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TECHNOLOGY TRANSFER UNDER CHINA'S FOREIGN INVESTMENT REGIME: DOES THE WTO PROVIDE A SOLUTION?

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Technology Transfer under China's Foreign Investment Regime: Does the WTO Provide a Solution?

Weihuan Zhou, Huiqin Jiang & Qingjiang Kong*

Abstract

One of the most longstanding and significant issues in the U.S.-China trade war and international trade regulation in general has been the so-called "forced" technology transfer. To contribute to the ongoing debate over this issue, this article reviews the role of technology transfer in the evolution of China's foreign direct investment ("FDI") regime over the past four decades and shows that the use of foreign investment to promote diffusion of advanced technology and know-how in the Chinese economy has long been rooted in the heart of China's FDI policy and remains fundamental for China's transformation to an innovative economy. This pursuit of economic upgrade and technological advancement is not illegitimate as it is common for countries to use similar policies for similar objectives at different stages of economic development. The question is whether China has done so in breach of its WTO obligations. To answer this question, this article examines China's new FDI regime and argues that while China has removed the controversial provisions in the relevant legislations, the regime leaves flexibility for China to "force" technology transfer in practice, particularly under the security review and retaliation mechanisms envisaged in the new Foreign Investment Law. It is submitted that the best way to address these outstanding challenges would be through the dispute settlement mechanism of the WTO as opposed to unilateral and confrontational approaches which have proven to be counter-productive. While WTO litigation is likely to be limited to "as applied" claims in specific cases, systemic changes may result from a series of successful "piecemeal" attacks over time. Given China's broad WTO commitments on technology transfer, we call for an increasing use of the existing rules to address any laws and practices that "force" technology transfer instead of negotiating new rules.

I. INTRODUCTION

Technology transfer has been a persisting issue in the U.S.-China economic relationship and one of U.S. most significant concerns in the ongoing trade tensions between the world's two largest economies.[1] The 2002 Report to Congress on China's WTO Compliance, the first of such published annually by the U.S. Trade Representative ("USTR") since China's accession to the WTO, challenged China's foreign direct investment ("FDI") regime for " "encouraging" technology transfer, without formally requiring it."[2] In 2018, the USTR issued two detailed reports under Section 301 of U.S. Trade Act 1974 (hereinafter

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All websites cited are current as of 30 July 2019.

1 Rob Smith, 'The World's Biggest Economies in 2018', World Economic Forum (18 April 2018), available at: www.weforum.org/agenda/2018/04/the-worlds-biggest-economies-in-2018/.

2 USTR, '2002 Report to Congress on China's WTO Compliance', January 2002, at 27, available at: www.cfr.org/content/publications/attachments/SPRing0315.09-thru-15.13.pdf.

"Section 301") accusing China of "forcing" technology transfer by U.S. firms seeking to invest in China.[3] In essence, the U.S. accusations centred on the *effect* of the relevant Chinese laws and regulations which impose restrictions and discriminatory treatment on foreign investment. For the U.S., due to the operation of these laws and regulations, coupled with China's discretionary and non-transparent administrative approvals for foreign investment, technology transfer often occurs involuntarily under non-mutually-agreed and non-market-based terms causing significant commercial damages to U.S. businesses.[4] As estimated by the Commission on the Theft of American Intellectual Property, theft of U.S. intellectual property ("IP") has inflicted an annual loss of as high as $600 billion to the U.S. economy with China being a principal infringer.[5]

For China, technology transfer has long been rooted in the heart of its FDI policy and remains fundamental for its transformation to an innovative economy. However, whether China's FDI regime has mandated the transfer of technology remains debatable. Indeed, the USTR's Section 301 report itself recorded evidence showing that the Chinese laws and regulations in question do not necessarily require transfer of technology in favour of Chinese companies, and that "licensing negotiations and contracts are based on market conditions" without interference by the Chinese government.[6] Leading experts and commentators have shown that China has been paying massive and mounting licensing fees and royalties for the use of foreign technology (reaching almost $30 billion in 2017),[7] and that the actual impacts of the Chinese FDI policies and administrative requirements on foreign firms have been vastly overstated.[8] In any event, China should, and has every right to, upgrade its economic model and promote more value-added growth by learning from others' experience and utilizing existing knowledge and expertise instead of reinventing the wheel.[9]

Amid this debate, the U.S. has taken a mix of policy actions with an aim to compel China to change laws and practices. These actions include unilateral tariffs under Section 301 which have been escalated as a result of the U.S.-China trade war, bilateral negotiations via the US-China Strategic and Economic Dialogue[10] and more recently the bilateral talks aiming to end the trade war,[11] and two major steps under

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3 Office of the USTR, *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* (22 March 2018) [hereinafter "Section 301 Report I"], available at: https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF; Office of the USTR, *Update Concerning China's Acts, Policies and Practices related to Technology Transfer, Intellectual Property, and Innovation* (20 November 2018) [hereinafter "Section 301 Report II"], available at: https://ustr.gov/sites/default/files/enforcement/301Investigations/301%20Report%20Update.pdf.

4 See above n 3, Office of the USTR, Section 301 Report I, at 46.

5 Commission on the Theft of American Intellectual Property, *Update to the IP Commission Report – The Theft of American Intellectual Property: Reassessments of the Challenge and United States policy* (February 2017), at 1, available at: http://ipcommission.org/report/IP_Commission_Report_Update_2017.pdf.

6 See above n 3, Office of the USTR, Section 301 Report I, at 55-6.

7 Nicholas R Lardy, 'China: Forced Technology Transfer and Theft?' (*Peterson Institute for International Economics*, 20 April 2018), available at: https://piie.com/blogs/china-economic-watch/china-forced-technology-transfer-and-theft.

8 Daniel Gros, 'The Myth of China's Forced Technology Transfer' (*Project Syndicate*, 8 November 2018), available at: www.project-syndicate.org/commentary/myth-of-forced-technology-transfer-china-by-daniel-gros-2018-11.

9 James Bacchus, Simon Lester and Huan Zhu, 'Disciplining China's Trade Practices at the WTO: How WTO Complaints Can Help Make China More Market-Oriented?' (15 November 2018), CATO Institute Policy Analysis Number 856, at 4-5, available at: https://object.cato.org/sites/cato.org/files/pubs/pdf/pa856.pdf.

10 USTR, '2017 Report to Congress on China's WTO Compliance' December 2017, at 107-17, available at: https://ustr.gov/sites/default/files/files/Press/Reports/China%202017%20WTO%20Report.pdf.

11 See eg Jeff Mason, 'China Shifts Position on Tech Transfers, Trade Talks Progress – U.S. Officials', REUTERS (28 March 2019), available at: www.reuters.com/article/us-usa-china-trade-exclusive/exclusive-china-shifts-position-on-tech-transfers-trade-talks-progress-us-officials-idUSKCN1R905P.

the multilateral trading system. One step was joining force with the EU and Japan to push for reforms of WTO rules and enforcement of IP protection.[12] The other was bringing a WTO dispute over China's inadequate protection of intellectual property rights ("IPRs") in *China – IPRs II* in March 2018.[13] In June 2018, the EU followed suit by initiating a separate WTO litigation in *China – Transfer of Technology*.[14] On 3 June 2019, the U.S. lodged a request to suspend the panel proceedings in *China – IPRs II*, which was accepted by the panel on 12 June.[15] As will be explained later, this suspension may have come as a result of China's promulgation of the new Foreign Investment Law[16] ("FIL") on 15 March 2019, which will take effect on 1 January 2020. Arguably for the same reason, the EU has not proceeded with the *China – Transfer of Technology* dispute which remains in consultation.

Against this backdrop, this article aims to contribute to the ongoing debate on the issue of technology transfer by focusing on two tasks: (1) reviewing the role of technology transfer in the evolution of China's foreign investment regime, and (2) analyzing this issue under the recently revised foreign investment regime. Section II undertakes the first task by providing an overview of the development of China's FDI policies, laws and regulations that sought to promote transfer of technology since the launch of the 1979 economic reforms including the latest overhaul of the FDI regime in 2019. This section shows how the use of foreign investment to promote technological advancement has played a critical role in driving the formation and evolution of China's FDI regime and in China's economic transition and development generally. Section III, in pursuing the second task, offers a detailed analysis of the key changes to the FDI laws relating to technology transfer, the implications for the U.S./EU claims in the two WTO disputes, and remaining issues and possible solutions. We argue that while the new FDI regime has removed the laws that have long concerned the U.S./EU, it maintains flexibility for China to continue practices of "forcing" technology transfer through the implementation of the FIL 2019, particularly the security review and retaliation mechanisms contemplated therein. We believe that the WTO, particularly its dispute settlement mechanism ("DSM"), remains an important avenue to push China to abandon any WTO-illegal practices relating to technology transfer and to continue to enhance the protection of IPRs in general. Section IV sets forth the conclusion.

II. Technology Transfer and Four Decades of Development of China's Foreign Investment Regime

II.A International Technology Transfer in a Nutshell

International technology transfer may occur through various channels including trade in goods, foreign investment, private transactions or other mechanisms or processes which shift information across borders and facilitate its effective diffusion into recipient economies.[17] Accordingly, governments of recipient

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[12] USTR, 'Joint Statement of the Trilateral Meeting of the Trade Ministers of the United States, European Union, and Japan', Press Releases (23 May 2019), available at: https://ustr.gov/about-us/policy-offices/press-office/press-releases/2019/may/joint-statement-trilateral-meeting.

[13] For a summary of this dispute, see WTO, Dispute Settlement, *China — Certain Measures Concerning the Protection of Intellectual Property Rights* (DS542) (US), available at: www.wto.org/english/tratop_e/dispu_e/cases_e/ds542_e.htm.

[14] For a summary of this dispute, see WTO, Dispute Settlement, *China — Certain Measures on the Transfer of Technology* (DS549) (EU), available at: www.wto.org/english/tratop_e/dispu_e/cases_e/ds549_e.htm.

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

[16] For an official version of the FIL, see State Council of the PRC, *Foreign Investment Law of the People's Republic of China*, available at: www.gov.cn/xinwen/2019-03/20/content_5375360.htm. A translated version is available at: www.fdi.gov.cn/1800000121_39_4872_0_7.html.

[17] Keith E Maskus, 'Encouraging International Technology Transfer', ICTSD-UNCTAD Issue Paper No. 7 (May 2004), at 7, 10-4, available at:

countries often resort to a mix of policies to encourage technology transfer. The competing interests at stake concern the protection of IPRs to incentivize technological advancement on the one hand and, on the other, the need of developing countries for the inflow of technological information which is central to their ability "to compete in the global economy and to narrow the technological gaps they face compared to developed countries."[18] The shared view seems to be that a proper balance between these competing interests should prevent IPR holders from over-exploiting their exclusive rights and allow information and knowledge flows across borders.[19] This balance is apparently embedded in the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights[20] (hereinafter "TRIPs Agreement"), "the world's most comprehensive multilateral treaty on" IP.[21] While this agreement imposes an obligation on WTO Members to maintain a minimum level of protection and enforcement of IPRs, it does not constrain cross-border technology transfer. On the contrary, the overarching goal, as clearly set out in Article 7 of the TRIPs Agreement, is to ensure that

> [t]he protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

To pursue this goal, Articles 66.2 and 67 of the TRIPs Agreement impose two specific obligations on developed country Members: (1) to promote and encourage technology transfer to least-developed countries, and (2) to provide technical and financial assistance to developing and least-developed country Members. Thus, at the multilateral level, there seems to be an agreement that collective efforts must be made to facilitate international technology transfer to foster economic growth and development worldwide, although whether the existing rules of the TRIPs Agreement are adequate to fulfill these objectives is debatable.[22]

In reality, all countries, at different stages of development and in various ways, maintain investment promotion policies and other measures to encourage technology transfer.[23] These include not only less developed countries but now-developed economies such as Japan, Korea and the U.S. itself.[24] Indeed, the development of Japan and Korea into global leaders of technological innovation was heavily dependent on "policies that favoured local use of international technologies, licensing, and incremental innovation as

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https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2195; Kamal Saggi, 'Trade, Foreign Direct Investment, and International Technology Transfer: A Survey', (2002)17(2) *The World Bank Research Observer* 191.

18 See above n 17, Maskus, 'Encouraging International Technology Transfer', at 7.

19 Ibid., at 1-2.

20 Agreement on Trade-Related Aspects of Intellectual Property Rights, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, annex 1C, 1869 UNTS 299, 33 ILM 1197 (1994).

21 Matthew Kennedy, *WTO Dispute Settlement and the TRIPs Agreement: Applying Intellectual Property Standards in a Trade Law Framework* (Cambridge, Cambridge University Press, 2016) 1.

22 See generally Carlos M Correa, 'Review of the TRIPS Agreement: Fostering the Transfer of Technology to Developing Countries', (1999)2(6) *Journal of World Intellectual Property* 939; above n 17, Maskus, 'Encouraging International Technology Transfer', at 29-32. However, in 2001, WTO Members carried on those efforts by establishing a Working Group on Trade and Technology Transfer to continue the discussions of steps to be taken to increase international technology transfer to developing countries. See Bernard M Hoekman, Keith E Maskus and Kamal Saggi, 'Transfer of Technology to Developing Countries: unilateral and Multilateral Policy Options', World Bank Policy Research Working Paper 3332 (June 2004), available at: http://documents.worldbank.org/curated/en/737591468762912473/Transfer-of-technology-to-developing-countries-unilateral-and-multilateral-policy-options.

23 Przemyslaw Kowalski, Daniel Rabaioli and Sebastian Vallejo, 'International Technology Transfer Measures in An Interconnected World: Lessons and Policy Implications' (20 November 2017) OECD Trade Policy Papers No 206, at 5, available at: www.oecd-ilibrary.org/trade/international-technology-transfer-measures-in-an-interconnected-world_ada51ec0-en.

24 See above n 17, Maskus, 'Encouraging International Technology Transfer', at 26-8.

they moved from being crude imitators to creative imitators and then knowledge-intensive innovators."[25] Thus, there is nothing remarkable about China pursuing such technology-and-innovation-driven growth models through similar policies. It follows that the U.S. accusation of China's FDI policies would be valid only if China breaches its WTO obligations.

The brief overview of the literature on international technology transfer above is instructive for an objective and balanced assessment of China's FDI policies that seek to promote technology transfer, the new FDI regime and its implications for foreign investors and governments on the issue of "forced" technology transfer. It demonstrates that an FDI policy which creates an environment for technology transfer is not illegitimate and does not in itself "force" technology transfer. The question of whether such policy or its application has resulted in undue government intervention that undermines the legitimate rights and interests of foreign investors and governments that WTO rules are designed to protect must be addressed by detailed legal examination rather than by levelling allegations.

II.B China's Foreign Investment Regime (1979-2019)

China's foreign investment regime has undergone gradual and significant developments over the past four decades. One persistent and defining feature of the regime has been the use of foreign investment to promote technological advancement in China. Below, we divide the evolution of the regime into three phases – formation (1979-1999), liberalization and transition (2000-2010), and overhaul and transformation (2011-2019) – and provide an overview of the major developments in each phase with a focus on policies and legislation relating to the promotion of technology transfer.

a. Phase I: Formation (1979-1999)

The first phase (1979-1999) witnessed the formation of China's foreign investment regime. However, the recognition of technological development as a national policy predated this phase. As early as 1963, technology modernization was included in the so-called "Four Modernizations" set forth by China's first Premier Zhou Enlai as a blueprint for China's economic reform and development. The goal was to establish "modern agriculture, modern industry, modern national defense, and modern science and technology" by the end of the 20th century.[26] This goal was subsequently reiterated at the Third Plenary Session of the 11th Central Committee of the Communist Party of China in 1978 and constituted an integral element of China's Economic Reform and Opening-Up policy. Specifically, it was affirmed that the acquisition of "advanced technologies and machinery" shall play an essential role in fostering China's economic development.[27] Accordingly, China's national Five-Year Plans from 1981 to 2000 were consistently committed to the importation of advanced technology that suited China's needs.[28] This led to the introduction of various FDI rules to, *inter alia*, (1) accord preferential treatment to foreign investors with advanced technology and know-how;[29] (2) require that imported technology must be advanced and suitable for China; and (3) promote exports to earn foreign currency for the acquisition of foreign

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[25] Ibid., at 3.

[26] 周恩来[Zhou Enlai], 1964 年政府工作报告(摘要) [Government Work Report 1964 (Summary)], available at: www.gov.cn/premier/2006-02/23/content_208787.htm [in Chinese].

[27] 中国共产党第十一届中央委员会第三次全体会议(公报) [Report of the Third Plenary Session of the 11th Central Committee of the Communist Party of China in 1978], available at: www.gov.cn/test/2008-06/20/content_1022432.htm [in Chinese].

[28] These Five-Year Plans include the Sixth Five-Year Plan (1981-1985), the Seventh Five-Year Plan (1986-1990), the Eighth Five-Year Plan (1991-1995) and the Ninth Five-Year Plan (1996-2000).

[29] Philana Poon, 'PRC Foreign Investment Law and Opportunities for High-Tech Companies', (1996)7(8) *International Company and Commercial Law Review* 291, 293.

technology.[30] Despite these rules, China was reluctant to admit foreign investment at the time for ideological reasons, particularly because foreign capital was regarded as the bedrock of the capitalist system.[31] This mindset did not change dramatically in the initial stages of the Economic Reform and Opening-Up such that the Chinese government maintained strict regulatory control over foreign investment.[32]

The enactment of the three laws on foreign invested enterprises ("FIEs") – the *Law on Chinese-Foreign Equity Joint Ventures 1979*[33] (hereinafter "EJV Law"), the *Law on Wholly Foreign-Owned Enterprises 1986*[34] (hereinafter "WFOE Law"), and the *Law on Chinese-Foreign Contractual Joint Ventures 1988*[35] (hereinafter "CJV Law") – as well as their corresponding implementing regulations,[36] was intended to strike a balance between "encouraging foreign investment and maintaining regulatory control upon it."[37] Thus, while the legislation established a regulatory framework for foreign investment, it imposed restrictions on the form of foreign investment and various approval requirements and formalities. In 1995, the promulgation of

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30 David L Lau, 'An Introduction to Tax Incentives to Investment in the People's Republic of China', (1981)2 *Boston College Third World Law Journal* 121, 121-22; Yizheng Shi, 'Technological Capabilities and International Production Strategy of Firms: the Case of Foreign Direct Investment in China, (2001)36(2) *Journal of World Business* 184, 188.

31 Jinfan Zhang, 《中国法制 60 年(1949-2009)》 [Sixty Years' Development of China's Legal System (From 1949 to 2009)], 陕西人民出版社[Shaanxi People's Press], 2009, at 211-21.

32 Xiaoyang Zhang, 'More Involvement in Real Business: Assessing China's FIE Holding Companies', (2002) (November) *Journal of Business Law* 638, 640.

33 《中华人民共和国中外合资经营企业法》(1979) [Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures 1979] [hereinafter "EJV Law"], Order No. 7 of the Chairman of the Standing Committee of the National People's Congress, promulgated on 8 July 1979, effective on the same date, as amended by Order No. 27 of the President on 4 April 1990, Order No. 48 of the President on 15 March 2001 and Order No.51 of the President on 3 September 2016.

34 《中华人民共和国外资企业法》(1986) [Law of the People's Republic of China on Wholly Foreign-Owned Enterprises 1986] [hereinafter "WOFE Law"], Order No. 39 of the President, promulgated on 12 April 1986, effective on the same date, as amended by Order No. 41 of the President on 31 October 2000, and Order No. 51 of the President on 3 September 2016.

35 《中华人民共和国中外合作经营企业法》(1988) [Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures] [hereinafter "CJV Law"], Order No.4 of the President, promulgated on 13 April 1988, effective on 13 April 1988, as amended by Order No. 40 of the President on 31 October 2000, Order No.51 of the President on 3 September 2016, Order No. 57 of the President on 7 November 2016, and Order No. 81 of the President on 4 November 2017.

36 《中华人民共和国中外合资经营企业法实施条例》(1983) [Regulations for the Implementation of the Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures 1983] [hereinafter "EJV Regulations"), Order No. 148 of the State Council, issued on 20 September 1983, effective on the same date, as amended by Order No. 6 of the State Council on 15 January 1986, Order No. 110 of the State Council on 21 December 1987, Order No. 311 of the State Council on 22 July 2001, Order No. 588 of the State Council on 8 January 2011, Order No. 648 of the State Council on 19 February 2014, and Order No. 709 of the State Council on 2 March 2019. 《中华人民共和国外资企业法实施细则》(1990) [Rules for the Implementation of the Law of the People's Republic of China on Wholly Foreign Owned Enterprises 1990] [hereinafter "WFOE Rules"), Order No.1 of the Ministry of Foreign Economy & Trade, issued on 12 December 1990, effective on the same date, as amended by the Order No. 301 of the State Council on 12 April 2001, and Order No. 648 of the State Council on 19 February 2014.《中华人民共和国中外合作经营企业法实施细则》(1995) [Rules for the Implementation of the Law of the People's Republic of China on Chinese-foreign Contractual Joint Ventures 1995] [hereinafter "CJV Rules"), Order No. 6 of the Ministry of Foreign Trade and Economic Cooperation, issued on 4 September 1995, effective on the same date, as amended by Order No. 648 of the State Council on 19 February 2014, Order No. 676 of the State Council on 1 March 2017, and Order No. 690 of the State Council on 17 November 2017.

37 See above n 32, Zhang, 'More Involvement in Real Business: Assessing China's FIE Holding Companies', at 640.

the *Provisional Regulations on Direction Guide to Foreign Investment*[38] and the first *Catalogue for the Guidelines of Foreign Investment* [39] ("Catalogue") categorized foreign investment as "prohibited", "restricted", "encouraged" or "permitted". While these regulations provided further guidance for foreign investment, they were apparently aimed at maintaining the balance between attracting and controlling foreign investment. Overall, this regime was fragmented and restrictive, providing wide latitude for administrative discretion in deciding whether to approve foreign investment.[40]

Nonetheless, the FIE laws and regulations set out a common objective of "expanding economic cooperation and technology exchange with foreign countries" for national economic development.[41] Various provisions were designed to pursue that objective. For instance, FIEs in the form of CJVs were encouraged to engage in export-oriented or high-tech manufacturing.[42] Technology used by foreign investors as capital contributions to EJVs or WFOEs was to be advanced[43] and suited to China's needs.[44] Government approval was required not only for the establishment of an FIE but also for the conclusion of any "technology import contract" involving FIEs.[45] For example, an investment proposal could be rejected if it did not contribute to China's economic development, which coud well include the development of technological capacity.[46] Under the *Regulations on the Administration of Technology Import Contracts 1985*[47] (hereinafter "Regulations 1985"), the predecessor of the *Regulation on the Administration of the Import and Export of Technology 2001*[48] (hereinafter "TIER"), imported technology was to be "advanced and suitable for China", although advanced technology had a broader coverage than it does today.[49]

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38 《指导外商投资方向暂行规定》(1995) [Provisional Regulations on Direction Guide to Foreign Investment 1995], Order No. 5 of the National Planning Commission, the National Economic and Trade Commission and the Ministry of Foreign Trade and Economic Cooperation, issued on 20 June 1995, effective on the same date, as replaced by Order No. 346 of the State Council on 11 February 2002. [Expired]

39 《外商投资产业指导目录》(1995) [Catalogue for the Guidelines of Foreign Investment 1995], Order No. 5 of the National Planning Commission, the National Economic and Trade Commission and the Ministry of Foreign Trade and Economic Cooperation, issued on 20 June 1995, effective on the same date, as replaced by Order No. 7 of the National Planning Commission, the National Economic and Trade Commission and the Ministry of Foreign Trade and Economic Cooperation on 31 December 1997. [Expired]

40 See Li Mei Qin, 'Attracting Foreign Investment into the PRC: The Enactment of Foreign Investment Laws', (2000)4 *Singapore Journal of International and Comparative Law* 159, 160. For a detailed assessment of China's FDI regime prior to China's entry into the WTO, see Qingjiang Kong, 'Towards WTO Compliance: China's Foreign Investment Regime in Transition', (2002)3(5) *Journal of World Investment and Trade* 859, 862-70.

41 See above n 33, EJV Law, art 1; above n 34, WFOE Law, art 1; above n 35, CJV Law, art 1.

42 See above n 35, CJV Law, art 4.

43 Under the EJV Regulations, "advanced technology" must satisfy one of the following conditions: (1) It is capable of manufacturing new products urgently needed in China, or products suitable for export; (2) It is capable of improving markedly the performance quality of existing products, and raising productivity; and (3) It is capable of delivering substantial savings in raw materials, fuel or power. See above n 36, EJV Regulations, art 28.

44 See above n 33, EJV Law, art 5; above n 36, EJV Regulations, art 28; WFOE Rules, art 3.

45 See above n 36, EJV Regulations, Ch 6.

46 See above 36, EJV Regulations, arts 4-5; WFOE Rules, art 6.

47 《中华人民共和国技术引进合同管理条例》(1985) [Regulations of the People's Republic of China on the Administration of Technology Import Contracts 1985] [hereinafter "Regulations 1985"], Order No. 73 of the State Council, issued on 24 May 1985, effective on the same date, as replaced by Order No. 331 of the State Council on 10 December 2001. [Expired]

48 《中华人民共和国技术进出口管理条例》(2001) [The Regulation on the Administration of Import and Export of Technology 2001] [hereinafter "TIER"], Order No. 331 of the State Council, issued on 10 December 2001, effective on 1 January 2002, as amended by Order No. 588 of the State Council on 8 January 2011, and Order No. 709 of the State Council on 2 March 2019.

49 See above n 47, Regulations 1985, art 3.

Moreover, Regulations 1985 imposed various restrictions on the content of technology import contracts in favour of Chinese licensees.[50] As will be shown later, some of these restrictions were removed in the TIER to implement China's WTO accession commitments on technology transfer.

In short, the use of foreign investment to promote domestic technological development was a key motivating factor for the introduction of, and was embedded in, China's foreign investment regime. To achieve that objective, the regime created various restrictions and approval requirements to closely associate foreign investment with the importation and diffusion of advanced technology for China's long-term economic interests.

b. Phase II: Liberalization and Transition (2000-2010)

China's FDI regime experienced significant liberalization and transition in the second phase (2000-2010) for two main reasons: (1) accession to the WTO; and (2) technological development and resultant policy upgrade. The year 2000 marked the beginning of this phase as China almost finalized negotiations of the terms and conditions for its WTO membership and the liberalization and adjustments of its FDI regime to fulfil these accession commitments. Amongst others, China relaxed entry restrictions for foreign investment by significantly reducing the number of "prohibited" or "restricted" sectors, removed certain geographical and ownership restrictions as well as various performance requirements, and granted national treatment to foreign service providers in many sectors.[51] In response to the widespread concerns of WTO Members about Chinese laws, regulations and measures affecting transfer of technology particularly "in the context of investment decisions",[52] China committed not to make the approval of foreign investment conditional upon technology transfer (which will be discussed in Section III). This commitment led to the promulgation of the TIER in 2001 which replaced Regulations 1985.

Compared with Regulations 1985, the TIER made four major changes. Firstly, it relaxed the approval-based system by significantly narrowing the scope of import technologies subject to review.[53] Secondly, it eliminated two major restrictive conditions on technology import contracts, including the limitation on the protection of transferred technology to a maximum of ten years and the requirement that such contracts must not restrict the right of transferees to use the technology after its expiration. These two conditions, however, were maintained in the EJV Regulations. Thirdly, it added a requirement that foreign IPR holders indemnify Chinese licensees for all liabilities for infringement resulting from the use of transferred technology.[54] Fourthly, it extended the confidentiality responsibilities from contract parties to cover government authorities and officials.[55] These changes will be further discussed in Section III as they are matters involved in the U.S./EU-China WTO disputes and/or of the latest overhaul of the Chinese FDI regime.

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[50] See above n 47, Regulations 1985, art 9. Two notable restrictions included that a technology import contract must not include clauses that "restrict the development and improvement by the recipient of the imported technology", or "forbid the use by the recipient of the imported technology after the expiration of the contract".

[51] Julia Ya Qin, 'Trade, Investment and Beyond: The Impact of WTO Accession on China's Legal System', (2007)191 *China Quarterly* 720, 729-32; above n 40, Kong, 'Towards WTO Compliance: China's Foreign Investment Regime in Transition', 872-78. For a more comprehensive discussion of China's accession commitments, see generally Julia Ya Qin, ' "WTO-Plus" Obligations and Their Implications for the World Trade Organization Legal System: An Appraisal of the China Accession Protocol', (2003)37(3) *Journal of World Trade* 483.

[52] WTO, Draft Report of the Working Party on the Accession of China to the WTO – Revision, WT/ACC/SPEC/CHN/1/Rev.1 (18 July 2000) para. xx.

[53] See above n 48, TIER, art 5; above n 47, Regulations 1985, art 4.

[54] See above n 48, TIER, art 24.3.

[55] See above n 48, TIER, arts 23, 26; above n 47, Regulations 1985, art 7.

Evidently, WTO accession pushed China to liberalize the FDI regime and improve protection of foreign IPR holders. This move, however, was also in line with China's own interests and policy changes. The FDI policies in the "Formation" period had contributed to China's technological development in various industries.[56] Therefore, China's Tenth Five-Year Plan (2001-2005) refined the goal of technological advancement by focusing on new and high technology in selected priority sectors.[57] This goal was then implemented through the FDI regime with corresponding changes made to the relevant laws and regulations. For example, the Catalogue 2002, the first update after China's WTO accession, added a number of high-tech industries to the "encouraged" category.[58] Subsequently, more high-tech industries were added to this category in the Catalogue 2007.[59] Furthermore, a new rule was published jointly by three ministries of the State Council to encourage the establishment of foreign-invested start-ups in high and new technology sectors.[60] These entities were provided a range of preferential treatment including tax benefits and financial support.[61]

To sum up, the significant liberalization and transitional adjustments of the FDI regime in the second phase largely resulted from China's entry into the WTO. However, China adroitly utilized the WTO accession to pursue more advanced and targeted policy objectives on technological development. With the removal of a number of restrictions and conditions on the importation of technology, China enhanced the protection of foreign investors' IPRs, thereby creating a better regulatory environment for foreign investment in high-tech industries and for the introduction of advanced technologies. Despite its continued ambition to attract foreign investment with high technologies, China made notable progress in delinking the introduction of technology from the admission of foreign investment.[62] As recognized in the USTR's 2002 report on China's WTO compliance, no FDI provisions explicitly *required* foreign investors to transfer technology to Chinese partners.[63] Consequently, whether technology transfer actually

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56 See generally Zhiqiang Liu, 'Foreign Direct Investment and Technology Spillover: Evidence from China', (2002)30(3) *Journal of Comparative Economics* 579.

57 《中华人民共和国国民经济和社会发展第十个五年计划纲要(2001-2005)》[Outline of the Tenth Five-Year Plan for National Economic and Social Development of the People's Republic of China (2001-2005)], issued on 15 March 2001, effective on the same date.

58 The additions included, for example, marine monitoring, anti-desertification and desert control, research and development (R&D) centers. See《外商投资产业指导目录》(2002) [Catalogue for the Guidelines of Foreign Investment 2002], Order No. 21 of the National Planning Commission, the National Economic and Trade Commission, and the Ministry of Foreign Trade and Economic Cooperation on 11 March 2002, effective on the same date, as replaced by Order No. 24 of the National Development and Reform Commission and the Ministry of Commerce on 30 November 2004. [Expired]

59 The additions included, for example, new waste-handling technology for water, gas and solid waste discharged during industrial production. See《外商投资产业指导目录》(2007) [Catalogue for the Guidelines of Foreign Investment 2007], Order No. 57 of the National Development and Reform Commission and the Ministry of Commerce on 31 October 2007, effective on 1 December 2007, as replaced by Order No. 12 of the National Development and Reform Commission and the Ministry of Commerce on 24 December 2011. [Expired]

60 《关于设立外商投资创业投资企业的暂行规定》(2001) [Interim Provisions on the Establishment of Foreign-Invested Startup Enterprises 2001], Order No. 4 of the Ministry of Foreign Trade and Economic Cooperation, Ministry of Science and Technology, and the State Administration for Industry and Commerce, issued on 28 August 2001, effective on 1 September 2001, as replaced by Order No. 2 of the Ministry of Foreign Trade and Economic Cooperation, the Ministry of Science and Technology, the State Administration for Industry and Commerce, and the State Administration of Taxation and Foreign Exchange Administration on 3 January 2003, art 1. [Expired]

61 《创业投资企业管理暂行办法》(2006) [Interim Measures for the Administration of Startup Enterprises], Order No. 39 of National Development and Reform Commission, etc. on 15 November 2005, effective 1 March 2006.

62 See above n 40, Kong, 'Towards WTO Compliance: China's Foreign Investment Regime in Transition', 874.

63 See above n 2.

occurred due to government intervention in the course of foreign investment approvals became largely a matter of practice.

In the meantime, China was committed to improving IP protection generally in order to encourage innovation by domestic firms. In 2008, the State Council released the National Intellectual Property Strategy[64] ("Strategy") setting out the overarching goal to develop an advanced IP system by 2020 in support of invention, utilization, protection and administration of IPRs. As pointed out by other commentators, the Strategy "reflected China's eagerness to make adjustment to its intellectual property system based mostly on internal needs, as opposed to external demands."[65] These policy initiatives and associated regulatory activities not only contributed to attracting foreign investment with high technologies but also paved the way for China's upgrade of economic growth model based on innovation in the third phase.

c. Phase III: Overhaul and Transformation (2011-2019)

The last phase (2011-2019) began with the launch of a new growth model based on technological innovation and development of strategic industries in China's Twelfth Five-Year Plan (2011-2015).[66] This was significant as it reflected the ambition of Chinese leaders to advance China's economic growth and development in a way that would transform China to a developed economy and a global leader in innovation. This policy upgrade was subsequently affirmed, elaborated and developed in many other national policy documents including, *inter alia*, the "Made in China 2025"[67] (an ambitious ten-year action plan to develop technological capability and indigenous innovation in ten strategic industries), the Thirteenth Five-Year Plan (2016-2020),[68] and the National Strategic Emerging Industry Development Plans.[69] These fundamental objectives and plans were accompanied by numerous supporting measures including, for example, preferential bank loans, tax incentives and other financial and regulatory support.[70] Notably, China's ongoing reform of its state-owned enterprises has also been dedicated to building innovative capabilities and international competitiveness.[71]

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64 《国务院关于印发国家知识产权战略纲要的通知》(2008) [Outline of the National Intellectual Property Strategy 2008], Circular No 18 of the State Council, issued on 5 June 2008, effective on the same date.

65 Peter K Yu, 'A Half-Century of Scholarship on the Chinese Intellectual Property System', (2018)67(4) *American University Law Review* 1045, 1082.

66 《中华人民共和国国民经济和社会发展第十二个五年规划纲要(2011-2015)》[Twelfth Five-Year Plan for Economic and Social Development of the People's Republic of China (2011-2015)], issued on 14 March 2011, effective on the same date.

67 《国务院关于印发<中国制造 2025>的通知》(2015) [Notice on the Printing and Release of "Made in China 2025" 2015], Order No. 28 of the State Council, issued on 8 May 2015, effective on the same date.

68 《中华人民共和国国民经济和社会发展第十三个五年规划纲要(2016-2020)》[Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China (2016-2020)], promulgated on 17 March 2016, effective on the same date.

69 《国务院关于印发"十二五"国家战略性新兴产业发展规划的通知》(2012) [Notice of the State Council on Issuing the National Strategic Emerging Industry Development Plan for the Twelfth Five-Year 2012], Order No. 28 of the State Council, issued on 9 July 2012, effective on the same date; 《国务院关于印发"十三五"国家战略性新兴产业发展规划的通知》(2016) [Notice of the State Council on Issuing the National Strategic Emerging Industry Development Plan for the Thirteenth Five-Year 2016], Order No. 67 of the State Council, issued on 29 November 2016, effective on the same date.

70 See eg above n 66, Twelfth Five-Year Plan (2011-2015); above n 68, Thirteenth Five-Year Plan (2016-2020); 《国务院办公厅转发知识产权局等部门关于加强战略性新兴产业知识产权工作若干意见的通知》(2012) [Notice of the General Office of the State Council on Forwarding the Several Opinions of the State Intellectual Property Office and Other Departments on Strengthening the Work of Intellectual Property Rights in Strategic Emerging Industries], Order No. 28 of the General Office of the State Council, issued

To achieve these objectives, China also continued to liberalize its FDI regime and enhance IP protection. Progressive liberalization was initially trialled via the establishment of Free Trade Zones ("FTZs"), starting in Shanghai in 2013.[72] The most remarkable changes were perhaps the introduction of a Negative List approach (which replaced the Positive List approach under the Catalogue) for the admission of foreign investment and the replacement of the approval-based system with a registration-based system for foreign investment that was neither "prohibited" nor "restricted" under the Negative List.[73] The number of "prohibited" and "restricted" sectors was then gradually reduced under the Negative List to provide growing market access for foreign investors.[74]

In 2015, an attempt was made to extend the trialled liberalization nationwide as part of a proposed overhaul of the FDI regime. Specifically, China's Ministry of Commerce ("MOFCOM") published a draft Foreign Investment Law to solicit public comments (hereinafter "2015 Draft").[75] This draft law not only adopted the Negative List approach but also provided detailed rules and procedures for the application of the registration-based system, security review of foreign investment, and many other important matters. Most significantly, the 2015 Draft proposed to repeal the fragmented FIE laws and regulations and extend national treatment to the pre-establishment stage of foreign investment. Although this draft was not adopted, it provided the basis for the draft of the FIL 2019.[76] Despite the introduction of the FIL 2019, China continues to maintain a Negative List separately for FTZs and the nation as a whole, although the level of liberalization under both lists has been constantly improved and has become largely equivalent by 2019.[77] Table 1 below shows the gradual reduction of the number of "prohibited" and "restricted" sectors under the FTZ list and the nationwide list from 2013 to 2019.

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on 28 April 2012, effective on the same date; 《中华人民共和国企业所得税法》(2008) [Enterprise Income Tax Law of the People's Republic of China 2008], Order No. 63 of the President, promulgated on 16 March 2007, effective on 1 January 2008, as amended by Order 64 of the President on 24 February 2017, and Order No. 23 of the President on 29 December 2018, art. 28.2.

71 See generally Weihuan Zhou, Henry Gao and Xue Bai, 'China's SOE Reform: Using WTO Rules to Build a Market Economy', (2019)68(4) *International and Comparative Law Quarterly* (forthcoming October 2019). A SSRN version of this article is available here: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3209613.

72 Central People's Government of the PRC, '国务院批准设立中国（上海）自由贸易试验区' [The State Council Approves the Establishment of China (Shanghai) Pilot Free Trade Zone], Central People's Government of the PRC (22 August 2013), available at: www.gov.cn/gzdt/2013-08/22/content_2472084.htm [in Chinese]. It is worth noting that the U.S.-China bilateral investment treaty negotiations also played an important role in pushing China to further liberalize the FDI regime. See generally Qingjiang Kong, 'U.S.-China Bilateral Investment Treaty Negotiations: Context, Focus, and Implications', (2012)7(1) *Asian Journal of WTO & International Health Law and Policy* 181.

73 《中国(上海)自由贸易试验区外商投资准入特别管理措施(负面清单)》(2013) [Special Administrative Measures for the Access of Foreign Investment in the China (Shanghai) Pilot Free Trade Zone (Negative List) 2013)], Order No. 75 of Shanghai Municipal People's Government, issued on 29 September 2013, effective on 1 October 2013.

74 Xiaoyang Zhang, 'Further Disapplying Differentiated Treatment of Foreign Investment in China: Is This the Only Way Out for the Shanghai Free Trade Zone?', (2016)1 *International Business Law Journal* 53, 61.

75 《商务部就<中华人民共和国外国投资法(草案征求意见稿)>公开征求意见》[MOFCOM Solicits Public Comments on the Foreign Investment Law of the People's Republic of China (Draft for Public Comments)], MOFCOM (19 January 2015), available at: http://tfs.mofcom.gov.cn/article/as/201501/20150100871010.shtml [in Chinese].

76 However, it is interesting to note that the FIL 2019 is substantially simplified with only 6 chapters and 42 articles compared with 11 chapters and 170 articles in the 2015 Draft.

77 《自由贸易试验区外商投资准入特别管理措施(负面清单)(2019 年版)》(2019) [Special Administrative Measures (Negative List) for the Admission of Foreign Investment in Pilot Free Trade Zones 2019], Order No. 26 of the National Development and Reform Commission and the Ministry of Commerce, issued on 30 June 2019, effective on 30 July 2019; 《外商投资准入特别管理措施(负面清

Table 1: Restricted and Prohibited Items under Negative Lists (2013-2019)

	2013 Shanghai FTZ	2014 Shanghai FTZ	2015 FTZs	2017 FTZs	2018 FTZs	2018 Nationwide	2019 FTZs	2019 Nationwide
Restricted	152	110	85	60	20	21	17	17
Prohibited	30	29	37	35	25	27	20	23
Total Items	190	139	122	95	45	48	37	40

At the same time as the simplification and liberalization of the FDI regime, China maintains the commitment to attract high-tech foreign investment in strategic sectors. In addition to the sectors contemplated in the Five-Year Plans and "Made in China 2025", China published the *Catalogue of Encouraged Industries for Foreign Investment* on 30 June 2019, which lists a range of industries in which foreign investment with advanced technology and know-how would be encouraged and facilitated.[78] In addition, China amended the TIER to further improve IP protection for foreign investors. These amendments, and the key changes under the FIL 2019 on the issue of technology transfer, will be discussed in Section III.

All in all, the third phase has witnessed a massive overhaul of China's FDI regime which has led to further liberalization and simplification of the regime. This continuous improvement of the regulatory framework for foreign investment has evidently gone hand in hand with the effort to attract advanced and new foreign technology and know-how to promote China's economic transformation based on innovation. However, whether the new FDI regime has addressed the concerns about "forced" technology transfer remains controversial. This issue will be discussed below.

III. Technology Transfer and the New Foreign Investment Law

The FIL 2019 is a landmark achievement in China's progressive market liberalization and economic reform and reflects China's continued commitments to improving its regulatory environment for foreign investment. It was enacted at a time when there was a growing need for the promotion of foreign investment in China and for China to respond to U.S. concerns in the bilateral trade war and talks.[79]

The FIL has addressed many major concerns of foreign investors.[80] Most fundamentally, it establishes an overarching framework for foreign investment, which unifies and streamlines the previously fragmented regime whereby foreign investment was required to take certain forms subject to different laws and regulations. It replaces the approval-based system with a registration/reporting-based system to further

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单)(2019 年版)》(2019) [Special Administrative Measures (Negative List) for the Admission of Foreign Investment 2019] , Order No. 25 of the National Development and Reform Commission and the Ministry of Commerce, issued on 30 June 2019, effective on 30 July 2019. For a more detailed comparison between the 2018 lists and the 2019 lists, see Zoey Ye Zhang, 'China's 2019 Negative Lists and Encouraged Catalogue for Foreign Investment', China Briefing (10 July 2019), available at: www.china-briefing.com/news/chinas-2019-negative-lists-encouraged-catalogue-foreign-investment/.

78 《鼓励外商投资产业目录(2019 年版)》(2019) [Catalogue of Industries for Encouraging Foreign Investment 2019], Order No. 27 of the National Development and Reform Commission and the Ministry of Commerce, issued on 30 June 2019, effective on 30 July 2019. These industries include, for example, artificial intelligence, clean production, carbon utilization and storage, new pesticide application, urban and rural planning, etc.

79 April A Herlevi, 'China's New Foreign Investment Law: Quick Passage after A Long Wait', The Jamestown Foundation – China Brief (22 March 2019), available at: https://jamestown.org/program/chinas-new-foreign-investment-law-quick-passage-after-a-long-wait/.

80 For a summary of the major developments in the FIL, see Terence Foo, 'China's New Foreign Investment Law – What Does This Mean for Foreign Investors in China?', Clifford Chance (22 March 2019), available at: www.cliffordchance.com/briefings/2019/03/china_s_new_foreigninvestmentlawwhatdoe.html.

simplify the entry requirements (through the Negative List approach) and brings FIEs under the general domestic regulatory framework for the formation of corporate entities (Article 31). Coupled with the removal of the prescribed forms of foreign investment, the new regime has eventually adopted the so-called "pre-establishment national treatment" principle which guarantees that foreign investment will be treated no less favourably than domestic investment at the entry/establishment stage except for the restrictions contemplated in the Negative List (Article 4). Moreover, as a general principle, national treatment has been extended to many post-establishment activities (subject to the Negative List) (Article 28), including but not limited to the application of industrial development policies (Article 9), participation in the formation of standards (Article 15), participation in government procurement (Article 16) and application for licenses (Article 30). In addition, the FIL enhances the protection of foreign investment in important areas such as expropriation and compensation (Article 20) and IPRs (see below).

III.A Technology Transfer under the FIL: An Adequate Response to U.S./EU Concerns?

A number of provisions of the FIL are devoted to addressing criticisms about China's inadequate protection of foreign investors' IPRs.[81] On the issue of technology transfer, the most significant change is the addition of Article 22 which states in the relevant part:

> The State encourages technological cooperation in the course of foreign investment on a voluntary basis and according to commercial terms. The terms and conditions for such cooperation shall be determined by negotiations on the basis of equality and the principle of fairness. Administration organs and their employees must not force technology transfer through administrative means.

Under Article 23, administrative organs and their employees are further prevented from disclosing or unlawfully providing trade secrets or undisclosed information of foreign investors that they obtain in the performance of duties to third parties and must keep such information confidential. A breach of these obligations may lead to administrative or criminal penalties (Article 39).

To what extent have these changes addressed the U.S./EU concerns? According to the Section 301 report and the U.S. request for consultations[82] in *China – IPRs II*, the U.S. criticisms centred on the following provisions under the old FDI regime:

1. Article 43(3)&(4) of the EJV Regulations, which limited the protection of transferred technology to a maximum of ten years and allowed a Chinese JV party to continue to use such technology after the expiration of the relevant technology transfer contract.[83]
2. Various provisions under the TIER, which had treated foreign IPR holders less favourably than Chinese ones. These included, *inter alia*, the requirement that foreign IPR holders indemnify Chinese licensees for all liabilities for infringement resulting from the use of transferred technology (Article 24); and the conferral of the right to Chinese parties to improve imported technology and then to use technology improvements (Articles 27&29(3)).[84]

Apart from the law, the most frequent complaint of the U.S. has concerned the practices of Chinese authorities, particularly their use of discretion and administrative power to pressure the disclosure of

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[81] China denied the relevance between the adoption of the FIL 2019 and the U.S.-China trade war. However, it is widely believed that the trade war at least served as a catalyst to expedite the legislative process.

[82] *China — Certain Measures Concerning the Protection of Intellectual Property Rights*, Request for Consultations by the United States (WT/DS542/1, 26 March 2018).

[83] Ibid. Also see above n 3, Office of the USTR, Section 301 Report I, at 54.

[84] Ibid. Also see above n 3, Office of the USTR, Section 301 Report I, at 48-51.

sensitive company and technical information and technology transfer in furtherance of industrial policy objectives.[85]

The EU's claims were detailed in its original request for consultation[86] in *China – Transfer of Technology*, which were further elaborated and improved in a new consultation request published by the European Commission on 20 December 2018.[87] These claims included not only the issues raised by the U.S. above but also the following:

1. Article 5 of the EJV Law, as implemented by Article 41 of the EJV Regulations, which required that the technology used by a foreign investor to contribute to a JV must be advanced and suited to the needs of China.
2. Articles 7, 11, 26 and 27 of the EJV Regulations, which required that the information of transferred technology be submitted to Chinese authorities in the course of applying for administrative approval of foreign investment.
3. Articles 18-21 of the TIER, which imposed various formality and registration requirements on the importation of technology.

In addition, the EU challenged the application of these laws and regulations in two specific areas including China's promotion of the development of new energy vehicles and crop seed production technology.[88]

The FIL has addressed the aforesaid issues in several ways. As a general rule, transfer of technology must not be "forced" but shall be based on mutually-agreed and market-based terms. This rule is important in that it prohibits government intervention in technology transfer and ensures that any such transfers are based on private negotiations between JV parties with mutually-agreed compensation. Furthermore, the application of criminal penalties imposes a tougher deterrent against counterfeiting and IP theft and offers new avenues for the enforcement of IP protection, as observed by Jake Parker, Vice-President of China operations at the US-China Business Council.[89] Finally, the adoption of the registration-based system reduces the room for abuse of administrative authority in the admission of foreign investment as compared to the approval-based system. In any event, the abolition of the old FDI laws and regulations has removed the problematic provisions, although whether these provisions did mandate technology transfer is debatable.[90]

To implement the changes made by the FIL, and particularly the general prohibition of "forced" technology transfer, the TIER was also amended. The key amendments include the removal of Articles 24(3), 27 and 29, which apparently were made to specifically address the U.S./EU claims relating to the mandatory third-party infringement indemnity by foreign technology transferors and the right to improve transferred technology and use the improved technology by Chinese transferees. Notably, in addition to

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85 See above n 3, Office of the USTR, Section 301 Report I, at 36-43.

86 *China – Certain Measures on the Transfer of Technology*, Request for Consultations by the European Union (WT/DS549/1, 6 June 2018).

87 European Commission, 'EU Steps up WTO Action against China's Forced Technology Transfers' (*European Commission*, 20 December 2018), available at: http://trade.ec.europa.eu/doclib/press/index.cfm?id=1963. It seems that this new consultation request has not been lodged with the WTO.

88 Ibid.

89 Zhou Xin, 'China Approves New Foreign Investment Law Designed to Level Domestic Playing Field for Overseas Investors', South China Morning Post (15 March 2019), available at: www.scmp.com/economy/china-economy/article/3001780/china-approves-new-foreign-investment-law-designed-level.

90 For a discussion of the WTO-legality of some of these old laws and regulations, see Weihuan Zhou, *China's Implementation of the Rulings of the World Trade Organization* (Oxford and Portland, Oregon: Hart Publishing, 2019) ch 6.

the removal of the right to improved technology, the other controversial restrictions under Article 29 of the TIER have also been lifted.[91] This change conforms to the overarching principle that technology cooperation and transfer should be negotiated by the parties on a voluntary, equal and fair basis for mutual benefits.

The amendments above have largely removed the legal basis for the U.S./EU challenges in the WTO disputes. This explains why the U.S. decided to suspend the panel proceedings in *China – IPRs II* and the EU did not pursue the *China – Transfer of Technology* case. At least on its face, the FIL and the TIER no longer contain restrictive or discriminatory provisions that may inhibit foreign IPR holders from fairly competing in the Chinese market. The fact that the TIER maintains a registration system for the importation of technology does not necessarily mean that Chinese authorities would continue to have the discretion to intervene in Chinese-foreign technological cooperation because they are required to adhere to and implement the overarching principles laid down in the FIL. According to the hierarchy of Chinese legislation,[92] the existing legislation in specific areas of technology transfer, such as those challenged by the EU in *China – Transfer of Technology*, must not contradict these principles either; and any such contradictory provisions shall become invalid when the FIL enters into force on 1 January 2020.

III.B Outstanding Challenges: Does the WTO Provide a Solution?

While the promulgation of the FIL seems to have abated U.S./EU concerns about "forced" technology transfer, these concerns have not vanished. Indeed, the issue of technology transfer remained on the priority list of China-related issues in the U.S.-EU-Japan joint statement released on 23 May 2019.[93] However, what the outstanding concerns are have not been clarified in the statement or other official documents. Below, we discuss three major challenges that may continue to generate concerns about technology transfer under China's new FDI regime and argue that the WTO, particularly its DSM, remains an important avenue to deal with these challenges.

a. Implementation

As under the previous FDI regime, the issue that arises immediately after the introduction of the new regime is how the revised laws on technology transfer will be implemented. Given the uncertainties, arbitrariness and non-transparency in China's administrative system, it is reasonable for the U.S./EU to remain concerned while they are monitoring implementation. In this regard, China's Premier Li Keqiang has reportedly confirmed that the Chinese "government will introduce a series of matching regulations and normative documents to protect the rights and interests of foreign investors."[94] These implementing regulations are expected to provide more detailed and enforceable rules and procedures for the relevant authorities and businesses to follow and hence to further restrict administrative discretion and improve clarity and certainty for and protection of foreign investors.

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[91] The other abolished restrictions under Article 29 include that a JV agreement must not impose conditions that require Chinese licensees to (1) purchase unnecessary technology, equipment or service, or (2) pay for expired or invalid patents; or restrict the rights of Chinese licensees in relation to (4) procurement of similar or competing technology, (5) the source of equipment or materials they use, (6) production volumes, models and sales price, or (7) export channels for products made with transferred technology.

[92] See generally 《中华人民共和国立法法》(2000) [Legislation Act of the People's Republic of China 2000], Order No. 31 of the President, promulgated on 15 March 2000, as amended by Order No. 20 of the President on 15 March 2015.

[93] See above n 12, USTR, 'Joint Statement of the Trilateral Meeting of the Trade Ministers of the United States, European Union, and Japan'.

[94] Lim Yan Liang, 'China Committed to Effective Foreign Investment Law: Premier Li Keqiang', The Straitstimes (15 March 2019), available at: www.straitstimes.com/asia/east-asia/chinas-parliament-approves-new-foreign-investment-law-to-facilitate-us-trade-talks.

If Chinese authorities use administrative power to "force" technology transfer, foreign investors may lodge a complaint under the "FIE Complaint Mechanism" newly established under Article 26 of the FIL or resort to administrative review or legal proceedings in China. The availability of these avenues and the administrative or criminal penalties would effectively deter authorities from abusing administrative power, or otherwise provide remedies for foreign investors.

Importantly, foreign governments may challenge "forced" technology transfer under the WTO. While the Chinese laws seem to be WTO-compatible, the application of these laws in individual cases may be subject to WTO complaints. Although the TRIPs Agreement does not prohibit technology transfer, China has undertaken WTO-plus obligations that specifically target "forced" technology transfer. Under Section 7(3) of China's WTO Accession Protocol,[95] China promised that "approval for importation, the right of importation or investment by national and sub national authorities" will not be conditional upon the transfer of technology. This promise is confirmed under Paragraph 203 of the Working Party Report[96] which states that the "allocation, permission or rights for importation and investment would not … be subject to … the transfer of technology." These commitments are clear and broad enough to capture the practice of "forcing" technology transfer in any administrative procedures that affect importation of technology or foreign investment.

To date, China has maintained a good record of compliance with adverse rulings of the WTO.[97] Therefore, continued use of the WTO's DSM to compel China to change WTO-illegal practices including "forced" technology transfer should be preferred over unilateral actions.[98] As evidenced and widely recognized during the U.S.-China trade war, Section 301 tariffs have only led to retaliation as opposed to compliance. However, the WTO/multilateral approach would require a functional DSM in the first place, which in turn requires the U.S. to withdraw its blockage of the appointment of new members to the WTO's Appellate Body,[99] or sub-optimally, an equivalently effective appeal review mechanism to be established.[100] Given the effectiveness of the DSM on influencing China's domestic policymaking, it is in the U.S.'s own interest to ensure that the system is not paralysed.

b. Security Review

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95 Protocol on the Accession of the People's Republic of China (WT/L/432, 23 November 2001).

96 Report of the Working Party on the Accession of China (WT/ACC/CHN/49, 1 October 2001).

97 See generally above n 90, Zhou, *China's Implementation of the Rulings of the World Trade Organization*.

98 See also above n 9, Bacchus, Lester and Zhu, 'Disciplining China's Trade Practices at the WTO', at 8-10.

99 This is currently a hotly-debated issue. For some discussions, see eg. Tetyana Payosova, Gary Clyde Hufbauer and Jeffrey J. Schott, 'The Dispute Settlement Crisis in the World Trade Organization: Causes and Cures', Peterson Institute for International Economics Policy Brief 18-5 (March 2018), available at: https://piie.com/system/files/documents/pb18-5.pdf; Robert McDougall, 'Crisis in the WTO: Restoring the WTO Dispute Settlement Function', CIGI Papers No. 194 (October 2018), available at: www.cigionline.org/sites/default/files/documents/Paper%20no.194.pdf; Jennifer Hillman, 'Three Approaches to Fixing the World Trade Organization's Appellate Body: The Good, The Bad and The Ugly?', Institute of International Economic Law, Georgetown University Law Center, IIEL Issue Briefs (10 December 2018), available at: www.law.georgetown.edu/wp-content/uploads/2018/12/Hillman-Good-Bad-Ugly-Fix-to-WTO-AB.pdf. For a short piece, see Weihuan Zhou and Colin Picker, 'Triage Care for the WTO', East Asia Forum (28 May 2019), available at: www.eastasiaforum.org/2019/05/28/triage-care-for-the-wto/.

100 For a discussion of some of the proposals, see Weihuan Zhou and Henry Gao, " 'Overreaching' or 'Overreacting'? Reflections on the Judicial Function and Approaches of WTO Appellate Body", (2019)53(6) *Journal of World Trade* (forthcoming 2019). A SSRN version of this article is available here: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3418737. For a recent proposal by the EU and Canada, see European Commission, 'Interim Appeal Arbitration Pursuant to Article 25 of the DSU', Latest Document (25 July 2019), available at: http://trade.ec.europa.eu/doclib/docs/2019/july/tradoc_158273.pdf.

The second challenge arises from the security review mechanism envisaged in Article 35 of the FIL. Any foreign investment "which affects or may affect national security" is subject to review. However, Article 35 does not provide any details on important substantive and procedural matters such as the scope of national security, the criteria and processes for security review and the consequences of negative review decisions, thereby creating considerable uncertainties for foreign investors and governments. This lack of details in the FIL is understandable as the Chinese government is committed to issuing implementing regulations. Before the release of such regulations, however, it will remain uncertain as to how the security review may affect technology transfer.

Nevertheless, some observations may be offered by drawing on the relevant provisions under the MOFCOM's 2015 Draft which dedicated a whole chapter (i.e. Chapter 4 consisting of 27 provisions) to the issue of security review setting out detailed rules and procedures that may well be adopted in the implementing regulations of the new FIL. Essentially, the review mechanism provides an opportunity for foreign investors to apply for a review of a proposed investment that may affect national security. The scope of the review is broad including, amongst others, consideration of impacts on China's capacity and leadership in the research and development of key technologies (Article 57 of the 2015 Draft). Investment proposals that are considered to cause national security issues will either be rejected or approved with conditions (Article 58 of the 2015 Draft). Such a mechanism would create loopholes for Chinese authorities to intervene in foreign investment in general and in the commercial negotiations of technological cooperation in particular. For example, review authorities seem to have unfettered discretion in determining whether a proposed investment would adversely affect the development of China's technological capacity and leadership. An affirmative decision in this regard would lead to rejection of or the imposition of conditions on the investment proposal. Either way, restrictions or discriminatory treatment relating to transfer of technology, as those applied under the old FDI regime, may be imposed on foreign investors in the review process if foreign investors wish to proceed with a proposed investment. Thus, the review mechanism has at least the potential to be (ab)used to "force" technology transfer in the name of national security.

While the use of security review to pressure technology transfer is clearly in violation of China's WTO obligations, the question is whether such violations would be justifiable on "national security" grounds under Article XXI of the GATT. This involves two major issues: (1) whether there is a textual basis in China's WTO accession instruments that allows the invocation of GATT exceptions, and (2) whether the violations are justified under the exceptions invoked. A thorough discussion of these extremely complex issues can only be undertaken in a separate article. Here, it would suffice to note briefly that the existing WTO jurisprudence does not seem to provide much room for China to "force" technology transfer on the ground of national security. Firstly, the issue of whether China may invoke the national security exceptions envisaged in GATT Article XXI is contentious. According to the jurisprudence developed in *China – Publications and Audiovisual Products* and *China – Raw Materials*, the application of GATT exceptions to obligations under accession instruments requires a clear textual basis.[101] Under Section 7.3 of China's Accession Protocol, such textual basis may be found only in the language "[w]ithout prejudice to the relevant provisions of this Protocol", which qualifies China's obligations to not condition the admission of foreign investment on technology transfer. However, the main controversy would concern what constitutes "the relevant provisions". A broad interpretation may find, for example, that China's right to regulate trade as recognized under Section 5.1 of the Accession Protocol is "relevant", which would then

[101] See Appellate Body Report, *China — Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products* [*China – Publications and Audiovisual Products*], WT/DS363/AB/R (adopted 19 January 2010) paras. 218-19; Appellate Body Report, *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R, WT/DS395/AB/R, WT/DS398/AB/R (adopted 22 February 2012) paras. 280-307.

allow China recourse to GATT exceptions.[102] A narrow interpretation, however, would suggest that no provisions under the Accession Protocol that are directly relevant to China's obligations on transfer of technology and foreign investment provide the textual basis needed for the application of Article XXI. Secondly, even though China is allowed to invoke the national security exceptions, it would be difficult for China to satisfy the requirements under Article XXI according to the recent panel decision in *Russia – Traffic in Transit*.[103] As far as technology is concerned, the scope of the security exceptions is rather limited and certainly does not cover *any* technology. Under Article XXI(b), the most likely provision on which China may rely, technology that may cause national security concerns is largely confined to those for military use, although there seems to be flexibility for China to target non-military technology "in time of war or other emergency in international relations", which however is also quite limited in scope.[104] Even though a Chinese measure/practice "forcing" technology transfer falls within one of the security exceptions, China must satisfy the obligation of "good faith" which requires the measure/practice to have a connection with the protection of the security interests concerned.[105] This means that the measure/practice must not be adopted or implemented for reasons other than the protection of such interests. In short, the existing WTO rules, including China's accession commitments, have imposed layers of constraints on the practice of "forcing" technology transfer in the admission of foreign investment and on the justifiability of such practice on national security grounds.

c. Retaliation

The final challenge comes out of the retaliatory mechanism contemplated in Article 40 of the FIL which allows the Chinese government to take corresponding actions in response to restrictive or discriminative measures against Chinese outbound investment by foreign governments. Like under the security review mechanism, the discretion of the competent authorities seems to be boundless as they may decide to retaliate against *any* such foreign measures using *any* means they see necessary. This mechanism clearly encompasses tit-for-tat actions against foreign restrictions of or discrimination against China's technology-related investment through similar restrictions or discriminatory treatment. A recent example of this was China's creation of an "unreliable entities" blacklist targeting U.S. technology firms in response to a similar action taken by the U.S. which identified a list of Chinese technology companies including Huawei as a threat to U.S. national security.[106] Although China adopted a similar measure to retaliate in this case, it is not unlikely that China may resort to other retaliatory means such as "forcing" technology transfer when needed in other cases.

To overcome this challenge, the DSM of the WTO remains the best option. Whenever the retaliatory mechanism leads to "forced" technology transfer in practice, this practical application would breach China's WTO accession commitments discussed above and would be unlikely to be justified under GATT exceptions if the sole purpose of it is to retaliate. As also discussed briefly above, in cases where retaliation is used for the protection of national security, the legal requirements that China must satisfy to be able to invoke and defend successfully under GATT Article XXI are remarkably stringent. While

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[102] See above n 101, Appellate Body Report, *China – Publications and Audiovisual Products*, paras. 230-33.

[103] See Panel Report, *Russia – Measures Concerning Traffic in Transit*, WT/DS512/R (adopted 26 April 2019).

[104] Ibid., paras. 7.73-76. The panel concluded that "[a]n emergency in international relations would, therefore, appear to refer generally to a situation of armed conflict, or of latent armed conflict, or of heightened tension or crisis, or of general instability engulfing or surrounding a state. [footnote omitted] Such situations give rise to particular types of interests for the Member in question, i.e. defence or military interests, or maintenance of law and public order interests."

[105] Ibid., paras. 7.132-147.

[106] See Bureau of Industry of Security, Addition of Entities to the Entity List, 12 May 2019, available at: www.federalregister.gov/documents/2019/05/21/2019-10616/addition-of-entities-to-the-entity-list; CGTN, 'MOFCOM: China to Establish 'Unreliable Entities' List', 31 May 2019, available at: https://news.cgtn.com/news/3d3d674e3049444d35457a6333566d54/index.html.

China may challenge foreign restrictions or discrimination through the WTO, it is WTO-unlawful for it to take the law into its own hands through unilateral actions.

d. The Limitation of WTO Litigation

In light of the above, it is important that WTO Members maintain a functional DSM if they wish to continue to use the DSM as an external force to effectively discipline China's WTO-incompatible laws and practices. On the issue of technology transfer, the effectiveness of WTO litigation, however, may be limited because such litigation may have to be confined to the application of the FIL 2019 in practice as opposed to the law itself. As the FIL explicitly prohibits "forcing" technology transfer in administrative procedures and does not *mandate* technology transfer under either the security review mechanism or the retaliation mechanism, an "as such" breach would be largely impossible to establish. "As applied" challenges, even successful, would be "piecemeal" attacks in specific cases which would not be adequate to cause systemic changes in the short run. However, it is not unreasonable to believe that systemic changes may result from a series of successful "as applied" claims in the long run. Despite this limitation of WTO litigation, the use of multilateral approaches to resolving disputes with China remains a much more viable and effective option than unilateral and confrontational approaches.

IV. CONCLUSION

The ongoing U.S.-China trade war has been increasingly characterized as a bilateral "tech war" as the two economic giants compete for global leadership in technological development and innovation as well as in shaping norms and standards for the future of the international economic legal order.[107] The U.S. long-standing challenge of China for "forcing" technology transfer, which initially concerned market access to China for U.S. investors and commercial benefits for U.S. IPR holders, has now become an important part of the "tech competition". In response to the growing external pressure, China fast-tracked the adoption of new FIL and amended the TIER accordingly. These legislations have removed the provisions that have long been subject to U.S./EU criticisms.

In the meantime, however, the FIL seems to have maintained the flexibility for Chinese authorities to monitor foreign investment and foreign treatment of Chinese investment overseas. Although the security review mechanism and the retaliation mechanism are not designed to mandate technology transfer, they may be utilized for that purpose. To address these issues, the DSM of the WTO remains an important avenue. China's WTO commitments on technology transfer are broad enough to address any laws and practices that "force" technology transfer but have been under-utilized so far. Therefore, the way to tackle any Chinese WTO-unlawful practices in the application of the FIL in the future is to increase the use of the existing rules rather than to negotiate new ones. Admittedly, WTO litigation is likely to be limited to "piecemeal" attacks in specific cases which would not be adequate to cause systemic changes in the short run. Over time, however, systemic changes may result from a series of successful "as applied" claims.

The multilateral approach is not the only avenue that foreign governments may take. For the U.S., it may not even be the preferred approach. Instead, it is likely that the U.S. will continue to resort to other approaches, such as bilateral negotiations and unilateral actions, to push China to abandon any practice of "forced" technology transfer and to create a more effective IP system in accordance with international

[107] See eg. Alan Beattie, 'Technology: How the US. EU and China Compete to Set Industry Standards', Financial Times (24 July 2019), available at: www.ft.com/content/0c91b884-92bb-11e9-aea1-2b1d33ac3271.

standards.[108] None of these approaches would work if they are taken to contain or retard China's economic growth and development. Chinese leaders have firmly committed to the new growth model based on innovation to advance China's economic transformation. For a developing economy like China, this policy objective is absolutely legitimate although the policy instruments employed in pursuit of that objective may sometimes be questionable. For the U.S., a sensible policy response to the issue of technology transfer must, first and foremost, be based on the understanding that China's economic growth would benefit both Chinese and American people.[109] While China's industrial policies and state capitalism generate considerable issues for its trading partners and the world economy more generally,[110] the use of unilateral and confrontational approaches to tackle these issues has proved to be counter-productive. In contrast, bilateral negotiations or multilateral dispute settlement would be more likely to lead to positive and constructive outcomes. In the long run, it is in China's own interest to enhance the protection and enforcement of IPRs if it is to succeed in building an innovative economy.

[108] For a discussion of the other approaches, see Lee Branstetter, 'China's Forced Technology Transfer Problem – And What to Do About It?' (Peterson Institute for International Economics, June 2018), available at: https://piie.com/system/files/documents/pb18-13.pdf.

[109] See also above n 9, Bacchus, Lester and Zhu, 'Disciplining China's Trade Practices at the WTO', at 4.

[110] For a comprehensive analysis of China's reform of state-owned enterprises and the relevant WTO rules, see generally above n 71, Zhou, Gao and Bai, 'China's SOE Reform: Using WTO Rules to Build A Market Economy'.