

Subsidizing Technology Competition: China's Evolving Practices and International Trade Regulation

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Abstract: This article contributes to the growing debate about industrial policies and subsidies, the adequacy of the rules of the World Trade Organization (WTO), and future international negotiations of industrial subsidies, using China's practices in the high-tech sector as an illustration. Through a review of China's industrial policies in the high-tech sector including the 14th Five-Year Plan (2021-2025), we show China's entrenched commitments and ambitions towards indigenous innovation, technology independence, and global leadership in key and emerging technologies especially in strategic sectors. However, we challenge the mainstream view that the existing WTO rules are inadequate to deal with Chinese subsidies. Based on a detailed analysis of the general subsidy rules and the relevant China-specific rules, we argue that the current rules create no hurdle to tackling the major types of technology subsidies in China. Any perceived deficiencies are not China-specific and can only be addressed by WTO Members via negotiations. If such negotiations are desirable, then governments should seek to leverage the impacts of the pandemic and the global (ab)use of subsidies to generate the political will needed. Drawing on existing proposals for the reform of WTO subsidy rules, we develop some general principles and approaches to facilitate future negotiations emphasizing the need to focus on targeting trade-distortive subsidies rather than China, to balance between strengthening subsidy rules and preserving policy space, to follow economic guidance and data while accommodating political considerations, and most innovatively, to shift from the 'one-size-fits-all' approach to a country-specific approach through a scheduling method whereby an Industrial Subsidy Schedule is created to record policy objectives, subsidy commitments, and exceptions of each nation.

Cite as: Weihuan Zhou & Mandy Meng Fang, *Subsidizing Technology Competition: China's Evolving Practices and International Trade Regulation*, 30 WASH. INT'L L.J. 470 (2021).

INTRODUCTION

Technological competition is one of the most defining elements in United States-China trade tensions. China is unwaveringly committed to a new growth model based on promoting technological capability and indigenous innovation, especially in strategic sectors. However, the United States has considerable concerns about China's approaches to technological advancement and the growing challenges that China's achievements and ambitions pose to United States' interests and

values.¹ As a result, the Trump Administration responded with a series of measures including Section 301 tariffs on a massive list of Chinese products,² the ban on the supply of US technology, hardware, and software to China's tech giant Huawei,³ the 'China Initiative' to enforce laws against technology theft in all US states, export controls over 'foundational' and 'emerging' technologies, and restrictions on the funding of joint research and development (R&D) activities with China.⁴ However, China's reactions have been firmly defensive and proactive making continuous efforts to strengthen, refine, and upgrade policy priorities and strategies in support of technology-based economic development and digital transformation.

The race for global technological supremacy by the world's two largest trading nations has profound and far-reaching implications for international trade regulation. The two-year-long bilateral trade war, with technological competition being one of the underlying drivers,⁵ has amply demonstrated the United States'

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We benefited from valuable and insightful comments by our discussions with, in alphabetical order, Steve Charnovitz, Peter Draper, Henry Gao, Wenwei Guan, Gary Horlick, Simon Lester, Petros Mavroidis, Bryan Mercurio, Luca Rubini, Robert Staiger, and Markus Wagner. We are responsible for any errors and omissions.

¹ See, e.g., OFF. OF THE U.S. TRADE REP., 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 (2018), <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>. For a recent report on China's technological achievements in a variety of strategic sectors, see TARUN CHHABRA ET AL., GLOBAL CHINA: TECHNOLOGY, (2020), www.brookings.edu/research/global-china-technology/.

² See OFF. OF THE U.S. TRADE REP., *China Section 301-Tariff Actions and Exclusion Process*, <https://ustr.gov/issue-areas/enforcement/section-301-investigations/tariff-actions>.

³ See, e.g., Press Release, U.S. Dep't of Com., Commerce Department Further Restricts Huawei Access to US Technology and Adds Another 38 Affiliates to the Entity List (Aug. 17, 2020), <https://perma.cc/BEJ3-S27H>.

⁴ See BRENDAN THOMAS-NOONE, TECH WARS: US-CHINA TECHNOLOGY COMPETITION AND WHAT IT MEANS FOR AUSTRALIA 6–15 (2020), www.uscc.edu.au/analysis/us-china-technology-competition-and-what-it-means-for-australia.

⁵ See generally MARIANNE SCHNEIDER-PETSINGER ET AL., US-CHINA STRATEGIC COMPETITION: THE QUEST FOR GLOBAL TECHNOLOGICAL LEADERSHIP,

shift in trade policy to unilateralism when tackling China-related problems and the catastrophic damage that shift has inflicted on multilateralism.⁶ The United States-China Phase One trade deal does not address the systemic issues—particularly China’s industrial policies, subsidies and state-owned enterprises (SOEs)—that are at the core of China’s technological development practices.⁷ As of this writing, it remains to be seen whether the Biden Administration will take a more moderate and constructive approach towards China and multilateral cooperation under the World Trade Organization (WTO).⁸

The COVID-19 outbreak has imposed unprecedented pressure on governments to leverage their policy tools to ameliorate the pandemic’s effects on their citizens. In the pursuit of economic nationalism, governments have resorted to a wide spectrum of trade, monetary and fiscal measures—such as export restrictions, stimulus packages and subsidies—while paying little attention to the impact that these measures have on trade partners.⁹

(2019), www.chathamhouse.org/sites/default/files/publications/research/CHHJ7480-US-China-Competition-RP-WEB.pdf.

⁶ See generally Daniel C.K. Chow, *United States Unilateralism and the World Trade Organization*, 37 B.U. INT’L L.J. 1 (2019).

⁷ See 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/countries-regions/china-mongoliataiwan/peoples-republicchina/phase-one-trade-agreement/text>; see also Weihuan Zhou & Henry Gao, *US-China Phase One Deal: A Brief Account*, WOLTERS KLUWER: REGULATING FOR GLOBALIZATION BLOG, (Jan. 22, 2020), <http://regulatingforglobalization.com/2020/01/22/us-china-phase-one-deal-a-brief-account/>(summarizing the Phase One Deal by showing the significance of SOEs as instrument for implementing industrial policies in China for both recipients and providers of subsidies); see generally ORG. FOR ECON. COOP. AND DEV. [OECD], STATE-OWNED ENTERPRISES AS GLOBAL COMPETITORS: A CHALLENGE OR AN OPPORTUNITY? (2016), https://read.oecd-ilibrary.org/finance-and-investment/state-owned-enterprises-as-global-competitors_9789264262096-en#page1 (explaining the challenges that SOEs pose to international economic order).

⁸ See, e.g., Eric Emerson et al., *Client Advisory: The US Trade Agenda in the Biden Administration*, STEPTOE GLOB. TRADE POL’Y BLOG (Nov. 10, 2020), www.steptoeglobaltradeblog.com/2020/11/client-advisory-the-us-trade-agenda-in-the-biden-administration/#more-2010; see Eamon Barrett, *Why A Biden Presidency Won’t End the U.S.-China Trade War*, FORTUNE (Nov. 9, 2020), <https://fortune.com/2020/11/09/joe-biden-us-china-trade-war/>; see also POL’Y PLANNING STAFF, U.S. DEP’T OF STATE, THE ELEMENTS OF THE CHINA CHALLENGE (Nov. 2020), www.state.gov/wp-content/uploads/2020/11/20-02832-Elements-of-China-Challenge-508.pdf (discussing challenges posed by China and possible U.S. responses in the future by U.S. State Department).

⁹ See WTO, *COVID-19 and World Trade*, www.wto.org/english/tratop_e/covid19_e/covid19_e.htm.

For China, technology becomes even more crucial for economic recovery and continuous growth, which requires deploying more resources to promote R&D and build new enabling infrastructure in strategic sectors. These initiatives will strengthen China's commitment to technological advancement and propel its pursuit towards global leadership in technology and innovation, thereby further intensifying strategic competition between the United States and China.¹⁰

Many experts and observers have rightly called upon governments to combat the pandemic through collective action.¹¹ However, the pandemic is not the root cause of the US-China economic relations crisis or international trade problems generally. Many fundamental problems predate COVID-19 and will persist after it.¹² When it comes to technological rivalry, one of United States' top concerns has been China's State-led development model and the provision of significant and extensive subsidies along with other forms of support to create national champions in the high-tech sector.¹³ Although subsidies are used widely by governments for various policy goals and constitute an essential policy tool to stimulate economic recovery during the pandemic,¹⁴ there seems to be a shared concern, as highlighted in a series of US-EU-Japan joint statements about China's industrial policies and subsidies due to their size, complexity, and growing global

¹⁰ See generally ALEX CAPRI, HINRICH FOUNDATION, STRATEGIC US-CHINA DECOUPLING IN THE TECH SECTOR (2020).

¹¹ See, e.g., CTR. FOR ECON. POL'Y RESEARCH., COVID-19 AND TRADE POLICY: WHY TURNING INWARD WON'T WORK (Richard E. Baldwin & Simon J. Evenett eds., 2020); see, e.g., Barry Eichengreen & Douglas A. Irwin, *The Slide to Protectionism in the Great Depression: Who Succumbed and Why?*, 70 J. OF ECON. HIST. 871, 894 (2010).

¹² See generally Weihuan Zhou et al., *Introduction: Rethinking, Repackaging and Rescuing World Trade Law*, in RETHINKING, REPACKAGING, AND RESCUING WORLD TRADE LAW IN THE POST-PANDEMIC ERA (Amrita Bahri et al. eds., forthcoming 2021) Ch. 1.

¹³ See, e.g., OFF. OF THE U.S. TRADE REP., 2019 REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE 30–32 (2020), https://ustr.gov/sites/default/files/2019_Report_on_China%E2%80%99s_WTO_Compliance.pdf.

¹⁴ See Simon J. Evenett, *International Trade Governance: 30 Years after the Marrakesh Agreement*, CTR. FOR INT'L GOVERNANCE INNOVATION, June 10, 2020, www.cigionline.org/articles/international-trade-governance-30-years-after-marrakesh-agreement.

impact.¹⁵ Therefore, it is reasonable to anticipate that such policies and subsidies will remain central to the heightening US-China technology competition and international trade rulemaking.¹⁶

This article makes several contributions to the ongoing debate about China's industrial policies and subsidies, the adequacy of existing WTO rules, and future international negotiations of industrial subsidies. Although we use China's high-tech sector as an illustration, our discussions and observations may be applied to other Chinese industries and subsidies. Likewise, our proposals for future negotiations of subsidy rules are generally applicable at multilateral and sub-multilateral levels.

Section I provides an overview of the evolution of China's industrial policies in pursuit of technological advancement and innovation with a focus on the current policies and latest major developments. It shows China's entrenched commitments and growing ambitions towards "indigenous innovation," technology independence, and global leadership in key and emerging technologies, especially in strategic sectors. This section sets the necessary background for a more detailed analysis of China's major subsidies in the high-tech sector and the adequacy of existing WTO rules to address them.

Section II expounds the typical types of China's technology subsidies and the key legal criteria for determining whether such subsidies may be captured under the WTO Agreement on Subsidies and Countervailing Measures (ASCM).¹⁷ Contrary to the dominant view that ASCM rules have significant

¹⁵ See, e.g., Press Release, Off. of the U.S. Trade Rep., Joint Statement of the Trilateral Meeting of the Trade Ministers of the U.S., Japan, and the EU (May 23, 2019), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2019/may/joint-statement-trilateral-meeting>; see also, e.g., Press Release, Off. of the U.S. Trade Rep., Joint Statement of the Trilateral Meeting of the Trade Ministers of Japan, the U.S., and the EU (Jan. 14, 2020), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2020/january/joint-statement-trilateral-meeting-trade-ministers-japan-united-states-and-european-union> [hereinafter 2020 Joint Statement].

¹⁶ See ALAN DUPONT, NEW COLD WAR: DE-RISKING US-CHINA CONFLICT (2020), www.hinrichfoundation.com/research/white-paper/us-china-trade/new-cold-war/.

¹⁷ Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T.S. 14 [hereinafter ASCM]. This agreement elaborates the rules set out in Articles VI and XVI of the General Agreement on Tariffs and Trade (GATT). See General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194.

deficiencies in addressing Chinese subsidies, we argue that these rules do not create any substantive obstacle to tackling the major types of subsidies being applied in China's high-tech sector. Further, in the few circumstances where difficulties may arise, they occur in relation to all WTO Members and are not China-specific. Arguably, China's WTO-plus obligations have provided not only additional tools to address the difficulties in tackling Chinese subsidies, but also rules that are broad enough to constrain Chinese government intervention in the economy generally. Therefore, WTO Members should be encouraged to increasingly leverage the existing rules when dealing with Chinese subsidies. Meanwhile, WTO Members should note that the ASCM is not the sole source of discipline to address State-led market distortions in China.

Section III engages in the discussion of reforms by reviewing the major proposals in scholarship and developing some general principles and approaches for future negotiations of industrial subsidies. If reforms to the existing subsidy rules are desirable, they can only be undertaken by WTO Members via negotiations.¹⁸ The widespread use of industrial subsidies during the pandemic created a golden opportunity for governments to rethink the issues of subsidies and generate the political will needed for international cooperation to further develop the subsidy rules. We argue that the negotiations need to (1) focus on addressing trade-distortive subsidies in all economies involved as opposed to being disproportionately focused on China and (2) achieve a balance whereby future subsidy regulations would not unduly constrain governments' capacities to use subsidies for legitimate regulatory goals. Most importantly, we call for the creation of country-specific commitments and exceptions via a scheduling approach, like what has been applied in relation to tariff concessions and commitments on trade in services. That is, each WTO Member should have an Industrial Subsidy Schedule that: (1) records the sectors in which subsidies exist, or may need to be granted, (2) the policy objective(s) and magnitude of the subsidies, (3) any upper limit and phase-down or phase-out periods of existing subsidies, and (4) any foreseeable exceptions.

¹⁸ See WTO, UNDERSTANDING THE WTO 9 (5th ed. 2015) ("The WTO was born out of negotiations, and everything the WTO does is the result of negotiations.").

This approach would facilitate negotiations as it responds to countries' different regulatory priorities and economic, political, and social situations and constraints in terms of the use of subsidies, the level of support, etc. especially in the (post-)pandemic era.

Section IV concludes by reiterating the need to rethink the efficacy of existing WTO rules in dealing with Chinese subsidies and to develop new and feasible approaches to the industrial subsidy negotiations.

I. CHINA'S HIGH-TECH POLICIES

This section reviews briefly the evolution of China's industrial policies in the high-tech sector. There is no internationally agreed definition of 'high-tech sector'.¹⁹ Like other countries, China developed its own high-tech industries, development goals, supportive policy instruments, and guidance for policy implementation.

'Technology modernization' formed an integral element of China's national policy for economic reform and development as early as 1963,²⁰ which was subsequently incorporated into the well-known Economic Reform and Opening-Up policy in 1978.²¹ In 1995, China developed the 'technology modernization' strategy to underscore the vital importance of science and education to economic growth (i.e., *Ke Jiao Xing Guo*), which marked the beginning of national policies consistently prioritized scientific

¹⁹ See generally Thomas Hatzichronoglou, *Revision of the High-Technology Sector and Product Classification* (OECD Science, Technology and Industry Working Paper No. 1997/02, 1997), www.oecd-ilibrary.org/science-and-technology/revision-of-the-high-technology-sector-and-product-classification_134337307632; Johan Schot & Edward Steinmueller, *Three Frames for Innovation Policy: R&D, Systems of Innovation and Transformative Change*, 47 RESEARCH POL. 1554 (2018).

²⁰ 周恩来[Zhou Enlai], 1964 年政府工作报告(摘要) [Government Work Report 1964 (Summary)] (effective 1964) www.gov.cn/premier/2006-02/23/content_208787.htm. The policy is known as the 'Four Modernizations' set forth by China's first Premier Zhou Enlai.

²¹ 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] (promulgated by the Central Comm., 1978) <http://cpc.people.com.cn/GB/64162/64168/64563/65371/4441902.html>.

and technological advancement.²² The Ninth Five Year Plan (1996–2000) set out seven key technological areas that have been refined in subsequent national policies in light of new challenges, opportunities and priorities.²³ The Tenth Five Year Plan (2001–05) expanded the scope of strategic sectors and emphasized technologies of critical importance to national economy and security and the promotion of their commercial application.²⁴ The National Medium- and Long-Term Science and Technology Development Plan for 2006–20, issued by the State Council in 2005, further refined the strategic sectors and put forward, for the first time, “indigenous innovation” as a national strategy that aimed to develop China’s own intellectual property rights and innovative capability.²⁵ These policy objectives were subsequently reaffirmed in China’s Eleventh Five Year Plan (2006–10).²⁶ The Twelfth Five Year Plan (2011–15) launched the innovation-based growth model and upgraded the policy priorities in the high-tech sector with an emphasis on fostering “indigenous innovation” and technological advancement in an updated list of priority sectors.²⁷ That policy upgrade paved the way for the

²² 关于加速科学技术进步的决定[The Decision on Accelerating Science and Technology Development], (promulgated by the Central Comm. and State Council, May 6, 1995) www.gov.cn/test/2009-09/29/content_1429943.htm.

²³ 关于国民经济和社会发展“九五”计划和2010年远景目标纲要 [Ninth Five-Year Plan for Economic and Social Development of the People’s Republic of China and the Outlines of Objectives in Perspective of the Year 2010 (1996–2000)] (promulgated by the Standing Comm. People’s Cong. Mar. 17, 1996, effective Mar. 17, 1996) www.npc.gov.cn/wxzl/gongbao/2001-01/02/content_5003506.htm. The seven areas included: information technology; biotechnology; new materials; new energy; aviation and aerospace; and marine technology.

²⁴ 关于国民经济和社会发展第十个五年计划纲要 [Tenth Five-Year Plan for Economic and Social Development of the People’s Republic of China (2001–2005)], (promulgated by the State Council, Mar. 5, 2001, effective Mar. 5, 2001) www.gov.cn/gongbao/content/2001/content_60699.htm.

²⁵ 国家中长期科学和技术发展规划纲要（2006–2020） [The National Medium- and Long-Term Science and Technology Development Plan for 2006–2020] (promulgated by the State Council, Feb. 9, 2006) www.most.gov.cn/mostinfo/xinxifenlei/gjkjgh/200811/t20081129_65774.htm.

²⁶ 中华人民共和国国民经济和社会发展第十一个五年规划纲要（2006–2010） [Eleventh Five-Year Plan for Economic and Social Development of the People’s Republic of China (2006–2010)] (promulgated by the State Council, Mar. 16, 2006, effective Mar. 16, 2006) www.gov.cn/ztl/2006-03/16/content_228841.htm.

²⁷ 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

promulgation of the ‘Made in China 2025’ (MIC 2025), an ambitious ten-year action plan to develop technological capability and indigenous innovation in ten strategic industries: information technology; numerical control tools and robotics; aerospace equipment; ocean engineering equipment and high-tech ships; railway equipment; energy saving and new energy vehicles (NEVs); power or renewable energy equipment; new materials; medicines and medical devices; and agricultural machinery.²⁸ These sectors encompass virtually all high-tech industries that have driven economic growth in advanced economies,²⁹ and they constitute nearly 40 percent of China’s entire industrial value-added manufacturing.³⁰ Consistent with the overarching strategy of “indigenous innovation,” MIC 2025 is aimed at reducing dependence on foreign technologies, and boosting self-sufficiency and the internationalization of Chinese home-made technologies throughout value chains including foundational technologies (e.g. semiconductors), core technologies (e.g. electric vehicle batteries), and future technologies (e.g. autonomous driving).³¹ The Thirteenth Five Year Plan (2016–20) further refined the priority sectors to seven strategic industries: energy-saving and environmental protection; new-generation information

of China (2011–2015)] (promulgated by the State Council, Mar. 14, 2011, effective Mar. 14, 2011) www.gov.cn/2011/03/content_1825838.htm. The priority sectors included: clean energy technology; next-generation information technology; biotechnology; high-end equipment manufacturing; new energy; new materials; and clean energy vehicles.

²⁸ 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)] (promulgated by the State Council on May 8, 2015, effective May 8, 2015) http://www.gov.cn/jzhengce/content/2015-05/19/content_9784.htm.

²⁹ Jost Wubbeke et al., *Made in China 2025: the Making of a High-Tech Superpower and Consequences for Industrial Countries* 6 (Mercator Inst. China Studies, Papers on China No. 2, 2016), <https://merics.org/en/report/made-china-2025>; Max J. Zenglein & Anna Holzmann, *Evolving Made in China 2025: China’s Industrial Policy in the Quest for Global Tech Leadership* 10–11 (Mercator Inst. China Studies, Papers on China No. 8, 2019), <https://merics.org/en/report/evolving-made-china-2025>.

³⁰ U.S. CHAMBER OF COMMERCE, *MADE IN CHINA 2025: GLOBAL AMBITIONS BUILT ON LOCAL PROTECTIONS* (2017), www.uschamber.com/sites/default/files/final_made_in_china_2025_report_full.pdf.

³¹ 中国制造 2025 重点领域技术路线图》[Made in China 2025 Key Technology Roadmap] (National Manufacturing Strategy Advisory Committee, Oct. 2015), www.cae.cn/cae/html/files/2015-10/29/20151029105822561730637.pdf.

technology; biology; high-end equipment manufacturing; new energy; new materials; and new-energy automobile.³²

Like many other countries, the Chinese government played a critical role developing its high-tech sector.³³ The pursuit of the policy goals envisaged in the Five Year Plans led to the creation of different science and technology programs,³⁴ and supportive measures in various forms like massive investment funds, policy loans, loan guarantees, preferential tax, and government procurement policies, and export promotion. By the end of the Thirteenth Five Year period, China became a global leader in many emerging technologies ranging from high-speed railways and NEVs, to 5G networks and artificial intelligence.³⁵

The COVID-19 outbreak strengthened China's commitment to technological advancement and innovation as an essential approach to economic recovery and continuous growth. For example, a series of initiatives were rolled out, including the promotion and commercialization of major technology projects to revitalize economic growth, the expansion of financial support for high-tech sectors,³⁶ and most notably, the commitment to build

³² 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 by the State Council, Mar. 17, 2016, effective Mar. 17, 2016), www.gov.cn/xinwen/2016-03/17/content_5054992.htm.

³³ See generally Michele Di Maio, *Industrial Policies in Developing Countries: History and Perspectives*, in *INDUSTRIAL POLICY AND DEVELOPMENT: THE POLITICAL ECONOMY OF CAPABILITIES ACCUMULATION* 108–43 (Mario Cimoli et al. eds., 2009).

³⁴ Key programs at the early stage of development included, for instance, the so-called '863', '973', 'Spark' and 'Torch' programs. See generally Margaret McCuaig-Johnston & Moxi Zhang, *China Embarks on Major Change in Science and Technology* (U. of Alta., Occasional Paper Series No. 2, 2015). More recent programs included, for example, the National Natural Science Fund, the Major Science and Technology Projects, the National Key R&D Programs, the Technology Innovation Guidance Fund, and the Bases and Talents Program. These programs are aimed at systematically reshaping the entire national funding system for science, technology and innovation. See 国务院关于印发深化中央财政科技计划（专项，基金等）管理改革方案的通知 [Notice on Deepening the Reform Plan of Central Fiscal Measures on Technology (Funds)] (promulgated by the State Council, Jan. 7, 2015) www.most.gov.cn/tpxw/201501/t20150106_117285.htm.

³⁵ See Zenglein & Holzmann, *supra* note 29, at 9–10.

³⁶ 关于科技创新支撑复工复产和经济平衡运行的若干措施 [Several Measures on Supporting the Resumption of Work and Production and the Stability of Economy with Technology and Innovation] (promulgated by the Ministry of Science and Technology, Mar. 21, 2020), www.gov.cn/zhengce/zhengceku/2020-03/22/content_5494142.htm.

new infrastructure (hereinafter New Infrastructure Initiative).³⁷ The New Infrastructure Initiative originated from the Central Economic Work Conference in December 2018, which endorsed the importance of “promoting the revolution of manufacturing skills and the update of essential tech-supportive equipment, accelerating and expanding the commercialization of 5G, and strengthening artificial intelligence, industrial internet, and internet of things.”³⁸ The Initiative will play a significant role in China’s ambition to become a superpower in science, technology, and innovation.³⁹

The New Infrastructure Initiative is being implemented through a new investment and development model underpinned by diversified investment sources, suggesting a departure from State-led investment in traditional infrastructure.⁴⁰ In the short term, however, it is likely that central and local governments and state entities will remain important players in the Initiative.⁴¹ This has become evident in implementation actions adopted at both national and local levels. For example, some major projects at the central level involved China Mobile’s RMB 100 billion investment in 5G,⁴² State Grid’s RMB 181 billion investment in ultra-high-voltage power facilities,⁴³ and China Southern Power Grid’s RMB 25 billion investment in concentrated charging stations in the southern region of China over the coming four

³⁷ Premier Keqiang Li, 2020 年政府工作报告, [2020 Government Work Report] May 22, 2020, www.gov.cn/zhuanti/2020lhfgzbg/index.htm.

³⁸ ‘中央经济工作会议举行习近平李克强作重要讲话’ [*President Xi Jinping and Premier Li Keqiang Give Speech at the Central Economic Working Conference*], XINHUA NEWS AGENCY, Dec. 12, 2019, www.gov.cn/xinwen/2019-12/12/content_5460670.htm.

³⁹ See generally REBECCA ARCESATI ET AL., MERCATOR INST. FOR CHINA STUDIES, CHINA’S DIGITAL PLATFORM ECONOMY: ASSESSING DEVELOPMENTS TOWARDS INDUSTRY 4.0 8 (2020).

⁴⁰ See 2020 Government Work Report, *supra* note 37.

⁴¹ Zhang Dingfa & Liu Cheng, *State-Owned Enterprises Lead the New Infrastructure and Cultivate New Economic Growth Engines*, PEOPLE.CN, (Apr. 24, 2020), <http://cnews.people.com.cn/n1/2020/0424/c141677-31686310.html>.

⁴² Zhang Lulu, *China Eyes “New Infrastructure” to Shore Up Growth*, CHINA.ORG.CN (Mar. 22, 2020), www.china.org.cn/business/2020-03/22/content_75844807.htm.

⁴³ (央企发力万亿新基建 不走“四万亿”老路) [*State-Owned Enterprises Force Trillions of New Infrastructure, Not to Follow the “Four Trillion” Old Road*], CAIJING.COM.CN (Mar. 21, 2020), <http://finance.eastmoney.com/a/202003211426920955.html> (China).

years.⁴⁴ Local governments have also swiftly localized the Initiative and developed implementation strategies. Here examples include Beijing's three-year plan focusing on the construction in six core sectors and 30 key projects;⁴⁵ Shanghai's three-year plan to invest RMB 270 billion in four priority sectors;⁴⁶ and Guangdong's massive construction plan injecting RMB 5.9 trillion in 1,230 projects prioritizing high-speed railway, ultra-high voltage grid, 5G, and new energy.⁴⁷ Notably, private companies are playing an increasing role. Some of China's tech giants, such as Alibaba and Tencent, pledged investments of billions of RMB in cloud infrastructure, artificial intelligence, and other technologies.⁴⁸

On March 11, 2021, China's National People's Congress adopted the Fourteenth Five Year Plan (2021–25) and the 2035

⁴⁴ (两大电网开启充电桩建设新高潮) [Two Major Power Grids Start a New Climax in the Construction of Charging Piles], PEOPLE.CN (Apr. 15, 2020), <http://energy.people.com.cn/n1/2020/0415/c71661-31674815.html> (China).

⁴⁵ 北京市加快新型基础设施建设行动方案 (2020-2022 年) [Beijing Action Plan for Accelerating the Construction of New Infrastructure (2020-2022)], (promulgated by Beijing Bureau of Economy and Information Technology, June 2, 2020) www.beijing.gov.cn/fuwu/lqfw/ztzl/xytxms/zxxx/202006/t20200610_1922075.html (China). These six core sectors are: (1) new internet infrastructure, (2) data intelligence infrastructure, (3) ecosystem infrastructure, (4) technological innovation infrastructure, (5) smart application infrastructure, and (6) trusted and secure infrastructure.

⁴⁶ (上海市推进新型基础设施建设行动方案 2020-2022 年) [Action Plan for Accelerating the Construction of New Infrastructure in Shanghai (2020-2022)] (promulgated by Shanghai People's Mun. Gov't, Apr. 29, 2020) <http://stcsm.sh.gov.cn/zwgk/ghjh/20200603/a4c074e101374866a619424aae7a3fbd.html> (China). The four priority sectors in Shanghai's plan are: (1) new internet, (2) new infrastructure, (3) new platforms, and (4) new terminals.

⁴⁷ (广东省发展改革委关于下达广东省 2020 年重点建设项目计划的通知) [Notice of the Guangdong Provincial Development and Reform Commission on Issuing the Key Construction Project Plan of Guangdong Province in 2020] (promulgated by Guangdong Provincial Dev. And Reform Comm., Feb. 28, 2020) http://drc.gd.gov.cn/tjxx5631/content/mpost_2956713.html (China).

⁴⁸ Josh Horwitz, *Alibaba to Invest \$28 Billion in Cloud Services After Coronavirus Boosted Demand*, REUTERS (Apr. 19, 2020), www.reuters.com/article/us-china-alibaba-cloud-investment/alibaba-to-invest-28-billion-in-cloud-services-after-coronavirus-boosted-demand-idUSKBN22208E; Arjun Kharpal, *Tencent Pledges \$70 Billion Investment in High-Tech Areas as Beijing Pushes Digital Infrastructure*, CNBC (May 27, 2020), www.cnbc.com/2020/05/27/china-tech-giant-tencent-pledges-70-billion-investment-in-ai-cloud.html.

Long-Term Goals.⁴⁹ As anticipated, this blueprint emphasizes technology and innovation as a critical element in the pursuit of technological independence and global competitiveness, which in turn serves the overarching goals of modernization and economic development.⁵⁰ While the blueprint maintains the list of the strategic industries contemplated in MIC 2025 and the Thirteenth Five Year Plan, it also highlights the vital importance of foundational research in many frontier areas. Those areas include new generations of artificial intelligence, quantum computing, integrated circuits, neuroscience, gene and biotechnology, clinical medicine and health, aerospace, and deep land and deep-sea technology.⁵¹ These policies and objectives will lead to more government support, including the wide spectrum of subsidies mentioned above and discussed in more detail in Section II.

II. INTERNATIONAL REGULATIONS OF SUBSIDIES

Subsidies are one of the most perplexing and controversial areas of international trade regulation.⁵² The current WTO rules on subsidies have undergone nearly eight decades of development and remain underdeveloped and problematic according to prevailing views of today.⁵³ The multilateral negotiations leading to the subsidy rules' creation and eventually the ASCM's conclusion in the Uruguay Round, have essentially revolved around a few major competing interests, including on the one hand, protecting the value of tariff concessions and

⁴⁹ See (中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要) [*The Fourteen Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Outline of the Long-Term Goals for 2035*], XINHUA NEWS AGENCY (Mar. 13, 2021) http://www.gov.cn/xinwen/2021-03/13/content_5592681.htm (China).

⁵⁰ *Id.*

⁵¹ *Id.* § 3.2, ch. 1.

⁵² See, e.g., Alan O. Sykes, *The Economics of WTO Rules on Subsidies and Countervailing Measures* 1 (U. Chi. L. Sch. John M. Olin Program in Law and Economics Working Paper No. 186, 2003) https://chicagounbound.uchicago.edu/law_and_economic_s/516/.

⁵³ See, e.g., JOHN H. JACKSON, *THE WORLD TRADING SYSTEM: LAW AND POLICY OF INTERNATIONAL ECONOMIC RELATIONS* 293-303 (2d ed. 1997); Alan O. Sykes, *The Questionable Case for Subsidies Regulation: A Comparative Perspective*, 2 J. LEGAL ANALYSIS 473 (2010); Gary N. Horlick & Peggy A. Clarke, *WTO Subsidies Discipline During and After the Crisis*, 13 J. INT'L ECON. L. 859 (2010); Chad Bown & Jennifer Hillman, *WTO'ing a Resolution to the China Subsidy Problem*, 22 J. INT'L ECON. L. 557 (2019).

disciplining trade-distortive subsidies, and on the other hand, the widespread and persistent need to use subsidies.⁵⁴ The fundamental challenge has been determining how to strike a balance between the regulation of ‘bad’ subsidies and the preservation of governments’ rights to use ‘good’ subsidies in their pursuit of policy objectives.⁵⁵

This challenge reflects both the standard economics on trade policies and the political bargain in trade negotiations. Trade economists have convincingly shown that subsidies are generally more efficient policy instruments to address domestic externalities or non-trade policy objectives because they target a problem’s source more directly, as compared to tariffs and quotas.⁵⁶ This is known as the Specificity or Targeting Rule derived from the well-established Theory of Distortions and Welfare.⁵⁷ Accordingly, economists have cautioned against excessive discipline on subsidies that would cause governments to resort to second-best instruments and have instead reiterated the need for international

⁵⁴ See, e.g., JOHN H. JACKSON, *WORLD TRADE AND THE LAW OF THE GATT* 367–69 (1969); 2 PETROS C. MAVROIDIS, *THE REGULATION OF INTERNATIONAL TRADE: THE WTO AGREEMENTS ON TRADE IN GOODS* 186–91 (2016); Richard R. Rivers & John D. Greenwald, *The Negotiation of a Code on Subsidies and Countervailing Measures: Bridging Fundamental Policy Differences*, 11 L. & POL’Y. INT’L BUS. 1447 (1979); Gerard Depayre, *Negotiating Subsidies in the GATT/WTO: The Tokyo Round and the Uruguay Round*, in *WHAT SHAPES THE LAW? REFLECTIONS ON THE HISTORY, LAW, POLITICS AND ECONOMICS OF INTERNATIONAL AND EUROPEAN SUBSIDY DISCIPLINES* 51–56 (Luca Rubini & Jennifer Hawkins eds., 2016). For a more comprehensive and sophisticated review of Uruguay Round negotiations of subsidy rules, see 2 *THE GATT URUGUAY ROUND: A NEGOTIATING HISTORY (1986–1992)* 833–84. (Terrence P. Steward ed., 1993).

⁵⁵ See Jan Woznowski, *The Shape of Things: Few Thoughts on Negotiating Rules on Subsidies in the GATT and WTO*, in *WHAT SHAPES THE LAW? REFLECTIONS ON THE HISTORY, LAW, POLITICS AND ECONOMICS OF INTERNATIONAL AND EUROPEAN SUBSIDY DISCIPLINES* 45, 45–47 (Luca Rubini & Jennifer Hawkins eds., 2016); Hugo Paemen, *Forces that (May) Have Shaped Subsidy Regulation*, in *WHAT SHAPES THE LAW? REFLECTIONS ON THE HISTORY, LAW, POLITICS AND ECONOMICS OF INTERNATIONAL AND EUROPEAN SUBSIDY DISCIPLINES* 49, 49–50 (Luca Rubini & Jennifer Hawkins eds., 2016).

⁵⁶ See, e.g., RICHARD BLACKHURST, *THE ECONOMIC EFFECTS OF DIFFERENT TYPES OF TRADE MEASURES AND THEIR IMPACT ON CONSUMERS, INTERNATIONAL TRADE AND THE CONSUMER* 94–111 (1986); see Peter H Lindert, *The Basic Analysis of a Tariff*, in *INTERNATIONAL ECONOMICS* 121, 121 (8th ed., 1986).

⁵⁷ See generally JAGDISH N. BHAGWATI, *The Generalized Theory of Distortions and Welfare*, in *TRADE BALANCE OF PAYMENTS AND GROWTH: PAPERS IN INTERNATIONAL ECONOMICS IN HONOR OF CHARLES P. KINDLEBERGER* 69–90 (Jagdish N. Bhagwati et al., eds., 1971); see generally JAGDISH N. BHAGWATI, *FREE TRADE TODAY* (2002) (reviewing the historical development of the theory and its applications).

rules to distinguish between ‘bad’ and ‘good’ subsidies.⁵⁸ Generally speaking, ‘bad’ subsidies would inflict welfare losses on trading partners and the world economy as a whole, whereas ‘good’ subsidies genuinely serve non-protectionist, trade-unrelated regulatory goals, regardless of their side-effects on trade.⁵⁹

Although trade negotiators are usually knowledgeable about the above economic principles, they are constrained by internal politics and tend to succumb to the pressures of influential constituents.⁶⁰ Consequently, the WTO subsidy rules are not so much concerned about the welfare effects of subsidies as about the impact on competing producer interests.⁶¹ The political compromise embodied in the ASCM largely came out of the insistence of the United States on stricter subsidy rules on the one hand, and the resistance of the EU and others (mainly developing countries) to over-regulation and encroachment on policy space on the other hand.⁶² The ASCM reached a middle ground by, *inter alia*, limiting the scope of subsidies and addressing the extraterritorial effects of the covered subsidies.⁶³ Only two types – export subsidies and local content subsidies – are prohibited.⁶⁴ Domestic subsidies are generally ‘actionable’ only (as opposed to ‘prohibited’), meaning that Members may take actions to address the adverse effects of these subsidies.⁶⁵ The other important element of this compromise was a category of ‘non-actionable’ subsidies—including certain subsidies for R&D, environmental

⁵⁸ See, e.g., Sykes, *supra* note 53; Kyle Bagwell & Robert W. Staiger, *Will International Rules on Subsidies Disrupt the World Trading System?*, 96 AMER. ECON. REV. 877 (2006); LUCA RUBINI, E15 INITIATIVE, RETHINKING INTERNATIONAL SUBSIDIES DISCIPLINES: RATIONALE AND POSSIBLE AVENUES FOR REFORM (2015); KEITH MASKUS, E15 INITIATIVE RESEARCH AND DEVELOPMENT SUBSIDIES: A NEED FOR WTO DISCIPLINES? (2015).

⁵⁹ However, whether a subsidy produces net welfare gains is often ambiguous and difficult to assess as governments tend to subsidize for political reasons without regard to the welfare effects of the subsidy. JACKSON, *supra* note 53, at 281–82.

⁶⁰ This observation essentially stems from Public Choice theory. See generally Weihuan Zhou, *In Defence of the WTO: Why Do We Need a Multilateral Trading System?* 47 LEGAL ISSUES ECON. INTEGRATION 1, 9 (2020).

⁶¹ See, e.g., MAVROIDIS, *supra* note 54, at 193–94; Sykes, *supra* note 53, at 501–19.

⁶² See Stewart, *supra* note 54, at 833–84.

⁶³ See ASCM, *supra* note 17, arts. 1–6.

⁶⁴ *Id.*

⁶⁵ *Id.*

protection, and regional development—which were permitted and exempted from countervailing actions on a provisional basis for five years.⁶⁶ However, this category expired as WTO Members failed to reach a consensus to renew it by December 31, 1999.⁶⁷

R&D subsidies warrant more observation given their relevance to this article. The Uruguay Round negotiations started with a disagreement between proponents of making R&D subsidies non-actionable (e.g., the EU, Canada, Switzerland, Japan and Nordic Countries) and the United States, which opposed the idea of non-actionability in general and regarded R&D subsidies as being particularly susceptible to abuse.⁶⁸ The US changed its position at a later stage of the negotiations due to a domestic policy shift to promoting subsidization of R&D activities under the Clinton Administration since 1993.⁶⁹ However, this shift did not fundamentally change the overall position of the US, which continued to push for stricter discipline on trade-distortive subsidies including confining the scope and magnitude of R&D subsidies and retaining the flexibility to apply countervailing measures to those beyond the agreed limits.⁷⁰ The final compromise was the incorporation of a carefully-crafted list of conditions on R&D subsidies, the provisional application of non-actionability, and other requirements such as notification.⁷¹ The inclusion of R&D subsidies in the non-actionable category aligns with economic guidance that subsidies tend to be the optimal means to correct market failures in R&D activities by bringing such activities to the socially optimal level, which in turn generates positive spillovers economy-wide. However, the non-actionability conditions were designed to meet the needs of developed economies, particularly the United States, and did not accommodate the interests of developing economies.⁷² This explains why developing countries opposed the extension of the

⁶⁶ *Id.* arts. 8, 31.

⁶⁷ WTO, Committee on Subsidies and Countervailing Measures, Minutes of the Special Meeting Held on 20 December 1999, G/SCM/M/22 (Feb. 17, 2000).

⁶⁸ See Stewart, *supra* note 54, at 904–14.

⁸⁵ See George Kleinfeld & David Kaye, *Red Light, Green Light? The 1994 Agreement on Subsidies and Countervailing Measures, Research and Development Assistance, and U.S. Policy*, 28 J. WORLD TRADE 43, 51–52 (1994).

⁷⁰ *Id.* at 52–54.

⁷¹ See ASCM, *supra* note 17, art. 8.

⁷² See Kleinfeld & Kaye, *supra* note 69, at 51–52.

non-actionable category unless the conditions could be modified to provide room for them to pursue developmental goals.⁷³ The call for improvement of the applicability of non-actionable subsidies, including R&D subsidies, for economic development has continued in the Doha Round negotiations.⁷⁴ The expiry of non-actionable subsidies means that there currently is no distinction between “good” and “bad” subsidies based on policy objectives underlying the grant of a subsidy under the ASCM.⁷⁵

As noted earlier, there have been growing concerns about the effectiveness of WTO subsidy rules in dealing with Chinese subsidies effectuated by ambitious industrial policies. One of the latest criticisms come from Bown and Hillman, who identified many shortcomings in the ASCM to address Chinese subsidies, including the definition of subsidies, the difficulties of satisfying the relevant evidentiary burden, and lack of notification and retrospective remedies.⁷⁶ But Bown and Hillman’s analysis has two major shortcomings. First, they did not provide a detailed discussion of specific types of Chinese subsidies and the potential issues in applying the existing rules to these subsidies in light of the case law. Second, they did not distinguish between deficiencies specific to China and those generally applicable to all WTO Members. In discussing the existing rules applicability to China’s subsidies in the high-tech sector below, we argue that these rules have provided sufficient flexibility to address these subsidies. Most of the potential challenges in the application of these rules are not China-specific, but applicable to all WTO Members. Therefore, linking these challenges exclusively to China’s subsidies or characterizing them as “China-specific problems” is highly questionable and would not help resolve these problems in future negotiations.

⁷³ WTO, Committee on Subsidies and Countervailing Measures, Minutes of the Regular Meeting Held on 1-2 November 1999, WTO Doc. G/SCM/M/24 (Apr. 26, 2000). For a more detailed discussion of the various views, see Sadeq Z. Bigdeli, *Resurrecting the Dead? The Expired Non-Actionable Subsidies and the Lingering Question of ‘Green Space’*, 8 MANCHESTER J. INT’L ECON. L. 2, 8-9 (2011).

⁷⁴ For a review of the proposals for reforming subsidy rules by WTO Members, see Siqui Li & Xinquan Tu, *Reforming WTO Subsidy Rules: Past Experiences and Prospects*, 54 J. WORLD TRADE 853, 854-867 (2020).

⁷⁵ See also WOLFGANG MULLER, WTO AGREEMENT ON SUBSIDIES AND COUNTERVAILING MEASURES: A COMMENTARY 7-8 (2017).

⁷⁶ See Bown & Hillman, *supra* note 53, at 567-72.

As noted in Section I, China's pursuit of technological advancement involved wide-ranging supportive policy instruments including different forms of subsidies. It is both unrealistic and unnecessary to cover all these instruments and subsidies in this article. Instead, we will consider typical and major examples to facilitate a discussion of the efficacy of the existing WTO rules which include not only the general rules contemplated in the ASCM but also the China-specific rules codified in the Protocol on the Accession of China⁷⁷ (hereinafter Accession Protocol) and the Report of the Working Party on the Accession of China⁷⁸ (hereinafter Working Party Report).

A. Definition of Subsidies

The ASCM does not cover all government actions or measures that may have the effect of distorting trade but only a closed list of subsidies.⁷⁹ For a measure to be a covered subsidy, it must constitute a "financial contribution" (or "any form of income or price support") that is provided by a government, a "public body," or a "private body entrusted or directed," to exercise relevant government functions, and confers a "benefit" to the recipient concerned.⁸⁰ Bown and Hillman did not take issue with all these legal elements but focused on the limited scope of covered subsidies and the law on the meaning of "public body."⁸¹ For completeness, we will consider each of these elements below.

1. *Financial contributions — direct transfer of funds.* — Article 1.1(a)(1) of the ASCM encompasses three types of "financial contributions": (1) direct transfer of funds; (2) foregoing or non-collection of government revenue otherwise due; and (3) provision of goods or services (other than general infrastructure) or purchase of goods. Although the coverage of "financial contributions" was intended to be exhaustive and

⁷⁷ WTO, *Protocol on the Accession of the People's Republic of China*, WTO Doc. WT/L/432 (Nov. 23, 2001) [hereinafter Accession Protocol].

⁷⁸ WTO, *Report of the Working Party on the Accession of China* ("Working Party Report"), WTO Doc. WT/ACC/CHN/49 (Oct. 1, 2001).

⁷⁹ See ASCM, *supra* note 17, art. 1.

⁸⁰ *Id.*

⁸¹ See Bown & Hillman, *supra* note 53, at 567–72.

arguably to avoid “a purely effect-based concept of subsidies,”⁸² it has been interpreted and applied in a flexible and broad manner. Indeed, in one of the earlier disputes under the ASCM, the Appellate Body observed that “financial contribution” covers “a wide range of transactions” “through which something of economic value is transferred by a government.”⁸³ This broad interpretation can apply to Chinese subsidies in the high-tech sector.

“Direct transfer of funds” covers not only measures such as grants, loans, and equity infusion, but also “potential direct transfers of funds or liabilities,” such as loan guarantees.⁸⁴ These measures and their variations have been found to constitute a “financial contribution” in a range of cases. Identified measures include, *inter alia*, grant payments,⁸⁵ non-commercial loans,⁸⁶ debt-for-equity swaps and debt rescheduling by way of interest/debt reductions, deferrals, and forgiveness,⁸⁷ equity infusion,⁸⁸ transfers of equity interests or shares,⁸⁹ and any other forms leading to “an accrual of financial resources” and other

⁸² Appellate Body Report, *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)*, WTO Doc. WT/DS353/AB/R (adopted Mar. 23, 2012), ¶ 613 [hereinafter *US – Aircraft (2nd complaint)*] (holding that “[s]ubparagraphs (i)-(iv) exhaust the types of government conduct deemed to constitute a financial contribution”). See also Muller, *supra* note 75, at 62, 74; MAVROIDIS, *supra* note 54, at 202–03, 215–16.

⁸³ Appellate Body Report, *United States—Final Countervailing Duty Determination with respect to Certain Softwood Lumber from Canada*, WTO Doc. WT/DS257/AB/R (adopted Feb. 17, 2004), ¶ 52 [hereinafter *US – Softwood Lumber IV*].

⁸⁴ See ASCM, *supra* note 17, art. 1.1(a)(1)(i).

⁸⁵ Panel Report, *Australia — Subsidies Provided to Producers and Exporters of Automotive Leather*, WTO Doc. WT/DS126/R (adopted June 16, 1999), ¶¶ 2.1–2.5, 9.43–9.45.

⁸⁶ *Id.*

⁸⁷ Panel Report, *Korea — Measures Affecting Trade in Commercial Vessels*, WT/DS273/R (adopted Apr. 11, 2005), ¶¶ 7.336–7.339, 7.411–7.413. In the panel’s view, while “interest reductions and deferrals are similar to new loans” and “interest/debt forgiveness is comparable to a cash grant”, debt-for-equity swaps are “a combination of equity infusion and debt forgiveness”. See also *US – Aircraft (2nd complaint)*, *supra* note 82, ¶ 615.

⁸⁸ See *US – Aircraft (2nd complaint)*, *supra* note 82, ¶¶ 622–24 (involving joint venture arrangements whereby funds were provided by U.S. National Aeronautics & Space Administration and U.S. Department of Defense in exchange for some kind of return, such as scientific and technical information (from Boeing)).

⁸⁹ Panel Report, *European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft*, WTO Doc. WT/DS316/R (adopted June 1, 2011), ¶ 7.1291 [hereinafter *EC – Aircraft*].

financial claims that improve the financial position of the recipient.⁹⁰

The sub-category of “*potential* direct transfers of funds or liabilities” typically involves “a legally binding promise” or “an obligation to make a direct transfer of funds which, *in and of itself*, is claimed and capable of conferring a benefit on the recipient that is separate and independent from the benefit that might be conferred from any future transfer of funds.”⁹¹ However, it does not cover measures that merely create the possibility of transfer of funds when pre-defined conditions have been fulfilled.⁹² This suggests that this type of government actions must involve an undertaking to transfer funds upon the fulfillment of pre-defined conditions.

Finally, it is worth noting that the term “direct” does not require a transfer of funds to be made by a government *directly* but merely that a government, through its practice, has been involved in such a transfer, according to the Appellate Body in *US – Carbon Steel (India)*.⁹³ There, the Appellate Body rejected India’s claim that the provision of a loan through an affiliated entity to a public body was not a “direct” transfer of funds merely due to the involvement of an intermediary or intervening agency.⁹⁴ It also clarified that the funds transferred do not have to be “drawn from government resources or result in a charge on the public account.”⁹⁵

Contrary to widespread concerns about the potential difficulties in identifying Chinese subsidies on the basis that they may be provided in a sophisticated and opaque manner,⁹⁶ some of

⁹⁰ Appellate Body Report, *Japan – Countervailing Duties on Dynamic Random Access Memories from Korea*, WTO Doc. WT/DS336/AB/R (adopted Dec. 17, 2007), ¶¶ 247, 250–52 [hereinafter *Japan – DRAMs (Korea)*].

⁹¹ See *EC – Aircraft*, *supra* note 89, ¶¶ 7.302, 7.304, 7.733, 7.1495 (emphasis in original).

⁹² Panel Report, *United States – Measures Affecting Trade in Large Civil Aircraft (Second Complaint)*, WTO Doc. WT/DS353/R (adopted Mar. 23, 2012), ¶¶ 7.164–7.166.

⁹³ Appellate Body Report, *United States – Countervailing Measures on Certain Hot-Rolled Carbon Steel Flat Products from India*, WTO Doc. WT/DS436/AB/R (adopted Dec. 19, 2014), ¶ 4.90 [hereinafter *US – Carbon Steel (India)*].

⁹⁴ *Id.* ¶¶ 4.93–4.94.

⁹⁵ *Id.* ¶ 4.96.

⁹⁶ See Bown & Hillman, *supra* note 53, at 563–70. Also see *supra* note 15; Mark Wu, ‘The “China, Inc.” Challenge to Global Trade Governance’, (2016)57(2) HARV. INT’L L.J. 261, 269–84.

the major subsidies in the technology sector fall squarely within the category of direct transfer of funds. For example, to boost the growth of the NEVs industry, both central and local governments have provided a range of financial support,⁹⁷ mainly in the form of direct payments to NEV manufacturers (including R&D grants in the sector)⁹⁸ and consumers,⁹⁹ and loans from State banks.¹⁰⁰ Between 2009 and 2017, the total support in the industry was estimated to be RMB 390 billion (\$58.3 billion).¹⁰¹ While the forms and amounts of these subsidies have been reviewed and adjusted regularly in response to changing needs, the sector's overall support is likely to grow.¹⁰²

⁹⁷ Marika Heller, *Chinese Government Support for New Energy Vehicles as a Trade Battleground*, NAT'L BUREAU OF ASIAN RESEARCH (Sept. 27, 2017), www.nbr.org/publication/chinese-government-support-for-new-energy-vehicles-as-a-trade-battleground/.

⁹⁸ See, e.g., 《关于 2018 年度, 2016 年及以前年度新能源汽车推广应用补助资金清算审核和 2018 年度, 2019 年度补助资金预拨审核情况的公示》[The Publication of the Liquidation Review of New Energy Vehicles Promotion and Application Subsidies in 2018, 2016 and Previous Years and the Review of Additional Subsidies allocated for 2018 and 2019], issued on Mar. 25, 2020, http://www.caam.org.cn/chn/9/cate_97/con_5230443.html; 《上海市鼓励购买和使用新能源汽车实施办法》[The Implementing Measures on Encouraging the Purchase and Use of New Energy Vehicles in Shanghai] (issued by the Off. of the Shanghai Gov't, Jan. 31, 2018), www.shanghai.gov.cn/nw43336/20200824/0001-43336_55412.html (China).

⁹⁹ See, e.g., 《关于开展私人购买新能源汽车补贴试点的通知》[The Notice on Launching Pilot Subsidies for Private Purchases of New Energy Vehicles], (issued by the Ministry of Finance of China, May 31, 2010), www.mof.gov.cn/gp/xxgkml/jjss/201006/t20100602_2499641.html (China). For instance, subsidies for plug-in hybrid vehicles and pure electric vehicles can be RMB 50,000 and RMB 60,000 per car.

¹⁰⁰ China's first Automotive Workshop recently obtained a huge credit line worth RMB 1015 billion from 16 banks in China, including state banks. See, *China's First Automotive Workshop Collaborates Strategically with 16 Banks to Obtain Credit Line Exceeding RMB 1 Trillion*, XINHUANET (Oct. 25, 2018), www.xinhuanet.com/auto/2018-10/25/c_1123610511.htm. Another example is Tesla, which secured approximately RMB 20 billion loans from Chinese banks for its Shanghai Gigafactory. See Tongxin Qian, *Tesla Shanghai Obtained Another RMB 4 Billion Loans from Chinese Banks, Totaling RMB 20 Billion Loans*, YICAI (May 9, 2020), www.yicai.com/news/100622862.html.

¹⁰¹ See Scott Kennedy, *China's Expensive Gamble on New-Energy Vehicles*, CTR FOR STRATEGIC & INT'L STUD. (Nov. 6, 2018), www.csis.org/analysis/chinas-expensive-gamble-new-energy-vehicles.

¹⁰² 《关于完善新能源汽车推广应用财政补贴政策的通知》[Notice on Fiscal Policies for the Popularization and the Application of New Energy Vehicles] (issued by the Ministry of Finance of China, Apr. 23, 2020), www.gov.cn/zhengce/zhengceku/2020-04/23/content_5505502.htm (China). Notably, the detrimental impacts of US – China trade war on China's NEV industry, together with the outbreak of COVID-19, have propelled Chinese central government to extend some of the existing NEV subsidies, which

Another longstanding example is the massive industrial investment funds that the Chinese government directed competent national authorities and local governments to establish for eligible enterprises in priority sectors since the 1980s.¹⁰³ Over time, these funds have targeted start-ups or technology-oriented small and medium sized entities to promote indigenous innovation,¹⁰⁴ as well as the creation of national champions.¹⁰⁵ By the end of 2013, 343 such funds with a total value of around RMB 270 billion had been created.¹⁰⁶ The scale and amount of the funds continued to

otherwise would lapse in the end of 2020 to the end of 2022. See Jianhua Zhao, *Why does China Extend New Energy Vehicle Subsidies?*, PEOPLE.CN (Apr. 26, 2020), <http://auto.people.com.cn/n1/2020/0426/c1005-31688105.html>.

¹⁰³ The New Technology Venture Capital Company established in 1986 was China's first venture capital company that provided investments and loans for high-tech sector. The major shareholders were: State Scientific and Technological Commission and Ministry of Finance. The company operated for 13 years. See, *Ministry of Science and Technology: To Accelerate the Development of Venture Capital with Chinese Characteristics and Build New Engine for Innovation-led Growth*, CCTV.COM (Sept. 23, 2016), <http://jingji.cctv.com/2016/09/23/ARTIZR6niGUZ2ajwhbFwoVCH160923.shtml>.

¹⁰⁴ See, e.g., 《科技型中小企业创业投资引导基金管理暂行办法》 [Interim Measures on the Administration of Start-up and Investment Guiding Fund for Technology-oriented Small- and Medium-Sized Enterprises] (issued by the Ministry of Finance and the Ministry of Science and Technology, July 6, 2007), www.most.gov.cn/ztlz/gjzctx/ptzcrjz/c/200802/t20080225_59300.htm (China); 《战略性新兴产业发展专项资金管理暂行办法》 [Interim Measures on the Administration of Special Funds for the Development of Strategic Emerging Industries] (issued by the Ministry of Finance and the National Development and Reform Commission, Dec. 31, 2012), www.gov.cn/gongbao/content/2013/content_2376208.htm (China); 《新兴产业创投计划参股创业投资基金管理暂行办法》 [Interim Measures on the Administration of the Equity Participation of Emerging Industries Start-up and Investment Plan in the Start-up and Investment Fund] (issued by the Ministry of Finance and the National Development and Reform Commission, Aug. 17, 2011), www.gov.cn/zwqk/2011-09/09/content_1944275.htm (China). The prioritized areas included: energy conservation and environmental protection, information, bio and new medicine, new energy, new materials, aerospace and aviation, marine, advanced manufacturing, new energy vehicles, and high-technology service. In 2015, the State Council announced the plan to create RMB 40 billion National Guiding Fund for Start-up Investment in Emerging Industries. See Press Release, Jun Ding et al., *The Establishment of National Guiding Fund for Start-up Investment in Emerging Industries with RMB 40 Billion which can be Multiplied by 5 Times* (Jan. 15, 2015) (www.gov.cn/zhengce/2015-01/15/content_2804446.htm).

¹⁰⁵ See Org. for Econ. Coop. & Dev. [OECD], *Measuring distortions in international markets: The semiconductor value chain*, at 51–52, OECD Trade Policy Papers No. 234 (Dec. 12, 2019), www.oecd-ilibrary.org/trade/measuring-distortions-in-international-markets_8fe4491d-en [hereinafter OECD Semiconductor Report].

¹⁰⁶ Bank of China Research Institute provided a detailed review of China's Government Guiding Funds, see BANK OF CHINA RESEARCH INSTITUTE, *THE DEVELOPMENT, PROBLEMS AND SOLUTIONS OF CHINA'S GOVERNMENT GUIDING FUNDS* (Sept. 26, 2017).

grow explosively since 2014, especially after the launch of MIC 2025. Major examples include the National Integrated Circuit Investment Fund (2014) (IC Fund),¹⁰⁷ the Advanced Manufacturing Industry Investment Fund (2016),¹⁰⁸ and more recently the National Manufacturing Industry Transformation and Upgrading Fund (2019).¹⁰⁹ All of these funds were created under the leadership of the relevant central authorities, particularly the Ministry of Finance (MOF) and the Ministry of Industry and Information Technology (MIIT), supported by State banks and followed by the creation of similar funds by local governments.¹¹⁰ The funds were provided to select enterprises in the relevant sectors mainly by way of equity injection, loans, and loan guarantees.¹¹¹ The IC Fund, for example, was initially supported by a State-directed loan of RMB 30 billion from the China Development Bank in addition to equity infusion from the MOF

¹⁰⁷ See Press Release, Ministry of Indus. and Info. Technology, The Establishment of the National Integrated Circuit Investment Fund (Oct. 14, 2014), www.miit.gov.cn/n1146290/n1146402/n7039597/c7053700/content.html.

¹⁰⁸ See Press Release, State-owned Assets Supervision and Admin. Comm'n of the State Council, The Establishment of the Advanced Manufacturing Industry Investment Fund (June 12, 2016), www.sasac.gov.cn/n2588025/n2588124/c3822803/content.html.

¹⁰⁹ See Ministry of Finance, *China Railway Rolling Stock Corporation and others Initiated the Establishment of the National Manufacturing Industry Transformation and Upgrading Fund Limited Liability Company with Registered Capital Worth RMB 147.2 Billion*, YICAI (Nov. 18, 2019), www.yicai.com/news/100407324.html.

¹¹⁰ See 《创业投资企业管理暂行办法》 [Interim Measures on the Administration of Start-up Investment Enterprises] (issued jointly by ten State ministries and departments, Nov. 15, 2005, effective Mar. 1, 2006), www.gov.cn/flfg/2005-11/15/content_99008.htm (China); See also Min Ren, *The Initiation of Beijing Municipal Technology Innovation Fund Worth Dozens Billions to Support High-end Hard Technologies*, BEIJING DAILY (June 25, 2018), www.gov.cn/xinwen/2018-06/25/content_5300997.htm; Guangzhou Municipal Government established RMB 5 billion government guiding fund on the industrialization of scientific and technological achievements in 2020. See 《关于印发广州市科技成果产业化引导基金管理暂行办法的通知》 [Measures for Administration of the Guiding Fund on the Industrialization of Scientific and Technological Achievements] (issued by Guangzhou Sci. and Technology Bureau, June 19, 2020), http://kjj.gz.gov.cn/gkmlpt/content/5/5955/post_5955622.html#275 (China).

¹¹¹ See Interim Measures on the Administration of Start-up Investment Enterprises, *supra* note 110. Article 22 stipulates that national and sub-national governments can establish investment funds by means of equity participation and other forms of financing guarantees. 《关于印发广州市科技型中小企业贷款担保资金管理暂行办法的通知》 [Measures for Administration of Loan Guarantee Funds for Small and Medium-sized Technology Enterprises] (issued by the Guangzhou Department of Finance, Jan. 21, 2020), http://czj.gz.gov.cn/gkmlpt/content/5/5637/post_5637742.html#601 (China).

and other government entities.¹¹² Between 2014 and 2018, the first tranche of the fund invested over RMB 100 billion in 74 projects and 52 IC companies, with nearly 80 percent of the investment coming from equity injection,¹¹³ and contributed significantly to creating a handful of the world's leading IC firms.¹¹⁴ The fund recently completed its second tranche capital raising of over RMB 200 billion, which will focus on investing in home-grown chips for advanced materials and equipment, and emerging technology infrastructure like 5G.¹¹⁵ Given the broad scope of “direct transfer of funds,” there is little doubt that these funds constitute “financial contributions” under Article 1.1(a)(1)(i) of the ASCM.

Notably, some of the subsidies in the form of “direct transfer of funds” may constitute export subsidies, one of the two types of prohibited subsidies.¹¹⁶ China's use of export credits to promote exports of high-tech goods offers a good illustration. In practice, such measures have been employed by most major economies—through financial support like loans—to assist domestic exporters selling goods and services to foreign buyers.¹¹⁷ In China, export credit policies have become a major form of support for high-tech firms and exports since the early 2000s, including loan support for the export of high-tech products

¹¹² See Press Release, China Dev. Bank Capital, The Establishment of the National Integrated Circuit Investment Fund and Its Management Company (www.cdb-capital.com/GKJR/dynamic/17081111400611?pidx=1); For the shareholding of the Fund, see, Li Na, *The Second Tranche of the National Big Fund was Established and Where RMB 200 Billion will Go*, YICAI (Oct. 28, 2019), www.yicai.com/news/100380063.html.

¹¹³ *The Analysis of China's National Integrated Circuit Investment Fund First Tranche's Investment*, SINA FINANCE (Mar. 13, 2019, 1:25 PM), <https://finance.sina.com.cn/stock/hyyj/2019-03-13/doc-ihsxncvh2157328.shtml>.

¹¹⁴ See OECD Semiconductor Report, *supra* note 105, at 51–54.

¹¹⁵ *Focus on the Outline of the Second Tranche of the Big Fund and Possible Priority Areas for Investment*, YICAI (Mar. 19, 2020, 8:40 PM), www.yicai.com/news/100556598.html; Sarah Dai, *China completes second round of US\$29 billion Big Fund aimed at investing in domestic chip industry*, SOUTH CHINA MORNING POST (July 26, 2019, 12:46 PM), www.scmp.com/tech/science-research/article/3020172/china-said-complete-second-round-us29-billion-fund-will.

¹¹⁶ See ASCM, *supra* note 17, art. 3.

¹¹⁷ See Kristen Hopewell, *Power transitions and global trade governance: The impact of a rising China on the export credit regime*, 13 REGUL. & GOVERNANCE 1, 4–5 (2019); James Nedumpara & Pankhuri Sharma, *Treatment of Export Credits in WTO Dispute Settlement and Domestic CVD Proceedings*, 1, 7–9 (Ctr. for WTO Stud., Working Paper No. CWS/WP/2007, Mar. 2013), <http://wtocentre.iift.ac.in/workingpaper/Export%20Credit%20CWS%20WP.pdf><http://wtocentre.iift.ac.in/workingpaper/Export%20Credit%20CWS%20WP.pdf>.

contemplated in the Catalogue of High and New Tech Products and the Catalogue of Chinese New and High-Tech Export Products,¹¹⁸ and preferential loans, buyer credit, or export credit insurance, for specific products or projects such as telecommunications,¹¹⁹ and NEVs.¹²⁰ Such measures are widespread at both central and local levels,¹²¹ making China one of the world's largest providers of export credits.¹²² These measures obviously constitute a "financial contribution" and fall within the ambit of items (j) and (k) of ASCM's illustrative list of export subsidies, although the extent to which the ASCM leaves

¹¹⁸ 《中国进出口银行出口卖方信贷中短期额度贷款管理办法》[The Administration Measures of the Exim Bank of China on Export Sellers' Credit and Short to Medium Term Line of Loan] (issued by Exim Bank of China, Feb. 4, 2002), http://pkulaw.cn/fulltext_form.aspx?Db=alftwotitle&Gid=cb00095e263c71c1bdfb (China). 《中国高新技术产品指导目录》[The Guiding Catalogue of China's New and High-Tech Products] (issued by the Ministry of Science and Technology, Sept. 27 2009), www.most.gov.cn/tztg/200910/t20091009_73551.htm (China); 《中国高新技术产品出口目录》[The Catalogue of China's New and High-Tech Export Products] (issued by the Ministry of Science and Technology, Jan. 9, 2006), http://most.cn/fggw/zfwj/zfwj2006/200512/t20051220_55439.htm (China).

¹¹⁹ 《大型成套电信设备出口项目协调管理实施细则》[Detailed Rules on the Implementation of Coordination and Management of Large-Scale Complete Set Telecommunication Export Items] (issued by the Ministry of Com., June 5, 2006), <http://file.mofcom.gov.cn/article/gkml/200804/20080499611491.shtml> (China); As alleged by Fred Hochberg, the ex-Chairman and President of the Export-Import Bank of the US, Huawei received USD 30 billion credit line from China Development Bank that allowed the company to "reduce its cost of capital and to offer financing to their buyers at rates and terms better than their competitors." See Fred Hochberg, Chairman and President of the Exp.-Imp. Bank of the U.S., Remarks at the Center for American Progress: How the US Can Lead the World in Exports: Retooling Our Export Finance Strategy for the 21st Century, (June 15, 2011) (transcript available at www.exim.gov/sites/default/files/newsreleases/CAP_Speech.pdf).

¹²⁰ 《国务院关于印发节能与新能源汽车产业发展规划（2012-2020）的通知》[Notice on Plan for Energy Conservation and New Energy Vehicles Industry Development] (issued by the State Council, June 28, 2012), www.gov.cn/gongbao/content/2012/content_2182749.htm (China).

¹²¹ For a recent example of local export credit policy, see *Shanghai Federation of Industry and Commerce Signed Strategic Cooperation with Shanghai Exim Bank and Shanghai Sinosure*, CHINA BUSINESS TIMES (Apr. 26, 2021), http://www.acfic.org.cn/gd_gsl_362/sh/shfgdt/202104/t20210426_256972.html.

¹²² Hopewell, *supra* note 117, at 7–8; EXP.-IMP. BANK OF THE U.S., REPORT TO THE U.S. CONGRESS ON GLOBAL EXPORT CREDIT COMPETITION 38 (2020), https://www.exim.gov/sites/default/files/reports/competitiveness_reports/2019/EXIM_2019_CompetitivenessReport_FINAL.pdf.

space for using export credit remains controversial.¹²³ However, to the extent that such policy space may cause insufficiencies in the current subsidy rules in dealing with trade-distortive export credit policies, the insufficiencies apply to all WTO Members.

2. *Financial contributions — foregoing or non-collection of government revenue otherwise due* — A financial contribution may be granted if a government foregoes or does not collect “revenue that is otherwise due.”¹²⁴ To date, the WTO case law has predominantly concentrated on tax revenues. A major case on this issue is *US — FSC* which concerned the exemption of a foreign sales corporation’s (FSC) export-related foreign-source income from US income tax.¹²⁵ The Appellate Body observed that a determination of “otherwise due” requires a comparison between “the revenues due under the contested measure and revenues that would be due in some other situation” based on “the rules of taxation of each Member”.¹²⁶ The Appellate Body upheld the panel’s finding that the US government had not collected the revenue that it was entitled to collect under its own general rules of taxation.¹²⁷ In the compliance proceedings of this dispute, the Appellate Body further clarified that the fact that “a government does not raise revenue which it could have raised” is not, in itself,

¹²³ For instance, one major controversy concerns the exemption of export credits permitted under “an international undertaking on official export credits” from being treated as an export subsidy under item (k). In practice, this exemption points to the *OECD Arrangement on Officially Supported Export Credits*. However, it remains debatable as to whether WTO Members may still take countervailing actions against such export credits; See generally Dominic Coppens, *How Much Credit for Export Credit Support under the SCM Agreement?*, 12 INT’L ECON. L.J. 63, 63 (2009); Nedumpara and Sharma, *supra* note 117; A related, ongoing debate has been whether China’s export credits comply with the conditions contemplated in the OECD Arrangement. This would require a separate and detailed study on the specific Chinese measures, which seems lacking in the existing literature and falls outside of the scope of this article; See e.g., EXP.-IMP. BANK OF THE U.S., *supra* note 122, at 40–44 (the report identified major Chinese export credit measures during 2019 without assessing their compliance with the OECD Arrangement); Gregory Shaffer et al., *Can Informal Law Discipline Subsidies?*, 18 J. INT’L ECON. LAW 711, 725–729 (2015) (observing that the OECD Arrangement has served as multilateral discipline of export credit policies and may be effective in constraining the practices of all countries including China).

¹²⁴ See ASCM, *supra* note 17, art. 1.1(a)(1)(ii).

¹²⁵ See generally Appellate Body Report, *United States — Tax Treatment for Foreign Sales Corporations*, WT/DS108/AB/R (adopted Mar. 20, 2000) [hereinafter *US — FSC*].

¹²⁶ *Id.* ¶ 90.

¹²⁷ *US — FSC*, *supra* note 125, at ¶¶ 7, 95.

conclusive as to whether the revenue foregone is “otherwise due.”¹²⁸ The appropriate benchmark for comparison must be identified and examined based on “the fiscal treatment of the relevant income for taxpayers in comparable situations.”¹²⁹ Accordingly, the Appellate Body found that while foreign-source income of US citizens and residents was generally taxable, the contested measure exempted certain foreign-source income from tax amounting to foregoing revenue otherwise due.¹³⁰ This legal test was refined in *US – Aircraft (2nd complaint)* where the Appellate Body explained that the comparison should involve “the tax treatment that applies to the alleged subsidy recipients and the tax treatment of comparable income of comparably situated taxpayers” in the jurisdiction concerned.¹³¹ The Appellate Body upheld the panel’s affirmative finding of foregoing of revenue otherwise due on the ground that the Washington State Business and Occupation Tax regime applied a lower tax rate to commercial aircraft and component manufacturers compared to the rates applicable to general manufacturing, wholesaling, and retailing activities in the state.¹³² Finally, if a government does not collect the tax revenue in full at the time that it normally would under the comparable benchmark, that would also amount to foregoing of revenue otherwise due as the government effectively gives up the entitlement to “enjoy the cash available to it and earn interest on it.”¹³³

Preferential tax treatment is a well-known source of government support in China’s high-tech sector.¹³⁴ For example, China’s new Corporate Income Tax Law 2008 provides for a reduced tax rate of 15 percent (as opposed to the standard rate of 25percent) for High-New Technology Enterprises (HNTEs), and

¹²⁸ Appellate Body Report, *United States–Tax Treatment for ‘Foreign Sales Corporations’ – Recourse to Article 21.5 of the DSU by the European Communities*, ¶ 88, WTO Doc. WT/DS108/AB/RW (adopted Jan. 29, 2002).

¹²⁹ *Id.* ¶¶ 90–92.

¹³⁰ *Id.* ¶¶ 98–105.

¹³¹ *See US – Aircraft (2nd complaint)*, *supra* note 82, ¶¶ 812–13.

¹³² *Id.* ¶¶ 816–31.

¹³³ Appellate Body Report, *Brazil — Certain Measures Concerning Taxation and Charges*, ¶ 5.220, WTO Doc. WT/DS472/AB/R, WT/DS497/AB/R (adopted Jan. 11, 2019).

¹³⁴ *See generally* TERENCE P. STEWART, U.S.-CHINA ECON. AND SEC. REV. COMM’N, CHINA’S INDUSTRIAL SUBSIDIES STUDY: HIGH TECHNOLOGY (2007), <https://www.uscc.gov/research/chinas-industrial-subsidies-study-high-technology>.

permissible reductions of costs and expenses for the R&D of new technology, products, and design more generally.¹³⁵ To qualify as an HNTE, an entity must undertake R&D in one of the priority high-tech sectors¹³⁶ and satisfy a list of conditions including ownership of the proprietary IP rights of the core technology used in its production of goods or services.¹³⁷ The law also directs local governments to provide other forms of tax preferences for newly-established HNTEs in designated regions.¹³⁸ The Shanghai Pudong New Zone, for instance, provides for a tax exemption for the first two years of operation of HNTEs and a reduced tax rate of 12.5 percent for the following three years.¹³⁹ More recently, similar tax incentives were extended to the services sector to stimulate investment in so-called Advanced Technology Services

¹³⁵ Zhonghua Renmin Gongheguo Qiye Suodeshui Fa (中华人民共和国企业所得税法) [Corporate Income Tax Law on People's Republic of China] (promulgated by Nat'l People's Cong., Mar. 16, 2007, effective Jan. 1, 2008), art. 28 (China).

¹³⁶ These sectors are consistent with the national policy plans discussed in Section II and may continue to change accordingly. The most updated criteria can be found in Gaoxin Jishu Qiye Rending Guanli Banfa (高新技术企业认定管理办法) [The Measures on the Administration of the Qualification of High-New Technology Enterprises], (issued by the Ministry of Science and Technology, the Ministry of Finance and the State Taxation Administration on Jan. 29, 2016), www.most.gov.cn/tztg/201602/t20160204_123994.htm. Gaoxin Jishu Qiye Rending Guanli Gongzuo Zhiyin (高新技术企业认定管理工作指引) [The Guidance on the Administration of the Qualification of High-New Technology Enterprises], (issued by the Ministry of Science and Technology, the Ministry of Finance and the State Taxation Administration June 22, 2016), www.chinatax.gov.cn/n810341/n810755/c2200380/content.html.

¹³⁷ Guanyu Shishi GaoxinKeji Qiye Suodeshui Youhui Zhengce Youguan Wentide Gonggao (关于实施高新科技企业所得税优惠政策有关问题的公告) [The Notice on Several Questions Relating to the Implementation of Corporate Income Tax Incentives Policies for High-New Technology Enterprises] (issued by the State Taxation Administration June 19, 2017), www.chinatax.gov.cn/n810341/n810755/c2684881/content.html.

¹³⁸ Corporate Income Tax Law on People's Republic of China, *supra* note 135, art. 57. For clarifications made by the State Taxation Administration on the application of this provision, visit www.chinatax.gov.cn/chinatax/n810341/n810765/n812176/n812748/c1193020/content.html. The designated regions include four Special Economic Zones in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan, and the Shanghai Pudong New Zone.

¹³⁹ Guowuyuan Guanyu Jingji Tequ He Shanghai Pudong Xinqu Xin Sheli Gaoxin Jishu Qiye Shixing Guodu Xing Shuishou Youhui De Tongzhi (国务院关于经济特区和上海浦东新区新设立高新技术企业实行过度期税收优惠的通知) [Notice on the Application of Transitional Tax Incentives for Newly-Established High-New Technology Enterprises in Special Economic Zones and Shanghai Pudong New Zone] (issued by the State Council Feb. 26, 2007), www.gov.cn/gongbao/content/2008/content_871687.htm.

Enterprises (ATSEs).¹⁴⁰ Qualified services include, *inter alia*, software development and technical support, IC design and test platform, information system and maintenance, business operation, and data-related services.¹⁴¹ Like HNTes, ATSEs are eligible for a reduced tax rate of 15 percent and reductions of expenses associated with the education and training of employees.¹⁴² Applying the WTO case law above, these tax incentives may be easily found to constitute “foregoing of government revenue otherwise due.” The benchmark for comparison would be the Chinese tax rules (e.g., corporate income tax rate and deductions) applicable to other entities in the same or comparable industries. Such industries may include those which produce the same or similar goods or services¹⁴³ or more broadly, the entire manufacturing sector.¹⁴⁴ To the extent that the reduced tax rate and favorable tax reductions are not applicable to the

¹⁴⁰ Guanyu Zai Fuwu Maoyi Chuangxin Fazhan Shidian Diqu Tuiguang Jishu Xianjin Xing Fuwu Qiye Suodeshui Youhui Zhengce De Tongzhi (关于在服务贸易创新发展试点地区推广技术先进行服务企业所得税优惠政策的通知) [Notice on the Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises in Pilot Areas for Innovative Development of Service Trade] (issued by the Ministry of Finance, the State Taxation Administration, the Ministry of Commerce, the Ministry of Science and Technology and the National Development and Reform Commission Nov. 10, 2016), www.chinatax.gov.cn/n810341/n810755/c2399212/content.html. The initial 15 pilot areas include Tianjin, Shanghai, Shenzhen, Hangzhou, Hainan, Wuhan, Guangzhou, Chengdu, Suzhou, Weihai, Harbin New Zone, Jiangbei New Zone, Liangjiang New Zone and Guian New Zone. Guanyu Jiang Jishu Xianjin Xing Fuwu Qiye Suodeshui Zhengce Tuiguang Zhi Quanguo Shishi De Tongzhi (关于将技术先进行服务企业所得税政策推广至全国实施的通知) [The Notice on the Nationwide Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises] (issued by the Ministry of Finance, the State Taxation Administration, the Ministry of Commerce, the Ministry of Science and Technology and the National Development and Reform Commission Nov. 2, 2017), www.chinatax.gov.cn/n810341/n810755/c2908867/content.html.

¹⁴¹ *Id.* Notice on the Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises in Pilot Areas for Innovative Development of Service Trade (2016); Notice on the Nationwide Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises (2017).

¹⁴² *Id.* Notice on the Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises in Pilot Areas for Innovative Development of Service Trade (2016); Notice on the Nationwide Application of Corporate Income Tax Incentives for Advanced Technology Service Enterprises (2017).

¹⁴³ Appellate Body Report, *United States—Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, ¶373, WTO Doc. WT/DS379/AB/R (adopted Mar. 25, 2011) [hereinafter *US—Anti-Dumping and Countervailing Duties (China)*].

¹⁴⁴ See *US—Aircraft (2nd complaint)*, *supra* note 82, ¶¶ 816–31.

comparably situated entities, the tax incentives for HNTEs and ATSEs constitute “financial contributions.” This analysis applies to other tax preferences for the selected high-tech sectors.

In addition, it is worth noting that duty and tax exemptions or remissions for *exported* products are excluded from being treated as a financial contribution in the form of foregoing of government revenue otherwise due.¹⁴⁵ Therefore, value-added tax (VAT) rebates are generally permitted under ASCM—as long as the level of rebates does not go beyond the corresponding VAT rates—and have been widely used by WTO Members.¹⁴⁶ This exception does not apply to *import* duty exemptions.¹⁴⁷ However, a duty drawback scheme—that is, an import duty remission for inputs imported for the production of goods destined for export—falls within the exception provided that the remission does not exceed the import duty actually levied.¹⁴⁸ VAT rebates and duty drawbacks have been a major component of China’s export promotion policies.¹⁴⁹ Recently, China made some adjustments to its VAT rebate scheme by increasing the rebate rates for eligible exports in general¹⁵⁰ and allowing high-tech firms to use excess input VAT credits.¹⁵¹ Since the rebate rates are not in excess of the

¹⁴⁵ ASCM, *supra* note 17, art. 1.1(a)(1)(ii) n.1.

¹⁴⁶ See generally Youssef Benzarti and Alisa Tazhitdinova, *Do Value-Added Taxes Affect International Trade Flows? Evidence from 30 Years of Tax Reforms* (Nat’l Bureau of Econ. Research, Working Paper No. 26195, 2019), www.nber.org/system/files/working_papers/w26195/w26195.pdf.

¹⁴⁷ See Appellate Body Report, *Canada—Certain Measures Affecting the Automotive Industry*, ¶¶ 91–92, WTO Doc. WT/DS139/AB/R, WT/DS142/AB/R (adopted June 19, 2000).

¹⁴⁸ Panel Report, *European Union—Countervailing Measures on Certain Polyethylene Terephthalate from Pakistan*, ¶¶ 7.29–30, WTO Doc. WT/DS486/R (adopted May 25, 2018); Appellate Body Report, *European Union—Countervailing Measures on Certain Polyethylene Terephthalate from Pakistan*, ¶¶ 5.68, 5.97–5.134, WTO Doc. WT/DS486/AB/R (adopted May 25, 2018).

¹⁴⁹ See generally Chi-Chur Chao et al., *China’s Import Duty Drawback and VAT Rebate Policies: A General Equilibrium Analysis*, 17 CHINA ECON. REV. 432 (2006).

¹⁵⁰ Guanyu Tigao Bufen Chanpin Chukou Tuishui Lu De Gonggao (关于提高部分产品出口退税率的公告) [Notice on Increasing Tax Rebate Rates for Certain Exports], (issued by Ministry of Finance and State Taxation Administration Mar. 17, 2020), www.chinatax.gov.cn/chinatax/n810341/n810755/c5146338/content.html.

¹⁵¹ Guanyu 2018 Nian Tuihuan Bufen Hangye Zengzhi Shui Liu Di Shuie Youguan Shuishou Zhengce De Tongzhi (关于年退换部分行业增值税留抵税额有关税收政策的通知) [Notice on Refunds to Excess VAT Credits in Certain Industries in 2018], (issued by Ministry of Finance and State Taxation Administration June 27, 2018),

current VAT rate (13 percent),¹⁵² the Chinese VAT scheme remains immune from the subsidy rules. Nonetheless, it should be noted that such policies are subject to the WTO non-discrimination rules (e.g., GATT Articles I and III). In *China – Value-Added Tax on Integrated Circuits*, for example, China had to cease its discriminatory application of VAT rebates for domestic enterprises in the software and IC industry, allegedly affecting around \$2 billion worth of US exports to China.¹⁵³ Thus, while the ASCM largely leaves out VAT rebate policies from its coverage, there are other rules that may be applied to restrain the use of such policies. In this regard, the WTO dispute settlement mechanism has proved effective in restraining China’s use of subsidies in the high-tech sector and hence should continue to be used for that purpose.¹⁵⁴ To the extent that VAT rebates may distort trade and hurt trading partners, it is for WTO Members to decide whether more discipline would be desirable via negotiations. The current lack of discipline on VAT rebates under the ASCM was agreed on by WTO Members and does not cause a deficiency problem specific to China.

3. *Provision of goods or services (other than general infrastructure) or purchase of goods* — The third category of “financial contributions” concerns in-kind contributions in two forms: (1) the provision of goods or services to, and (2) the purchase of goods from, an enterprise by governments.¹⁵⁵ While the former may “lower artificially the cost of producing a product by providing . . . inputs having a financial value”, the latter may “increase artificially the revenues gained from selling the product.”¹⁵⁶ Goods or services may be provided through the grant of relevant rights leading to the use or enjoyment of the goods or

www.chinatax.gov.cn/n810341/n810755/c3556358/content.html (The Notice provided that the ten strategic sectors identified in the MIC 2025 should be prioritized for the refund of excess VAT credits).

¹⁵² *Id.*

¹⁵³ For an official summary of this dispute, see *DS 309: China–Value-Added Tax on Integrated Circuits*, WTO, www.wto.org/english/tratop_e/dispu_e/cases_e/ds309_e.htm. For a discussion of the facts and settlement of the dispute, see WEIHUAN ZHOU, *CHINA’S IMPLEMENTATION OF THE RULINGS OF THE WORLD TRADE ORGANIZATION 17-9* (Oxford and Portland, Oregon: Hart Publishing, 2019).

¹⁵⁴ *Id.*

¹⁵⁵ See ASCM, *supra* note 17, art. 1.1(a)(1)(iii).

¹⁵⁶ See *US — Soft Lumber IV*, *supra* note 83, ¶ 53.

services. For example, in *US – Softwood Lumber IV*, the Appellate Body found that Canada’s provincial stumpage arrangements amounted to a provision of goods by giving the eligible enterprises the right to cut standing timber and enjoy exclusive rights over the timber harvested.¹⁵⁷ It ruled that the term “provide” requires “a reasonably proximate relationship between the action of the government . . . and the use or enjoyment of the good or service by the recipient”, and also the government to “have some control over the availability of” the thing being provided.¹⁵⁸ Applying this reasoning, in *US – Carbon Steel (India)*, the Appellate Body held that the grant of mining rights for iron ore and coal by the Indian government had a “reasonably proximate relationship” with “the use or enjoyment of the minerals by the beneficiaries of those rights.”¹⁵⁹ In *US – Aircraft (2nd complaint)*, the Appellate Body ruled that the provision of goods or services may be “done gratuitously or in exchange for consideration,” and hence captured the provision of access to NASA/USDOD facilities, equipment, and employees in exchange for scientific and technical information produced by Boeing.¹⁶⁰

The provision of goods or services in the form of “general infrastructure” is explicitly excluded from the coverage of subparagraph (iii). Thus, a distinction must be made between “infrastructure of a general nature” and other infrastructure.¹⁶¹ In *EC – Aircraft*, the panel observed that “general infrastructure” refers to “infrastructure that is not provided to or for the advantage of only a single entity or limited group of entities, but rather is available to all or nearly all entities.”¹⁶² Therefore, even the provision of railroads or electrical distribution systems may fall within the ambit of subparagraph (iii) if they are made available only to a limited group of entities.¹⁶³ Such limitations on access to or use of the infrastructure may arise in law—e.g., where the infrastructure is created for certain entities particular needs—or in effect—e.g., where although an explicit limitation is absent, only

¹⁵⁷ *Id.* ¶¶ 68–76.

¹⁵⁸ *Id.* ¶ 71.

¹⁵⁹ See *US – Carbon Steel (India)*, *supra* note 93, ¶¶ 4.60–4.74.

¹⁶⁰ See *US – Aircraft (2nd complaint)*, *supra* note 82, ¶¶ 616, 623–24.

¹⁶¹ See *US – Soft Lumber IV*, *supra* note 83, ¶ 60.

¹⁶² See *EC – Aircraft*, *supra* note 89, ¶ 7.1036.

¹⁶³ *Id.* ¶ 7.1039.

certain entities have access to the infrastructure.¹⁶⁴ Based on these observations, the panel found sufficient evidence to show that the facilities involved were created for use by Airbus although they were also intended to serve certain public policy goals and may be open for public use in the future.¹⁶⁵

The provision of production inputs, particularly land and electricity, at preferential rates has been prevalent in the Chinese high-tech sector.¹⁶⁶ For example, in order to attract the world's leading tech firms to establish research centres in the Guangxi Zhuang Autonomous Region, the local government currently provides land use right for free for the first three years and at half price for another two years.¹⁶⁷ Similarly, to accelerate the growth of the Linyi High-Tech Zone in Shandong province, the local government offers a 15% discount of land use fees, preferential access to electricity, water, and other essential resources and facilities, amongst a variety of other supportive policies.¹⁶⁸ In Hubei province, high-tech companies in the Guanggu Future Tech-City are entitled to discounted electricity rates leading to an annual cost saving of approximately RMB 150 million.¹⁶⁹ The Guizhou provincial government recently reduced the electricity rate to RMB 0.35/Kilowatt hour for big data companies in Guian New Zone and for all 5G base stations in the region (in light of the New Infrastructure Initiative discussed in Section II) while the standard rate for industrial use is between RMB 0.48-0.64/Kilowatt hour.¹⁷⁰

¹⁶⁴ *Id.* ¶ 7.1043.

¹⁶⁵ *Id.* ¶¶ 7.1080–1084.

¹⁶⁶ See, e.g., Mandy Meng Fang, *A Crisis or An Opportunity? The Trade War between the US and China in the Solar PV Sector*, 54 J. OF WORLD TRADE 103 (2020).

¹⁶⁷ 广西壮族自治区人民政府关于实施创新驱动发展战略的决定 [Decision on Implementing the Plan of Innovation Driven Development] (promulgated by the Guangxi Zhuang Autonomous Region Government, Sept. 22, 2016), <https://www.waizi.org.cn/policy/81312.html>.

¹⁶⁸ 临沂高新技术产业开发区招商引资的有关规定 [Regulations on the Business and Investment Invitation in Linyi High-Tech Industrial Development Zone] (promulgated by Linyi Municipal Government, Dec. 5, 2019) § 3 art. 2, www.lytoday.com/kfly/yhzc/2013-12/17/content_1600.htm.

¹⁶⁹ Jin Ji, Shen Jia, & Zhao Jingwen, *High-tech Enterprises in Guanggu Future High City Enjoy Preferential Electricity Prices*, SINA NEWS (May 25, 2014), <http://news.sina.com.cn/o/2014-05-24/054030218040.shtml>.

¹⁷⁰ It is reported that Huawei, Apple and Tencent will establish their big data centres in Guian New Zone as planned. See *New Infrastructure Brings New Development Opportunities for Big Data Industry in Guizhou*, PEOPLE'S DAILY (Apr. 22, 2020),

There is little doubt that these measures are input subsidies in the form of provision of goods or services (i.e. electricity distribution and water allocation). Although these subsidies involve land and electricity generation and distribution, only selected industries, projects or companies are eligible for preferential access and discounted rates.¹⁷¹

Another major form of input subsidies is the provision of input materials, such as steel, aluminum, and a range of raw materials and rare earths (e.g. bauxite, iron ores, coking coal) that are essential for the high-tech sector.¹⁷² The key concern here is related to the significant market distortions in these upstream industries which have long been subject to industrial policies and dominated by SOEs.¹⁷³ However, as will be discussed in the subsections below, this concern is not so much about whether the provision of input materials constitutes a type of “financial contributions” but about (1) whether the input suppliers are “public bodies” and (2) whether these inputs are supplied at less than adequate remuneration so that a benefit is conferred on the downstream users in the high-tech sector. In practice, energy and

<http://sci.Technologypeople.com.cn/n1/2020/0422/c432330-31683603.html>; Press Release, Guizhou Communications Administration, Guizhou Autonomous Prefecture Issues Policy to Reduce the Cost of Electricity Generation for 5G Industry and Promote Industrial Development, (July 23, 2020),

http://gzca.miit.gov.cn/xwdt/gzdt/art/2020/art_3b5055f9baab4c5693b7c730ad2edaac.html.

¹⁷¹ See Jin et al. *supra* note 169; *New Infrastructure Brings New Development Opportunities for Big Data Industry in Guizhou*, *supra* note 170; 广西壮族自治区人民政府关于实施创新驱动发展战略的决定 [Decision on Implementing the Plan of Innovation Driven Development]; 临沂高新技术产业开发区招商引资的有关规定 [Regulations on the Business and Investment Invitation in Linyi High-Tech Industrial Development Zone]; *Guizhou Autonomous Prefecture Issues Policy to Reduce the Cost of Electricity Generation for 5G Industry and Promote Industrial Development*, *supra* note 170.

¹⁷² See generally OECD, *A First Look at the Steel Industry in the Context of Global Value Chains*, DSTI/SC(2017)4 (Mar. 16, 2017), [https://one.oecd.org/document/DSTI/SC\(2017\)4/en/pdf](https://one.oecd.org/document/DSTI/SC(2017)4/en/pdf); OECD, *Measuring Distortions in International Markets: the Aluminum Value Chain*, (OECD Trade Policy Papers No. 218, 2019), www.oecd-ilibrary.org/trade/measuring-distortions-in-international-markets-the-aluminium-value-chain_c82911ab-en [hereinafter OECD Aluminum Report]; WAYNE M. MORRISON & RACHEL TANG, CONG. RES. SERV., CHINA'S RARE EARTH INDUSTRY AND EXPORT REGIME: ECONOMIC AND TRADE IMPLICATIONS FOR THE UNITED STATES 1–4 (2012), <https://fas.org/sgp/crs/row/R42510.pdf>.

¹⁷³ OECD Aluminum Report, *supra* note 172; MORRISON & TANG, *supra* note 172, at 1–4.

material input subsidies have been some of the most frequent targets in countervailing actions against China.¹⁷⁴

The other category of in-kind contributions under Article 1.1(a)(1)(iii) of the ASCM concerns governments' purchase of goods. The case law has clarified that such purchases are usually for consideration¹⁷⁵ and may involve a government acquiring things for its own use or for others to use, such as resale to end users of electricity.¹⁷⁶ However, although the text of subparagraph (iii) does not include purchases of "services", in *US – Aircraft (2nd complaint)* the Appellate Body did not endorse the panel's decision that the drafters of the ASCM intended to exclude purchases of services, thereby leaving this question open for discussion in future disputes.¹⁷⁷

Government procurement has been an important driver of indigenous innovation in China.¹⁷⁸ A series of national policies and regulatory documents, which are also implemented through numerous local government policies, mandated or encouraged preferential government procurement of high-tech products and services supplied by qualified Chinese entities.¹⁷⁹ The NEV

¹⁷⁴ See generally CAPITAL TRADE INCORPORATED, U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION, AN ASSESSMENT OF CHINA'S SUBSIDIES TO STRATEGIC AND HEAVYWEIGHT INDUSTRIES, (Mar. 23, 2009), www.uscc.gov/research/assessment-chinas-subsidies-strategic-and-heavyweight-industries.

¹⁷⁵ See *US – Aircraft (2nd complaint)*, *supra* note 82, ¶ 620.

¹⁷⁶ Panel Report, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector/Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/DS412/R, WT/DS426/R (May 24, 2013), ¶¶ 7.225–7.227; Appellate Body Report, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector/Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/DS412/AB/R, WT/DS426/AB/R (May 24, 2013), ¶ 5.124.

¹⁷⁷ See *US – Aircraft (2nd complaint)*, *supra* note 82, ¶ 620.

¹⁷⁸ See generally U.S.-CHINA BUS. COUNCIL, UPDATE: CHINA'S INNOVATION & GOVERNMENT PROCUREMENT POLICIES (May 2015), www.uschina.org/reports/update-chinas-innovation-government-procurement-policies.

¹⁷⁹ See, e.g., The National Medium- and Long-Term Science and Technology Development Plan for 2006-2020, *supra* note 25; 自主创新产品政府采购评审办法 [Notice on the Assessment Criteria of Government Procurement of Home-Grown Innovation Products] (promulgated by the Ministry of Finance, Apr. 3, 2007), ST. COUNCIL GAZ., Feb. 5, 2008, chap. III, www.gov.cn/ztlz/kjfgzh/content_883671.htm; 自主创新产品政府采购预算管理办法 [Notice on the Measures of Administrating the Budget for Government Procurement of Home-Grown Innovation Products], (promulgated by the Ministry of Finance, Apr. 3, 2007), ST. COUNCIL GAZ., Feb. 5, 2008, www.gov.cn/ztlz/kjfgzh/content_883710.htm. However, it is noted that the latter two policies were phased out

industry, for instance, has been a major beneficiary of such policies that set specific NEV purchase targets for government entities and public institutions at both national and local levels.¹⁸⁰ One of the most recent policy developments is an opinion issued by the State Council which encourages government entities to increase purchases of innovative technologies, goods, and services from medium and small-sized tech firms in High-Tech Industrial Development Zones.¹⁸¹ It is anticipated that this policy will be implemented in the 168 high-tech zones currently listed by the Ministry of Science and Technology.¹⁸² Like government provision of goods or services, the major issue relating to the preferential public procurement of high-tech goods is not whether it constitutes a “financial contribution” but whether the purchases are made at more than adequate remuneration. Although the issue of whether government purchases of services may be treated as “financial contributions” remains unsettled, this lack of clarity does not create a problem that is specific to China, and any further development of the case law will apply to all WTO Members.

Moreover, it is worth noting that China is actively negotiating to join the WTO Agreement on Government Procurement which sets forth rules (e.g., non-discrimination) on government procurement activities that are not available under the

in 2011 by the Ministry of Finance. For a summary of some of the national and local policies, see U.S.–China Bus. Council, *supra* note 178. For a general discussion of government procurement in the high-tech sector, see Daniel C.K. Chow, *China’s Indigenous Innovation Policies and the World Trade Organization*, 34 *NW. J. INT’L LAW & BUS.* 81 (2013).

¹⁸⁰ 关于印发政府机关及公共机构购买新能源汽车实施方案的通知 [Notice on Issuing the implementation Plan of Government Agencies and Public Institutions’ Purchases of New Energy Vehicles] (promulgated by the Government Offices Administration of the State Council, the Ministry of Finance, the Ministry of Science and Technology, the Ministry of Industry and Information Technology and the National Development and Reform Commission on July 14, 2014, www.caam.org.cn/chn/9/cate_9/9/con_5124489.html).

¹⁸¹ See 关于促进国家高新技术产业开发区高质量发展的若干意见 [Opinions on Enhancing the High-Quality Development of National High-Tech Industrial Zones] (promulgated by the State Council, July 13, 2020), *ST. COUNCIL GAZ.* July 17, 2020, ¶ 8, www.gov.cn/zhengce/content/2020-07/17/content_5527765.htm.

¹⁸² *High-Tech Industrial Development Zone*, MINISTRY OF SCIENCE AND TECHNOLOGY, www.most.gov.cn/gxjscykfq/.

existing WTO agreements.¹⁸³ China proposed enhancing its market access commitments by broadening the scope of covered procurement to include goods and services sectors within strategic industries.¹⁸⁴ These rules and commitments would provide additional, more specific discipline on China's government procurement activities, thereby reducing the need to resort to the ASCM.

In addition, China is subject to an even broader WTO-plus obligation regarding the purchase and sale activities of SOEs and State-invested enterprises (SIEs). Section 6.1 of the Accession Protocol, as elaborated by paragraph 46 of the Working Party Report, requires the Chinese government to ensure that:

*[A]ll state-owned and state-invested enterprises would make purchases and sales based solely on commercial considerations, e.g. price, quality, marketability and availability, and that the enterprises of other WTO Members would have an adequate opportunity to compete for sales to and purchases from these enterprises on non-discriminatory terms and conditions. In addition, the Government of China would not influence, directly or indirectly, commercial decisions on the part of state-owned or state-invested enterprises, including on the quantity, value or country of origin of any goods purchased or sold, except in a manner consistent with the WTO Agreement.*¹⁸⁵

While this obligation has never been utilized before, hence its exact scope remains debatable, it seems to go beyond a mere non-discrimination rule and provide a more comprehensive restriction on the anti-competitive conduct of SOEs and SIEs including

¹⁸³ The Agreement on Government Procurement is a plurilateral agreement that applies to signatories only. For an official introduction of the agreement, see *WTO and Government Procurement*, WORLD TRADE ORG., www.wto.org/english/tratop_e/gproc_e/gproc_e.htm. For a discussion of the application of the relevant WTO rules on government procurement in China's high-tech sector, see Chow, *supra* note 179, at 98–104.

¹⁸⁴ *China Submits Revised Offer for Joining Government Procurement Pact*, WORLD TRADE ORG. (Oct. 23, 2019), www.wto.org/english/news_e/news19_e/gpro_23oct19_e.htm.

¹⁸⁵ See Working Party Report, *supra* 78, ¶ 46.

government purchases and sales of goods and services.¹⁸⁶ Thus, the ASCM is not, nor is it intended to be, the sole source of discipline on government procurement and sales activities that may cause market distortions and adversely affect other WTO Members.

4. *Income or price support* — Article 1.1(a)(2) sets out a residual category, namely, “any form of income or price support” within the meaning of Article XVI of the GATT. While this category has further broadened the “range of government measures capable of providing subsidies,”¹⁸⁷ its exact scope of coverage remains unsettled. In *China – GOES*, the panel rejected an effect-based approach to the determination of “price support.”¹⁸⁸ The contested measure was the voluntary restraint agreements (VRAs) concluded under the *US Steel Import Stabilization Act* 1984 which restricted the volume of steel imports into the US market.¹⁸⁹ China contended that the VRAs effectively raised domestic steel prices, thereby causing a transfer of wealth from steel purchasers to the US steel industry.¹⁹⁰ The panel held that whether a government action constitutes a covered subsidy should be “determined by reference to the action . . . concerned, rather than . . . the effects of the measure on a market.”¹⁹¹ More specifically, the term “price support”, in the panel’s view, “does not include all government intervention that may have an effect on prices, such as tariffs and quantitative restrictions.”¹⁹² Rather, it concerns “*direct government intervention in the market with the design to fix the price of a good at a particular level*, for example, through purchase of surplus production when price is set above equilibrium” as opposed to “a random change in price merely being a side-effect of any form of

¹⁸⁶ For a more detailed discussion of this obligation (in comparison to GATT Article XVII:1 on State Trading Enterprises), see Weihuan Zhou et al., *Building A Market Economy Through WTO-Inspired Reform of State-Owned Enterprises in China*, 68 INT’L & COMP. L.Q. 977, 997–1001, 1011–12 (2019).

¹⁸⁷ See *US – Softwood Lumber IV*, *supra* note 83, ¶ 52.

¹⁸⁸ See generally Panel Report, *China Countervailing and Anti-Dumping Duties on Grain Oriented Flat-rolled Electrical Steel from the United States*, WTO Doc. WT/DS414/R (June 15, 2012).

¹⁸⁹ *Id.* ¶¶ 7.35, 7.79.

¹⁹⁰ *Id.*

¹⁹¹ *Id.* ¶ 7.85.

¹⁹² *Id.* ¶ 7.85.

government measure.”¹⁹³ Since the VRAs did not involve direct control of price by the US government, the panel rejected China’s claim that they constituted a subsidy in the form of price support.¹⁹⁴ To date, this ruling remains the only detailed consideration of the meaning of “income or price support.” Nevertheless, the effect-based approach to the determination of subsidies has been consistently rejected in other disputes. For example, in *US – Export Restraints*, the panel refused to treat export restraints as a “financial contribution” despite their potential trade-distorting effect.¹⁹⁵

We did not identify any measure that *directly* sets price or income levels in China’s high-tech sector. As a result of the case law above, measures that may cause price distortions *indirectly* may not be captured by this residual category. One such measure that has been hotly debated in recent years concerns China’s export restraints, mainly in the form of export quotas and taxes, on raw materials and rare earths.¹⁹⁶ While these measures are apparently adopted to protect the security of exhaustible natural resources and the environment,¹⁹⁷ they may cause domestic input prices to fall, thereby conferring a cost advantage on downstream entities in the high-tech sector, such as semiconductors and NEVs.¹⁹⁸ Despite the potential price effects, export restraints do not amount to a government’s direct control of price in light of the panel decision in *US – Export Restraints*. Therefore, whether they may constitute a covered subsidy remains debatable.¹⁹⁹

However, as discussed above, the ASCM is not the sole source of discipline that may be employed to tackle trade-

¹⁹³ *Id.* ¶ 7.86 (emphasis added).

¹⁹⁴ *Id.* ¶ 7.88.

¹⁹⁵ See Panel Report, *United States – Measures Treating Exports Restraints as Subsidies*, WTO doc. WT/DS194/R (adopted Aug. 23, 2001) ¶¶ 8.62–8.75.

¹⁹⁶ See Bown & Hillman, *supra* note 53, at 568–69, 574.

¹⁹⁷ 《中国的稀土状况与政策》[Situations and Policies of China’s Rare Earth Industry], INFO. OFFICE OF THE STATE COUNCIL, (June 20, 2012), www.gov.cn/zhengce/2012-06/20/content_2618561.htm.

¹⁹⁸ See Marco Bronckers & Keith Maskus, *China – Raw Materials: A Controversial Step Towards Evenhanded Exploitation of Natural Resources*, 13 WORLD TRADE REVIEW 393, 402–04 (2014).

¹⁹⁹ *But see* Jackson, *World Trade and the Law of the GATT*, *supra* note 54, at 383–84 (arguing that the negotiating history of GATT Article XVI:1 has suggested that the definition of subsidy may be broadly interpreted to cover indirect subsidies that increase the export of any products).

distortive export measures or price distortions. Under the general WTO rules, all export restrictions other than duties, taxes or other charges are prohibited under GATT Article XI:1. Anti-dumping duties have been routinely applied to address price distortions derived from the raw materials market affecting the price of final goods.²⁰⁰

In addition, China has undertaken two relevant WTO-plus obligations. Under Section 11.3 of its Accession Protocol, China agrees to “eliminate all taxes and charges applied to exports” except for a list of 84 tariff items subject to a bound export duty from 20 to 50 percent. Many raw materials, such as bauxite, coke, fluorspar, magnesium, silicon metal, zinc, and a wide spectrum of rare earths, are not included in the list and hence must not be subject to export taxes.²⁰¹ This WTO-plus obligation has been applied to successfully challenge China’s export taxes on raw materials and rare earths in two consecutive disputes.²⁰² This obligation significantly limited China’s policy space in using export taxes for legitimate regulatory goals, while other WTO Members are free to and do apply such taxes for similar goals.²⁰³

More broadly, China also undertakes to “allow prices for traded goods and services in every sector to be determined by market forces” under Section 9.1 of the Accession Protocol. Only a short list of exempted goods and services – which does not cover the strategic high-tech sectors – may be subject to government

²⁰⁰ See, e.g., Appellate Body Report, *European Union – Anti-Dumping Measures on Biodiesel from Argentina*, WT/DS473/AB/R (adopted Oct. 26, 2016). For a detailed discussion of this report, see Weihuan Zhou, *Appellate Body Report on EU–Biodiesel: The Future of China’s State Capitalism under the WTO Anti-Dumping Agreement*, (2018)17(4) *World Trade Review* 603.

²⁰¹ Accession Protocol, *supra* note 77, Annex 6.

²⁰² See WTO Panel Report, *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/R, WT/DS395/R, WT/DS398/R (adopted Feb. 22, 2012); 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 Feb. 22, 2012). WTO Panel Report, *China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*, WT/DS431/R, WT/DS432/R, WT/DS433/R (adopted Aug. 29, 2014); Appellate Body Report, *China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*, WT/DS431/AB/R, WT/DS432/AB/R, WT/DS433/AB/R (adopted Aug. 29, 2014).

²⁰³ Jeonghoi Kim, ‘Recent Trends in Export Restrictions on Raw Materials’ in OECD, *The Economic Impact of Export Restrictions on Raw Materials* (Paris, OECD Publishing, 2010) 15–20.

pricing or government guidance pricing.²⁰⁴ Apparently, this obligation has the potential to extend beyond “price or income control” to capture Chinese government intervention in all sectors, other than the few exemptions, where it affects prices directly or indirectly, although its exact scope of application will need to be tested in future disputes.²⁰⁵ Despite its potential, this obligation has never been utilized by WTO Members to challenge the allegedly wide-ranging activities of the Chinese government, including those through SOEs and SIEs that may have prevented prices from being determined by market forces. Therefore, while it is worthwhile for there to be further discussion about whether the ASCM may or should be expanded to apply to export restraints or other types of price-distortive measures that do not explicitly take the form of the covered subsidies, it is also important to recognize that the other WTO rules, particularly the broad China-specific obligations, already offer certain solutions to the challenges arising from State intervention and market distortions in China.

B. Public Body

The interpretation of what constitutes a “public body” under Article 1.1(a)(1) of the ASCM is critical to ensuring that only the conduct of governments is captured. In its landmark decision in *US – Anti-dumping and Countervailing Duties (China)*, the Appellate Body developed a “function/authority-based” approach to the determination of “public body” while rejecting an “ownership-based” approach proposed by the US and applied by the panel to decide that China’s State-owned commercial banks were “public bodies” just because these entities were majority owned or controlled by the Chinese government.²⁰⁶ More specifically, the Appellate Body ruled that a “public body . . . must be an entity that possesses, exercises or is vested with governmental authority” to exercise governmental functions.²⁰⁷ Such authority may be established based on evidence showing “an explicit statutory delegation” or “a sustained and

²⁰⁴ See Accession Protocol, *supra* note 77, § 9.2; Annex 4.

²⁰⁵ See Zhou et al., *supra* note 186, at 1012–14.

²⁰⁶ See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶¶ 277–78.

²⁰⁷ *Id.* ¶¶ 317–18.

systematic practice.”²⁰⁸ The existence of mere formal links between an entity and government, such as the government holding a majority interest in the entity, in itself is unlikely to be sufficient evidence.²⁰⁹ However, “where the evidence shows that the formal indicia of government control are manifold, and there is also evidence that such control has been exercised in a meaningful way, then such evidence may permit an inference that the entity concerned is exercising governmental authority.”²¹⁰ In any event, the determination of whether an entity is a “public body” requires consideration of all relevant characteristics or features of the entity, its relationship with government, and must not be exclusively or unduly based on any single characteristic.²¹¹ While rejecting the panel’s interpretative approach, the Appellate Body upheld the panel’s ultimate finding that the Chinese State-owned commercial banks constituted “public bodies” based on evidence relating to (1) state ownership, (2) laws that mandate or request implementation or consideration of government policies, and (3) influence of the government or the Communist Party of China (hereinafter CPC or Party) on management and decision-making.²¹²

Most recently, the Appellate Body revisited the “function/authority-based” approach in detail in *US – Countervailing Measures (China) (Article 21.5)*.²¹³ This dispute arose out of the United States’ continued application of the “ownership-based” approach in finding that Chinese SOEs and SIEs providing inputs for the production of certain goods, including certain pipes, steel and aluminium products, wind power, and solar panels, were “public bodies” in a range of countervailing investigations.²¹⁴ The panel found the US in breach of

²⁰⁸ *Id.* ¶ 318.

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ *Id.* ¶ 319.

²¹² *See id.* ¶¶ 350, 355.

²¹³ Appellate Body Report, *United States — Countervailing Duty Measures on Certain Products from China – Resources to Article 21.5 of the DSU by China*, WT/DS437/AB/RW (adopted Aug. 15, 2019) [hereinafter *US — Countervailing Measures (Article 21.5 – China)*].

²¹⁴ WTO Panel Report, *United States — Countervailing Duty Measures on Certain Products from China*, WT/DS437/R (adopted Jan. 16, 2015), ¶ 7.1.

Article 1.1(a)(1) in the original proceedings.²¹⁵ In the compliance proceedings, the US primarily relied on a Public Bodies Memorandum (accompanied by a CPC Memorandum) and China's responses to the Public Body Questionnaire, which included evidence to support the "authority-based" approach.²¹⁶ In addition to government ownership, the evidence included, *inter alia*, China's national industrial policies, the role of the Chinese government and the CPC in the firms' management and governance, the provision of direct and indirect benefits to incentivize the firms to follow the policy directives, and the influence of these policies, government/Party role and incentives on the firms' behaviour and activities.²¹⁷ The Memorandum concluded that (1) all SOEs are "public bodies"; (2) SIEs may be subject to government industrial policies, hence exercising governmental functions; (3) entities with little or no formal government ownership may be controlled or influenced by the Chinese government in a meaningful manner; and (4) the control of the Party is equivalent to the control of the State.²¹⁸ China's core contention was that the United States' authorities failed to apply the correct legal test. More specifically, China submitted that the "authority-based" test "require[s] a particular degree or nature of connection in all cases between an identified government function and the particular financial contribution at issue," and hence cannot be satisfied by "an abstract review of China's system of governance and state functions."²¹⁹ Both the compliance panel and the Appellate Body disagreed. The Appellate Body clarified that the focus of the test is on the *entity* concerned and its relationship with government as opposed to the *conduct* alleged to give rise to a "financial contribution" although evidence relating to conduct may be indicative of the underlying functions of the entity.²²⁰ Therefore, it is unnecessary to show that the entity is

²¹⁵ *Id.* ¶¶ 7.60–7.75.

²¹⁶ WTO Panel Report, *United States – Countervailing Duty Measures on Certain Products from China – Resources to Article 21.5 of the DSU by China*, WT/DS437/RW (adopted Aug. 15, 2019), ¶¶ 7.39–7.48.

²¹⁷ *Id.*

²¹⁸ *Id.* ¶¶ 7.49–7.52; *US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶¶ 5.56–5.58.

²¹⁹ *See US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶¶ 5.65, 5.77–5.78.

²²⁰ *Id.* ¶¶ 5.100–5.101.

“meaningfully controlled” by the government in the *specific* conduct.²²¹ Once an entity is found to be a “public body,” then all its conduct “is *directly* attributable to” the government of the Member concerned.²²² Although the Appellate Body refused to consider whether the Public Bodies Memorandum is in violation of Article 1.1(a)(1),²²³ its decision suggested that evidence showing a sufficient degree of government control of the activities of an entity in general leading to the exercise of governmental functions by the entity would satisfy the “authority-based” test.²²⁴

The “authority-based” test has been one of the most criticized elements of the current subsidy rules.²²⁵ Many believe that given China’s State-led economic model and the dominant role of SOEs in economic activities, this test creates a substantial hurdle to identifying “public bodies” and is consequently deficient in tackling subsidies granted via SOEs.²²⁶ This issue is a major ground for reforms of the subsidy rules proposed by the US-EU-Japan joint statement²²⁷ and by Bown and Hillman.²²⁸

The “authority-based” approach is preferable to the “ownership-based” approach.²²⁹ This is because under that approach, the definition of “public body” does not overreach to cover all SOEs or SIEs, regardless of whether an entity exercises a public policy function as an agent of governments or purely engages in commercial activities. Since public sectors remain significant in many countries,²³⁰ an adoption of the “ownership-based” approach may well cause an issue of over-inclusiveness and attract the same degree of criticisms as its counterpart has received. More importantly, the WTO tribunals’ application of the “authority-based” approach is reasonably balanced by requiring

²²¹ *Id.* ¶ 5.103.

²²² *Id.* ¶ 5.103 (emphasis in original).

²²³ *Id.* ¶¶ 5.121–5.126.

²²⁴ *Id.* ¶ 5.121–5.126, 5.245–5.248 (note that one Member of the Appellate Body had a dissenting view on the legal test).

²²⁵ See, e.g., Michel Cartland, Gerard Depayre & Jan Woznowski, *Is Something Going Wrong in the WTO Dispute Settlement?*, 46(5) J. WORLD TRADE 979, 1001–05 (2012).

²²⁶ *Id.*

²²⁷ See 2020 Joint Statement, *supra* note 15.

²²⁸ See Bown & Hillman, *supra* note 53, at 567–74.

²²⁹ See Zhou et al., *supra* note 186, at 1017–20.

²³⁰ See OECD, *State-Owned Enterprises as Global Competitors*, *supra* note 7, 21–

some evidence beyond ownership without imposing excessively high evidentiary standards. As the major evidence required under the “authority-based” approach, China’s industrial policies, directives, and other regulatory instruments as well as the involvement of the State/Party in corporate management and governance are widely documented and are readily accessible nowadays.²³¹ In addition, China’s ongoing SOE reforms have explicitly classified certain entities as Public Welfare SOEs and Special Commercial SOEs to undertake governmental functions and have mandated the creation of a Party Committee in all SOEs to influence the decision-making of these entities.²³² These recent developments provide more positive evidence to support findings of “public bodies.” In reality, investigating authorities in major jurisdictions have already collected abundant evidence and have often resorted to other relevant evidence collected by each other in countervailing investigations.²³³ Significantly, the Appellate Body’s ruling that the “public body” determination does not require one to show that the specific conduct of the entity concerned is “meaningfully controlled” by the Chinese government further reduced the evidentiary burden on investigating authorities. Therefore, the totality of the evidence identified above would be sufficient to establish a *prime facie* case which would be difficult for the Chinese government to rebut. In both disputes where the “authority-based” approach was developed and applied, the WTO tribunals did not disagree with the investigating authorities on the findings that the evidence on the record was sufficient to show China’s State banks and SOEs/SIEs providing inputs to manufacture were meaningfully controlled by the Chinese government to exercise governmental functions. Similarly, it would not be hard to establish that the investment funds discussed in sub-section A(i) are “public bodies”

²³¹ China has made most laws, regulations and policies available online as part of its WTO obligations on transparency. See generally Henry Gao, ‘The WTO’s Transparency Obligations and China’ (2017)12(2) J. COMPAR. L.Q. 329. For discussions of the involvement of the State/Party in the management of SOEs, see Li-Wen Lin, ‘A Network Anatomy of Chinese State-Owned Enterprises’, 16(4) WORLD TRADE REV. 583 (2017).

²³² See Zhou et al., *supra* note 186, at 984–86.

²³³ For discussions of trade remedy practices in different jurisdictions particularly in cases against China, see generally NON-MARKET ECONOMIES IN THE GLOBAL TRADING SYSTEM: THE SPECIAL CASE OF CHINA (James Nedumpara & Weihuan Zhou eds., 2018).

based on the majority ownership of the Chinese government,²³⁴ the relevant industrial policies, and other evidence showing that the funds are essentially government investment vehicles vested with the authority to promote the growth of the selected industries. In short, while one may continue to debate the legitimacy and efficacy of the “authority-based” test, the case law seems to have evolved in a direction that makes “public bodies” easier to prove than to defend.

C. Private Entities “Entrusted or Directed”

While the ASCM is primarily concerned with the conduct of governments, it does not ignore the possibility that Members may circumvent their obligations by making a financial contribution *indirectly* through a private entity.²³⁵ To prevent such circumvention, it provides that the conduct of a private entity may also constitute the provision of subsidies if it is “entrusted” or “directed” by governments to do so.²³⁶ The key interpretative issue, therefore, concerns the meaning of “entrustment” and “direction.” In *US – DRAMs*, the Appellate Body observed that these terms, respectively, involve the giving of responsibility to (entrustment) or exercise of authority over (direction) an entity, as a proxy of government, in both formal and informal ways “in order to effectuate a financial contribution.”²³⁷ Both terms require “a demonstrable link between the government and the conduct of the private body” and “a more active role [of the government] than mere acts of encouragement,” and hence do not cover any government intervention which may or may not lead to the conduct of the private entity.²³⁸ In this regard, the panel found that despite (1) the existence of a bailout policy seeking to prevent the

²³⁴ For example, the major shareholders of the first tranche of the IC Fund included the Ministry of Finance (25.95%), China Development Bank Finance (23.07%), China National Tobacco (14.42%), and Beijing E-Town International Investment and Development (7.21%), and China Mobile (7.21%). See Yanpeng Chen, *The Second Tranche of the National IC Fund Continues to Focus on Semiconductors and May Attract More Than 1 Trillion Private Investment*, SINA NEWS (June 16, 2020), <https://finance.sina.com.cn/roll/2020-06-16/doc-iirczymk7375390.shtml>.

²³⁵ ASCM, *supra* note 17, art. 1.1(a)(1)(iv).

²³⁶ See *US – Softwood Lumber IV*, *supra* note 83, ¶ 52.

²³⁷ See Appellate Body Report, *United States — Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMs) from Korea*, WT/DS296/AB/R (adopted July 20, 2005) ¶¶ 110–11, 113 [hereinafter *US — DRAMs*].

²³⁸ *Id.* ¶¶ 112, 114.

financial collapse of Hynix and (2) the fact that the Korean government had some capacity to influence the private body creditors, the evidence did not demonstrate that the Korean government “availed itself of that capacity to entrust or direct” the creditors to participate in the bailout.²³⁹ The Appellate Body later overturned the panel’s finding on the ground that the panel examined individual pieces of evidence in isolation rather than the totality of the evidence.²⁴⁰ However, the Appellate Body did not consider whether the evidence before the panel, in its totality, was sufficient to substantiate “entrustment or direction.”²⁴¹

Subsequent decisions offer more guidance on the evidentiary standard for “entrustment” and “direction.” For example, in dealing with similar issues relating to the participation of private body creditors in the bailout of Hynix in *Japan – DRAMs (Korea)*, the Appellate Body dismissed the panel’s observation that entrustment or direction cannot be established if a financial transaction (such as a loan) is undertaken on commercial terms, although “the commercial unreasonableness of the financial transactions is a relevant factor.”²⁴² Instead, the Appellate Body opined that a “government could entrust or direct a creditor to make a loan, which that creditor then does on commercial terms.”²⁴³ This suggests that the establishment of “entrustment” or “direction” does not rely on whether the financial contribution concerned confers a benefit. In the context of interpreting “public body” in *US – Anti-dumping and Countervailing Duties (China)*, the Appellate Body confirmed that like the term “public,” the term “private” also “encompass[es] notions of authority as well as of control.”²⁴⁴ As suggested by the Appellate Body in *US – Countervailing Measures (China) (Article 21.5)*, the major difference is that if conduct is carried out by a private entity, then it must be demonstrated that a “link” exists “between the government and that [specific] conduct” in the form

²³⁹ WTO Panel Report, *United States – Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMs) from Korea*, WT/DS296/R (adopted July 20, 2005), ¶ 7.177.

²⁴⁰ See *US – DRAMs*, *supra* note 237, ¶¶ 141–58.

²⁴¹ *Id.*

²⁴² See *Japan – DRAMs (Korea)*, *supra* note 90, ¶ 138.

²⁴³ *Id.*

²⁴⁴ See *US – Anti-dumping and Countervailing Duties (China)*, *supra* note 143, ¶ 292.

of “entrustment or direction,” which is not required in the determination of “public body” as discussed above.²⁴⁵ Accordingly, in *US – Supercalendered Paper*, the panel held that a measure that merely imposed a general obligation on an entity to provide electricity service did not amount to an “entrustment or direction” of the entity to provide such service to a specific customer at any given rate.²⁴⁶ This ruling confirms that “entrustment or direction cannot be inadvertent or a mere by-product of governmental regulation”²⁴⁷ and that additional evidence is needed to show the *conduct* concerned is entrusted or directed by a government.

The concern about the role of private entities in China has two major, related claims. The more extreme claim is that given the complicated web of relationships between the State, the Party, and firms in China, all firms may be influenced by the government.²⁴⁸ This claim indicates that the entire Chinese economy is distorted by State intervention. While one cannot deny that such State/Party-Firm relationships or networks exist, evidence on the actual or even potential impact on the decisions of private firms is much less robust compared with the evidence of such impact on SOEs.²⁴⁹ In contrast, recent studies tend to suggest the opposite. As leading China expert Nicholas Lardy has observed, with the increasingly significant role of private firms in the Chinese economy, “most markets are now competitive.”²⁵⁰ Even with the recent resurgence of the role of the State and SOEs, State influence remains concentrated in selected sectors and private firms have continued to maintain financial performance and efficiency at levels considerably higher than those of SOEs.²⁵¹ Thus, it is unjustified to regard all business activities of private

²⁴⁵ See *US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶ 5.103.

²⁴⁶ WTO Panel Report, *United States – Countervailing Measures on Supercalendered Paper from Canada*, WT/DS505/R (adopted Mar. 5, 2020), ¶¶ 7.57–7.63 [hereinafter *US – Supercalendered Paper*].

²⁴⁷ See *US – DRAMs*, *supra* note 237, ¶ 114; *US – Supercalendered Paper*, *supra* note 246, ¶ 7.61.

²⁴⁸ See Wu, *supra* note 117, at 264–65.

²⁴⁹ See, e.g., Lin, *supra* note 231.

²⁵⁰ See Nicholas Lardy, *Markets over Mao: The Rise of Private Business in China* (Washington DC: Peterson Institute for International Economics, 2014) 17, 23–51.

²⁵¹ See Nicholas Lardy, *The State Strikes Back: The End of Economic Reform in China* (Washington DC: Peterson Institute for International Economics, 2019).

firms as being directed by the Chinese government. Rather, whether such activities are so directed or influenced must be established on a case-by-case basis. This view lends support to the interpretative approach developed by the Appellate Body requiring the demonstration of “entrustment” or “direction” of the specific conduct concerned.

The other claim is that given the industrial policies and the significant involvement of the State in market activities in selected sectors, including the high-tech sector, private firms are incentivized to increase business activities in these sectors and even to grant financial or other support to certain firms or projects pursuant to the instructions of governments in exchange for business opportunities and other commercial benefits.²⁵² This claim has merit if one considers China’s New Infrastructure Initiative and government-led investment funds in the high-tech sector which have promoted massive and growing private investment in the selected industries as discussed earlier.²⁵³ However, the possibility that private actors may be so incentivized does not necessarily mean they are acting in the interest of the government instead of their own in all cases. Maintaining a good relationship with governments, making an investment based on policy and regulatory developments, or running a short-term loss for long-term benefits are typical examples of reasonable commercial decisions. Such conduct is by no means conclusive as to whether a private entity exercises a governmental function. Again, an inquiry into whether the contested conduct is entrusted or directed by governments would be needed.

To this end, one may remain concerned about the State/Party’s “invisible hand” in the Chinese economy that may effectively influence private firms’ conduct similarly to how it influences State entities.²⁵⁴ However, whether the degree, breadth, and effectiveness of such influence is actually similar requires more solid empirical evidence. The Chinese government is significantly more inclined to use SOEs rather than private entities to implement policy objectives, hence the extensive support for

²⁵² See generally Curtis J. Milhaupt and Wentong Zheng, ‘Beyond Ownership: State Capitalism and the Chinese Firm’, (2015)103 *Georgetown Law Journal* 665, 683–88.

²⁵³ It is estimated that the IC Fund (first tranche and second tranche) can lead to private investment exceeding RMB 1 trillion. See Chen, *supra* note 234.

²⁵⁴ See generally Milhaupt and Zheng, *supra* note 252.

the former to the detriment of the latter.²⁵⁵ This also suggests that the conduct of private entities must not be presumed to be entrusted or directed by governments. Accordingly, we submit that the current law on subsidies strikes a proper balance by including private entities as potential suppliers of subsidies while imposing a higher evidentiary standard for establishing that such entities actually act for the government as compared with the evidence required in establishing SOEs as “public bodies.” This balanced approach reasonably reflects the focus of WTO rules on the conduct of governments as opposed to that of corporate entities especially private ones.²⁵⁶ The more remotely an entity is related to a government, the higher the evidentiary standard should be in establishing that the conduct of the entity is attributable to the government. To the extent that this higher evidentiary standard makes it more difficult for a complainant to prove “entrustment” or “direction” than for a respondent to defend, the escalation is logical and the difficulty applies to all WTO Members as amply demonstrated in past disputes such as those involving Korea’s bailout of Hynix through private creditors.²⁵⁷ Therefore, even accepting that the current legal test creates certain problems due to the high evidentiary standard in identifying subsidies through private entities, the problems are not specific to China. If the Chinese government decides to further strengthen its “control” or “influence” on private entities,²⁵⁸ it only provides more evidence for other countries to establish “entrustment” or “direction.”

²⁵⁵ See, e.g., Benn Steil and Benjamin Della Rocca, ‘Does China’s “Invisible Hand” Steer Funds to State-Owned Firms’, Council on Foreign Relations (Apr. 16, 2019), www.cfr.org/blog/does-chinas-invisible-hand-steer-funds-state-owned-firms.

²⁵⁶ See JOHN H. JACKSON ET AL., LEGAL PROBLEMS OF INTERNATIONAL ECONOMIC RELATIONS — CASES, MATERIALS AND TEXT 402 (St. Paul, Minn.: West Group, 4th ed., 2002); Ernst-Ulrich Petersmann, *GATT Law on State Trading Enterprises: Critical Evaluation of Article XVII and Proposals for Reform in STATE TRADING IN THE TWENTY-FIRST CENTURY* 71, 71–72 (Thomas Cottier and Petros Mavroidis eds., 1998).

²⁵⁷ See *US — DRAMS*, *supra* note 237, and our discussions above.

²⁵⁸ For example, a recent policy document released by the CPC emphasizes the need to strengthen the leadership of the Party on private entities. See *Guanyu Jiaqiang Xin Shidai Mingying Jingji Tongzhan Gongzuo De Yijian* (关于加强新时代民营经济统战工作的意见) [Opinions on Strengthening the United Work of Private Economy in the New Era], GENERAL OFFICE OF THE CPC CENTRAL COMMITTEE (Sept. 15, 2020), www.gov.cn/zhengce/2020-09/15/content_5543685.htm.

D. Benefits Conferred

A government action that constitutes a “financial contribution” or “price or income support” would not be regarded as a “subsidy” unless it has conferred a benefit to the recipient.²⁵⁹ In developing the legal test of “benefit conferred,” WTO tribunals have relied on Article 14 as an immediate context.²⁶⁰ In essence, Article 14 states that the calculation of benefit shall be based on the extent to which a financial contribution has been made “on terms more favourable than those available to the recipient in the market.”²⁶¹ Accordingly, the test of “benefit conferred” focuses on the “recipient” or “benefit to the recipient” rather than the government/subsidy provider or “cost to government.”²⁶² Thus, in *EC – Aircraft*, the mere fact that government investment in infrastructure exceeded its return on that investment, though relevant, was not determinative of whether a benefit was conferred.²⁶³ Rather, one needs to compare the situations with or without the government action, that is, whether the action made the recipient “better off” than it would have been in the absence of it.²⁶⁴ The benchmark for comparison is the marketplace such that the central inquiry is whether a financial contribution is provided “on terms more advantageous than those [that would have been] available to the recipient in the market” at the time the contribution is made.²⁶⁵ Therefore, for example, if the financial contribution is in the form of a government loan, then it would constitute a subsidy only if it has been granted on terms more favourable than those of a comparable commercial loan in the market at the time the loan is provided.²⁶⁶ This timing requirement means that “the determination of benefit . . . is an *ex ante* analysis

²⁵⁹ ASCM, *supra* note 17, art. 1.1(b).

²⁶⁰ *See, e.g., US – Softwood Lumber IV, supra* note 83, ¶ 77.

²⁶¹ Appellate Body Report, *Canada – Measures Affecting the Export of Civilian Aircraft*, ¶¶ 155, 158, WTO Doc. WT/DS70/AB/R (adopted Aug. 20, 1999) [hereinafter *Canada – Aircraft*].

²⁶² *Id.* ¶¶ 154–56.

²⁶³ *See* Appellate Body Report, *European Communities and Certain Member States – Measures Affecting Trade in Large Civil Aircraft*, ¶¶ 980–81, WTO Doc. WT/DS316/AB/R (adopted June 1, 2011) [hereinafter *EC – Aircraft*].

²⁶⁴ *See Canada – Aircraft, supra* note 261, ¶ 157.

²⁶⁵ *Id. EC – Aircraft, supra* note 263, ¶ 706; *US – Aircraft (2nd complaint), supra* note 82, ¶ 636.

²⁶⁶ *See EC – Aircraft, supra* note 263, ¶¶ 834–35.

that does not depend on how the particular financial contribution actually performed after it was granted.”²⁶⁷ The benchmark analysis requires consideration of all relevant evidence including, *inter alia*, “the terms that would result from unconstrained exchange in the relevant market” and/or the commercial rationality of the financial contribution concerned, that is, whether the contribution is made based on commercial considerations.²⁶⁸

One of the most controversial issues in the benefit/benchmark analysis concerns the determination of an appropriate benchmark, especially when a market is dominated or heavily influenced by governments.²⁶⁹ In *US – Softwood Lumber IV*, the US authority found that Canadian stumpage fees did not reflect competitive market prices and hence used external benchmarks to determine the magnitude of benefit under Article 14(d), which sets forth the guideline for assessing whether government provision/purchase of goods is made “less/more than adequate remuneration.”²⁷⁰ The Appellate Body ruled that while the private prices in arm’s length transactions in the market of provision provide the primary benchmark, such prices may be replaced by an alternative benchmark if they are distorted because the government plays a *predominant* role in providing those goods.²⁷¹ In such circumstances, private suppliers would be induced to align their prices to the government price.²⁷² However, government predominance in the market does not necessarily mean all prices are distorted; hence, whether that predominance has induced price alignment must be assessed on a case-by-case basis.²⁷³ The Appellate Body observed that alternative benchmarks may include the prices of similar goods in world markets (i.e., out-of-country benchmark) or proxies constructed

²⁶⁷ *Id.* ¶ 706.

²⁶⁸ See *Japan — DRAMs (Korea)*, *supra* note 90, ¶ 172.

²⁶⁹ See generally Wentong Zheng, *The Pitfalls of the (Perfect) Market Benchmark: The Case of Countervailing Duty Law*, 19 MINN. J. INT. L. 350 (2010); Julia Qin, *Market Benchmarks and Government Monopoly: The Case of Land and Natural Resources under Global Subsidies Regulation*, 40(3) U. PA. J. INT’L L. 575 (2019). For a more general critique of the benchmark analysis, see Andrew Lang, *Governing ‘As If’: Global Subsidies Regulation and the Benchmark Problem*, 67(1) CURR. LEG. PROBL. 135 (2014).

²⁷⁰ See *US — Softwood Lumber IV*, *supra* note 83, ¶ 77.

²⁷¹ *Id.* ¶ 90.

²⁷² *Id.* ¶ 100.

²⁷³ *Id.* ¶ 102.

on the basis of production costs (i.e., constructed benchmark).²⁷⁴ Where an alternative benchmark is employed, adjustments must be made to ensure the benchmark reflects the prevailing market conditions in the country of provision/purchase.²⁷⁵ These rulings, which have been applied and further developed in subsequent cases discussed below, suggest that the benefit/benchmark test involves two major steps: (1) determining an appropriate benchmark, and if an external benchmark is employed,²⁷⁶ (2) making adjustments to that benchmark to ensure it reflects the prevailing conditions in the market of the subsidizing Member. These two steps may pose challenges for the establishment of “benefit conferred.”

The first step requires evidence to show that the primary benchmark, such as prices of final goods or inputs or commercial loan rates in the market of the subsidizing Member, is distorted and hence needs to be replaced with an external benchmark. This evidentiary requirement concerns whether the role of governments in the market is so significant as to render the primary benchmark distortive and unreliable. While governments do play such a significant role in some markets, their role is less significant in other markets. For example, in *US – Anti-dumping and Countervailing Duties (China)*, the WTO tribunal considered whether the provision of hot-rolled steel (HRS) inputs to certain Chinese HRS producers via SOEs conferred a benefit.²⁷⁷ For the tribunal, the fact that the Chinese government accounted for 96.1% of HRS production in China was sufficient to justify the use of alternative benchmarks.²⁷⁸ The tribunal also found that the interest rates for commercial loans in China were distorted based on the totality of the following evidence: (1) the government’s influence in the banking sector and on interest rates; (2) lending rates were largely undifferentiated and close to the government-set benchmark rate for most loans; (3) both domestic and foreign

²⁷⁴ *Id.* ¶ 106.

²⁷⁵ *Id.* ¶ 108.

²⁷⁶ Note that a constructed benchmark may involve the use of out-of-country cost information if the in-country production cost is found to be distorted due to government intervention in the relevant upstream market.

²⁷⁷ See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, § VI.

²⁷⁸ *Id.* ¶¶ 454–58.

banks were subject to the same government controls; and (4) the dominant role of State-owned banks in lending activities while privately-owned banks only accounted for a very small percentage of total lending.²⁷⁹ In making these findings, the Appellate Body emphasized that it is price distortion that would allow the use of alternative benchmarks, not the role of the government *per se*.²⁸⁰ It also clarified that the evidence required to prove such distortion may vary depending on the degree of government intervention and such intervention “does not refer exclusively to market shares, but may also refer to market power.”²⁸¹

These rulings suggest that in sectors in which private actors are more significant than State actors, more compelling evidence on market distortion would be needed. This would be the case in China’s high-tech sectors, such as semiconductors, NEVs, 5G, big data, AI, etc. in which private firms have been increasing both market shares and market power through myriads of investments.²⁸² This market situation, compared with the situation in the industries dominated by State actors, such as steel, energy, and resources, would entail a higher burden in substantiating that the provision of goods or services or equity infusion by the private entities is based on distorted terms and conditions due to government influence. The potential difficulties in proving in-country price distortion may only increase if one considers the general position of the Appellate Body that the circumstances that

²⁷⁹ *Id.* ¶¶ 503, 508.

²⁸⁰ *Id.* ¶ 446.

²⁸¹ *Id.* ¶¶ 443–44.

²⁸² *Guanyu Fabu “2019 Nian Zhongguo Bandaoti Shi Da (Qiang) Qiye Mingdan”*

De Gonggao (关于发布“2019 年中国半导体十大(强)企业名单”的公告) [Announcement on Public Release “The Ten Most Competitive Chinese Companies in the Semi-conductor Industry in 2019”], CSIA.NET (Aug. 27, 2020), <http://www.csia.net.cn/Article/ShowInfo.asp?InfoID=95565>. (showing that private companies have made up a significant portion in the sector, including design of integrated circuit, semi-conductor manufacturing, semi-conductor testing and packaging, and semi-conductor materials); *see also China’s Top 10 Selling New Energy Cars*, CHINA DAILY (Oct. 12, 2018), www.chinadaily.com.cn/a/201810/12/WS5bbfd4c5a310eff303281e78_4.html. (showing that in the NEV sector, private companies such as BYD and Geely are becoming the leaders in the market.); *The Release of the Top 50 Chinese Big Data Companies in 2020: Huawei, Alibaba and Tencent are Listed*, EAST MONEY (Aug. 28, 2020), <http://finance.eastmoney.com/a/202008281612258271.html>. (showing that eight of the top ten big data companies in China are privately-owned); Global Artificial Intelligence Industry Whitepaper, DELOITTE (2020), <https://www2.deloitte.com/cn/en/pages/technology-media-and-telecommunications/articles/global-ai-development-white-paper.html>. (showing that most of China’s high-growth AI firms are privately-owned).

would permit the replacement of in-country private prices are “very limited” under the ASCM,²⁸³ and consequently, there were cases in which the use of an external benchmark was difficult to justify even when a government held a monopolistic position in the relevant market.²⁸⁴

The second step requires adjustments be made to a selected external benchmark to reflect the prevailing market conditions in the subsidizing Member. This requirement is explicitly set out in Article 14(d) which contemplates certain factors for adjustments including price, quality, availability, marketability, transportation, and other conditions of purchase or sale of goods or services in the country of provision or purchase.²⁸⁵ Such adjustments are also required under the other sub-paragraphs of Article 14. For example, in *US – Anti-dumping and Countervailing Duties (China)*, the Appellate Body held that for the purpose of Article 14(b) a benchmark may be employed if “loans in a given market and in a given currency are distorted by government intervention”; however, such a benchmark must be adjusted to approximate “a comparable commercial loan which the firm could actually obtain on the market”, taking into account factors “such as date of origination, size, maturity, currency, structure, or borrower’s credit risk.”²⁸⁶ The difficulties in making these adjustments relate to how to ensure they reflect the prevailing conditions of a market already so distorted by government intervention as to render the terms and conditions of private transactions in that market unreliable. In other words, if the use of an out-of-country benchmark is intended to remove the in-country market distortions, then making an adjustment to reflect the in-country market conditions may reintroduce such distortions into the benchmark, at least to some extent. In this regard, the Appellate Body explained that “prevailing market conditions” refer to the terms and conditions determined by

²⁸³ See, e.g., *US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶ 5.137.

²⁸⁴ See Qin, *supra* note 269, at 587–606 (discussing the findings in *US – Softwood Lumber IV*, *US – Anti-Dumping and Countervailing Duties (China)*, and *US – Carbon Steel (India)*).

²⁸⁵ ASCM, *supra* note 17, art. 14(d).

²⁸⁶ See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶¶ 484–86.

market forces, which may include commercial activities of both private and government-related entities.²⁸⁷ This confirms that the adjustments would need to distinguish between market-based terms and conditions and those distorted by government intervention or even to establish a counterfactual market in the absence of such distortions. To make it even worse, the Appellate Body opined, in *US – Softwood Lumber IV*, that the adjustments must reflect and maintain the comparative advantage of the subsidizing Member so that countervailing measures are not imposed to “offset differences in comparative advantages between countries.”²⁸⁸ While this is an enlightening remark, it tends to make the legal requirements on the adjustments of benchmarks even more obscure and difficult to apply and may drag WTO Members into endless debate about what constitutes a comparative advantage, to what extent such an advantage may be created by governments, etc.²⁸⁹

These challenges associated with the application of the benefit/benchmark test are, again, not specific to China but have arisen in disputes between other WTO Members, as demonstrated above. As far as China is concerned, these challenges may be addressed through China’s WTO-plus commitment under Section 15(b) of the Accession Protocol. That provision states:

In proceedings under Parts II, III and V of the SCM Agreement, when addressing subsidies described in Articles 14(a), 14(b), 14(c) and 14(d), relevant provisions of the SCM Agreement shall apply; however, *if there are special difficulties in that application, the importing WTO Member may then use methodologies for identifying and measuring the subsidy benefit which take into account the possibility that prevailing terms and conditions in China may not always be available as appropriate benchmarks.* In applying such methodologies, where practicable, the importing WTO Member should adjust such prevailing terms and conditions before considering the use

²⁸⁷ See *US – Carbon Steel (India)*, *supra* note 93, ¶¶ 4.150–51.

²⁸⁸ See *US – Softwood Lumber IV*, *supra* note 83, ¶ 109.

²⁸⁹ See *Qin*, *supra* note 269, at 613–15.

of terms and conditions prevailing outside China.²⁹⁰

Although this provision has never been applied before, it arguably has the potential to considerably soften the legal requirements for the benchmark analysis, precisely in the two major steps.

In the first step, it provides the flexibility for investigating authorities to employ an external benchmark if they find it difficult to decide the magnitude of benefits by reference to the terms and conditions in the Chinese market. The scope of “special difficulties” is not circumscribed in any way, thereby leaving wide latitude for authorities to decide that such difficulties exist.²⁹¹ For example, one may argue that given the massive government investment fund in a particular high-tech sector, it would be difficult to ascertain whether equity infusion by private entities is based on terms and conditions unaffected by the activities of governments. In any event, the evidentiary requirements under the test of “special difficulties” would be much less onerous than those under Article 14 of the ASCM.

In the second step, the obligation to adjust a selected benchmark is reduced to a non-obligatory best-endeavours requirement which merely encourages authorities to do so “where practicable.” Like in the first step, no matter how the term “practicable” is interpreted, it would be less onerous leaving room for investigators to exercise discretion. Applying the example above, if a “special difficulty” exists due to the involvement of the government investment fund in a high-tech sector, the same difficulty may be used to show that adjustments are not “practicable” as it is practically difficult to identify undistorted terms and conditions. Even in cases where China adduces sufficient evidence to show that such adjustments are practically doable, one would have to decide whether the best-endeavours language should otherwise be mandatory. Overall, it is argued that Section 15(b) of the Accession Protocol significantly relaxes the high standards developed by WTO tribunals in determining “benefits conferred”, thereby providing more flexibility for WTO

²⁹⁰ Accession Protocol, *supra* note 77, § 15(b) (emphasis added).

²⁹¹ See Zhou et al., *supra* note 186, at 1015.

Members to tackle Chinese subsidies through countervailing actions.

E. Specificity

A subsidy that is not “prohibited” is not actionable or countervailable unless it is “specific” within the meaning of Article 2.²⁹² This specificity requirement is intended to exclude subsidies that are “broadly available and widely used throughout an economy” from the ASCM.²⁹³ The provision is essentially concerned whether a subsidy is made available only to “certain enterprises” or “geographical regions” in law or in fact, with a focus on “limitations on eligibility.”²⁹⁴ Thus, a subsidy is *de jure* specific if the access to or eligibility for it is *explicitly* limited to certain enterprises.²⁹⁵ In contrast, if the eligibility is automatic based on objective criteria or conditions, then the subsidy is ostensibly non-specific.²⁹⁶ However, an ostensibly non-specific subsidy may be found to be, in fact, specific in a particular case.²⁹⁷ *De jure* specificity would usually rely on a written instrument whereas unwritten subsidies would typically trigger an inquiry into *de facto* specificity.²⁹⁸ To establish *de facto* specificity, one would need to demonstrate “a systematic series of actions pursuant to which financial contributions that confer a benefit have been provided to certain enterprises.”²⁹⁹ All evidence/factors relating to “specificity” and “non-specificity” must be considered.³⁰⁰

²⁹² ASCM, *supra* note 17, art. 2.3 (deeming export subsidies and local content subsidies “specific”).

²⁹³ Panel Report, *United States — Subsidies on Upland Cotton*, WTO Doc. WT/DS267/R (adopted Mar. 21, 2005), ¶ 7.1143.

²⁹⁴ See *US — Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶ 368.

²⁹⁵ ASCM, *supra* note 17, art. 2.1(a).

²⁹⁶ *Id.* art. 2.1(b).

²⁹⁷ *Id.* ¶ 367.

²⁹⁸ Appellate Body Report, *United States — Countervailing Duty Measures on Certain Products from China*, WTO Doc. WT/DS437/AB/R (adopted Jan. 16, 2015), ¶ 4.129 [hereinafter *US — Countervailing Measures (China)*].

²⁹⁹ *Id.* ¶ 4.141.

³⁰⁰ See *US — Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶¶ 370–71.

“Certain enterprises” include “an enterprise or industry or group of enterprises or industries.”³⁰¹ While an enterprise refers to a firm or business, an industry generally “relates to producers of certain products.”³⁰² A subsidy is specific if eligible beneficiaries are limited to “certain enterprises,” regardless of whether similar subsidies are also granted to certain other enterprises.³⁰³ In *US – Anti-dumping and Countervailing Duties (China)*, for example, the Appellate Body upheld the panel’s finding that the provision of State loans by the Chinese government to the off-the-road (OTR) tires industry was specific based on the following evidence: (1) the Eleventh Five-Year Plan which set forth an overarching initiative to support the auto parts industry; (2) the foreign investment regime which categorized certain relevant projects in the industry as “encouraged”, thereby directing government support for those projects; and (3) corresponding planning documents at local levels which explicitly mandated the grant of policy loans to such projects.³⁰⁴ This finding of specificity was not affected by the fact that these planning documents and the “encouraged” category also encompassed other selected industries or projects to which policy loans and other types of subsidies were granted by central and local governments.³⁰⁵

Therefore, it would not be difficult to establish that many of China’s high-tech subsidies discussed above are *de jure* specific. The relevant national policy documents, such as the Five-Year plans, MIC 2025, and their implementing regulatory instruments at both national and local levels, explicitly set out the priority sectors and projects and the development goals and direct the provision of a variety of financial contributions to these sectors. For instance, these policies have led to the creation and continuous expansion of the government investment funds to which only enterprises in the selected sectors are eligible. Likewise, the preferential tax treatment for HNTes and for R&D activities in general, as discussed in Section III.A(2) above, is also specific.

³⁰¹ ASCM, *supra* note 17, art. 2.1.

³⁰² See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶ 373.

³⁰³ See *EC – Aircraft*, *supra* note 263, ¶ 949.

³⁰⁴ See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 143, ¶¶ 386–400.

³⁰⁵ *Id.*

While eligibility for the preferential treatment is assessed based on certain criteria and conditions, one of the criteria explicitly requires an applicant to undertake R&D in one of the priority high-tech sectors. Where such preferential treatment is applied at local levels, it may be regionally specific.

Regional specificity concerns the eligibility for a subsidy being limited to “certain enterprises” in a designated geographical region. This type of specificity merely requires that a subsidy be limited to a designated region without the need to establish further that it is also limited to a subset of enterprises within the region.³⁰⁶ Thus, a national subsidy provided to a region is specific even though it is made available to all enterprises in the region. In contrast, a subsidy granted by a local government to enterprises throughout its jurisdiction—i.e., not limited to a specific segment of the local jurisdiction—would not be regionally specific.³⁰⁷ Thus, to the extent that China’s high-tech subsidies are provided by a local government to enterprises in the selected sectors in its entire jurisdiction, such subsidies would be enterprise/industry-specific, not regionally specific.

Complexities may arise where the designated area is a segment of a local jurisdiction. In *US – Anti-dumping and Countervailing Duties (China)*, the panel considered the provision of land-use rights to certain enterprises in an Industrial Park within the jurisdiction of a local government in China (the Huantai County).³⁰⁸ It ruled that a designated geographical region may encompass “any identified tract of land within the jurisdiction of a granting authority” and hence the Industrial Park.³⁰⁹ However, the panel observed that the subsidy is not specific just because the land was physically located in the designated area. Further evidence was required to show that the land-use rights in the area constituted a “distinct regime” for the provision of that financial contribution compared with the general provision of land-use

³⁰⁶ See *EC – Aircraft*, *supra* note 89, ¶ 7.1223; Panel Report, *United States – Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, WTO Doc. WT/DS379/R (adopted Mar. 25, 2011), ¶ 9.135 [hereinafter *US – Anti-Dumping and Countervailing Duties (China)*].

³⁰⁷ See *US – Countervailing Measures (China)*, *supra* note 298, ¶ 4.165.

³⁰⁸ See *US – Anti-Dumping and Countervailing Duties (China)*, *supra* note 306, ¶ 9.140.

³⁰⁹ *Id.* ¶¶ 9.140–9.144, 9.156.

rights by the local government in its jurisdiction. In this regard, the panel suggested that the subsidy may not be regionally specific if “all purchasers of land-use rights throughout the jurisdiction of the granting authority paid exactly the same below-market price for land.”³¹⁰ As shown in Section III.A(3), industrial parks, high-tech zones, and the like are widespread in local jurisdictions in China. According to the case law discussed above, the fact that these zones constitute designated areas and that subsidies are provided to these areas is insufficient to prove regional specificity. A further step must be taken to show that a subsidy program provided to such a segment of a jurisdiction is distinct. In practical terms, this program would be distinct if it is only available to the designated area or offers preferential terms and conditions compared to those provided to enterprises outside the area. This further step would not be a hurdle to establishing that China’s high-tech subsidies are regionally specific. For example, the provision of land-use rights and energy inputs to designated areas by local governments is typically based on preferential rates compared to the standard rates applicable in the relevant jurisdictions. This has to do with the fact that these areas are created to fulfill the policy objectives and mandates envisaged by the central government and more specifically to promote the growth of the priority sectors within the jurisdictions according to local strengths and advantages. Thus, these subsidies constitute a distinct regime and are regionally specific.

Where there is no written instrument, difficulties may arise in establishing *de facto* specificity. The case law requires the demonstration of “a systematic series of actions” pointing to “the existence of an unwritten ‘subsidy programme.’”³¹¹ Recall that the *US – Countervailing Measures (China)* dispute involved the provision of production inputs such as HRS by Chinese SOEs to downstream industries for less than adequate remuneration. Due to the lack of any written instrument creating such a subsidy program, the US authority found these alleged subsidies to be *de facto* specific in a range of countervailing investigations.³¹² While

³¹⁰ *Id.* ¶¶ 9.158-9.160.

³¹¹ See *US – Countervailing Measures (China)*, *supra* note 298, ¶ 4.141; *US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶ 5.233.

³¹² See *US – Countervailing Measures (China)*, *supra* note 298, ¶ 4.148.

these findings were endorsed by the panel in the original proceedings, the Appellate Body rejected the panel's ruling that the consistent provision of the relevant input by the SOEs was sufficient to show the existence of "a systematic series of actions."³¹³ However, the Appellate Body was unable to complete the analysis for lack of factual findings, leaving the issue of *de facto* specificity unresolved.³¹⁴ In the compliance proceedings, the Appellate Body, in upholding the findings of the compliance panel, elaborated that *de facto* specificity cannot be established merely based on "repeated transactions" but requires an assessment of how such transactions have constituted "a systematic subsidy programme."³¹⁵ In its findings of *de facto* specificity, the US authority merely requested information on the industry providing the relevant input and the number of recipients for three and four years respectively, without explaining how such information substantiated the existence of an unwritten subsidy programme.³¹⁶ Only during the compliance proceedings had the US adduced additional evidence relating to various Chinese policy mandates leading to the provision of the relevant input for nearly 50 years. Both the compliance panel and the Appellate Body regarded the additional evidence as "an *ex post* rationale" and refused to accept it.³¹⁷ In any event, the Appellate Body stressed that the existence of such policy mandates, in itself, would not suffice and "a reasoned and adequate explanation" must be provided to show the existence of "a systematic subsidy programme."³¹⁸

Thus, compared with *de jure* specificity, the showing of *de facto* specificity requires a higher evidentiary standard and level of analysis. This in turn makes it more difficult for investigating authorities to tackle hidden or unwritten subsidies through countervailing measures. Although this difficulty applies to all WTO Members, China's longstanding practice of using SOEs to supply input at low costs to selected sectors has

³¹³ *Id.* ¶¶ 4.148–4.151.

³¹⁴ *Id.* ¶¶ 4.152–4.157.

³¹⁵ See *US—Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶¶ 5.231–5.233.

³¹⁶ *Id.* ¶ 5.237.

³¹⁷ *Id.* ¶¶ 5.240–5.241.

³¹⁸ *Id.* ¶¶ 5.219, 5.240.

understandably generated considerable concerns.³¹⁹ However, one may argue that at the end of *US – Countervailing Measures (China)*, the Appellate Body was no longer concerned about the sufficiency of evidence after the US had provided the additional information in the compliance proceedings. Such information was not accepted by the WTO tribunals simply because it did not form the basis of US findings of *de facto* specificity in its countervailing investigations. In contrast, the remaining concern of the Appellate Body seems to be the lack of “a reasoned and adequate explanation” that links the various policy documents to the existence of an unwritten subsidy program.³²⁰ Admittedly, more guidance is needed to fully understand the degree of explanation required. As far as China’s high-tech sector is concerned, it would not be unreasonably difficult to offer such an explanation. The relevant evidence would include the existence of numerous policy documents that explicitly direct all governments to support the selected high-tech sectors, the dominant role of SOEs in the critical upstream industries, and the wide-ranging subsidies granted to these SOEs to enable them to supply lower-priced input for production.³²¹ In reality, authorities may well utilize the ambiguities and hence flexibilities left by the *US – Countervailing Measures (China)* decision to treat the provision of production input by Chinese SOEs for less than adequate remuneration as being specific. Such practice has been widely adopted in

³¹⁹ For instance, Chinese SOEs have provided stable supply of alumina, a key input to electronics products, at below-market or even below-cost prices to local companies. See OECD Aluminum Report, *supra* note 172, at 93. Chinese steel SOEs also have received government subsidies over the years, which have enabled them to supply low-priced steel products to downstream industries, such as high-end equipment manufacturing. See Yibo Zhao (赵毅波), *Zhaoyibo Ju Kui Bao Gang Niannei Huo 17 Yi Zhengfu Buzhu Fenxi Cheng Duanqi Nei Zishen Niukui Wuwang* (巨亏包钢年内获 17 亿政府补助 分析称短期内自身扭亏无望) [Profits-Losing BaoSteel Received RMB 1.7 Billion Government Subsidies and Analysis Points Out the Lack of Chance in Stop Losing on Its Own], SINA FINANCE (Dec. 30, 2015), <http://finance.sina.com.cn/chanjing/gnews/2015-12-30/doc-ixmxxst0778361.shtml>.

³²⁰ See *US – Countervailing Measures (Article 21.5 – China)*, *supra* note 213, ¶ 5.241.

³²¹ See, e.g., OECD Aluminum Report, *supra* note 172; MORRISON & TANG, *supra* note 172, at 13–14; Julia Ya Qin, *WTO Regulation of Subsidies to State-Owned Enterprises (SOEs) — A Critical Appraisal of the China Accession Protocol*, 7(4) J. INT. ECON. LAW 863, 875–82 (2004).

numerous countervailing investigations against China.³²² More often than not, authorities have also resorted to concurrent anti-dumping actions to address the market distortion and adverse impact caused by Chinese subsidies on domestic industries.³²³

In addition, one may argue that the source of the distortions lies in the subsidies and preferential treatment provided to SOEs which enables them to supply production input for less than adequate remuneration. Therefore, one way to deal with the subsidies to downstream industries would be to address the source of the problem, that is, to push China to reduce or remove the subsidies to SOEs. In this regard, Section 10.2 of China's Accession Protocol allows WTO Members to deem Chinese subsidies to SOEs as being "specific" if the SOEs "are the predominant recipients of such subsidies or . . . receive disproportionately large amounts of such subsidies." Given the dominant role of SOEs in the upstream industries mentioned above and the large amount of subsidies they receive, this WTO-plus commitment would mean that any subsidies provided to SOEs in these sectors would be "specific."³²⁴ More broadly, as discussed in Section III.A(3), paragraph 46 of the Working Party Report requires Chinese SOEs and SIEs to make purchases and sales solely based on commercial considerations. It may be argued that the longstanding and consistent practice of Chinese SOEs and SIEs selling input to selected downstream industries for less than adequate remuneration precluded them from making reasonable returns that would generally be expected in commercial transactions. This obligation, therefore, provides an extra tool to address the problem concerned without the need to resort to the ASCM and thereby avoids the potential difficulties in establishing *de facto* specificity.

F. Concluding Remarks

In summary, the ASCM does not cover all kinds of government actions, especially those which may be regarded as indirect subsidization. However, the scope of "financial

³²² See generally NON-MARKET ECONOMIES IN THE GLOBAL TRADING SYSTEM: THE SPECIAL CASE OF CHINA, *supra* note 233.

³²³ *Id.*

³²⁴ See Qin, *supra* note 321, at 890–91.

contributions” is apparently broad enough to capture the major subsidies in China’s high-tech sector. Government measures, such as export restraints, VAT rebates, regulatory preferences or incentives, that seem to fall outside the reach of the ASCM are used widely in the high-tech and other industries across many jurisdictions and may cause market distortions detrimental to trading partners.³²⁵ Other existing WTO rules, including China’s WTO-plus obligations, should be employed to tackle these measures and distortions more directly. Likewise, contrary to the dominant view that the existing WTO rules are inadequate to tackle Chinese subsidies, the other major legal conditions (i.e., public body, entrusted or directed private body, benefits conferred and specificity) which must be satisfied for a financial contribution to be actionable or countervailable are not so difficult to establish either. Where difficulties may arise when trying to establish these conditions, they generally apply to all WTO Members.³²⁶ If anything, China’s WTO-plus obligations have provided important additional discipline on Chinese subsidies, and market-distortive behaviour and conduct more broadly, leaving significantly less policy space for China. Since these extra rules have been strikingly under-utilized to date, the claim that the current rules are inadequate is unpersuasive and misleading. Finally, where new and better rules may be needed, they can only be created by WTO Members through negotiations, not by WTO tribunals through adjudication.

III. FUTURE OF INTERNATIONAL SUBSIDY REGULATION

As an essential policy tool, industrial subsidies were on the rise before the pandemic and have become even more crucial

³²⁵ See generally OECD Semiconductor Report, *supra* note 105; OECD Aluminum Report, *supra* note 172.

³²⁶ One may remain concerned about the high evidentiary burden that may result from China’s non-transparent system. However, this whole section has shown that China’s major high-tech subsidies are not provided in such a non-transparent manner as widely observed and hence are not so difficult to challenge under the ASCM and other WTO rules including China-specific rules. In addition, one should also note that Article 13.1 of WTO’s *Understanding on Rules and Procedures Governing the Settlement of Disputes* requires a disputing party to provide information requested by the panel promptly and fully. See *Understanding on Rules and Procedures Governing the Settlement of Disputes* art. 13.1, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401. This may permit the panel to draw an adverse inference if such information is not provided in the required manner. We thank Simon Lester for this insight.

as governments around the globe pursue economic recovery.³²⁷ There is, therefore, a growing and imminent need for governments to find a way to address the detrimental effects of subsidies on trade and avoid tit-for-tat subsidization. There are at least three options. One is for each government to unilaterally reduce or remove the pandemic-induced subsidies as they become dispensable. This option, however, will unlikely affect subsidies less related to the pandemic such as those in high-tech industries. The second option would be for governments to challenge these subsidies at the WTO. While this option may cover all industrial subsidies regardless of whether they are pandemic-related, it may not be effective in the absence of a functioning Appellate Body as losing parties may simply ‘appeal into the void,’ which would gradually disincentivize governments from resorting to the dispute settlement mechanism.³²⁸ There is, therefore, an urgency for WTO Members to revive the Appellate Body. In the case of China, the dispute settlement mechanism proved effective in enforcing compliance and influencing domestic policymaking and even prompted gradual and systematic adjustments of China’s complex regulatory regime.³²⁹ However, if the other major players continue to abuse the right of appeal to avoid binding decisions and implementation, it will become increasingly difficult to use the system to push China to reduce or remove trade-distortive subsidies.³³⁰ The third option is negotiation which may start

³²⁷ See Dessie Ambaw et al., *Lessons from the Pandemic for Future WTO Subsidy Rules*, in REVITALISING MULTILATERALISM: PRAGMATIC IDEAS FOR THE NEW WTO DIRECTOR-GENERAL 203, 203–08 (2020); LISA MCGUIRK ET AL., THE USE OF INDUSTRIAL SUBSIDIES BY MAJOR ECONOMIES: ECONOMIC AND LEGAL PERSPECTIVES, REPORT OF THE NATIONAL BOARD OF TRADE SWEDEN 10, 14 (2020).

³²⁸ See generally Joost Pauwelyn, *WTO Dispute Settlement Post 2019: What to Expect?*, 22(3) J. INT. ECON. LAW 297, 297 (2019).

³²⁹ See generally ZHOU, *supra* note 153.

³³⁰ For example, the US, in two recent cases, ‘appealed into the void’ a panel ruling against the trade war tariffs it imposed on China and another panel ruling against its anti-subsidy tariffs on softwood lumber originated in Canada, both of which were found in breach of WTO rule. See *Statements by the United States at the October 26, 2020, DSB Meeting*, U.S. MISSION TO INTERNATIONAL ORGANIZATIONS IN GENEVA (Oct. 26, 2020), <https://geneva.usmission.gov/2020/10/26/statements-by-the-united-states-at-the-october-26-2020-dsb-meeting/>. Notification of an Appeal by the United States under Article 16 of the Understanding on Rules and Procedures Governing the Settlement of Disputes, *United States — Countervailing Measures on Softwood Lumber from Canada*, WTO Doc. WT/DS533/5 (Sept. 29, 2020). The EU recently appealed the panel’s findings against its

among major economies to lay the groundwork for more inclusive negotiations at the multilateral level. To do so, governments will need to leverage the impacts of the pandemic and the global (ab)use of subsidies to generate sufficient political will for change. Despite the difficulties in such negotiations and the time they may take, this is the only way to address any perceived deficiencies in the current subsidy rules. Thus, the rest of this section, seeks to develop some general principles and approaches for future negotiations of industrial subsidies after a brief discussion of the major proposals in the literature.

Existing proposals for the reform of WTO subsidy rules largely reflect the competing interests between strengthening the current rules and preserving policy space. One major proposal calling for more onerous discipline is the latest US-EU-Japan joint statement released on 14 January 2020.³³¹ Amongst others, the joint statement proposes to expand the list of prohibited subsidies, specify the circumstances in which external benchmarks may be used for the determination of “benefit conferred,” and reverse the Appellate Body’s “authority/function-based” approach to “public body.” We have discussed why the current laws on the use of external benchmarks and the determination of “public body” are not inadequate to address Chinese subsidies in the high-tech sector in Section III. This discussion is applicable to subsidies in other Chinese industries. As regards the proposed prohibited subsidies, the joint statement is concerned about only a few selected types of subsidies: unlimited guarantees, subsidies aiming to rescue an insolvent enterprise or to finance an enterprise in sectors or industries in overcapacity, and certain direct forgiveness of debt.³³² The fundamental problem in this proposal is the lack of any rationale for the treatment of the selected subsidies more strictly than other subsidies. This problem has to do with the fact

anti-dumping actions against Russia. *See* Notification of an Appeal by the European Union, *European Union — Cost Adjustment Methodologies and Certain Anti-Dumping Measures on Imports from Russia (Second Complaint)*, WTO Doc. WT/DS494/7 (Sept. 1, 2020). These abuses would undermine the effectiveness of the system and incentivize other major players like China to do the same to avoid unfavorable decisions.

³³¹ *See* 2020 Joint Statement, *supra* note 15; *see also* Robert Howse, *Making the WTO (Not So) Great Again: The Case Against Responding to the Trump Trade Agenda Through Reform of WTO Rules on Subsidies and State Enterprises*, 23(2) J. INT. ECON. LAW 371 (2020).

³³² *Id.*

that the joint statement targets China and hence some of the Chinese subsidies that have attracted considerable criticisms.³³³ As such, this proposal has ignored many other equally or even more controversial subsidies in the economies of other WTO Members including the parties to the joint statement. Another major problem of this proposal is the lack of consideration of the policy space needed for governments to use the named subsidies for legitimate regulatory goals. Future negotiations will need to address subsidies in the economies of all negotiating parties in ways that strike a balance between further regulation of subsidies and protection of legitimate use of subsidies.

In contrast, proposals of developing countries in the Doha round have gone in the opposite direction calling for more policy space by reintroducing non-actionable subsidies.³³⁴ More recently, China's proposal on WTO reforms also sought to reinstate and expand the coverage of non-actionable subsidies as a way to curb the abuse of countervailing measures.³³⁵ In line with these proposals, leading commentators put forward recommendations for developing an improved mechanism to provide sufficient room for the application of subsidies for environmental,³³⁶ R&D,³³⁷ and other legitimate goals, particularly those envisaged under the pre-existing non-actionable scheme.³³⁸ These proposals speak strongly to the importance of maintaining flexibility for the use of subsidies in pursuit of legitimate regulatory goals and the need to broaden the scope of permitted subsidies.³³⁹

Drawing on our discussions so far, we put forward three general principles for future negotiations of subsidy rules. First, the negotiations must not be disproportionately focused on China

³³³ *Id.*

³³⁴ See Li & Tu, *supra* note 74, at 854–67.

³³⁵ See Communication from China, *China's Proposal on WTO Reform*, WTO Doc. WT/GC/W/773 (May 13, 2019).

³³⁶ See generally Steve Charnovitz, *Green Subsidies and the WTO* (WBG, Working Paper No. 7060, 2014).

³³⁷ See generally MASKUS, *supra* note 58; Matthew Kennedy, *The Adverse Effects of Technological Innovation under WTO Subsidy Rules*, 19(4) WORLD TRADE REV. 511 (2020) (showing how subsidies for technological innovation may be subject to more challenges under the current rules).

³³⁸ See generally RUBINI, *supra* note 58.

³³⁹ *But see* Gary Horlick & Peggy A. Clarke, *Rethinking Subsidy Disciplines for the Future*, E15INITIATIVE (Jan. 2016) (proposing that non-actionable subsidies must be narrowly defined and subject to clear boundaries).

and instead must focus on addressing trade-distortive subsidies in all economies involved. Given the widespread use of industrial subsidies, a China-focus would be perceived by China as discriminatory treatment, thereby adding unnecessary complexities to the already difficult negotiations and undermining the chances of reaching a positive outcome.

Second, the negotiations need to strike a balance between tightening the regulation of subsidies and maintaining the flexibility to use subsidies for legitimate policy objectives. As mentioned in Section III and argued in detail elsewhere, the Theory of Distortions and Welfare provides well-established economic guidance for how to achieve this balance.³⁴⁰ In essence, the theory establishes that for trade liberalization to remain welfare-enhancing, trade rules must allow governments the freedom to address their own domestic externalities or non-protectionist policy goals. However, the theory suggests that the policy instruments that governments employ to achieve a chosen goal would need to be regulated. In this regard, the theory ranks different policy instruments according to their economic efficiency and develops the Targeting Rule whereby the efficiency of an instrument enhances as it tackles the chosen objective more closely. This general rule is subject to the by-product costs associated with the use of an optimal instrument. For instance, while direct subsidization tends to be an optimal means to address domestic externalities on many occasions, it may become sub-optimal as the costs of disbursement may outweigh the efficiency gains generated by the use of subsidies as opposed to other means.³⁴¹ These propositions suggest that one way to distinguish “good” and “bad” subsidies, from an economic perspective, would be to inquire into whether a chosen subsidy targets a given objective directly at the source and if not, why a sub-optimal subsidy is adopted, taking into account the effectiveness of the subsidies in pursuing the objective and their by-product costs. For example, if the externality concerns the lack of consumption of certain goods or an objective to stimulate that consumption, then

³⁴⁰ See generally Zhou, *supra* note 60; Weihuan Zhou & Henry Gao, *US-China Trade War: A Way Out?*, 19(4) WORLD TRADE REV. 605 (2020).

³⁴¹ See W.M. CORDEN, TRADE POLICY AND ECONOMIC WELFARE 33–44 (2d ed., 1997).

a subsidy to consumers would be generally more efficient than other types of subsidies. Where the externality concerns an inefficient capital market or an objective to promote finance for R&D, then a direct subsidization (e.g., in the form of tax incentives) in the capital market would be preferable. Overall, the significance of the theory lies in the distinction between policy objectives and policy instruments and the emphasis on regulating the latter while leaving room for consideration of the effectiveness and reasonable availability of less efficient means. In doing so, the theory also offers a way to discipline protectionist use of subsidies without unduly impairing the capacity of governments to use subsidies for legitimate goals.³⁴²

Third, while the negotiations should generally follow the economic guidance above, they need to pursue an outcome that is politically achievable. In subsidy negotiations, as shown in Section III, governments may be more concerned about the impacts of a foreign subsidy on their domestic industries than the welfare effects of the subsidy. Recently, two major proposals have stressed the need to target subsidies with negative spillover effects from a global perspective.³⁴³ To do so, however, governments will need to be provided with sufficient data and other information to assess the actual or potential global welfare effects of numerous types of subsidies. And even if such data is made available, governments would be likely to remain more concerned about the impacts of subsidies on domestic industries as opposed to their global welfare effects. In addition, just like negotiations in other areas of trade, future subsidy negotiations will necessarily leave some trade-distortive subsidies un-addressed or under-addressed for political reasons. Taken together, the above means that reforms of subsidy rules will be affected by political considerations, although it is advisable for negotiators to follow the economic guidance and data and will only progress incrementally.

Considering the principles above, we propose the following general approaches to future negotiations of industrial

³⁴² For a detailed discussion on this point, see Zhou, *supra* note 60.

³⁴³ See PETER DRAPER ET AL., INDUSTRIAL SUBSIDIES AS A MAJOR POLICY RESPONSE SINCE THE GLOBAL FINANCIAL CRISES: CONSEQUENCES AND REMEDIES 9–10 (2020), https://t20saudiArabia.org.sa/en/briefs/Pages/Policy-Brief.aspx?pb=TF1_PB3; Bernard Hoekman & Douglas Nelson, *Subsidies, Spillovers and Multilateral Cooperation* 13–15 (EUI Working Paper RSCAS 2020/12, 2020).

subsidies. Governments should be allowed to choose their own policy objectives but should be asked to provide information about the objective(s) behind an existing or potential subsidy. In this regard, Article 25.3(iii) of the ASCM already requires WTO Members to do so in their notifications of subsidies, which could be used as a basis for the negotiations. The identification of policy objectives is necessary for a discussion about whether a subsidy is the optimal means to pursue a given objective and if not, whether it is because an optimal subsidy is not reasonably available so that a different type of subsidy is needed. This discussion will also involve consideration of the impact of a subsidy on trading partners, its global welfare effects, and political implications for both subsidizing and affected foreign countries. Through this approach, the outcome of negotiations would reflect a balance which allows room for governments to use economically preferable and politically feasible subsidies for any preferred objectives while at the same time reducing the impacts of these subsidies on trading partners.

To enhance the achievability of a political compromise, it is necessary for the negotiations to deviate from the conventional approach to the regulation of industrial subsidies whereby all governments are subject to the same set of rules on, *inter alia*, prohibited and non-actionable subsidies and the conditions for the use of non-actionable subsidies including the magnitude of such subsidies. Instead, the negotiations must recognize that each country has different regulatory priorities/needs and different economic, political, and social situations and constraints in terms of the use of subsidies, the level of support, etc. especially in the post-pandemic era. While the conventional approach may still be used to set out rules that are generally applicable, it must be supplemented by an approach that allows country-specific commitments and exceptions. For this purpose, the negotiations should adopt a scheduling approach to produce an Industrial Subsidy Schedule for each country. This approach is nothing new to the WTO and has already been adopted in negotiations of tariff concessions and commitments in trade in services, although it may

be more complex for subsidy negotiations.³⁴⁴ An Industrial Subsidy Schedule should set out the sectors that may require subsidization, the objective(s) that a subsidy serves, the magnitude of subsidies (which may include an upper limit and/or a phase-down or phase-out period), and any foreseeable circumstances in which similar or new subsidies may need to be re-introduced or the magnitude may need to be increased. To give effect to the schedule, a provision will need to be added to the ASCM to require governments not to grant subsidies that go beyond their scheduled commitments. A provision on renegotiation of the commitments or modification of schedules would also be desirable.

In addition, governments should have the right to use subsidies for legitimate policy objectives that are commonly accepted. This requires an additional provision in the ASCM to explicitly allow recourse to the general exceptions and security exceptions set out in GATT Articles XX and XXI.³⁴⁵ This provision may simply reproduce Article 3 of the Agreement on Trade-Related Investment Measure³⁴⁶ which states: “All exceptions under GATT 1994 shall apply, as appropriate, to the provisions of this Agreement.” This addition is important and necessary as it would ensure that the exceptions are consistently applied to different kinds of policy instruments and would incentivize governments to use subsidies, as opposed to less efficient and more trade-restrictive means, such as quantitative restrictions and tariffs, for these regulatory goals.

Finally, it is worth noting that our proposals are not intended to cover all aspects of future negotiations on industrial subsidies. For example, there is a need for discussions about how to measure negative cross-border spill-over effects of subsidies

³⁴⁴ See WORLD TRADE ORGANIZATION, WORLD TRADE REPORT 2007: SIX DECADES OF MULTILATERAL TRADE COOPERATION: WHAT HAVE WE LEARNT 179–223 (2007) (reviewing the negotiations of tariff concessions and commitments on trade in services).

³⁴⁵ See Charnovitz, *supra* note 336 (noting that Article XX does not apply to the ASCM as per the mainstream view); Howse, *supra* note 331, at 374 (observing that a breach of the ASCM cannot be justified by the legitimate goals contemplated in Article XX).

³⁴⁶ Agreement on Trade-Related Investment Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 186.

and develop international rules on competitive neutrality,³⁴⁷ and for an improvement of subsidy notifications and transparency. Our purpose is to contribute to the ongoing discussions of how best to re-invigorate and facilitate international cooperation on the regulation of industrial subsidies.

CONCLUSION

For decades, the multilateral trading system played a critical role in promoting international cooperation on trade policymaking, dispute resolution, and made significant contributions to maintaining peace and prosperity for the international community. Amongst other factors, China's rise has caused growing concerns about whether the system is effective and should remain relevant. These concerns led to dramatic trade policy changes in the United States, with the United States taking unilateral actions against China and strangulating multilateral cooperation while in the meantime calling for reforms of the WTO. While the outbreak of COVID-19 intensified the crisis in the multilateral trading system, none of these China-related concerns are caused by the pandemic and will not subside with it.

China's economic growth relied heavily on industrial policies and subsidies which have been increasingly applied to foster China's technological capability, indigenous innovation, and global competitiveness. US unilateral actions have proven to be futile and will remain so if the purpose is to fundamentally change China's economic model or curb its technological advancement.³⁴⁸ Like all other countries, China should and has every right to upgrade its economic growth model and promote innovation and digital transformation. Whether China has done so in ways that violate its international obligations must be assessed by WTO tribunals based on evidence and detailed legal examination rather than by unsubstantiated allegations. Likewise, whether new rules may be needed to deal with China requires a careful assessment of the existing rules and jurisprudence, and

³⁴⁷ See, e.g., DRAPER ET AL., *supra* note 343 (proposals for negotiations of industrial subsidies among G20 members).

³⁴⁸ See generally Chow, *supra* note 6; Daniel C.K. Chow, *The Myth of China's Open Market Reforms and The World Trade Organization*, 41(4) U. PA. J. INT'L L. 939 (2020); PETROS C. MAVROIDIS AND ANDRE SAPIR, CHINA AND THE WTO: WHY MULTILATERALISM STILL MATTERS 147–73 (2021).

eventually must be determined by all WTO Members via negotiations. Both the negotiation of new rules and the adjudication of trade disputes require a functional system for international cooperation which China has consistently advocated for.³⁴⁹ Therefore, it is reasonable to anticipate that only through the multilateral approach, rather than unilateral actions, may one effectively address so-called ‘China issues,’ including industrial policies and subsidies. Fortunately, there seem to be some positive signs of moves in this direction under the Biden Administration.³⁵⁰

Although China’s industrial policies and subsidies have been at the core of the US’s concerns and global trade policy debate, such policies are widely used by all economies for a variety of domestic regulatory goals. Both the application of the current WTO rules on subsidies and the development of new rules in the future must strike a balance between regulating trade-distortive subsidies and protecting policy space for the legitimate use of subsidies. In this regard, one must note that China’s WTO obligations have extended significantly beyond the general WTO rules and have the potential to constrain Chinese industrial subsidies and government intervention in the economy more broadly. The efficacy of most of these China-specific rules has remained untested to date. Yet, the view that the current rules are inadequate to tackle Chinese subsidies has (unjustifiably) dominated the international trade community.

Using China’s subsidization in the high-tech sector as an illustration, we have challenged this dominant view by showing that even the general WTO rules on subsidies do not create any substantive hurdles to tackling the major types of Chinese technology subsidies. Where difficulties may arise in a few circumstances, these are not specific to China but generally apply to all WTO Members. In addition, the China-specific rules are

³⁴⁹ See *Zhongguo Yu Shijie Maoyi Zuzhi Baipishu* (《中国与世界贸易组织白皮书》) [White Paper on China and the World Trade Organization], INFORMATION OFFICE OF THE STATE COUNCIL (June 28, 2018), ww.w.scio.gov.cn/zfbps/32832/Document/1632334/1632334.htm; General Council, *Joint Statement by the European Union, China, Canada, Norway, New Zealand, Switzerland, Australia, Republic of Korea, Iceland, Singapore, Mexico, Costa Rica and Montenegro*, WTO Doc. WT/GC/197 (Dec. 14, 2018).

³⁵⁰ See William Mauldin, *GOP Report, Like Biden, Urges Multilateral Approach to China*, WALL ST. J. (Nov. 18, 2020), www.wsj.com/articles/gop-report-like-biden-urges-multilateral-approach-to-china-11605703493.

drafted in a broad manner so as to provide not only flexibilities to overcome these difficulties but also extra tools to constrain other modes of state intervention that may adversely affect the interests of China's trading partners. Given China's good record of compliance with WTO rulings, one should be optimistic about using the dispute settlement system to push China to reduce or remove subsidies and other WTO-illegal laws and practices. This, however, will be difficult to achieve in the absence of a functional Appellate Body.³⁵¹ Although we have focused on technology subsidies in this paper, our discussions and observations may be applied to other industrial policies and subsidies in China.

Faced with the widespread and increasing use of industrial subsidies triggered by the pandemic, policymakers, scholars, and other stakeholders have been developing mechanisms for international cooperation. To contribute to this discussion, we put forward some general principles and approaches for future negotiations of industrial subsidies emphasizing the need to target trade-distortive subsidies rather than China, to balance between strengthening subsidy rules and preserving policy space, to follow economic guidance and data while accommodating political considerations, and most innovatively, to shift from the 'one-size-fits-all' approach to a country-specific approach through a scheduling method whereby an Industrial Subsidy Schedule is created to record policy objectives, commitments, and exceptions of each nation. Our recommendations are not intended to be exhaustive, but to develop ideas that may facilitate international cooperation on industrial subsidies.

³⁵¹ See Howse, *supra* note 330.