Administration.”); Lee, *Forced Technology Transfer*, *supra* note

the presidential campaign, candidate Donald Trump repeatedly blamed China for the United States' economic woes.¹⁸ Among his key grievances were trade imbalance, currency manipulation, intellectual property theft, market access restrictions, and unfair trade practices. Less than a year after inauguration, the administration quickly launched an

6, at 329–30 (“Despite the fact that the Trump Administration popularized the term FTT, U.S. laws and documents have used the term officially for almost two decades. The 2002 Trade Act delineates trade negotiating objectives regarding foreign investment, including ‘reducing or eliminating ... forced technology transfers, and other unreasonable barriers to the establishment and operation of investments.’” (quoting 19 U.S.C. § 3802(b)(3)(C)); *see also* China: Effects of Intellectual Property Infringement and Indigenous Innovation Policies on the U.S. Economy 5-37, Inv. No. 332-519, USITC Pub. 4226 (May 2011) (Final) (“In China, foreign companies are encouraged to transfer technology, and it is reportedly difficult to gain the required government approval of a joint venture without a technology transfer agreement. U.S. Companies may agree to such requirements as the only way to gain access to China’s large and growing market.” (footnote omitted)); COMM’N ON THE THEFT OF AM. INTELL. PROP., NAT’L BUREAU OF ASIAN RSCH., THE IP COMMISSION REPORT 17 (2013) (“Many foreign businesses came to see the heightened mandate to import technologies and assimilate them as justification for greater theft of foreign-generated IP [intellectual property], as well as for stronger pressure on foreign companies to share technology. An increase in theft and compulsory technology transfer in fact seems to have been the outcome.”); COMM’N ON THE THEFT OF AM. INTELL. PROP., NAT’L BUREAU OF ASIAN RSCH., UPDATE TO THE IP COMMISSION REPORT 3 (2017) (noting the “coercive activities by the state designed to force outright IP transfer or give Chinese entities a better position from which to acquire or steal American IP”). As Lee Jyh-an explained:

One may wonder why the U.S. has tolerated China’s FTT practices for almost forty years and has only recently decided to fight against them. The answer, in part, is due to the considerable challenge in proving FTT. More importantly, China has become an economic giant whose economic policies can have a profound impact upon the world economy. The scale of the problem arising from FTT practices in China, combined with the country’s significant market power, means that U.S. industries desperately need their own government to handle this issue. Moreover, China’s technological developments have threatened the United States’ leading advantage in certain fields. Because the technological and economic leadership in these fields is closely related to the United States’ national interests, the U.S. cannot treat China as just another developing country and tolerate the latter’s unfair IP practices, especially FTT, anymore.

Lee, *Forced Technology Transfer*, *supra* note 6, at 342–43 (footnotes omitted).

¹⁸ *See, e.g.*, Hannah Beech, *Donald Trump Talked a Lot About China at the Debate. Here’s What China Thought About That*, TIME (Sept. 27, 2016, 3:24 AM), <https://time.com/4509121/china-presidential-debate-hillary-clinton-donald-trump/>; Jeremy Diamond, *Trump: “We Can’t Continue to Allow China to Rape Our Country,”* CNN (May 2, 2016), <https://www.cnn.com/2016/05/01/politics/donald-trump-china-rape/index.html>; *Trump Targets China Trade, Says Plans Serious Measures*, REUTERS (Aug. 24, 2016, 3:06 PM), <https://www.reuters.com/article/us-usa-election-trump-china/trump-targets-china-trade-says-plans-serious-measures-idUSKCN10Z2JN>.

2022]

FORCED TECHNOLOGY TRANSFER

1009

investigation of China under Section 301 of the Trade Act of 1974.¹⁹ This investigation focused on Chinese laws, policies, and practices in the areas of intellectual property, innovation, and technology development.²⁰

In March 2018, the United States Trade Representative (“USTR”) released the final report of this investigation.²¹ The report found that the relevant Chinese laws, policies, and practices resulted in the unfair treatment of U.S. firms conducting business in China.²² That report further accused China of engaging in systematic, state-directed efforts to steal U.S. trade secrets and other sensitive commercial information through “cyber intrusions into U.S. commercial networks targeting . . . U.S. firms.”²³ The next day, the USTR filed a WTO complaint against China based on the findings of the Section 301 investigation report.²⁴ This complaint marked the second time that the United States resorted to the WTO dispute settlement process to address the inadequate protection and enforcement of intellectual property rights in China.²⁵

¹⁹ Press Release, Off. of the U.S. Trade Representative, USTR Announces Initiation of Section 301 Investigation of China (Aug. 18, 2017), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2017/august/ustr-announces-initiation-section> [hereinafter Section 301 Investigation Press Release]. Section 301 permits the U.S. President to investigate and impose sanctions on countries engaging in unfair trade practices that threaten the United States’ economic interests. *See* 19 U.S.C. §§ 2411–2420.

²⁰ Section 301 Investigation Press Release, *supra* note 19.

²¹ SECTION 301 INVESTIGATION REPORT, *supra* note 17. The USTR provided a substantial update eight months later. OFF. OF THE U.S. TRADE REPRESENTATIVE, UPDATE CONCERNING CHINA’S ACTS, POLICIES AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION (2018) [hereinafter SECTION 301 INVESTIGATION UPDATE].

²² *See* SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 19–61 (discussing the unfair technology transfer regime for U.S. companies and discriminatory licensing restrictions in China).

²³ As the Section 301 investigation report declared:

For over a decade, the Chinese government has conducted and supported cyber intrusions into U.S. commercial networks targeting confidential business information held by U.S. firms. Through these cyber intrusions, China’s government has gained unauthorized access to a wide range of commercially-valuable business information, including trade secrets, technical data, negotiating positions, and sensitive and proprietary internal communications. These acts, policies, or practices by the Chinese government are unreasonable or discriminatory and burden or restrict U.S. commerce.

Id. at 153.

²⁴ Second TRIPS Complaint, *supra* note 2.

²⁵ The first dispute was *China—Measures Affecting the Protection and Enforcement of Intellectual Property Rights*. Panel Report, *China—Measures Affecting the Protection and Enforcement of Intellectual Property Rights*, WTO Doc. WT/DS362/R (adopted Jan.

The complaint in *China—Certain Measures Concerning the Protection of Intellectual Property Rights* alleged that “China deprive[d] foreign intellectual property rights holders of the ability to protect their intellectual property rights in China as well as freely negotiate market-based terms in licensing and other technology-related contracts.”²⁶ At issue were Articles 3 and 28 of the TRIPS Agreement.²⁷ Article 3, which provides for national treatment, prevents countries from discriminating against foreign authors and inventors.²⁸ Article 28, which focuses on

26, 2009) [hereinafter WTO Panel Report]. The three issues that the WTO panel examined were (1) the high thresholds for criminal procedures and penalties in the intellectual property area; (2) the failure of the Chinese customs authorities to properly dispose of infringing goods seized at the border; and (3) the denial of copyright protection to works that had not been authorized for publication or dissemination within China. *Id.* ¶¶ 2.2–4. For this Author’s discussions of this dispute, see generally Peter K. Yu, *The TRIPS Enforcement Dispute*, 89 NEB. L. REV. 1046 (2011) [hereinafter Yu, *TRIPS Enforcement Dispute*]; Peter K. Yu, *TRIPS Enforcement and Developing Countries*, 26 AM. U. INT’L L. REV. 727 (2011).

²⁶ Second TRIPS Complaint, *supra* note 2, at 1.

²⁷ TRIPS Agreement, *supra* note 15, arts. 3, 28. In addition to the TRIPS provisions, the report of the Working Party on the Accession of China stated:

The representative of China confirmed that China would only impose, apply or enforce laws, regulations or measures relating to the transfer of technology, production processes, or other proprietary knowledge to an individual or enterprise in its territory that were not inconsistent with the [TRIPS Agreement] and the Agreement on Trade-Related Investment Measures (“TRIMs Agreement”). He confirmed that the terms and conditions of technology transfer, production processes or other proprietary knowledge, particularly in the context of an investment, would only require agreement between the parties to the investment.

World Trade Org., *Report of the Working Party on the Accession of China*, ¶ 49, WTO Doc. WT/ACC/CHN/49 (Oct. 1, 2001); *see also id.* ¶ 203 (“The allocation, permission or rights for importation and investment would not be conditional upon performance requirements set by national or sub-national authorities, or subject to secondary conditions covering, for example, . . . the transfer of technology.”); World Trade Org., *Accession of the People’s Republic of China: Decision of 10 November 2001*, ¶ 7.3, WTO Doc. WT/L/432 (Nov. 23, 2001) (“Without prejudice to the relevant provisions of this Protocol, China shall ensure that the distribution of import licences, quotas, tariff-rate quotas, or any other means of approval for importation, the right of importation or investment by national and sub-national authorities, is not conditioned on . . . performance requirements of any kind, such as . . . the transfer of technology . . .”); SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 8 (listing China’s bilateral commitments relating to technology transfer from 2010 to 2016). Notwithstanding these commitments, “China would be . . . liable only if transfer of technology was attributed to government intervention. If a request for transfer of technology was from a private entity, China would incur no obligation at all to this effect.” PETROS C. MAVROIDIS & ANDRÉ SAPIR, *CHINA AND THE WTO: WHY MULTILATERALISM STILL MATTERS* 97 (2021).

²⁸ *See* TRIPS Agreement, *supra* note 15, art. 3.1 (“Each Member shall accord to the nationals of other Members treatment no less favourable than that it accords to its own nationals with regard to the protection of intellectual property, subject to the exceptions

patent rights, states explicitly that “[p]atent owners shall . . . have the right to assign, or transfer by succession, the patent and to conclude licensing contracts.”²⁹

In its complaint, the United States noted the inconsistencies between the TRIPS Agreement and two Chinese regulations—namely, the Regulations on the Administration of the Import and Export of Technologies (“TIER”)³⁰ and the Regulations for the Implementation of the Law on Sino-Foreign Equity Joint Ventures (“EJV Regulations”).³¹ Article 24 of TIER states: “Where the receiving party to a technology import contract infringes another person’s lawful rights and interests by using the technology supplied by the supplying party, the supplying party shall bear the liability therefore.”³² Article 27 further provides: “Within the term of validity of a contract for technology import, an achievement made in improving the technology concerned belongs to the party making the improvement.”³³ In addition, Article 29.3

already provided in . . . the Paris Convention (1967) . . .”. *See generally* THE PRINCIPLE OF NATIONAL TREATMENT IN INTERNATIONAL ECONOMIC LAW: TRADE, INVESTMENT AND INTELLECTUAL PROPERTY (Anselm Kamperman Sanders ed., 2014) (providing a collection of essays discussing the principle of national treatment in international intellectual property, trade, and investment laws).

²⁹ TRIPS Agreement, *supra* note 15, art 28.2.

³⁰ Regulations of the People’s Republic of China on the Administration of the Import and Export of Technologies (promulgated by the State Intell. Prop. Off., Dec. 10, 2001, effective Jan. 1, 2002), *translated at* <https://www.wipo.int/edocs/lexdocs/laws/en/cn/cn125en.pdf> [hereinafter TIER]. Notably, China issued these regulations the day before it formally became a WTO member.

³¹ Regulations for the Implementation of the Law of the People’s Republic of China on Sino-Foreign Equity Joint Ventures (promulgated by the State Council, Sept. 20, 1983, amended July 22, 2001, effective July 22, 2001), english.mofcom.gov.cn/article/lawsdata/chineselaw/200301/20030100064563.shtml [hereinafter EJV Regulations].

³² TIER, *supra* note 30, art. 24. The Section 301 investigation report noted that “[t]his requirement is particularly onerous for small U.S. firms seeking to license technology, as they typically would not have the expertise or resources necessary to assess and cover the risk of third party litigation.” SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 49. Although this assessment is correct, Article 24 was drafted with transnational corporations, rather than small U.S. firms, in mind. *See* ELIZABETH CHIEN-HALE ET AL., COMMERCIALIZATION OF IP RIGHTS IN CHINA 28 (2021) (“TIER . . . was enacted during a time when the Chinese government thought the small Chinese factories needed extra protection against giant U.S. companies coming to do business in China.”).

³³ TIER, *supra* note 30, art. 27. As the Section 301 investigation report explained:

Th[e] provisions [in Articles 27 and 29.3] are particularly harmful to a U.S. licensor if the Chinese licensee makes an improvement severable from the original invention and then patents the severable improvement in China or elsewhere. The TIER’s provision on mandatory ownership of improvements enables the Chinese licensee to enjoy the severable improvement without the original technology licensed by the U.S. entity to the Chinese entity, and block the U.S. entity from enjoying the benefit

stipulates: “A technology import contract shall not contain any [clause] . . . restricting the receiving party from improving the technology supplied by the supplying party, or restricting the receiving party from using the improved technology”³⁴ Similar to the TIER provisions, Article 43.4 of the EJV Regulations states that “after the expiry of a technology transfer agreement, the technology importing party shall have the right to use the technology continuously.”³⁵

In November 2018, the WTO established a panel to address this dispute.³⁶ While the panel process was underway, China adopted a new Foreign Investment Law in March 2019, replacing the Law on Sino-Foreign Equity Joint Ventures whose implementing regulations were at issue in this complaint.³⁷ Article 22, in pertinent part, provides:

During the process of foreign investment, the State shall encourage technology cooperation on the basis of free will and business rules. Conditions for technology cooperation shall be determined by all investment parties upon negotiation under the principle of equity. No administrative department or its

of the severable improvement. The provisions prevent the U.S. entity from restricting its Chinese licensee from making improvements to the transferred U.S. technology or from using such improvements in the market place, including using the improvements to the detriment of the U.S. licensor.

SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 49. *But see* MICHAEL BLAKENEY, LEGAL ASPECTS OF THE TRANSFER OF TECHNOLOGY TO DEVELOPING COUNTRIES 35 (1989) (“[Grantback] provisions are regarded with hostility where they are imposed without the reciprocal obligation of the licensor to license improvements to the licensee, since they reinforce the dominant position of the licensor and have a tendency to stifle the incentive of licensees to engage in adaptive [research and development].”).

³⁴ TIER, *supra* note 30, art. 29.3.

³⁵ EJV Regulations, *supra* note 31, art. 43.4. *Compare* SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 54 (“This [provision] means that under the [EJV] Regulations, the Chinese joint venture licensee has the right to use the U.S. licensor’s technology in perpetuity after the technology contract expires, without paying compensation or subject to other terms.”), *with* Dennis Thompson, *The UNCTAD Code on Transfer of Technology*, 16 J. WORLD TRADE L. 311, 325 (1982) (noting that, during the negotiation of the TOT Code, developing countries “wish to prohibit all restrictions on the use of technology after the expiration or termination of the arrangement or after the know-how has lost its secret character independently of the acquiring party”).

³⁶ Constitution of the Panel Established at the Request of the United States, *China—Certain Measures Concerning the Protection of Intellectual Property Rights*, ¶ 1, WTO Doc. WT/DS542/9 (Jan. 17, 2019).

³⁷ Foreign Investment Law of the People’s Republic of China (promulgated by the Nat’l People’s Cong., Mar. 15, 2019, effective Jan. 1, 2020), *translated at* https://en.ndrc.gov.cn/policies/202105/t20210527_1281403.html.

2022]

FORCED TECHNOLOGY TRANSFER

1013

staff member shall force any transfer of technology by administrative means.³⁸

A few days later, the State Council also deleted Articles 24.3, 27, and 29 of TIER and Article 43.4 of the EJV Regulations, the administrative regulations at issue in the WTO dispute.³⁹ In addition, the Administrative Licensing Law was amended in April 2019.⁴⁰ Article 31 prohibits administrative bodies and their staff from using technology transfer as a condition for administrative licensing and from requiring such transfer in the process of implementing administrative licenses.⁴¹

In the wake of these amendments, the United States requested the WTO panel to suspend its work in June 2019.⁴² A few months later, the two countries signed the U.S.-China Economic and Trade Agreement.⁴³ Known widely as the Phase One Agreement, this instrument included over forty provisions on either intellectual property or technology transfer measures.⁴⁴ Although the WTO panel briefly resumed its work on June 1, 2020, the United States requested the WTO panel to again suspend its work a week later.⁴⁵ Because the United States did not

³⁸ *Id.* art. 22; *see also* Qin, *supra* note 6, at 750 (“The reference to ‘forced technology transfer’ is the first in Chinese legislation. It can be viewed as a gesture of compromise in the trade war, considering that Beijing has never admitted the existence of the problem.”).

³⁹ State Council Decision No. 709 (promulgated by the State Council, Mar. 2, 2019, effective Mar. 18, 2019); *see also* Prud’homme & von Zedtwitz, *Managing “Forced” Technology Transfer*, *supra* note 6, at 10 (discussing these changes); Mark Cohen, *The TIER Is Revised*, CHINA IPR (Mar. 18, 2019), <https://chinaipr.com/2019/03/18/the-tier-is-revised/> (same). *But see* Lee Jyh-an, *Technology Transfer*, in PETER GANEA ET AL., INTELLECTUAL PROPERTY LAW IN CHINA 482 [hereinafter Lee, *Technology Transfer*] (Christopher Heath ed., 2d ed. 2020) (“While China has lifted the absolute ban on grant-back clauses in the TIER, it remains unclear under which circumstance grant-back clauses can be adopted in a licensing agreement. Licensors imposing such a clause as a trading condition are exposed to a certain degree of risk of antitrust violation.”).

⁴⁰ Administrative Licensing Law of the People’s Republic of China (promulgated by the Standing Comm. Nat’l People’s Cong., Aug. 27, 2003, amended Apr. 23, 2019, effective Apr. 23, 2019), <http://www.npc.gov.cn/npc/c30834/201905/64f52a065d3142ae92d95fa860e2f0e0.shtml> (in Chinese).

⁴¹ *Id.* art. 31.

⁴² Communication from the Panel, *China—Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/10 (June 14, 2019).

⁴³ Economic and Trade Agreement Between the Government of the United States of America and the Government of the People’s Republic of China, China-U.S., Jan. 15, 2020, https://ustr.gov/sites/default/files/files/agreements/phase%20one%20agreement/Economic_And_Trade_Agreement_Between_The_United_States_And_China_Text.pdf.

⁴⁴ *Id.* chs. 1–2.

⁴⁵ Communication from the Panel, *China—Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/14 (June 22, 2020).

request the panel to resume its work within twelve months, the panel's authority lapsed in June 2021.⁴⁶

B. Preliminary Analysis

In view of the latest developments surrounding the U.S.-China forced technology transfer dispute, it is unlikely that the WTO panel will have an opportunity to weigh in on this dispute. Nevertheless, the European Union filed a similar but broader complaint more than two months after the U.S. complaint,⁴⁷ and the United States remains part of the consultations surrounding that complaint.⁴⁸ Regardless of the status of both complaints, it will be worthwhile to undertake a preliminary analysis of the U.S. complaint to highlight the challenges and complexities in the U.S.-China forced technology transfer dispute.

To begin with, Articles 24, 27, and 29 of TIER covered issues relating to indemnification and improvement, both highly technical issues on which the TRIPS negotiators had not reached consensus and most likely had not deliberated.⁴⁹ While the word "improvement" is nowhere to be found in the TRIPS Agreement, the word "indemnification" appears in only unrelated provisions in the enforcement section—namely, the provisions on the indemnification of the defendant upon abuse of enforcement procedures⁵⁰ and the

⁴⁶ See Lapse of Authority for the Establishment of the Panel, *China—Certain Measures Concerning the Protection of Intellectual Property Rights*, WTO Doc. WT/DS542/15 (June 11, 2021) ("Following resumption on 1 June 2020, the work of the Panel was suspended again, pursuant to Article 12.12, at the request of the United States, on 8 June 2020 (WT/DS542/14). The Panel has not been requested to resume its work, and pursuant to Article 12.12 of the DSU, the authority for the establishment of the Panel has lapsed."); see also Understanding on Rules and Procedures Governing the Settlement of Disputes art. 12.12, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, 1869 U.N.T.S. 401 ("The panel may suspend its work at any time at the request of the complaining party for a period not to exceed 12 months. . . . If the work of the panel has been suspended for more than 12 months, the authority for establishment of the panel shall lapse.").

⁴⁷ EU Complaint, *supra* note 14.

⁴⁸ Request to Join Consultations by the United States, *China—Certain Measures on the Transfer of Technology*, WTO Doc. WT/DS549/7 (Jan. 21, 2019).

⁴⁹ The text of the TRIPS Agreement does not indicate any discussion of these specific issues, nor is this Author aware of any such discussion during the TRIPS negotiations. In addition, the TRIPS negotiators were not interested in deliberating on issues that might arise in the future. See David Fitzpatrick, *Negotiating for Hong Kong*, in *THE MAKING OF THE TRIPS AGREEMENT: PERSONAL INSIGHTS FROM THE URUGUAY ROUND NEGOTIATIONS* 285, 287 (Jayashree Watal & Antony Taubman eds., 2015) ("The [TRIPS] negotiators did not indulge in futurology.").

⁵⁰ See TRIPS Agreement, *supra* note 15, art. 48.1 ("The judicial authorities shall have the authority to order a party at whose request measures were taken and who has

2022]

FORCED TECHNOLOGY TRANSFER

1015

indemnification of the importer, consignee, or owner of wrongfully detained intellectual property goods.⁵¹

The strongest argument that the United States could marshal concerns the fact that TIER applied only to imported and exported technology. Because such application is facially discriminatory and potentially trade-distorting, the United States will be in a good position to persuade the WTO panel that the regulation “accord[ed] less favorable treatment to foreign intellectual property rights holders as compared to Chinese intellectual property rights holders.”⁵² Nevertheless, China could counterargue that the highly technical issues of indemnification and improvements in relation to technology importation and exportation fall outside the scope of the TRIPS Agreement.

Ironically, the first case⁵³ in which the WTO panel determined whether a member state had complied with Article 3 of the TRIPS Agreement brought back an earlier complaint that the European Economic Community filed against the United States under the General Agreement on Tariffs and Trade (“GATT”) about the latter’s failure to accord national treatment to foreign intellectual property rights holders.⁵⁴ *United States—Section 337 of the Tariff Act of 1930*— “[t]he only GATT panel report that squarely addressed intellectual property law”⁵⁵—involved the inconsistencies between Article III:4 of GATT and an earlier version of Section 337 of the 1930 Trade Act.⁵⁶ That challenged provision allowed the U.S. International Trade Commission to investigate claims of unfair import practices and to issue exclusion orders that would prevent the U.S. entry of the relevant imports.⁵⁷ The

abused enforcement procedures to provide to a party wrongfully enjoined or restrained adequate compensation for the injury suffered because of such abuse.”).

⁵¹ *See id.* art. 56 (“Relevant authorities shall have the authority to order the applicant to pay the importer, the consignee and the owner of the goods appropriate compensation for any injury caused to them through the wrongful detention of goods or through the detention of goods released pursuant to Article 55.”).

⁵² Second TRIPS Complaint, *supra* note 2, at 2.

⁵³ Panel Report, *United States—Section 211 Omnibus Appropriations Act of 1998*, ¶ 8.130, WTO Doc. WT/DS176/R (adopted Aug. 6, 2001).

⁵⁴ Panel Report, *United States—Section 337 of the Tariff Act of 1930*, GATT Doc. L/6439-36S/345 (adopted Nov. 7, 1989) [hereinafter GATT Panel Report]; *see also* Colleen V. Chien, *Patently Protectionist—An Empirical Analysis of Patent Cases at the International Trade Commission*, 50 WM. & MARY L. REV. 63, 76–78 (2008) (discussing this report and the subsequent reform).

⁵⁵ MATTHEW KENNEDY, WTO DISPUTE SETTLEMENT AND THE TRIPS AGREEMENT: APPLYING INTELLECTUAL PROPERTY STANDARDS IN A TRADE LAW FRAMEWORK 21 (2018).

⁵⁶ GATT Panel Report, *supra* note 54, ¶ 3.1.

⁵⁷ 19 U.S.C. § 1337.

concerns of the European Economic Community about the protectionist nature of Section 337 and the possibility of unfair advantage is not that different from the United States' concerns in the present forced technology transfer dispute with China. In the end, the GATT panel found that the U.S. provision "accord[ed] to imported products alleged to infringe United States patents treatment less favourable than that accorded under federal district court procedures to like products of United States origin."⁵⁸

Compared with TIER, the claims against the EJV Regulations are weaker, especially when one takes the view that China did not force U.S. companies to form equity joint ventures. To be fair, some sectors, such as those involving high-speed rail, new energy vehicles, and other frontier technologies, were unavailable to these companies unless they teamed up with local joint venture partners.⁵⁹ Nevertheless, if the United States is to prevail in this dispute, it will have to show that the Regulations were inconsistent with China's commitments at the WTO. After all, it is not uncommon for governments, including the U.S. government, to prevent foreign companies from entering a certain part of the domestic market due to national security or other reasons.⁶⁰ The

⁵⁸ GATT Panel Report, *supra* note 54, ¶ 5.20.

⁵⁹ As Dan Prud'homme and Max von Zedtwitz observed:

Our interviews revealed that perhaps the most well-known requirements imposed on foreign firms to transfer their technology to a foreign-Sino JV [joint venture] as a precondition for market access (e.g., a business license) and/or access to state support (e.g., public procurement and other financial resources) in China were in the traditional auto industry and high-speed trains industry. Similar requirements were reported in other industries such as the big-power-generation turbines industry and, most recently, the new energy vehicles (NEV) industry. Other state policies were reported to directly or indirectly require transfer of technology as a precondition for market access, such as (the now revised) local content requirements for operating in and winning government procurement contracts in the wind turbine industry, among other foreign investment restrictions.

Prud'homme & von Zedtwitz, *Managing "Forced" Technology Transfer*, *supra* note 6, at 7 (footnotes omitted); see also Lee, *Technology Transfer*, *supra* note 39, at 464–66 (discussing foreign ownership restrictions in China); Lee, *Forced Technology Transfer*, *supra* note 6, at 335–36 (discussing the joint venture restrictions in China); Prud'homme et al., *supra* note 6, at 164 (noting that foreign firms have encountered significant pressure to transfer advanced technology in China owing to policies that called for "technology transfer for market access via JVs in the high-speed rail industry" or that introduced "requirements for critical NEV technology to be transferred to JVs as a condition for obtaining NEV production licenses").

⁶⁰ See Yu, *From Pirates to Partners II*, *supra* note 5, at 902–03 (discussing the failed bid of China's state-run CNOOC Ltd. to acquire the California-based Unocal oil company); Vinod K. Aggarwal & Andrew W. Reddie, *Regulators Join Tech Rivalry with National-*

WTO rules do not give these companies an entitlement to operate in a member state.

Moreover, these rules do not prohibit the introduction and utilization of ownership restrictions in foreign investment, except in select areas. As Julia Qin explained:

[T]here is no general principle of international law prohibiting governments from imposing ownership restrictions on foreign investment. Thus, China is not generally prevented from limiting foreign ownership except where it has made specific treaty commitments, such as in the service sectors under [the General Agreement on Trade in Services] and in the automotive industry under its WTO accession protocol.⁶¹

Indeed, issues relating to ownership restrictions are usually governed by investment agreements.⁶² In the mid-1990s, the developed country

Security Blocks on Cross-Border Investment, GLOBALASIA (Mar. 2019), https://www.globalasia.org/v14no1/cover/regulators-join-tech-rivalry-with-national-security-blocks-on-cross-border-investment_vinod-k-aggarwalandrew-w-reddie (discussing national security reviews of foreign direct investments in the United States, the Andean Community, Canada, the United Kingdom, France, Germany, other members of the European Union, and China); Frank J. Cilluffo & Sharon L. Cardash, *What's Wrong with Huawei, and Why Are Countries Banning the Chinese Telecommunications Firm?*, CONVERSATION (Dec. 19, 2018, 6:44 AM), <https://theconversation.com/whats-wrong-with-huawei-and-why-are-countries-banning-the-chinese-telecommunications-firm-109036> (discussing the bans in multiple countries on the government use of telecommunications equipment developed by Huawei Technology).

⁶¹ Qin, *supra* note 6, at 746.

⁶² As Julia Qin observed:

The North American Free Trade Agreement (NAFTA) is the first treaty to restrict performance requirements. Its investment chapter prohibits seven types of performance requirements, including the requirement to “transfer technology, a production process or other proprietary knowledge” to a person in the host country, in connection with the establishment or operation of foreign investment. Similar clauses have since entered all free trade agreements . . . negotiated by the USA, as well as the US Model Bilateral Investment Treaty A number of non-US FTAs have also restricted performance requirements, including those concluded by Canada, EU, Japan, Australia, Singapore, and South Korea that specifically prohibit the requirement of technology transfer. More significantly, the largest multilateral FTA to date—the Comprehensive and Progressive Agreement for Trans-Pacific Partnership . . . —contains elaborate provisions on performance requirements, including a broad restriction on the requirement of technology transfer.

Id. at 753 (footnotes omitted); *see also* Abbott, *Technology Governance*, *supra* note 6, at 211 (“The WTO Agreements, including the TRIPS Agreement, are not ‘investment agreements’, and USTR’s allegations are addressed to conditions imposed on ‘direct investors’, including as joint venture partners.”); Mark Wu, *Export Policies, Technology Controls, and Investment Reviews: How States Compete in the Era of Global High-Tech*

members of the WTO sought to develop a Multilateral Agreement on Investment under the auspices of the Organization for Economic Cooperation and Development (OECD), but that proposed agreement failed in the end.⁶³ As Petros Mavroidis and André Sapir declared in their recent book: “The GATT and similar multilateral agreements regulating trade in goods do not cover investment and as a result do not address transfer of technology as a precondition for opening up to investment.”⁶⁴ Likewise, Frederick Abbott observed, “[i]f the WTO Agreements already had covered investment subject matter, there would have been no apparent incentive for negotiating [this new multilateral agreement].”⁶⁵

As if these challenges were not difficult enough, Article 40.1 of the TRIPS Agreement expressly recognizes that “some licensing practices or conditions pertaining to intellectual property rights which restrain competition may have adverse effects on trade and may impede the transfer and dissemination of technology.”⁶⁶ Article 40.2 further provides:

Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market. As provided above, a Member may adopt, consistently with the other provisions of this Agreement, appropriate measures to prevent or control such practices, which may include for example exclusive grantback

Value Chains, in GOVERNING SCIENCE AND TECHNOLOGY UNDER THE INTERNATIONAL ECONOMIC ORDER: REGULATORY DIVERGENCE AND CONVERGENCE IN THE AGE OF MEGAREGIONALS 90, 97–100 (Peng Shin-yi et al. eds., 2018) [hereinafter Wu, *Export Policies*] (discussing technology transfer as a condition for investment approval). Interestingly, “none of the investment agreements have categorized mandatory JV as one of the performance requirements to be eliminated.” Qin, *supra* note 6, at 753. See generally Peter K. Yu, *The Investment-Related Aspects of Intellectual Property Rights*, 66 AM. U. L. REV. 829 (2017) (discussing international agreements covering issues at the intersection of intellectual property and investment).

⁶³ For discussions of the origin and failure of the Multilateral Agreement on Investment, see generally Kevin C. Kennedy, *A WTO Agreement on Investment: A Solution in Search of a Problem?*, 24 U. PA. J. INT’L ECON. L. 77 (2003); Peter T. Muchlinski, *The Rise and Fall of the Multilateral Agreement on Investment: Where Now?*, 34 INT’L LAW. 1033 (2000); James Salzman, *Labor Rights, Globalization and Institutions: The Role and Influence of the Organization for Economic Cooperation and Development*, 21 MICH. J. INT’L L. 769, 804–31 (2000).

⁶⁴ MAVROIDIS & SAPIR, *supra* note 27, at 60.

⁶⁵ Abbott, *Under the Radar*, *supra* note 6, at 262.

⁶⁶ TRIPS Agreement, *supra* note 15, art. 40.1.

2022]

FORCED TECHNOLOGY TRANSFER

1019

conditions, conditions preventing challenges to validity and coercive package licensing, in the light of the relevant laws and regulations of that Member.⁶⁷

In addition, Article 7 includes “the transfer and dissemination of technology” as one of the five objectives of the TRIPS Agreement.⁶⁸ Article 8.2 further provides: “Appropriate measures, provided that they are consistent with the provisions of this Agreement, may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology.”⁶⁹

Taken together, the above-mentioned TRIPS provisions provide support for China’s defense in the dispute, especially when one takes into account the aim of both TIER and the EJV Regulations to prevent transnational corporations from using technology contracts to “impede the transfer and dissemination of technology” in China.⁷⁰ It is worth recalling that the use of restrictive clauses in technology contracts by these corporations was highly controversial in the run-up to the TRIPS negotiations.⁷¹ Chapter 4 of the draft International Code of Conduct on the Transfer of Technology (“TOT Code”),⁷² which Part III will discuss in greater detail,⁷³ provided an express list of problematic restrictive technology licensing clauses, including those relating to grantbacks, exclusive dealing, restrictions on adaptations, and restrictions after expirations of arrangements.⁷⁴ Developed under the auspices of the

⁶⁷ *Id.* art. 40.2.

⁶⁸ *Id.* art. 7; see also Peter K. Yu, *The Objectives and Principles of the TRIPS Agreement*, 46 HOUS. L. REV. 979, 1000–08 (2009) (discussing Article 7 of the TRIPS Agreement).

⁶⁹ TRIPS Agreement, *supra* note 15, art. 8.2.

⁷⁰ *Id.* art. 40.1.

⁷¹ For discussions of the International Code of Conduct on the Transfer of Technology, see generally BLAKENEY, *supra* note 33, at 131–61; INTERNATIONAL TECHNOLOGY TRANSFER: THE ORIGINS AND AFTERMATH OF THE UNITED NATIONS NEGOTIATIONS ON A DRAFT CODE OF CONDUCT (Surendra J. Patel et al. eds., 2001) [hereinafter INTERNATIONAL TECHNOLOGY TRANSFER]; SUSAN K. SELL, POWER AND IDEAS: NORTH–SOUTH POLITICS OF INTELLECTUAL PROPERTY AND ANTITRUST 79–106 (1998); Peter K. Yu, *International Technology Contracts, Restrictive Covenants and the UNCTAD Code*, in EMPLOYEES, TRADE SECRETS AND RESTRICTIVE COVENANTS 41 (Christopher Heath & Anselm Kamperman Sanders eds., 2017) [hereinafter Yu, *International Technology Contracts*]; Peter K. Yu, *A Tale of Two Development Agendas*, 35 OHIO N.U. L. REV. 465, 493–505 (2009) [hereinafter Yu, *Development Agendas*].

⁷² Draft International Code of Conduct on the Transfer of Technology, U.N. Doc. TD/CODE TOT/33 (1981).

⁷³ See *infra* text accompanying notes 144–155.

⁷⁴ See SELL, *supra* note 71, at 93 (providing the list of restrictive business practices covered in the draft Code).

United Nations Conference on Trade and Development (“UNCTAD”), this draft Code included language that eventually found its way to Article 40 of the TRIPS Agreement.⁷⁵

In the developing world, it is not uncommon to find countries embracing “technology transfer for market access” policies—a longstanding practice that dates back decades.⁷⁶ As Lee Jyn-an observed:

Technology transfer has been an important approach in many countries in fostering economic growth and catching up technological development with others. The recent economic development in China provides an example of how a country can benefit from foreign technologies as a host of foreign investment. While host countries have various policies fostering technology transfers from foreign companies, it remains a policy puzzle to what extent a government can induce these technology transfers by granting market access to foreign companies. [Forced technology transfer] is normally imposed as the condition of market access. In fact, this practice originates from a quid pro quo policy toward multinational enterprises to transfer technology in exchange for market access. This “trade-technology-for-market” policy was fairly popular in developing countries in the 1970s, and has existed in China since the Deng Xiaoping administration of

⁷⁵ See *infra* text accompanying notes 158–159.

⁷⁶ See Thomas J. Holmes et al., *Quid Pro Quo: Technology Capital Transfers for Market Access in China*, 82 REV. ECON. STUD. 1154, 1154 (2015) (“By the 1970s, quid pro quo policy, which requires multinational firms to transfer technology in return for market access, had become a common practice in many developing countries.”); Lee, *Forced Technology Transfer*, *supra* note 6, at 340–43 (discussing “market for technology” policies); Qin, *supra* note 6, at 752 (“Performance requirements have been widely used, especially by developing countries, as a tool to manage [foreign direct investment] for achieving certain policy objectives. Examples of commonly used performance requirements include . . . transferring technology to the country . . . and forming JVs with local partners.”); see also Abbott, *Under the Radar*, *supra* note 6, at 260 (“China has a number of unique characteristics and its approach to foreign direct investment and technology transfer may not be the optimal approach for other developing and/or emerging market countries. But whether technology transfer requirements are ‘optimal’, or a second or third best, this does not argue for taking them out of the toolkit for developing countries.” (footnote omitted)); Jeff Spross, *China’s Forced Technology Transfer Is Actually a Pretty Good Idea*, WEEK (Apr. 1, 2019), <https://theweek.com/articles/831859/chinas-forced-technology-transfer-actually-pretty-good-idea> (“Whether China itself, now the world’s second-largest economy, still needs to rely on forced technology transfer is debatable. But lots of other countries do need to build themselves up the way China has.”). See generally Holmes et al., *supra* (assessing the impact of China’s “technology transfer for market access” policies).

2022]

FORCED TECHNOLOGY TRANSFER

1021

the early 1980s. Some countries, such as Brazil, Japan, and South Korea, had similar policies in place to restrict direct foreign investment and to access foreign technologies.⁷⁷

Focusing on developing countries in general, Frederick Abbott concurred:

Government requirements on foreign investors to partner with local enterprises as a condition of foreign direct investment has been a common feature of national laws throughout much of the developing and emerging market world both before and after entry into force of the WTO Agreement. In that regard, it is difficult to envision a successful claim that joint venture requirements as such contravene the rules of the WTO. Licensing of technology to a joint venture is a natural feature of such an arrangement. If government rules regarding joint ventures apply in equal measure to local and foreign entities, there is not much space for arguing that such rules contravene the TRIPS Agreement Even if such rules apply only to foreign investors seeking approval to enter the market, an argument for TRIPS inconsistency is attenuated.⁷⁸

More interesting from a standpoint of U.S.-China relations, transferring technology from the United States to China has not always been considered harmful. In 1987, a few years after China adopted its first trademark and patent laws, the now-defunct Office of Technology Assessment of U.S. Congress completed a comprehensive study of the transfer of technology from the United States and other countries to China.⁷⁹ In addition to drawbacks, the report identified the following strategic benefits of greater technology transfers to China:

The United States benefits insofar as China is a strategic asset, if not an ally, in the global competition with the Soviet Union. Technology transfer helps build these ties and increases China's strength [vis-à-vis] the Soviet Union. It also can lead to important commercial ties and to the export of American products. In addition, China is still a very poor country, and technology transfer can be an important element in humanitarian efforts to help a billion people move out of poverty.⁸⁰

⁷⁷ Lee, *Forced Technology Transfer*, *supra* note 6, at 340–41 (footnotes omitted).

⁷⁸ Abbott, *Under the Radar*, *supra* note 6, at 261–62 (footnote omitted).

⁷⁹ OFF. OF TECH. ASSESSMENT, OTA-ISC-340, TECHNOLOGY TRANSFER TO CHINA (1987).

⁸⁰ *Id.* at 3.

Although today's China is no longer the "very poor country" mentioned in this report, the quoted excerpt does indicate both the strategic dimension and beneficial aspects of international transfer of technology.⁸¹

Finally, it will be difficult for WTO panelists or other outsiders to assess the fairness of the pricing involved in technology contracts. To be sure, TIER and the EJV Regulations enabled Chinese companies to negotiate technology licenses in their shadow. One could therefore argue that the regulations gave these companies an unfair advantage over their foreign counterparts.⁸² Lee Branstetter went even further to

⁸¹ *Id.* The policy shift relating to China reminds us of a similar policy shift involving Japan. Even though the United States actively persuaded other countries to extend GATT membership to Japan, its attitude dramatically changed after the rise of the Japanese economy. MAVROIDIS & SAPIR, *supra* note 27, at 128. As Professors Mavroidis and Sapir observed:

The irony is that, in the 1970s and 1980s, after becoming an economic powerhouse, Japan's primary (but not only) critic was its original benefactor, the United States. The U.S. government accused Japan of unfair trade practices, and, as a result, Japan found itself on the receiving end of various trade sanctions.

Id.

⁸² See Prud'homme et al., *supra* note 6, at 151 ("The Chinese state institutes FTT policies in an attempt to shift the bargaining power in commercial transactions from foreign to Chinese firms."); Sykes, *supra* note 3, at 129 ("Potential Chinese investment partners use these requirements as negotiating leverage to secure technology transfer agreements—would-be foreign investors often complain that they are played off against each other when negotiating for entry into the Chinese market, eventually capitulating to demands for technology transfer agreements lest a refusal result in the business opportunity going to a competitor."). As Julia Qin explained:

In the view of Western critics, . . . the transfer of technology compelled by the market-for-technology policy is not truly "voluntary" in nature, but rather the outcome of "a de facto cartel" organized by the Chinese government, in which "Chinese purchasers collude to expropriate key technologies" from foreign suppliers. According to this view, the practice amounts to unfair competition in the marketplace. From the perspective of economic theory, when China demands a tradeoff between market access and technology transfer, it behaves as monopsony, that is, it has the power of a single buyer with a substantial control over the market in which there are many would-be foreign sellers. Like monopoly power on the supply side, monopsony power on the demand side can produce economic harm. Where there is monopsony, the price of input tends to be depressed below the competitive level, resulting in a decrease in the overall quantity of the input produced. Thus, the market-for-technology policy may have deterred foreign firms from investing or operating in China at the optimal level. In the long run, the policy may also harm the broader global economy in that it may tilt the playing field in favor of less innovative Chinese firms in the global technology market, thereby limiting the resources flowing to the world's most innovative firms.

describe the regulations as “a subsidy of a less innovative domestic firm and a *de facto* tax on the foreign enterprise.”⁸³ Nevertheless, both TIER and the EJV Regulations have been in force for close to two decades before the WTO complaint.⁸⁴ As a result, any U.S. business entering the Chinese market has likely been advised of the unique local regulatory environment, including not only TIER and the EJV Regulations, but also other laws, policies, and practices that differ from those of the United States. Thus, to the extent that the WTO panel pays attention to the impairment of the complainant’s legitimate expectations, the United States does not have a strong claim.

Moreover, because the WTO complaint was framed in terms of lost patent rights, the analysis is not straightforward. When the technology contract was to expire, Article 43.4 of the EJV Regulations did not revoke the patent rights held by the U.S. joint venture partner. Instead, the provision granted the local joint venture a nonexclusive license to continue to use the licensed technology after the expiration of the contract.⁸⁵ Although the USTR took the position that such a grant “effectively deprive[d] U.S. companies of the full value of their [intellectual property] and technology and inhibit[ed] them from fairly competing in the large China market,”⁸⁶ whether that grant was impermissible under the TRIPS Agreement remains to be seen. As Frederick Abbott reminded us: “[t]he TRIPS Agreement requires that WTO Members allow patent holders to license their patented technologies, but it does not establish rules regarding the terms of such transfers except in the context of reference to potentially anticompetitive licensing practices.”⁸⁷ As noted earlier, the WTO panel will have great difficulty determining whether the pricing in the relevant technology contracts have already covered this type of nonexclusive license.⁸⁸

Qin, *supra* note 6, at 756 (footnote omitted). *But see id.* at 757 (“[W]hen government monopsony confronts IP monopolies, it is possible that their anticompetitive effects may offset each other at least to some extent.”).

⁸³ Branstetter, *supra* note 3, at 4.

⁸⁴ EJV Regulations, *supra* note 31; TIER, *supra* note 30.

⁸⁵ *See* EJV Regulations, *supra* note 31, art. 43.4 (stating that “after the expiry of a technology transfer agreement, the technology importing party shall have the right to use the technology continuously”).

⁸⁶ SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 46.

⁸⁷ Abbott, *Under the Radar*, *supra* note 6, at 261 (footnote omitted).

⁸⁸ *See supra* text accompanying note 82.

In sum, the United States, which bears the burden of proof,⁸⁹ has faced considerable challenges in the WTO dispute settlement process.⁹⁰ Compared with the first U.S.-China TRIPS dispute in the late 2000s, whose outcome was split somewhat equally between the two parties,⁹¹ this complaint seems to be much weaker. Thus, for U.S. rights holders, it may be a blessing in disguise that the USTR did not push hard to get the dispute resolved before the WTO Dispute Settlement Body. Even though the WTO panel could again split the outcome by allowing both parties to score some important points,⁹² any decision that the panel issues will likely provide some helpful language for those advocating for greater transfer of technology from developed to developing countries. Should the United States lose the dispute, the case will set—from the standpoint of U.S. rights holders—an undesirable precedent supporting international demands for such transfer.

⁸⁹ See *Legal Issues Arising in WTO Dispute Settlement Proceedings*, WORLD TRADE ORG., https://www.wto.org/english/tratop_e/dispu_e/disp_settlement_cbt_e/c10s6p1_e.htm (last visited Jan. 13, 2022) (discussing the allocation of the burden of proof in WTO dispute settlement proceedings); see also SECTION 301 INVESTIGATION REPORT, *supra* note 17, at 19 (“[A]ccording to numerous sources, China’s technology transfer policies and practices have become more implicit, often carried out through oral instructions and ‘behind closed doors.’”); PAUL BLUSTEIN, SCHISM: CHINA, AMERICA AND THE FRACTURING OF THE GLOBAL TRADING SYSTEM 133 (2019) (“The evidence of forced [technology] transfers for market access can best be described as circumstantial.”); MAVROIDIS & SAPIR, *supra* note 27, at 53 (raising questions about “the evidentiary requirements that must be met for a complainant to show that collective refusal to enter into joint ventures absent of [technology transfer] is the result of state interference that China promised to eradicate”); Wu, *Export Policies*, *supra* note 62, at 100–03 (discussing the informal linkages between technology transfer and government action, including in the area of government procurement); Lu Zhiyao (Lucy) & Gary Clyde Hufbauer, *Section 301: US Investigates Allegations of Forced Technology Transfers to China*, E. ASIA F. (Oct. 3, 2017), <https://www.eastasiaforum.org/2017/10/03/section-301-us-investigates-allegations-of-forced-technology-transfers-to-china/> (noting that the standard of proof will be one of the two obstacles that the United States will face should it bring a case to the WTO).

⁹⁰ Professors Mavroidis and Sapir suggested that “with respect to . . . forced [technology transfer], China can be accused of violating the spirit but not necessarily the letter of the WTO.” MAVROIDIS & SAPIR, *supra* note 27, at 160. Nevertheless, “one can only litigate at the WTO against the application of the written rules, not their spirit.” *Id.* at viii.

⁹¹ See WTO Panel Report, *supra* note 25, ¶ 8.1 (finding for China on the criminal threshold claim, holding for the United States on the formalities claim, and splitting the claim on customs measures between the two parties); see also Yu, *TRIPS Enforcement Dispute*, *supra* note 25, at 1082 (noting that both parties had seemingly secured a 2-1 victory and that neither side chose to appeal the decision).

⁹² See Peter K. Yu, *TRIPS and Its Contents*, 60 IDEA 149, 209 (2020) (“[A]s we have seen in both the TRIPS negotiations and WTO panel decisions, splitting [in] the middle seems to be quite popular among those involved in the international trading body.”).

III. THE NORTH-SOUTH DEBATE⁹³

To help contextualize the U.S.-China forced technology transfer dispute, it will be helpful to revisit the North-South technology transfer debate, which goes back at least more than half a century and long before China joined the WTO in December 2001.⁹⁴ Shortly after the beginning of the decolonization movement following the Second World War, the newly independent countries, virtually all of which were in the developing world,⁹⁵ began expressing concern about whether the existing international intellectual property rules were biased toward the interests of colonial powers.⁹⁶ A key question for these countries

⁹³ The discussion of the Stockholm Protocol to the Berne Convention and the International Code of Conduct on the Transfer of Technology in this Part was adapted from Yu, *Development Agendas*, *supra* note 71.

⁹⁴ China became the 143rd member of the WTO on December 11, 2001. Press Release, World Trade Org., WTO Ministerial Conference Approves China's Accession (Nov. 10, 2001), https://www.wto.org/english/news_e/pres01_e/pr252_e.htm.

⁹⁵ As this Author noted in an earlier book chapter:

Until the 1950s and 1960s, many developing countries remained colonies, dependencies or protectorates of European powers. As a result, they not only were economically poor and technologically backward, but also had very limited freedom to freely negotiate for international technology contracts that would strengthen their human capital and technological capabilities.

Yu, *International Technology Contracts*, *supra* note 71, at 43.

⁹⁶ As Sam Ricketson and Jane Ginsburg explained the different objectives underlying the development of the Berne Convention:

The Convention is essentially concerned with the private interests of authors, and with raising the level of protection that is accorded to them. Such questions are not usually of great significance to developing countries. These are at varying stages of economic development, with the consequences that the standard of living of their populations is generally much lower than that found in the developed countries. Economic development, even where this means no more than the attainment of a basic level of self-sufficiency, is therefore an overriding goal for these countries. Ways of achieving this object are through the promotion of literacy and through technical and vocational training, and these programmes, in turn, necessitate ready access to a wide range of educational and informational materials. The authors and publisher/providers of many of these works, however, will usually be resident in one of the developed countries, and the works themselves will generally be subject to copyright protection both in that country, as well as under Berne. This naturally causes problems for a developing nation, which is generally deficient in the foreign currency that is needed to buy stocks of these works, or to purchase authorization to reproduce, translate, or otherwise utilize them for their purposes.

SAM RICKETSON & JANE C. GINSBURG, *INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS: THE BERNE CONVENTION AND BEYOND* 881–82 (2d ed. 2005). Another commentator observed:

was whether they should accept the international treaty obligations that the former controlling powers had entered on their behalf.⁹⁷ Until then, these countries did not have an independent voice, and their international treaty arrangements were decided without much of their participation.⁹⁸

The question about succession to existing international intellectual property obligations⁹⁹ has serious ramifications for both the Berne Convention for the Protection of Literary and Artistic Works¹⁰⁰ (“Berne Convention”) and the Paris Convention for the Protection of Industrial

[I]t should be pointed out that one of the long-range aims of all these developing countries was to educate, as quickly as possible, the masses of their illiterate peoples. Moreover, most of them realized that the quickest way to accomplish this end was through the use of copyrighted materials, primarily textbooks, from the more advanced countries.

Charles F. Johnson, *The Origins of the Stockholm Protocol*, 18 BULL. COPYRIGHT SOC'Y U.S.A. 91, 93 (1970).

⁹⁷ As this Author noted in an earlier article:

When the Berne Convention was revised in Brussels in 1948, only India and Pakistan participated as fully independent nations. While other less developed countries were previously subject to the Berne provisions, the Convention applied to them only by virtue of their status “as dependent territories.” Once they became independent, they therefore began to question the extant international copyright relationship—in particular, whether they should continue as members of the Berne Convention in their own right or whether they should withdraw from the Union. While India, Pakistan, the Philippines, and many former French and Belgian African colonies elected to remain bound by the Convention, Indonesia decided to withdraw from the Union.

Yu, *Development Agendas*, *supra* note 71, at 471–72 (footnotes omitted).

⁹⁸ As Ruth Okediji observed:

The [early period of European contact through trade with non-European peoples] ... was characterized predominantly by the extension of intellectual property laws to the colonies for purposes associated generally with the overarching colonial strategies of assimilation, incorporation and control. It was also characterized by efforts to secure national economic interests against other European countries in colonial territories.

Ruth L. Okediji, *The International Relations of Intellectual Property: Narratives of Developing Country Participation in the Global Intellectual Property System*, 7 SING. J. INT'L & COMP. L. 315, 324–25 (2003); *see also* Ruth L. Gana (Okediji), *The Myth of Development, The Progress of Rights: Human Rights to Intellectual Property and Development*, 18 LAW & POL'Y 315, 329 (1996) (“As colonies, developing countries were not signatories to the early international intellectual property treaties although the treaty provisions often extended to them through the colonial administration.”).

⁹⁹ *See generally* Peter K. Yu, *Succession by Estoppel: Hong Kong's Succession to the ICCPR*, 27 PEPP. L. REV. 53, 80–93 (2000) (discussing state succession to treaties).

¹⁰⁰ Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, 828 U.N.T.S. 221 (last revised at Paris July 24, 1971) [hereinafter Berne Convention].

Property¹⁰¹ (“Paris Convention”), the two predominant intellectual property agreements incorporated by reference into the TRIPS Agreement.¹⁰² Consider, for instance, the Berne Convention. Although this Convention is now the predominant international copyright agreement, it competed with the Universal Copyright Convention¹⁰³ (“UCC”) for members in the 1950s and 1960s.¹⁰⁴ The UCC is an alternative copyright agreement that countries established under the auspices of the United Nations Educational, Scientific and Cultural Organization (“UNESCO”) in September 1952 to entice the United States and Latin American countries to join the international copyright family.¹⁰⁵

The UCC allows member states to retain formalities in the copyright system, such as the deposit, notice, or registration requirements¹⁰⁶—a key issue for the United States before the adoption of the 1976 Copyright Act.¹⁰⁷ The instrument also provides members

¹⁰¹ Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, 21 U.S.T. 1538, 828 U.N.T.S. 305 (last revised at Stockholm July 14, 1967) [hereinafter Paris Convention].

¹⁰² See TRIPS Agreement, *supra* note 15, art. 2.1 (“In respect of Parts II, III and IV of this Agreement, Members shall comply with Articles 1 through 12, and Article 19, of the Paris Convention (1967).”); *id.* art. 9.1 (“Members shall comply with Articles 1 through 21 of the Berne Convention (1971) and the Appendix thereto.”).

¹⁰³ Universal Copyright Convention, Sept. 6, 1952, 25 U.S.T. 1341 (revised at Paris July 24, 1971) [hereinafter UCC]. For discussions of the UCC, see generally ARPAD BOGSCH, UNIVERSAL COPYRIGHT CONVENTION: AN ANALYSIS AND COMMENTARY (1958); UNIVERSAL COPYRIGHT CONVENTION ANALYZED (Theodore R. Kupferman & Matthew Foner eds., 1955).

¹⁰⁴ See Barbara A. Ringer, *The Role of the United States in International Copyright—Past, Present, and Future*, 56 GEO. L.J. 1050, 1061, 1065 (1968) (“What started out as cooperation and coexistence between Berne and the U.C.C. has turned into polite but fierce competition . . .”).

¹⁰⁵ See Peter Jaszi, *A Garland of Reflections on Three International Copyright Topics*, 8 CARDOZO ARTS & ENT. L.J. 47, 53 (1989) (contending that the UCC “had been designed as a sort of junior Berne Convention, with the specific objective of bringing the United States and other recalcitrant nations into the fold”); Ringer, *supra* note 104, at 1061 (describing the UCC as “a new ‘common denominator’ convention that was intended to establish a minimum level of international copyright relations throughout the world, without weakening or supplanting the Berne Convention”); Peter K. Yu, *Reconceptualizing Intellectual Property Interests in a Human Rights Framework*, 40 U.C. DAVIS L. REV. 1039, 1054 (2007) (“To entice the United States to join the international copyright family, the [UNESCO] explored the creation of a middle-of-the-road treaty that would allow the United States to participate without either lowering the existing Convention standards or requiring the United States to offer the higher protection required by the Convention.”).

¹⁰⁶ UCC, *supra* note 103, art. III.

¹⁰⁷ See MARSHALL A. LEAFFER, UNDERSTANDING COPYRIGHT LAW 570 (7th ed. 2019) (“The most significant change to American copyright law brought about by the Berne

with greater flexibilities, such as the ability to introduce compulsory translation licenses.¹⁰⁸ In addition, the Convention counted among its members the United States, which did not accede to the Berne Union until November 1988.¹⁰⁹ Thus, even though colonial arrangements had made many developing countries part of the Berne Convention, and these countries valued the prestige that a Berne membership would provide,¹¹⁰ they found the UCC more appropriate for countries that “wished to obtain protection for their works abroad but felt unable or unwilling to accord to foreign works the high level of protection required by the Berne Convention.”¹¹¹

At that time, newly independent countries actively explored whether they should decline the succession to, or withdraw from, the Berne Convention and then move over to the UCC.¹¹² Their potential withdrawal greatly alarmed developed countries—both within and outside the Berne Union.¹¹³ As Barbara Ringer, the former U.S. Register

Convention Implementation Act of 1988 amendments is the abrogation of required notice for publicly distributed works on or after March 1, 1989.”); Ringer, *supra* note 104, at 1057 (noting that the abolition of formalities in the 1908 Berlin Act “made it impossible for the United States to join the Berne Union without substantial changes in its domestic law”); *see also* 17 U.S.C. § 411 (“[N]o civil action for infringement of the copyright in any United States work shall be instituted until preregistration or registration of the copyright claim has been made in accordance with this title.”).

¹⁰⁸ *See* UCC, *supra* note 103, art. V(2).

¹⁰⁹ *See* WIPO-Administered Treaties: Contracting Parties > Berne Convention, WORLD INTELL. PROP. ORG., https://wipolex.wipo.int/en/treaties/ShowResults?search_what=C&treaty_id=15 (last visited Jan. 14, 2022) [hereinafter *Contracting Parties*] (stating that the United States acceded to the Berne Convention on November 16, 1988, and that the Convention took effect on March 1, 1989).

¹¹⁰ *See* RICKETSON & GINSBURG, *supra* note 96, at 889 (noting the interest of some African states to join the Berne Convention in light of the fact that the Convention, “in view of its longer history, was seen as the more prestigious instrument”); Ringer, *supra* note 104, at 1068 (stating that “the Berne Union has the prestige and traditions that the U.C.C. lacks”).

¹¹¹ RICKETSON & GINSBURG, *supra* note 96, at 886.

¹¹² *See* Yu, *Development Agendas*, *supra* note 71, at 474–75 (discussing the choice confronting developing country members of the Berne Convention). The Berne safeguard clause prohibited Berne members that had withdrawn from the Union from benefiting from the UCC in countries that were both Berne and UCC members. UCC, *supra* note 103, art. XVII & app. decl.; *see also* Yu, *Development Agendas*, *supra* note 71, at 475 (“Although this clause helped deter defection, it did not affect those countries that had yet to join the [Berne] Union, including many less developed countries in Africa, Asia, and the Americas.”).

¹¹³ At that time, the developed country members of the Berne Convention were conflicted over whether they should welcome an influx of new developing country members:

of Copyrights, recalled, “[t]here was obviously a fear that . . . Berne would become a moribund old gentlemen’s club.”¹¹⁴ Likewise, Eugene Braderman, a longtime U.S. State Department official, noted the worries about “a mass exodus of developing countries from Berne and into the UCC.”¹¹⁵ These fears and worries were understandable. By the time the Intellectual Property Conference of Stockholm (“Stockholm Conference”) was held in June and July 1967 to revise the Berne Convention, the UCC had already attracted twenty-six developing country members, with its total membership lagging behind the total Berne membership by only two.¹¹⁶

In the end, the Berne members struck a compromise at the Stockholm Conference to ensure that developing country members could stay in the Convention without losing the more attractive features provided by the UCC.¹¹⁷ A key development at that conference was the establishment of the Protocol Regarding Developing Countries,¹¹⁸ which, if adopted, would have allowed developing countries to make reservations to the Berne Convention in the areas of copyright duration and reproduction, translation, and broadcasting licenses.¹¹⁹

On the one hand, they “saw the potential for encouraging these ‘new’ states to join and by doing so expand the realm of governance for intellectual property, which would potentially benefit the export oriented companies in their own national intellectual property-related sectors.” The developed Berne members therefore were willing to offer concessions as “sweeteners” to entice these countries to join the Union. On the other hand, these members were reluctant to adopt those changes to the Berne Convention that would be needed if they were to attract newly independent states. Because these countries had fought hard to raise the international copyright standards over the past eighty years, these changes would be major setbacks and were deemed highly undesirable.

Yu, *Development Agendas*, *supra* note 71, at 474 (footnotes omitted).

¹¹⁴ RICKETSON & GINSBURG, *supra* note 96, at 1066.

¹¹⁵ Eugene M. Braderman, *International Copyright—A World View*, 17 BULL. COPYRIGHT Soc’y U.S.A. 147, 153 (1970).

¹¹⁶ See RICKETSON & GINSBURG, *supra* note 96, at 886 (“As a generalization, the former French African colonies and some of the former British Asian Dominions had preferred Berne, while the UCC had attracted the Central and South American countries and a number of former British dependent territories.”).

¹¹⁷ For discussions of the Stockholm Conference and the efforts to establish a special protocol for developing countries, see generally RICKETSON & GINSBURG, *supra* note 96, at 879–963; Yu, *Development Agendas*, *supra* note 71, at 471–84.

¹¹⁸ Protocol Regarding Developing Countries to the Berne Convention for the Protection of Literary and Artistic Works, July 14, 1967, <https://wipo.int/en/text/278720>.

¹¹⁹ See Ruth L. Okediji, *Sustainable Access to Copyrighted Digital Information Works in Developing Countries* [hereinafter Okediji, *Sustainable Access*], in INTERNATIONAL PUBLIC

Despite the developing countries' initial success and early momentum, the Protocol failed to gain traction at the ratification stage and faced strong opposition from France, Italy, Spain, and the United Kingdom—all major producers and exporters of copyrighted works.¹²⁰ While Senegal, Pakistan, and Romania “ratified the Stockholm Protocol in full,” Canada, Denmark, Finland, West Germany, Israel, Spain, Sweden, Switzerland, and the United Kingdom “positively signaled their rejection of the Revision.”¹²¹ To prevent what commentators have called a “crisis in international copyright,”¹²² the Berne and UCC members met in Paris in July 1971 to create parity in the developing countries' obligations in both conventions and to explore the development of a toned-down version of the Stockholm Protocol to the Berne Convention.¹²³ That version became the optional Berne appendix that has now been incorporated into the TRIPS Agreement.¹²⁴

Today, the Berne Convention has 180 members.¹²⁵ By contrast, the UCC has become largely irrelevant. Until December 9, 2021, Cambodia was the only UCC member that had not yet joined the Berne Convention.¹²⁶ With Cambodia finally ratifying the latter,¹²⁷ all UCC members are now members of the Berne Convention. Because Article XVII of the UCC states that the instrument “shall not in any way affect

GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME 142, 157 (Keith E. Maskus & Jerome H. Reichman eds., 2005) [hereinafter INTERNATIONAL PUBLIC GOODS]. See generally Dorothy M. Schrader, *Analysis of the Protocol Regarding Developing Countries*, 17 BULL. COPYRIGHT SOC'Y U.S.A. 160 (1970) (providing a detailed analysis of the Stockholm Protocol).

¹²⁰ See RICKETSON & GINSBURG, *supra* note 96, at 916; Ndene Ndiaye, *The Berne Convention and Developing Countries*, 11 COLUM.-VLA J.L. & ARTS 47, 51 (1986).

¹²¹ Okediji, *Sustainable Access*, *supra* note 119, at 157 & nn.54–55.

¹²² Braderman, *supra* note 115, at 157–58; Ringer, *supra* note 104, at 1051; Howard D. Sacks, *Crisis in International Copyright: The Protocol Regarding Developing Countries*, 1969 J. BUS. L. 26.

¹²³ See RICKETSON & GINSBURG, *supra* note 96, at 956; Yu, *Development Agendas*, *supra* note 71, at 481.

¹²⁴ Berne Convention, *supra* note 100, app.

¹²⁵ *Contracting Parties*, *supra* note 109.

¹²⁶ Jørgen Blomqvist, *Universal Copyright Convention—RIP*, IPKAT (Dec. 22, 2021), <https://ipkitten.blogspot.com/2021/12/guest-post-universal-copyright.html>.

¹²⁷ See *Contracting Parties*, *supra* note 109.

the provisions of the Berne Convention,"¹²⁸ Cambodia's membership to the Berne Convention spelled the "final obsolescence" of the UCC.¹²⁹

In the 1960s, similar development-related questions were raised in the patent area and about the Paris Convention. While the scope of that convention was arguably broader than that of the Berne Convention—covering patents, trademarks, and a wide variety of other intellectual property rights¹³⁰—the Paris Convention was less threatening to developing countries. Indeed, when the Convention was established, the Netherlands and Switzerland¹³¹ were allowed to become founding members even when they did not offer patent protection.¹³²

In the 1960s, while developing countries were busy deliberating on whether to stay in the Berne Convention, they also questioned whether the international patent system would benefit them. In November 1961, "Brazil and many other developing nations demanded for the first time—within the UN system—rules on the protection of intellectual property ... favourable to their economic development, including proper controls against abuse, thereby putting 'development' issues and 'public interest concerns' on the international [intellectual property] agenda."¹³³ Against a background of dissatisfaction with the international patent system, Brazil introduced a draft U.N. resolution entitled *The Role of Patents in the Transfer of Technology to*

¹²⁸ UCC, *supra* note 103, art. XVII; *see also id.* app. decl. relating to art. XVII (c) ("The Universal Copyright Convention shall not be applicable to the relationships among countries of the Berne Union in so far as it relates to the protection of works having as their country of origin, within the meaning of the Berne Convention, a country of the Berne Union.").

¹²⁹ Blomqvist, *supra* note 126.

¹³⁰ *See* Paris Convention, *supra* note 101, art. 1(2) (noting the coverage of "patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition").

¹³¹ Although the Netherlands enacted patent law in 1817, it repealed the law in 1869. Fritz Machlup & Edith Penrose, *The Patent Controversy in the Nineteenth Century*, 10 J. ECON. HIST. 1, 3–5 (1950). *See generally* ERIC SCHIFF, *INDUSTRIALIZATION WITHOUT NATIONAL PATENTS* (1971) (discussing the Netherlands and Switzerland during the time when they did not have a patent system while nearly all other industrialized countries had such a system in place).

¹³² *See* Peter K. Yu, *The International Enclosure Movement*, 82 IND. L.J. 827, 857 (2007) ("[Members of the Paris Convention] could ... determine whether they wanted to protect patents in the first place. In the case of the Netherlands and Switzerland, for example, the contracting members ... allowed them to join the Convention without even implementing patent protection.").

¹³³ Andrea Koury Menescal, *Changing WIPO's Ways? The 2004 Development Agenda in Historical Perspective*, 8 J. WORLD INTELL. PROP. 761, 761–62 (2005).

Underdeveloped Countries,¹³⁴ which was also sponsored by Argentina, Austria, Bolivia, Chile, Colombia, Costa Rica, Denmark, Ecuador, Iraq, and Nigeria.¹³⁵ Adopted the next month, the resolution requested the U.N. Secretary General to prepare a report studying “the effects of patents on the economy of under-developed countries.”¹³⁶

Three years later, UNCTAD was established, also in response to heavy pressure from developing countries.¹³⁷ The agency’s origin can be traced back to the U.N. Conference on the Application of Science and Technology for Development in Geneva in February 1963.¹³⁸ As Susan Sell recounted:

This conference affirmed the developing countries’ belief that the United Nations could help them in their quest for greater access to technology. . . . [T]he conference’s most important outcome was the conviction that the United Nations had a central role to play “to facilitate the transfer of science and technology to developing countries and to help developing countries overcome obstacles in their access to necessary knowledge and its effective application.”¹³⁹

While already quite assertive in the 1960s, developing countries received a new-found momentum following the oil crisis brought about by the 1973 Arab-Israeli War and the subsequent embargo imposed by the Arab members of the Organization of the Petroleum Exporting Countries (OPEC).¹⁴⁰ In May 1974, these countries successfully pushed for the establishment of the New International Economic Order,¹⁴¹

¹³⁴ See *id.* at 765 (discussing the resolution).

¹³⁵ U.N. Secretary-General, *The Role of Patents in the Transfer of Technology to Developing Countries*, ¶ 4, U.N. Doc. A/6193 (1965).

¹³⁶ G.A. Res. 1713 (XVI), *The Role of Patents in the Transfer of Technology to Underdeveloped Countries* (Dec. 19, 1961). The report was published in 1964. U.N. DEP’T OF ECON. & SOC. AFFS., *THE ROLE OF PATENTS IN THE TRANSFER OF TECHNOLOGY TO DEVELOPING COUNTRIES: REPORT OF THE SECRETARY-GENERAL* (1964).

¹³⁷ SELL, *supra* note 71, at 67.

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ See Essam E. Galal, *The Developing Countries’ Quest for a Code*, in *INTERNATIONAL TECHNOLOGY TRANSFER*, *supra* note 71, at 199, 200 (noting, in relation to the drafting of the TOT Code, “the political tensions during this period of the cold war, the Arab-Israeli War in 1973 being one example, as well as the economic tension as a result of the oil embargo, the oil crisis and the obligatory recycling of its funds to the supposed victims of the crisis”); Yu, *Development Agendas*, *supra* note 71, at 561–62 (noting that those negotiations “were . . . colored by the 1973 Arab-Israeli War and the oil crisis” (footnote omitted)).

¹⁴¹ G.A. Res. 3201 (S-VI), *Declaration on the Establishment of a New International Economic Order* (May 1, 1974). For discussions of the New International Economic

which “sought to bring about fundamental changes in the international economic system by redistributing power, wealth, and resources from the developed North to the less developed South.”¹⁴² As Chantal Thomas recounted:

The origins of [the momentum to establish this new economic order] lay in three changes to the international order in the postwar era: first, the “massive expansion of international organization for cooperative purposes”; second, the “growing importance of states representing non-Western civilizations” in the wake of decolonization and independence movements; and third, “the growing gap between the economically developed and the economically less developed countries.”¹⁴³

Building on this momentum, developing countries pushed for the establishment of new multilateral norms to facilitate international transfer of technology. In fall 1977, the U.N. General Assembly adopted a resolution calling for “a United Nations conference to negotiate and to take all decisions necessary for the adoption of an international code of conduct on the transfer of technology under the auspices of [UNCTAD].”¹⁴⁴ The Code was “drafted on the assumption that transfer of technology to developing countries is desirable and that the transfer process will increase the prosperity of developing countries.”¹⁴⁵ Formally began in October 1978,¹⁴⁶ the negotiations reflected the developing countries’ frustration that “transfer of technology contracts often ... involve[d] packaged transfer of previously developed technology, unsuitable to the[ir] needs.”¹⁴⁷

A key objective of the TOT Code was “to eliminate those clauses in transfer of technology contracts which [were] harmful to the economic development of developing countries” as well as other restrictive

Order and related issues, see generally MOHAMMED BEDAJOU, *TOWARDS A NEW INTERNATIONAL ECONOMIC ORDER* (1979); ROBERT L. ROTHSTEIN, *GLOBAL BARGAINING: UNCTAD AND THE QUEST FOR A NEW INTERNATIONAL ECONOMIC ORDER* (1979); *THE NEW INTERNATIONAL ECONOMIC ORDER: THE NORTH-SOUTH DEBATE* (Jagdish N. Bhagwati ed., 1977).

¹⁴² Yu, *Development Agendas*, *supra* note 71, at 500.

¹⁴³ Chantal Thomas, *Transfer of Technology in the Contemporary International Order*, 22 *FORDHAM INT’L L.J.* 2096, 2105 (1999).

¹⁴⁴ G.A. Res. 32/188, United Nations Conference on an International Code of Conduct on the Transfer of Technology, art. 1 (Dec. 19, 1977).

¹⁴⁵ Ton J.M. Zuijdwijk, *The UNCTAD Code of Conduct on the Transfer of Technology*, 24 *MCGILL L.J.* 562, 564 (1978).

¹⁴⁶ SELL, *supra* note 71, at 89.

¹⁴⁷ Countess Pease Jeffries, *Regulation of Transfer of Technology an Evaluation of the UNCTAD Code of Conduct*, 18 *HARV. INT’L L.J.* 309, 312 (1977).

foreign investment practices.¹⁴⁸ Examples of these detrimental practices included:

- (1) grant-back provisions; (2) challenges to validity; (3) exclusive dealing; (4) restrictions on research; (5) restrictions on use of personnel; (6) price fixing; (7) restrictions on adaptations; (8) exclusive sales or representation agreements; (9) tying arrangements; (10) export restrictions; (11) patent-pool or cross-licensing agreements; (12) restrictions on publicity; (13) payments and other obligations after expiration of industrial property rights; and (14) restrictions after expirations of arrangements.¹⁴⁹

Some of these restrictive practices, including those mentioned in the previous Part,¹⁵⁰ remain relevant even today.¹⁵¹

Despite the high hopes and ambitious goals, the TOT Code “was troubled from the very beginning,” and the UNCTAD negotiations proceeded very slowly.¹⁵² Among the more contested issues were “(1) whether the character of the code should be binding or voluntary; (2) chapter 1 of the code (definition and scope of application); (3) chapter

¹⁴⁸ Zuijdwijk, *supra* note 145, at 563–64.

¹⁴⁹ SELL, *supra* note 71, at 93; *see also* U.N. CONF. ON TRADE & DEV., THE ROLE OF THE PATENT SYSTEM IN THE TRANSFER OF TECHNOLOGY TO DEVELOPING COUNTRIES 54–63 (1974) (discussing the abuses in patent licensing agreements and regulatory practices); BLAKENEY, *supra* note 33, at 149–50 (discussing other practices that developing countries proposed for inclusion); Yu, *International Technology Contracts*, *supra* note 71, at 44 n.12 (listing other restrictive business practices proposed by developing countries but rejected by other negotiating parties).

¹⁵⁰ *See supra* text accompanying notes 67–75.

¹⁵¹ *See* Peter K. Yu, *Development Bridge over Troubled Intellectual Property Water*, in INTELLECTUAL PROPERTY AND DEVELOPMENT: UNDERSTANDING THE INTERFACES—LIBER AMICORUM PEDRO ROFFE 97, 103 (Carlos Correa & Xavier Seuba eds., 2019) (“[S]ome of these decades-old anticompetitive practices that stifle global development may emerge in new areas, such as in regard to the licensing arrangements concerning the acquisition, transfer or diffusion of climate change mitigation and adaptation technologies.”); Yu, *International Technology Contracts*, *supra* note 71, at 44 (noting the resemblance between some of the restrictive business practices in the TOT Code and some of today’s restrictive business practices and stating that “[t]he main difference between international technology contracts at the time of the UNCTAD Code negotiations and today is that these contracts were signed with firms or government agencies in developing countries, as opposed to private individuals in those countries”); Padmashree Gehl Sampath & Pedro Roffe, *Unpacking the International Technology Transfer Debate: Fifty Years and Beyond* 15 (ICTSD Programme on Innovation, Tech. & Intell. Prop., Issue Paper No. 36, 2012) (“[T]he issues raised by the Code and the unresolved questions that led to its collapse often reverberate in almost all subsequent international negotiations and discussions on technology transfer.”).

¹⁵² Yu, *Development Agendas*, *supra* note 71, at 497.

4 of the code (restrictive business practices); and (4) chapter 9 of the code (applicable law and the settlement of disputes).¹⁵³ Although some progress had been made, the negotiations were eventually forestalled by the arrival of the Reagan administration in the United States, the debt crises in Latin America in the late 1980s, bureaucratic issues within UNCTAD, and other factors relating to the changing geopolitical, economic, and technological environments.¹⁵⁴ The negotiations stopped in June 1985, although UNCTAD continued to hold consultations until the early 1990s.¹⁵⁵

¹⁵³ SELL, *supra* note 71, at 89. For detailed discussions of the draft Code, see generally *id.* at 90–96; Thompson, *supra* note 35.

¹⁵⁴ As Susan Sell recounted:

The eventual failure of the conference to agree upon a satisfactory code was due to three factors: changes in U.S. leadership; bureaucratic factors (the group system in UNCTAD and a loss of faith in the organization); and changes in the world economic situation (a precipitous drop in foreign investment, the Third World debt crisis, and subsequent pressure to sacrifice ideological concerns for a more highly competitive environment, which led Third World policymakers to more aggressively seek foreign investment rather than strictly control it)

While the failure of the conference was due to changes in U.S. leadership and bureaucratic factors, this third factor—the economic slump of the late 1970s and early 1980s—was the most important. It was the strongest shock to the optimism of the Group of 77’s member states. Not only did it take the wind out [of] their sails, but it led them to abandon the whole ship.

SELL, *supra* note 71, at 97–98, 105–06; see also Hanns Ullrich, *Competition, Intellectual Property Rights and Transfer of Technology*, in INTERNATIONAL TECHNOLOGY TRANSFER, *supra* note 71, at 363, 363–64 (“The reason for this failure are manifold: divergences from the antitrust law concepts of major industrialized nations as regards restrictive exploitation of intellectual property; general trends to liberalize not only markets but also antitrust as a form of market regulation; the decline of the bargaining position of developing countries; the shift of technology transfer to other mechanisms than licensing; and a complete change in perception of intellectual property.”); Thomas, *supra* note 143, at 2108 (“With the onset of the debt crisis in the early 1980s, . . . whatever momentum remained in the[] efforts [to complete the TOT Code] dwindled along with the NIEO movement more generally.”).

¹⁵⁵ See UNCTAD Secretariat, *The Status of the Negotiations: A 1990 Evaluation*, in INTERNATIONAL TECHNOLOGY TRANSFER, *supra* note 71, at 139, 144 (“Since 1978, six sessions of the [U.N. Conference on an International Code of Conduct on the Transfer of Technology] have been held, the last of which was from 13 May to 5 June 1985.” (footnote omitted)); *id.* at 146 (“Since the last session of [this] Conference[,] . . . the Secretary-General of UNCTAD and the President of the [Conference] have held consultations with regional groups and interested governments with the objective of delineating the scope of the issues outstanding in the draft Code and undertaking a quest for appropriate solutions.”); Yu, *International Technology Contracts*, *supra* note 71, at 52 (noting that “UNCTAD continued to hold consultations until 1992”). As Professor Sell recounted:

Shortly after the GATT Ministerial Conference in Punta del Este, Uruguay, in September 1986,¹⁵⁶ countries began to shift their attention toward the negotiation of the TRIPS Agreement.¹⁵⁷ Although developing countries did not have much success in getting the Agreement to incorporate their preferred intellectual property standards, they did manage to transplant a number of draft provisions of the TOT Code on to the Agreement.¹⁵⁸ These provisions became Articles 7, 8, 31(k), and 40.¹⁵⁹ As the previous Part noted, Article 40 is one of the TRIPS provisions that could pose a major challenge to the United States' WTO complaint against China over the issue of forced technology transfer.¹⁶⁰

Also worth noting in the TRIPS context and in relation to the North-South technology transfer debate, though less relevant to a developing country like China, is the least-developed countries' continuous

There was considerable progress on several difficult issues during the first three sessions, but after 1981 the mood of the conference quickly became one of disillusionment and frustration. The last three sessions were characterized by heightened ideological rhetoric, a hardening of positions on both sides, and stonewalling tactics. . . . By the sixth session in May 1985, positions on both sides had been hardened to the point of no return. Not only was Group B thoroughly intransigent, but the Group of 77 consensus had vanished.

SELL, *supra* note 71, at 89, 98; *see also* Galal, *supra* note 140, at 204–08 (discussing the breakdown of the 1983 Code Conference).

¹⁵⁶ *See* Peter K. Yu, *The Objectives and Principles of the TRIPS Agreement*, 46 Hous. L. REV. 979, 982–84 (2009) (discussing the ministerial conference and the Punta del Este Declaration, which included a section on “trade-related aspects of intellectual property rights, including trade in counterfeit goods”); *see also* Gen. Agreement on Tariffs & Trade, Ministerial Declaration on the Uruguay Round, Sept. 20, 1986, 25 I.L.M. 1623, 1626 (1986) (setting out the negotiating objectives of the TRIPS Agreement).

¹⁵⁷ *See* Abbott, *Technology Governance*, *supra* note 6, at 197–98 (“The WTO TRIPS Agreement strengthened IP rules on a multilateral basis and was in large measure a rejection of NIEO demands. The TRIPS Agreement made only cursory reference to transfer of technology.” (footnote omitted)).

¹⁵⁸ *See* Pedro Roffe & Christoph Spennemann, *Control of Anti-Competitive Practices in Contractual Licenses Under the TRIPS Agreement*, in INTELLECTUAL PROPERTY AND INTERNATIONAL TRADE: THE TRIPS AGREEMENT 359, 382 (Carlos M. Correa & Abdulqawi A. Yusuf eds., 3d ed. 2016) (pointing out that inclusion of the TOT Code’s language in the TRIPS Agreement is important because “restrictive practices . . . were peripheral to the main objectives pursued by the advocates of the TRIPS Agreement”); Abdulqawi A. Yusuf, *TRIPS: Background, Principles and General Provisions*, in INTELLECTUAL PROPERTY AND INTERNATIONAL TRADE, *supra*, at 3, 10 & n.19 (recounting that some of the provisions in the developing countries’ negotiation text “were either directly based on or inspired by those of the Draft International Code of Conduct on the Transfer of Technology which was negotiated under the auspices of UNCTAD but was never adopted as an international instrument” (citation omitted)).

¹⁵⁹ *See* Yu, *Development Agendas*, *supra* note 71, at 503–04.

¹⁶⁰ *See supra* text accompanying notes 66–67.

frustration over the developed countries' failure to fulfill their technology transfer obligations under the WTO.¹⁶¹ Article 66.2 of the TRIPS Agreement explicitly states that “[d]eveloped country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.”¹⁶² Despite this explicit obligation, least-developed countries have received limited technology transfer other than occasional legal and technical assistance.¹⁶³ It is therefore no surprise that developing and least-developed countries felt compelled to push for a clarification of Article 66.2 in the Fourth WTO Ministerial Conference in Doha, Qatar. Paragraph 11.2 of the Ministerial Decision on Implementation-Related Issues and Concerns states explicitly that “the provisions of Article 66.2 of the TRIPS Agreement are mandatory.”¹⁶⁴ The decision further required the TRIPS Council to “put

¹⁶¹ Least-developed countries are the world's poorest countries. *About LDCs*, UNITED NATIONS, <https://www.un.org/ohrls/content/about-least-developed-countries> (last visited Feb. 20, 2022).

¹⁶² TRIPS Agreement, *supra* note 15, art. 66.2.

¹⁶³ See Carlos M. Correa, *Can the TRIPS Agreement Foster Technology Transfer to Developing Countries*, in *INTERNATIONAL PUBLIC GOODS*, *supra* note 119, at 227, 251 (“[Least developed countries] have repeatedly noted at the Council for TRIPS that little or no action has been taken by developed countries to specifically implement their obligations under article 66.2.”); Andrew Michaels, *International Technology Transfer and TRIPS Article 66.2: Can Global Administrative Law Help Least-Developed Countries Get What They Bargained for?*, 41 *GEO. J. INT’L L.* 223, 224 (2009) (“[I]mplementation of Article 66.2 thus far has been moderately successful at best.”); Peter K. Yu, *TRIPS and Its Achilles’ Heel*, 18 *J. INTELL. PROP. L.* 479, 526 (2011) (“[D]eveloped countries thus far have only paid lip service to these obligations, with some undoubtedly subscribing to the view that these obligations are merely aspirational.”); Keith E. Maskus, *Encouraging International Technology Transfer* 15 (UNCTAD-ICTSD Project on IPRs & Sustainable Dev., Issue Paper No. 7, 2004) (“Many developing countries have complained for a long time that the flows of [international technology transfers] through private channels are inadequate for their competitive and social needs. Implicitly the claim is that the volume (and quality) of technology transfers is well below optimal.”); see also Michaels, *supra*, at 230 (“[A]ssistance as required by Article 67 is probably not sufficient to implement Article 66.2.”).

¹⁶⁴ World Trade Org., Implementation-Related Issues and Concerns: Decision of 14 November 2001, ¶ 11.2, WTO Doc. WT/MIN(01)/17 (Nov. 20, 2001) [hereinafter World Trade Org., Implementation-Related Issues]; see also World Trade Org., Declaration on the TRIPS Agreement and Public Health, ¶ 7, Nov. 14, 2001, WTO Doc. WT/MIN(01)/DEC/2, 41 *ILM* 755 (2002) (“We reaffirm the commitment of developed-country members to provide incentives to their enterprises and institutions to promote and encourage technology transfer to least-developed country members pursuant to Article 66.2.”).

in place a mechanism for ensuring the monitoring and full implementation of the obligations in question.”¹⁶⁵

Even with this explicit language, it remains unclear what the technology transfer obligation would entail. Indeed, a key challenge concerning this obligation has always involved the developing countries’ need to know what they want.¹⁶⁶ When developed countries provide developing countries with technical assistance programs, the latter need to exercise caution to make sure that these programs do not become the tools for transplanting high protection and enforcement standards from the developed world.¹⁶⁷ Developing countries should also take advantage of these programs to learn how to better use the intellectual property system to improve their economic and technological conditions.¹⁶⁸

In sum, the North-South technology transfer debate has been contentious for decades before China joined the WTO. While developed

¹⁶⁵ World Trade Org., Implementation-Related Issues, *supra* note 164.

¹⁶⁶ Cf. Michaels, *supra* note 163, at 224 (“Because Article 66.2 does not specify what type of incentives must be created, or how effective these incentives must be, developed countries have essentially been left to implement the provision, or not, as they see fit.”).

¹⁶⁷ See CAROLYN DEERE, THE IMPLEMENTATION GAME: THE TRIPS AGREEMENT AND THE GLOBAL POLITICS OF INTELLECTUAL PROPERTY REFORM IN DEVELOPING COUNTRIES 181 (2009) (“In the realm of TRIPS implementation, capacity-building was rarely just a ‘technical’ matter. . . . On the economic front, capacity-building was often used to ‘buy’ stronger IP administration and enforcement in developing countries.”); Rochelle Cooper Dreyfuss, *TRIPS-Round II: Should Users Strike Back?*, 71 U. CHI. L. REV. 21, 25 (2004) (“[T]he countries in a position to provide assistance do so on their own terms; that is, they help implement highly protectionist regimes, without regard for the actual needs of developing nations.”); Christopher May, *Capacity Building and the (Re)production of Intellectual Property Rights*, 25 THIRD WORLD Q. 821, 822 (2004) (“[C]apacity building for IPRs [intellectual property rights] . . . may . . . lead to effective ‘epistemic lock-in’: capacity building programmes socialise policy makers, practitioners and others into a specific way of dealing with, and regulating, IPRs. It encourages the development of a TRIPs mind-set.”); Peter K. Yu, *Thinking About the Trans-Pacific Partnership (and a Mega-Regional Agreement on Life Support)*, 20 SMU SCI. & TECH. L. REV. 97, 109 (2017) (“Oftentimes, . . . ‘best practices’ are introduced [by technical assistance experts] without regard to a particular country’s local needs, interests, conditions, or priorities.”).

¹⁶⁸ As this Author noted in an earlier article:

[M]any developed countries, industry groups, and international donor organizations have actively provided technical assistance programs. However, many of these programs are narrowly conceived, and they tend to ignore the divergent local conditions in developing countries. Equally questionable is the effectiveness of these programs in helping to build local capacity, as opposed to adopting standards preferred by those providing assistance.

Peter K. Yu, *Enforcement, Enforcement, What Enforcement?*, 52 IDEA 239, 278 (2012) (footnotes omitted).

countries and their supportive industries have heavily criticized the developing countries' technology transfer measures as attempts to undermine intellectual property protection, the contextual reflections provided in this Part show that the debate on international transfer of technology is far from black and white. Instead, it is filled with many shades of gray and features a wide array of positions and perspectives. As Peter Jaszi insightfully noted shortly after the Berne Convention took effect in the United States, "[o]ne might say that one nation's 'piracy,' is another man's 'technology transfer.'"¹⁶⁹

IV. A COVID-19 REASSESSMENT

In winter 2019, countries became concerned about a new virus known as SARS-CoV-2, which first emerged in China and has since spread to Europe, the United States, and other parts of the world.¹⁷⁰ In January 2020, the World Health Organization declared the COVID-19 disease "a public health emergency of international concern."¹⁷¹ Two months later, the international health body classified it as a global pandemic.¹⁷² For the past two years, the pandemic has wreaked havoc throughout the world, costing millions of human lives¹⁷³ and tens of trillions of dollars.¹⁷⁴

¹⁶⁹ Jaszi, *supra* note 105, at 63.

¹⁷⁰ See Press Release, World Health Org., Pneumonia of Unknown Cause—China Disease Outbreak News (Jan. 5, 2020), <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/>; *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19—11 March 2020*, WORLD HEALTH ORG. (Mar. 11, 2020), <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> [hereinafter *WHO DG's Opening Remarks*].

¹⁷¹ *WHO Director-General's Statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV)*, WORLD HEALTH ORG. (Jan. 30, 2020), [https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihr-emergency-committee-on-novel-coronavirus-\(2019-ncov\)](https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihr-emergency-committee-on-novel-coronavirus-(2019-ncov)).

¹⁷² See *WHO DG's Opening Remarks*, *supra* note 170.

¹⁷³ See *WHO Coronavirus (COVID-19) Dashboard*, WORLD HEALTH ORG., <https://covid19.who.int> (last visited Mar. 16, 2022) (stating that COVID-19 has taken more than six million lives).

¹⁷⁴ See David M. Cutler & Lawrence H. Summers, *The COVID-19 Pandemic and the \$16 Trillion Virus*, 324 JAMA 1495, 1495 (2020) (estimating that the total cumulative financial costs of the COVID-19 pandemic relating to the lost output and health reduction at more than \$16 trillion); Australian Nat'l Univ., *Economic Pain: COVID-19 Pandemic Will Cost Global Economy \$21 Trillion*, SCI. TECH. DAILY (July 5, 2020), <https://scitechdaily.com/economic-pain-covid-19-pandemic-will-cost-global-economy-21-trillion/> (providing a July 2020 estimate that the pandemic's global economic toll could reach as high as \$21 trillion); Shahar Ziv, *Coronavirus Pandemic Will Cost U.S. Economy \$8 Trillion*, FORBES (June 2, 2020), <https://www.forbes.com/sites/shaharziv/2020/06/>

To address the global pandemic, policymakers and commentators have advanced different proposals, both within and outside the TRIPS Agreement.¹⁷⁵ Within the Agreement, the proposals have called for a greater use of flexibilities. For instance, Article 31 stipulates the conditions under which member states can issue compulsory licenses—or, in TRIPS language, use patents “without the authorization of the right holder, including use by the government or third parties authorized by the government.”¹⁷⁶ Article 31*bis* allows members with insufficient or no manufacturing capacity to import generic versions of patented pharmaceuticals.¹⁷⁷ Article 73 provides a national security exception that enables member states to protect their “essential security interests” in times of “emergency in international relations.”¹⁷⁸ At the time of writing, three countries—Israel, Hungary, and Russia—have issued compulsory licenses to combat COVID-19.¹⁷⁹

One proposal that has gone beyond the flexibilities provided in the TRIPS Agreement involves the COVID-19 TRIPS waiver. In October 2020, India and South Africa submitted an unprecedented proposal to the Council for Trade-Related Aspects of Intellectual Property Rights (“TRIPS Council”), calling for a temporary waiver to address the global

02/coronavirus-pandemic-will-cost-us-economy-8-trillion/#5ce83d7c15e4 (estimating that “the pandemic would cost \$7.9 trillion in real economic output, or a staggering \$16 trillion over the next 10 years without adjusting for inflation”).

¹⁷⁵ Among the more notable efforts developed outside the WTO were the COVID-19 Technology Access Pool (C-TAP), the Open COVID Pledge, the Access to COVID-19 Tools Accelerator, and its COVID-19 Vaccines Global Access (COVAX) Initiative. See Peter K. Yu, *Modalities, Challenges, and Possibilities: An Introduction to the Pharmaceutical Innovation Symposium*, 7 TEX. A&M J. PROP. L. 1, 32–40 (2021) (discussing these efforts).

¹⁷⁶ TRIPS Agreement, *supra* note 15, art. 31.

¹⁷⁷ *Id.* art. 31*bis*.

¹⁷⁸ *Id.* art. 73.

¹⁷⁹ See Behrang Kianzad & Jakob Wested, “No-One Is Safe Until Everyone Is Safe”—Patent Waiver, Compulsory Licensing and COVID-19, 5 EUR. PHARM. L. REV. 71, 74 (2021); *Compulsory Licenses, the TRIPS Waiver and Access to Covid 19 Medical Technologies* 5–6, MÉDECINS SANS FRONTIÈRES (May 26, 2021), <https://msfaccess.org/compulsory-licenses-trips-waiver-and-access-covid-19-medical-technologies>.

pandemic.¹⁸⁰ Slightly revised in May 2021,¹⁸¹ the proposal calls for the suspension of Sections 1, 4, 5, and 7 of Part II of the TRIPS Agreement and related enforcement obligations under Part III “in relation to prevention, containment or treatment of COVID-19.”¹⁸² Although commentators frequently discussed the waiver proposal in relation to patents and vaccines, the proposal also covers copyrights, industrial designs, the protection of undisclosed information, and many other COVID-19 products and technologies.¹⁸³

¹⁸⁰ Council for Trade-Related Aspects of Intell. Prop. Rts. [TRIPS Council], *Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of COVID-19: Communication from India and South Africa*, WTO Doc. IP/C/W/669 (Oct. 2, 2020) [hereinafter TRIPS Waiver Proposal]. For discussions of the COVID-19 TRIPS waiver proposal, see generally Peter K. Yu, *A Critical Appraisal of the COVID-19 TRIPS Waiver*, in *INTELLECTUAL PROPERTY RIGHTS IN THE POST PANDEMIC WORLD: AN INTEGRATED FRAMEWORK OF SUSTAINABILITY, INNOVATION AND GLOBAL JUSTICE* (Taina E. Pihlajarinne et al. eds., forthcoming 2022) [hereinafter Yu, *Critical Appraisal*]; Bryan Mercurio, *WTO Waiver from Intellectual Property Protection for COVID-19 Vaccines and Treatments: A Critical Review*, 62 VA. J. INT’L L. ONLINE 9 (2021); Siva Thambisetty et al., *Addressing Vaccine Inequity During the COVID-19 Pandemic: The TRIPS Intellectual Property Waiver Proposal & Beyond*, 81 CAMBRIDGE L.J. (forthcoming 2022), http://eprints.lse.ac.uk/113802/1/MCDONAGH_CLJ_accepted_submission_2022_002_.pdf; Carlos M. Correa et al., *Implementation of a TRIPS Waiver for Health Technologies and Products for COVID-19: Preventing Claims Under Free Trade and Investment Agreements* (S. Ctr., Rsch. Paper No. 135, 2021); Reto M. Hilty et al., *Covid-19 and the Role of Intellectual Property: Position Statement of the Max Planck Institute for Innovation and Competition of 7 May 2021* (Max Planck Inst. for Innovation & Competition, Rsch. Paper No. 21-13, 2021), <https://ssrn.com/abstract=3841549>; Srividhya Ragavan, *Waive IP Rights & Save Lives* (S. Ctr., Southviews No. 231, 2021); Yousuf Vawda, *The TRIPS COVID-19 Waiver, Challenges for Africa and Decolonizing Intellectual Property* (S. Ctr., Pol’y Brief No. 99, 2021).

¹⁸¹ The proposal was revised following the Biden administration’s announcement of its support for text-based negotiations for vaccines. *Statement from Ambassador Katherine Tai on the Covid-19 Trips Waiver*, OFF. U.S. TRADE REPRESENTATIVE (May 5, 2021), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2021/may/statement-ambassador-katherine-tai-covid-19-trips-waiver> (“The Administration believes strongly in intellectual property protections, but in service of ending this pandemic, supports the waiver of those protections for COVID-19 vaccines. We will actively participate in text-based negotiations at the World Trade Organization ... needed to make that happen.”).

¹⁸² TRIPS Council, *Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of COVID-19: Communication from India and South Africa*, WTO Doc. IP/C/W/669/Rev.1 (May 21, 2021).

¹⁸³ Paragraph 1 of the waiver proposal states:

The obligations of Members to implement or apply Sections 1, 4, 5 and 7 of Part II of the TRIPS Agreement or to enforce these Sections under Part III of the TRIPS Agreement, shall be waived in relation to health products and technologies including diagnostics, therapeutics, vaccines, medical devices, personal protective equipment, their materials or components,

In forthcoming work, this Author have critically assessed the strengths and weaknesses of the proposed waiver,¹⁸⁴ explored developments relating to China,¹⁸⁵ and identified the different pandemic-related paradoxes in intellectual property law and policy.¹⁸⁶ Instead of rehashing those discussions, this Part focuses on how the developed countries' opposition to the COVID-19 TRIPS waiver can inform our understanding of the challenges and complexities in the U.S.-China forced technology transfer dispute.

A key strength of the proposed waiver is its ability to go beyond the compulsory licensing arrangements under Articles 31 and 31*bis* of the TRIPS Agreement to cover trade secrets, industrial designs, and other forms of intellectual property rights.¹⁸⁷ Such coverage is important considering that many of the technologies necessary to combat COVID-19 involve intellectual property rights outside the patent area.¹⁸⁸ Except for a few obligations in the optional Berne Appendix,¹⁸⁹ the TRIPS Agreement does not explicitly allow WTO members to issue compulsory licenses in other areas of intellectual property law.¹⁹⁰ The proponents

and their methods and means of manufacture for the prevention, treatment or containment of COVID-19.

TRIPS Waiver Proposal, *supra* note 180, ¶ 1.

¹⁸⁴ Yu, *Critical Appraisal*, *supra* note 180.

¹⁸⁵ Peter K. Yu, *China, the TRIPS Waiver and the Global Pandemic Response*, in *INTELLECTUAL PROPERTY, COVID-19, AND THE NEXT PANDEMIC: DIAGNOSING PROBLEMS, DEVELOPING CURES* (Madhavi Sunder & Sun Haochen eds., forthcoming 2022).

¹⁸⁶ Peter K. Yu, *Intellectual Property Paradoxes in Pandemic Times*, 71 *GRUR INT'L* 293 (2022).

¹⁸⁷ See TRIPS Agreement, *supra* note 15, arts. 31, 31*bis* (limiting compulsory licensing arrangements to patents).

¹⁸⁸ As India explained before the TRIPS Council:

[W]e have included four sections of TRIPS Agreement namely patents, copyrights, industrial designs and undisclosed information or trade secrets, in our proposal. This is because the health products and technologies like test kits, masks, medicines, vaccines, components of ventilators like valves, control mechanisms and the algorithms and CAD files used in their manufacturing are protected by these four types of IPRs.

TRIPS Council, *Minutes of Meeting: Held in the Centre William Rappard on 15–16 October and 10 December 2020*, ¶ 871, IP/C/M/96/Add.1 (Feb. 16, 2021).

¹⁸⁹ See *supra* text accompanying notes 123–124.

¹⁹⁰ It remains debatable whether such arrangements exist in the area of trade secrets. See Peter K. Yu, *Data Exclusivities and the Limits to TRIPS Harmonization*, 46 *FLA. ST. U. L. REV.* 641, 665–66 (2019) (noting the debate concerning whether WTO members can utilize the test or other data submitted to regulatory authorities for the purposes of granting marketing approval of pharmaceutical products that have been, or are to be, issued under compulsory licenses and whether these members can waive data exclusivity protection upon the issuance of such licenses); see also CARLOS M. CORREA, *TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS: A COMMENTARY ON THE TRIPS*

of the waiver therefore hope that the proposed instrument will give WTO members more flexibilities and policy space while facilitating the greater and quicker transfer of COVID-19 technology.¹⁹¹

Thus far, policymakers and commentators have widely agreed that the waiver alone will not be sufficient to induce rights holders to publicly disclose trade secrets, know-how, regulatory data, and other proprietary information. Drawing on the example of penicillin production during the Second World War, some commentators contended that countries could effectively use carrots and sticks to induce rights holders to scale up production through cooperation.¹⁹² A few commentators have taken even stronger positions about the imperative in mandating the transfer of technology, which would result in involuntary transfers.¹⁹³ Nevertheless, unless governments

AGREEMENT 374 (2d ed. 2020) (“Under [the exceptions provided in Article 39.3], disclosure would be permissible . . . to allow a compulsory licensee to obtain a marketing approval, particularly when the licence is aimed at remedying anti-competitive practices or at satisfying public health needs.”); NUNO PIRES DE CARVALHO, *THE TRIPS REGIME OF PATENT RIGHTS* 649–51 (3d ed. 2010) (stating that “[t]he fact that Article 39.3 does not refer to compulsory licenses does not mean that it prohibits them” and listing the provisions on compulsory licenses of test data in Brazilian and Saudi Arabian legislation); Robert Weissman, *Data Protection: Options for Implementation*, in *NEGOTIATING HEALTH: INTELLECTUAL PROPERTY AND ACCESS TO MEDICINES* 151, 168–74 (Pedro Roffe et al. eds., 2006) (discussing the compulsory licensing of pharmaceutical products and the development of a compulsory licensing system for registration data); Ellen F.M. ’t Hoen et al., *Data Exclusivity Exceptions and Compulsory Licensing to Promote Generic Medicines in the European Union: A Proposal for Greater Coherence in European Pharmaceutical Legislation*, 10 *J. PHARM. POL’Y & PRAC.* no. 19, 2017, at 6, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5490222/> (“The right of governments to grant compulsory licences, including for public non-commercial use, is acknowledged in international law, including in TRIPS. Effective use of such licences requires a waiver of data exclusivity for the approval and marketing of licensed generic medicines.”).

¹⁹¹ See Yu, *Critical Appraisal*, *supra* note 180 (“[T]he proposed waiver will enable policymakers to maximise their policy space at the intersection of intellectual property and public health.”); Thambisetty et al., *supra* note 180 (manuscript at 3–4) (“[T]he [TRIPS] waiver offers a necessary and proportionate legal measure for clearing IP barriers in a direct, consistent and efficient fashion. If adopted it would provide companies the freedom to operate and to produce COVID-19 vaccines (and other COVID-19 health technologies) without the fear of infringing another party’s IP rights and the attendant threat of litigation.”).

¹⁹² See Thambisetty et al., *supra* note 180 (manuscript at 22) (“A combination of incentives and mandates to achieve technology transfer is precisely what happened in the 1940s when, in a wartime situation and with no time to lose, the US Office of Scientific Research and Development oversaw the pooling of technology which resulted in a massive and rapid scale-up of penicillin production.”).

¹⁹³ As Yousuf Vawda observed:

Additional measures may be necessary to mandate, particularly high income countries . . . which house the majority of relevant IPR holders, to

introduce measures to force rights holders to transfer their intellectual property assets, there remains a considerable gap between an arrangement facilitating cooperation or the pooling of intellectual property assets and one mandating the involuntary disclosure of proprietary information.¹⁹⁴

Although it remains to be seen whether the proposed waiver can help countries secure access to the needed technology and manufacturing know-how to combat COVID-19, the debate on the proposed instrument has provided some helpful lessons that inform the U.S.-China debate on forced technology transfer. First, like the discussion in the previous Part, the strong support for the waiver has shown that people do not always oppose the involuntary disclosure of proprietary information, despite the seemingly black-and-white positions painted in the USTR's Section 301 reports and the EU and U.S. WTO complaints.¹⁹⁵ Indeed, it will not be surprising to find some of those supporting the USTR's actions to challenge China's technology transfer measures siding with the proponents of the COVID-19 TRIPS waiver. Whether one finds the use of technology transfer measures acceptable will likely depend on values, contexts, and self-interests. Unlike the waiver, which seeks to benefit all members of the international community by improving global health security, the measures at issue in the U.S.-China forced technology transfer dispute benefited mostly, if not only, China. It is therefore logical for those outside the country to draw different conclusions even though both sets of measures aim to promote technology transfer.

Second, the strong opposition to the COVID-19 TRIPS waiver revealed the strong feelings people have about the measures inducing the involuntary transfer of technology and know-how. Even amid the global pandemic, with millions of human lives lost and many more at risk, people still find such measures inappropriate. In lieu of

require such rights holders to disclose fully and commit to the transfer of trade secrets, manufacturing know-how, and effect the necessary technology transfer. The TRIPS Agreement enables such disclosure for the protection of the public. Such countries may compel industry to commit their IP and know-how to the C-TAP facility to enable rapid scale-up of vaccine and other health technologies, especially where governments have invested substantial public funds in the development of vaccines and other products.

Vawda, *supra* note 180, at 3 (footnote omitted).

¹⁹⁴ See Yu, *Critical Appraisal*, *supra* note 180 (noting that it would be quite a leap to go from trade secret protection to forced technology transfer and that many possibilities exist between these two options).

¹⁹⁵ See EU Complaint, *supra* note 14; Second TRIPS Complaint, *supra* note 2; SECTION 301 INVESTIGATION REPORT, *supra* note 17; SECTION 301 INVESTIGATION UPDATE, *supra* note 21.

2022]

FORCED TECHNOLOGY TRANSFER

1045

involuntary technology transfers, the opponents of the waiver have offered alternative suggestions ranging from increased vaccine distribution to support for the development of local manufacturing capacity.¹⁹⁶ Their principled positions have shown the difficulty in quickly resolving the U.S.-China forced technology transfer dispute. Indeed, because the pandemic-time objections to the waiver have little,¹⁹⁷ if not nothing, to do with China, they make salient the strong ideological resistance toward the involuntary transfer of technology. Moreover, if the opponents of the waiver are unwilling to support such transfer to combat a global health crisis, one can only imagine how these individuals will assess the appropriateness of China's technology transfer measures.

¹⁹⁶ As Alden Abbott, Adam Mossoff, Kristen Osenga, and Zvi Rosen observed in a paper highly critical of the waiver proposal:

A legitimate, effective, and less problematic solution would be to remove any regulatory blockades that are preventing the international trade and distribution of existing vaccine doses. . . . To the extent there are any surplus vaccine doses, the U.S. should release those extra doses to be exported to all foreign countries that permit those vaccines to be used. This would get "shots in arms" without harming Americans or the U.S. intellectual property system.

Another policy the U.S. could enact that would have a positive effect in distributing vaccines globally is to assist in the development and maintenance of infrastructure and vaccine distribution capacities in developing countries. . . .

Lastly, another option would be for the U.S. to actively consider incentivizing developing countries to adopt cutting-edge technologies, like the mRNA platform. Encouraging countries to build development and manufacturing facilities for these technologies would help the countries to support their own citizens' needs going forward, and potentially make it possible for these countries to participate in the race to develop vaccines in the next pandemic.

Alden Abbott et al., *COVID Vaccine IP Waiver: A Pathway to Fewer, Not More, Vaccines*, REGUL. TRANSPARENCY PROJECT (Oct. 28, 2021), <https://regproject.org/paper/covid-vaccine-ip-waiver-a-pathway-to-fewer-not-more-vaccines/>.

¹⁹⁷ Some did tie their objections to China. See Hannah Kuchler & Aime Williams, *As Industry Lobbying Has Escalated in Washington, Companies Have Warned in Private Meetings*, FIN. TIMES (Apr. 25, 2021), <https://www.ft.com/content/fa1e0d22-71f2-401f-9971-fa27313570ab> ("As industry lobbying has escalated in Washington, companies have warned in private meetings with US trade and White House officials that giving up the intellectual property rights could allow China and Russia to exploit platforms such as mRNA, which could be used for other vaccines or even therapeutics for conditions such as cancer and heart problems in the future."); D. Ravi Kanth, *Big Pharma to Block TRIPS Waiver at WTO, Citing China & Russia*, TWN INFO. SERV. ON WTO & TRADE ISSUES (Apr. 27, 2021), <https://www.twn.my/title2/wto.info/2021/ti210415.htm> (reporting that the pharmaceutical industry and their supportive politicians have used China and Russia to explain why they oppose the waiver).

Third, the disagreement over whether the forced disclosure of trade secrets and other proprietary information could provide the technologies and products needed to combat COVID-19 suggests that policymakers and commentators may have overstated the effectiveness of TIER, the EJV Regulations, and other measures implicated in the U.S.-China forced technology transfer dispute. A key argument in the United States' WTO complaint is that China used these regulations to force U.S. companies to disclose their valuable intellectual property assets. As we have learned from the waiver debate, even if laws and regulations have been enacted to mandate disclosure, it is unclear what information will be disclosed and how valuable the disclosed information will be. If forced disclosure is unlikely to work in the pandemic context, how can we assume that such disclosure will work in the context of high-speed rail, new energy vehicles, or other frontier technologies—areas that are of great concern to U.S. policymakers and industries? To the extent that there is evidence showing that TIER and the EJV Regulations have induced the involuntary transfer of valuable technology and information from U.S. companies to their local counterparts, policymakers and commentators should further interrogate the causal relationship. They should also explore whether, and how much, other laws, policies, and practices have contributed to such transfer.¹⁹⁸ These follow-up inquiries are needed because the answers to these questions may not lie in the text of TIER and the EJV Regulations.

In sum, the COVID-19 pandemic has added a new layer of complexity that the earlier discussion of the North-South technology

¹⁹⁸ See Prud'homme et al., *supra* note 6, at 163 ("Some FTT policies do not have much leverage, and therefore spur only limited amounts of technology transfer. Some FTT policies help spur transfer of technology but not frontier technology. Some FTT policies do not spur any technology transfer at all, and at worst discourage technology transfer."); Mark Cohen, *Towards a Better Understanding of "Forced Technology Transfer" Policies in China and Their Strategic Implications*, CHINA IPR (June 22, 2018), <https://chinaipr.com/2018/06/22/towards-a-better-understanding-of-forced-technology-transfer-policies-in-china-and-their-strategic-implications/> (noting that technology transfer measures "may enable domestic acquisition of frontier foreign technology . . . [or] may result in a lose-lose game where foreign firms are discouraged from transferring valuable technology and domestic firms' acquisition of new technology is made more difficult," depending on the implementation of those measures); see also Nicholas R. Lardy, *China: Forced Technology Transfer and Theft?*, CHINA ECON. WATCH (Apr. 20, 2018, 9:30 AM), <https://www.piie.com/blogs/china-economic-watch/china-forced-technology-transfer-and-theft> ("Overlooked [in the U.S.-China debate on forced technology transfer] are the data that suggest the popular narrative exaggerates the magnitude of China's forced technology transfer and theft and does not allow for the possibility that China's protection of intellectual property is improving rather than worsening.").

transfer debate has not revealed.¹⁹⁹ By drawing contextual reflections from these two debates, this Article hopes that readers will develop a deeper understanding of the challenges and complexities in the U.S.-China forced technology transfer dispute as well as the difficulties in challenging technology transfer measures before the WTO Dispute Settlement Body. If we can learn anything from these three debates, it is that we do not yet have a consensus—at either the national or international level—on whether technology transfer measures are appropriate or when they should be allowed.

V. GOING FORWARD

The previous Parts have shown why it is difficult to address issues relating to forced technology transfer. Such difficulty inevitably raises questions about the effectiveness of the TRIPS Agreement and the WTO dispute settlement process.²⁰⁰ Indeed, in the past few years, the United States has repeatedly called for systemic reform at the international trading body,²⁰¹ even when it continues to use the WTO dispute

¹⁹⁹ See discussion *supra* Part III.

²⁰⁰ See Lee, *Shifting IP Battlegrounds*, *supra* note 1, at 188 (suggesting that the WTO's inability to respond to state-backed outbound acquisition of equity and technologies and cyber intrusions may indicate that "TRIPS and other international trade rules are outdated"); Mark Cohen, *US Suspends IP Case Against China at the WTO. Quo Vadis Europa?*, CHINA IPR (June 14, 2019), <https://chinaipr.com/2019/06/14/us-suspends-ip-case-against-china-at-the-wto-quo-vadis-europa/> [hereinafter Cohen, *US Suspends IP Case*] ("Suspending the case [against China over the forced technology transfer dispute] . . . in a sense confirms that Donald Trump accomplished legislative reform more quickly with jaw-boning and tariffs than the WTO could have with dispute settlement proceedings.").

²⁰¹ See Gen. Council, *An Undifferentiated WTO: Self-Declared Development Status Risks Institutional Irrelevance: Communication from the United States*, WTO Doc. WT/GC/W/757/Rev.1 (Feb. 14, 2019) (expressing concern that the self-declaration of development status has put the WTO on a path to failed negotiations and institutional irrelevance); Gen. Council, *Procedures to Enhance Transparency and Strengthen Notification Requirements Under WTO Agreements: Communication from Argentina, Australia, Canada, Costa Rica, the European Union, Israel, Japan, New Zealand, the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, and the United States*, WTO Doc. JOB/GC/204/Rev.3 JOB/CTG/14/Rev.3 (Mar. 5, 2020) (advancing a draft General Council Decision on the Procedures to Enhance Transparency and Strengthen Notification Requirements Under WTO Agreements); see also Gen. Council, *China's Trade-Disruptive Economic Model: Communication from the United States*, WTO Doc. WT/GC/W/745 (July 16, 2018) (registering concerns that China's state-led, trade-disruptive economic model was inconsistent with the principles of non-discrimination, market access, reciprocity, fairness, and transparency and that this model has imposed substantial costs on and has presented severe challenges to other WTO Members); Gao, *WTO Reform*, *supra* note 1, at 20–23 (discussing the proposals for WTO reforms advanced by the European Union, the United States, Canada, and the Ottawa Group). See

settlement process.²⁰² Nevertheless, to help intellectual property rights holders and to avoid escalating tensions and conflicts, it will be useful to explore how China and the United States can constructively move forward from their forced technology transfer dispute. Considering the wide variety of possibilities, this Part focuses on only those suggestions that directly relate to this dispute.

To begin with, it is important to stay away from using the term “forced technology transfer” as if it has a well-settled meaning in either the intellectual property field or in relation to the TRIPS Agreement. Not only is there no standard definition among governments, policymakers, and commentators,²⁰³ it is also unclear whether the TRIPS Agreement and its negotiating history will help or hurt those complaining about technology transfer measures in China. Instead, the two countries should unpack the different concerns and grievances that have been lumped together under the umbrella of “forced technology transfer.”

Whether at the negotiation or dispute resolution stage, both China and the United States will be in a better position to find solutions once they have developed a better understanding of the specific problems involved. For instance, it will be worthwhile to ask whether the problems relate to the inadequate protection of trade secrets and undisclosed regulatory data, the arrangements for Sino-American joint ventures, or the extent of state intervention in the Chinese market. While some of these issues will relate to intellectual property law, the

generally Mark Wu, *The “China, Inc.” Challenge to Global Trade Governance*, 57 HARV. INT’L L.J. 261 (2016) (explaining why China’s rise and sui generis economic structure have posed a major challenge to the WTO and its dispute settlement process).

²⁰² See Cohen, *US Suspends IP Case*, *supra* note 200 (“By filing the [WTO] case immediately after the 301 Report regarding technology transfer and innovation, the US case seemed to be making the point that the WTO was still a viable mechanism for certain of the US complaints regarding China’s technology transfer regime.”).

²⁰³ Unlike developing countries, whose views and demands Part III have documented, developed countries conceptualize technology transfer very differently. See, e.g., Negotiating Grp. on Trade-Related Aspects of Intell. Prop. Rts., Including Trade in Counterfeit Goods, *Meeting of Negotiating Group of 30 October–2 November 1989*, ¶ 61, GATT Doc. MTN.GNG/NG11/16 (Dec. 4, 1989) (“[T]he representative of the United States . . . believed [the protection of trade secrets was] important for developing countries since there was no better way of encouraging the transfer of technology to developing countries than to provide protection to trade secrets and proprietary information which constituted the very essence of the transfer of technology.”); Working Grp. on Trade & Transfer of Tech., *Work of the Working Group Under the Auspices of the General Council Pursuant to Paragraph 37 of the Doha Ministerial Declaration: Communication from the European Communities*, ¶ 18, WTO Doc. WT/WGTTT/1 (June 10, 2002) (“Where the technology in question is subject to intellectual property rights, the transfer of this technology implies transfer of the legal rights to the technology in question by selling patent rights or licensing the right to make use of the right.”).

2022]

FORCED TECHNOLOGY TRANSFER

1049

remainder will involve other WTO agreements or lie outside the international trading body. In short, the problems and solutions involved can vary quite significantly.

Once China and the United States have identified their concerns and grievances, they can determine which one or more of the following routes will best address the issues: (1) multilateral; (2) bilateral; or (3) unilateral. The multilateral route is ideal for resolving disagreements over issues that fall squarely within the scope of the TRIPS Agreement,²⁰⁴ such as the protection of trade secrets and undisclosed regulatory data under Article 39.²⁰⁵ Even if the two countries are uncertain whether they can, or want to, resolve their disagreements at the WTO dispute settlement process, those issues can be explored at the TRIPS Council, in the ongoing discussions concerning WTO reform, or in new rounds of WTO negotiations.²⁰⁶

Not all issues can be resolved multilaterally, however. Instead, some will require direct negotiations between China and the United States.²⁰⁷ To facilitate bilateral cooperation in addressing global problems, which range from climate change to global economic recovery, some commentators have suggested the use of the G-2 model. As Fred Bergsten and his coauthors observed slightly more than a decade ago:

It is now clear that an effective response to every major international economic issue requires close cooperation between [China and the United States]. There will be no sustained recovery from the global economic crisis unless [these countries] lead it and they have appropriately launched by far the largest stimulus programs in the world. There will be no renewed momentum toward trade liberalization through the Doha Round or otherwise, a credible defense against the protectionist pressures that have been intensified

²⁰⁴ *Accord MAVROIDIS & SAPIR, supra note 27, at viii* (“[R]ecommending to multilateralism is the only viable solution to extricate Beijing and Washington from their trade conflict, which risks escalating in a full-blown war.”); *Branstetter, supra note 3, at 4* (“Efforts to change China’s behavior should be limited, well targeted, and multilateral.”).

²⁰⁵ *See TRIPS Agreement, supra note 15, art. 39* (providing the international minimum standards for the protection of undisclosed information).

²⁰⁶ *See Peter K. Yu, Are Developing Countries Playing a Better TRIPS Game?*, 16 *UCLA J. INT’L L. & FOREIGN AFFS.* 311, 319–22, 329–32 (2011) (discussing efforts to recalibrate the TRIPS Agreement and meetings at the TRIPS Council).

²⁰⁷ *Accord Sykes, supra note 3, at 163* (suggesting the creation of a bilateral investment treaty with China as a policy option to address issues relating to corporate structure requirements that have led to forced technology transfer).

by the crisis, unless they endorse it. There will be no international cooperation on global warming unless they embrace it. The United States is the world's largest deficit and debtor country, and China is the world's largest surplus and creditor country, and without their concurrence there will be neither resolution of the global imbalances that helped bring on the current crisis nor lasting reform of the international financial architecture.²⁰⁸

Issues relating to cybersecurity and technology transfer will likely benefit from greater bilateral engagement. Those issues are either outside the scope of existing WTO agreements or left unresolved due to a lack of consensus among WTO members.²⁰⁹ As we have seen from recent multilateral and regional discussions,²¹⁰ it is highly unlikely that

²⁰⁸ C. FRED BERGSTEN ET AL., CHINA'S RISE: CHALLENGES AND OPPORTUNITIES, at x-xi (2009); see also Walden Bello, *Chain-Gang Economics: China, the US, and the Global Economy*, in CHINA'S NEW ROLE IN AFRICA AND THE SOUTH: A SEARCH FOR A NEW PERSPECTIVE 7, 11 (Dorothy-Grace Guerrero & Firoze Manji eds., 2008) (describing "a chain-gang relationship" between China and the United States in light of their growing economic interdependence); Niall Ferguson & Moritz Schularick, *"Chimerica" and the Global Asset Market Boom*, 10 INT'L FIN. 215 (2007) (coining the term "Chimerica"). Professors Mavroidis and Sapir disagreed:

A bilateral deal between China and the United States is neither realistic nor desirable. It is unrealistic because the two parties are engaged in a conflict that goes far beyond trade and neither will be ready to make concessions to the other for fear that it will weaken its global geopolitical standing. And it is undesirable because any bilateral trade deal that would be acceptable to the two parties would inevitably come at the expense of other countries.

MAVROIDIS & SAPIR, *supra* note 27, at viii; see also STEFAN A. HALPER, THE BEIJING CONSENSUS: HOW CHINA'S AUTHORITARIAN MODEL WILL DOMINATE THE TWENTY-FIRST CENTURY 216-18 (2010) (arguing against elevating the US-China relationship to a special G-2 bilateral partnership). See generally ZACHARY KARABELL, SUPERFUSION: HOW CHINA AND AMERICA BECAME ONE ECONOMY AND WHY THE WORLD'S PROSPERITY DEPENDS ON IT (2009) (discussing the intertwined economic relationship between China and the United States).

²⁰⁹ See discussion *supra* Part III.

²¹⁰ Some international agreements sought to create WTO-plus obligations relating to transfer of technology in the investment context. For example, Article 9.10.1(f) of the Trans-Pacific Partnership Agreement, which has since been incorporated by reference into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, provides:

No Party shall, in connection with the establishment, acquisition, expansion, management, conduct, operation, or sale or other disposition of an investment of an investor of a Party or of a non-Party in its territory, impose or enforce any requirement, or enforce any commitment or undertaking . . . to transfer a particular technology, a production process or other proprietary knowledge to a person in its territory

new multilateral arrangements will quickly emerge to resolve the disagreements between China and the United States over these issues.²¹¹

Finally, some issues can be addressed unilaterally, without the participation of the other side. For example, it will be highly valuable for U.S. companies entering or expanding the Chinese market to obtain more knowledge about the business and regulatory environments in China.²¹² These companies will also benefit from more information about the different options to protect and enforce intellectual property rights or to facilitate effective and equitable technology licensing.²¹³

VI. CONCLUSION

The debate on international transfer of technology has been around for decades. Because the WTO and its TRIPS Agreement have not resolved this debate, the issues will not go away any time soon. To some extent, one could view the U.S.-China forced technology transfer dispute as one of the debate's latest iterations. If the difficulties surrounding the international debate is any guide, resolving the U.S.-China dispute will not be quick and easy. With the ongoing rivalry

Trans-Pacific Partnership Agreement, art. 9.10.1(f), Feb. 4, 2016, <https://ustr.gov/trade-agreements/free-trade-agreements/trans-pacific-partnership/tpp-full-text>.

²¹¹ See Correa, *supra* note 163, at 256 (“[T]he issues affecting the transfer of technology to developing countries are unlikely to be resolved within the limited contours of the TRIPS Agreement and other WTO disciplines.”). A good example of the challenges that will arise at the WTO concerns the development of new digital trade norms. See generally Mira Burri, *Towards a New Treaty on Digital Trade*, 55 J. WORLD TRADE 1 (2021) (identifying the points of convergence and divergence in the WTO members’ latest negotiation proposals and evaluating the feasibility of developing a new treaty on digital trade); Henry Gao, *Digital or Trade? The Contrasting Approaches of China and US to Digital Trade*, 21 J. INT’L ECON. L. 297 (2018) (discussing the contrasting approaches taken by China and the United States to set digital trade norms).

²¹² See Dan Prud’homme & Max von Zedtwitz, *The Changing Face of Innovation in China*, MIT SLOAN MGMT. REV. (June 12, 2018), <https://sloanreview.mit.edu/article/the-changing-face-of-innovation-in-china/> (identifying the new challenges to managing foreign research and development in China and underscoring the need for these companies to retool their strategies to keep pace with competition from local innovative companies and the changing business and technological landscapes). See generally HAROLD CHEE WITH CHRIS WEST, MYTHS ABOUT DOING BUSINESS IN CHINA (2004) (identifying ten myths about doing business in China).

²¹³ See Yu, *From Pirates to Partners II*, *supra* note 5, at 946–74 (discussing the alternative ways to protect intellectual property assets in China even when intellectual property laws were not effectively enforced); James Hexter & Sarena Lin, *The Right Way to Protect IP*, WALL ST. J. (June 29, 2005, 12:01 AM), <https://www.wsj.com/articles/SB112000243233972258> (“[M]any multinational companies in China are losing the battle to protect their intellectual property, largely because they rely too heavily on legal tactics and fail to factor IP properly into their strategic and operational decisions.”).

between China and the United States in areas such as 5G, artificial intelligence, robotics, data analytics, and biomedicine, the dispute will only intensify, making the debate even more contentious.

By juxtaposing the U.S.-China forced technology transfer dispute with the North-South technology transfer debate and the ongoing opposition to the COVID-19 TRIPS waiver, this Article has shown that the debate on international transfer of technology has been more complex and less binary than policymakers and commentators have assumed or are willing to admit. Policymakers and commentators should therefore devote greater energy, effort, and resources to study the challenges and complexities involved. The sooner they do so, the quicker they will be able to come up with new or better solutions, and the more successful they will be in minimizing tensions and conflicts between China and the United States.