

SECTION 2: TOOLS TO ADDRESS U.S.-CHINA ECONOMIC CHALLENGES

Key Findings

- The Chinese government structures industrial policies to put foreign firms at a disadvantage and to help Chinese firms. Among the policies the Chinese government uses to achieve its goals are subsidies, tariffs and local content requirements, restrictions on foreign ownership, intellectual property (IP) theft and forced technology transfers, technical standards that promote Chinese technology usage and licensing, and data transfer restrictions.
- China has reaped tremendous economic benefits from its accession to the World Trade Organization (WTO), and participation in the rules-based, market-oriented international order. However, more than 15 years after China's accession, the Chinese government's state-driven industrial policies repeatedly violate its WTO commitments and undermine the multilateral trading system, and China is reversing on numerous commitments.
- The United States has unilateral, bilateral, and multilateral tools to address the Chinese government's unfair practices. While these tools have been successful at targeting some discrete aspects of China's industrial policies (e.g., a particular subsidy program or tariff), they have been less effective in altering the overall direction of Chinese industrial policy, characterized by greater state influence and control, unfair treatment of foreign companies, and pursuit of technological leadership using legal and illicit means. China leverages the attraction of its large market to induce foreign companies to make concessions (including transferring technology) in exchange for promises of access, while protecting and supporting domestic companies both at home and abroad.
- *Subsidies:* The United States has a number of tools to counter Chinese subsidies, including antidumping and countervailing duties, investigations into imports' impact on U.S. national security, and analysis of unfair acts, policies, or practices. Many of these tools target narrow concerns, often by imposing duties. The United States also files cases at the WTO and holds negotiations at other multilateral fora. Though WTO members have challenged Chinese subsidies multiple times, the difficulty in identifying subsidy-granting bodies in China—and the Chinese government's unwillingness to stop funding priority sectors—have stymied efforts to halt Chinese subsidies altogether.
- *Tariffs, local content requirements, and regulatory challenges:* The United States has often addressed Chinese tariffs, local

content requirements, and other regulatory challenges in multi-lateral fora like the WTO; the United States has won most recent WTO cases concerning local content requirements. Despite these successes, many Chinese local content requirements and other regulatory restrictions remain in place, as they often are conveyed informally and difficult to document. Such Chinese policies restrict the ability of U.S. and foreign firms to access the Chinese market and compete on an even footing. In addition, official discretion in regulatory processes can force foreign companies to transfer technology to their Chinese competitors.

- *Investment restrictions:* U.S. policy options to counter China's foreign investment restrictions in specific sectors have primarily entailed incremental progress through bilateral negotiations. In its 2017 report on China's WTO compliance, the Office of the U.S. Trade Representative characterized this approach as "largely unsuccessful." China's investment restrictions impose barriers on U.S. and other foreign companies seeking access to the Chinese market. These barriers give Chinese regulators and companies leverage to pressure foreign counterparts to transfer proprietary technology or IP in exchange for market access.
- *Intellectual property theft, technology transfer, and economic espionage:* The United States has several regulatory tools available to address Chinese technology transfer requirements and IP theft, including the Committee on Foreign Investment in the United States (CFIUS) and the export control system, as well as deterrents for IP theft and economic espionage through utilization of Section 337 and prosecution by the U.S. Department of Justice. Private companies have proved reluctant to come forward, however, fearing retaliation by the Chinese government.
- *Technical standards:* In cases where the Chinese government has released standards discriminating against foreign products, U.S. officials have pressured the Chinese government to drop or delay those standards, a tactic which is only temporarily effective. U.S. and other foreign companies struggle to comply with China's unique technical standards. They could also be disadvantaged in the future given China's increasing participation and leadership in international standards-setting bodies.
- *Data localization and cross-border data transfer restrictions:* China's recent effort to localize and restrict the flow of data across borders poses significant challenges to U.S. and other foreign businesses, who fear the regulatory burden of duplicating information technology services to separate and store data in China. China's Cybersecurity Law, implemented in 2017, requires personal information held by "critical information infrastructure" to be stored on servers in China, and data deemed important require a "security assessment" before they can be transferred abroad. Given the expense coupled with time delay, IP risk, and operations disruption associated with data review, data localization and cross-border data transfer restrictions will become a formidable barrier to U.S. trade and international digital commerce.

Recommendations

The Commission recommends:

- Congress examine whether the Office of the U.S. Trade Representative should bring, in coordination with U.S. allies and partners, a “non-violation nullification or impairment” case—alongside violations of specific commitments—against China at the World Trade Organization under Article 23(b) of the General Agreement on Tariffs and Trade.
- Congress direct the Office of the U.S. Trade Representative to identify the trade-distorting practices of Chinese state-owned enterprises and develop policies to counteract their anticompetitive impact.
- Congress direct the Government Accountability Office to conduct an assessment of U.S.-China collaborative initiatives in technical cooperation. This assessment should describe the nature of collaboration, including funding, participation, and reporting on the outcomes; detail the licensing and regulatory regime under which the initiatives occur; consider whether the intellectual property rights of U.S. researchers and companies are being adequately protected; examine whether Chinese state-owned enterprises or the military are benefitting from U.S. taxpayer-funded research; investigate if any Chinese researchers participating in the collaboration have ties to the Chinese government or military; investigate if any U.S. companies, universities, or labs participating in U.S. government-led collaboration with China have been subject to cyber penetration originating in China; and evaluate the benefits of this collaboration for the United States. Further, this assessment should examine redundancies, if any, among various U.S.-China government-led collaborative programs, and make suggestions for improving collaboration.

Introduction

U.S. policy makers have reached a broad consensus that China’s actions negatively impact the multilateral trading system. Beijing’s state-directed industrial policies have erected barriers to protect the Chinese local market while employing unfair and anti-competitive policies to further China’s technological and economic advancement.¹ While the Chinese government is not unique in supporting its industries and companies, government assistance violates the limits China committed to as part of its accession protocol to the World Trade Organization (WTO). According to the Information Technology and Innovation Foundation, “the extent of state involvement in all aspects of China’s economy” means Chinese officials face no domestic legal constraint in “implementing arbitrary and capricious mercantilist policies.”² In some cases, Chinese government entities maintain policies even after the WTO has ruled them illegal. Because the Chinese market is well integrated into the global economy, the impact of Beijing’s industrial policies distorts global market conditions.

U.S. policy makers have expressed growing frustration with previous responses to these challenges. Unilateral tools (e.g., antidumping and countervailing duty [AD/CVD] cases), bilateral initiatives

(e.g., negotiations and discussions), and multilateral fora (e.g., WTO dispute settlement cases) have only had limited success in addressing Beijing's market distorting practices. Each instrument in the U.S. policy-making toolbox has proven limited when set against a vast array of industrial policies viewed as a political and economic imperative by Chinese leadership.

This section discusses challenges presented by the Chinese government's industrial policies, which include:

- Subsidies;
- Tariffs, local content requirements, and regulatory barriers;
- Investment restrictions on foreign ownership;
- Intellectual property (IP) theft, forced technology transfer, and economic espionage; discriminatory IP licensing conditions and limited IP protection;
- Unique technical standards; and
- Data localization and restrictions on cross-border data flows.

The section then reviews the U.S. unilateral, bilateral, and multilateral policy tools that have addressed these challenges and the tools' function, prior usage, and limitations. The section draws on the Commission's June 2018 hearing on U.S. unilateral, bilateral, and multilateral policy options, and open source research and analysis.

Challenges Presented by China's Industrial Policy

The challenges laid out in this section arise from the Chinese government's industrial policies promoting "indigenous innovation," or "[enhanced] original innovation through co-innovation and re-innovation based on imported technologies" (as defined in the *National Medium- and Long-Term Science and Technology Development Plan Outline*).³ The Chinese government's indigenous innovation policies aim to "achieve technological catch-up and import substitution ... and replace [China's] foreign competitors on the domestic and increasingly also on global markets."⁴ This imperative is achieved through long-term, state-directed policies.⁵ In its 2017 report to Congress on China's WTO compliance, the Office of the U.S. Trade Representative (USTR) said the United States has strong concerns regarding the direction of the Chinese government's industrial policies, specifically those that:

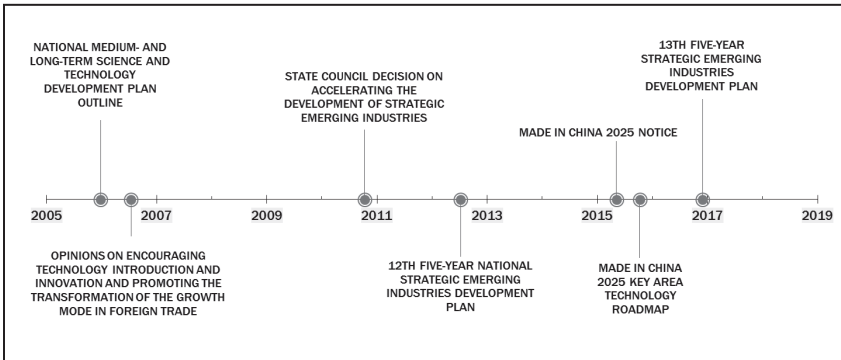
1. Discriminate against U.S. firms or products;
2. Encourage "excessive government involvement in determining market winners and losers";
3. Are tied to export, localization, or local IP targets; or
4. Lead to subsidization or technology transfer.⁶

Such policies appear particularly strong in "strategic and emerging industries" identified for development, where Chinese companies must meet ambitious government-set market share targets.

In March 2018, the USTR published a Section 301 investigation report, which documented the Chinese government's acts, policies, and practices related to technology transfer and IP (the Section 301

report is discussed in greater detail in the “Section 301 of the Trade Act of 1974” subsection under “Subsidies”). See Figure 1 for a timeline of China’s industrial policies.

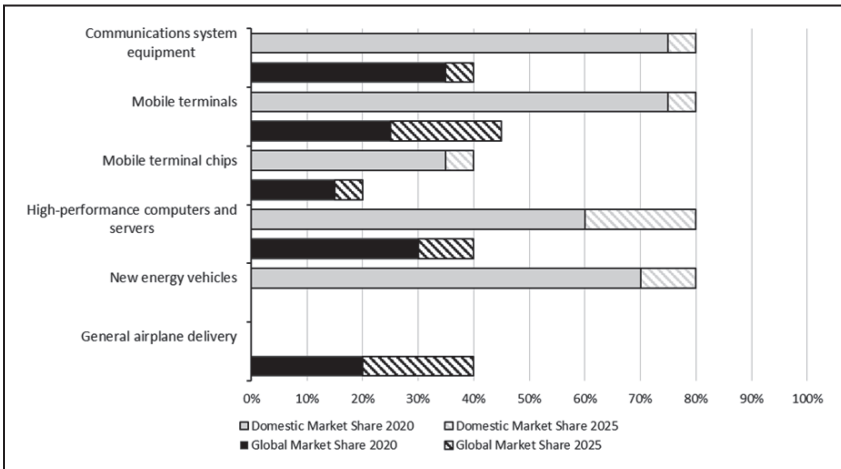
Figure 1: China’s Major Technology-Related Industrial Policies



Source: Office of the U.S. Trade Representative, *Findings of the Investigation into China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, March 22, 2018, 10–17. Adapted by Commission staff.

The Chinese government is transparent and specific in setting such targets: for example, the October 2015 Key Area Technology Roadmap detailed “hundreds of market share targets for 2020 and 2025, both domestic and international” (see Figure 2).⁷

Figure 2: Select Chinese Government Domestic and Global Market Share Targets in Key Technologies



Source: Chinese Academy of Engineering, Expert Commission for the Construction of a Manufacturing Superpower, *Made in China 2025 Key Area Technology Roadmap*, October 29, 2015, 14, 48, 101, 105. Translation.

Due to the focus on technology acquisition and development, the impact of the Chinese government's industrial policies on foreign companies is not limited to the challenges they face selling to or operating in China. With the help of Chinese government funding, Chinese companies have acquired technologies and companies and transformed into formidable competitors abroad, advancing the government's aim to establish Chinese companies as leaders in strategic industries. For example, in 2010 Beijing Genomics Institute received \$1.58 billion in credit from China Development Bank to purchase 128 advanced DNA-sequencing machines from Illumina, a U.S. firm, thus becoming the world's largest genetic sequencer.⁸ Beijing Genomics Institute then acquired Illumina's closest competitor, Complete Genomics in Mountain View, California, in 2012.⁹

Subsidies

Subsidies provided by the Chinese government can generate global overcapacity and price distortions in a broad array of sectors, from heavy industry like steel¹⁰ to value-added technologies like semiconductors.¹¹ In technology development, government support includes tax breaks on research and development (R&D), subsidized credit, low land prices, and "forgiving, state-financed equity investors."¹² The Made in China 2025 initiative, released in 2015, outlines a ten-year plan to develop ten advanced manufacturing sectors via "government intervention and substantial government, financial, and other support."^{*13} The European Union Chamber of Commerce in China identified subsidies as "an effective way of achieving the market share targets included in [Made in China 2025]-related documents."¹⁴ (For additional information on the Made in China 2025 initiative, see Chapter 4, Section 1, "Next Generation Connectivity.")

Impact

Subsidies create unfair competition for firms that do not enjoy such advantages. Chinese state-owned enterprises (SOEs)—including 81 Fortune 500 companies¹⁵—receive preferential treatment that erodes "competitive neutrality" and creates an uneven playing field for private sector firms.^{†16} Private Chinese companies also receive government subsidies, blurring the line between privately and publicly owned firms.¹⁷ The impact is nontrivial: in the market for electric vehicles, Scott Kennedy, an expert on China's economy at the Center for Strategic and International Studies (CSIS), estimated Chinese government expenditure at between 34 and 35 percent of total sales from 2009 to 2017.[‡]

*For more on Made in China 2025, see the U.S.-China Economic and Security Review Commission Chapter 4, Section 1, "China's Pursuit of Dominance in Computing, Robotics, and Biotechnology," in *2017 Annual Report to Congress*, November 2017, 513–515.

†In China, direct ownership is not the primary determinant of the government's ability to control a company's decision making; in other words, private companies can also be used for carrying out government objectives. As described by Curtis J. Milhaupt and Wentong Zheng, "Large, successful [Chinese] firms—regardless of ownership—exhibit substantial similarities in areas commonly thought to distinguish SOEs from [private companies]: market dominance, receipt of state subsidies, proximity to state power, and execution of the state's policy objectives." See Curtis J. Milhaupt and Wentong Zheng, "Beyond Ownership: State Capitalism and the Chinese Firm," *Georgetown Law Journal* 103 (2015): 665.

‡In this research, total government expenditure of renminbi (RMB) 323 billion includes: (1) subsidies and price rebates (RMB 245 billion); (2) infrastructure subsidies (RMB 15 billion); (3) research and development (RMB 13 billion); and (4) vehicle procurement (RMB 50 billion), with total electric vehicle sales estimated at about RMB 929 billion. Scott Kennedy, "China's Rapid

Subsidies give Chinese companies benefits not available to foreign firms, disadvantaging foreign competitors. For example, government funding can support companies' R&D and acquisition of foreign technology.¹⁸ As described in the 2018 USTR Section 301 investigation report on China's IP practices, in April 2016 China's sovereign wealth fund and a subsidiary of state-run China Construction Bank were "lead investors"¹⁹ in Ant Financial Services Group, Alibaba's financial services affiliate.*²⁰ In September 2016, Ant Financial Services Group paid an estimated \$70 million to \$100 million²¹ to acquire the U.S.-based EyeVerify Inc., a biometric authentication startup.²² It is unknown whether Ant Financial Services Group could have acquired EyeVerify without state-backed financing; however, Ant Financial Services Group stated in a press release that its partnership with China's sovereign wealth fund would "support its continued push into international markets."²³

U.S. Unilateral Tools to Address Chinese Subsidies

Antidumping and Countervailing Duties

AD/CVD measures offset the price of imports produced or sold under unfair trade practices. AD laws are designed to provide relief to domestic industries adversely impacted by imports sold at less-than-fair market value.²⁴ CVD laws can provide relief to domestic industries adversely impacted by underpriced imports that receive foreign government or public subsidies.²⁵ Chad Bown, an economist at the Peterson Institute for International Economics, found that as of 2015, "more than two thirds of U.S. imports from China covered by antidumping duties were also covered by [countervailing duties]."²⁶ AD/CVD cases are the most frequently used domestic remedy.²⁷ Orders can be tailored to specific products, countries of origin, or individual companies exporting to the United States.† Though domestic industry typically initiates cases, in November 2017 the U.S. Department of Commerce self-initiated a case‡ against U.S. aluminum sheet imports from China.²⁸ Former Assistant U.S. Trade Representative for China Affairs Claire Reade noted that AD/CVD cases function well in instances of product-specific subsidies or pricing for direct U.S. imports, where injury is imminent.²⁹

Drive into New-Generation Cars: Trends, Opportunities, and Risks," Center for Strategic and International Studies, Washington, DC, February 21, 2018.

*Ant Financial Services Group's April 2016 financing round was described as "the world's largest private fundraising round for an internet company at \$4.5 billion." Kane Wu, "Alibaba Affiliate Ant Financial Raises \$4.5 Billion in Largest Private Tech Financing Round," *Wall Street Journal*, April 25, 2016.

†For each AD/CVD case, the U.S. Department of Commerce typically assesses different companies at different margins depending on their prices and subsidies received. For instance, in December 2017, the USITC issued an order on hardwood plywood imports from China for which the CVD rate ranged between 22.98 and 194.9 percent, depending on the company. In its determination, the Department of Commerce provides a total amount of affected trade value for the prior three years. Company-specific rates complicate an estimation of the average duty rate imposed: the total amount is not broken out by affected Chinese company, and an average duty rate calculated from this information would be a rough estimate. U.S. Department of Commerce, International Trade Administration, *Fact Sheet: Commerce Finds Dumping and Subsidization of Imports of Hardwood Plywood Products from the People's Republic of China*, November 13, 2017. <https://enforcement.trade.gov/download/factsheets/factsheet-pre-hardwood-plywood-products-ad-cvd-final-111317.pdf>.

‡Self-initiated cases are rare: the Department of Commerce's public statement said an AD/CVD case had not been self-initiated in over 25 years. U.S. Department of Commerce, "U.S. Department of Commerce Self-Initiates Historic Antidumping and Countervailing Duty Investigations on Common Alloy Aluminum Sheet from China," November 28, 2017.

U.S. AD/CVD orders have been frequently imposed on imports from China found to be sold at less than fair value. According to U.S. International Trade Commission (USITC) data, as of September 2018, orders on imported Chinese products comprised over a third (170 of 462) of the AD/CVD orders in place, the highest number of any U.S. trading partner.*³⁰ Of those 170, orders on iron and steel comprise the largest share (54), followed by chemicals and pharmaceuticals (35), and miscellaneous manufactured goods (48).³¹ Data from U.S. Customs and Border Protection indicate that about \$6.9 billion in U.S. imports from China were subject to AD/CVD orders between October 2016 and September 2017.³² AD/CVD orders vary widely by sector: in late 2016 about 31 percent of Chinese metals imports were subject to AD duties compared with 3 percent of Chinese electronics and electronic machinery.³³

Trade experts posit several limitations to AD/CVD cases:

- *Importer substitution*: While AD/CVD measures address the unfair margin on imports from China, they may not affect the total quantity of product traded globally, or the global price at which it is traded.³⁴ Instead, AD/CVD cases may increase the quantity and value of other countries' exports to the United States, leaving the total quantity of U.S. imports unaffected.³⁵ According to Dr. Bown, with reduced access to the U.S. market, Chinese exports shift to other countries and global overcapacity remains unresolved.³⁶ Chinese producers may also expand production in other countries. When the Department of Commerce and the USITC imposed an AD/CVD order on Chinese solar cells and modules in late 2012,† Chinese manufacturers relocated operations to Malaysia and thus circumvented additional duties.³⁷
- *Transshipment*: Chinese manufacturers may reroute their products through an intermediate shipping hub, where the products' country of origin may be relabeled.³⁸ This is illegal under U.S. law: falsely labeling a U.S. import's country of origin can result in large fines and criminal prosecution.³⁹ Yet the practice continues. In testimony before the Senate Committee on Finance Subcommittee on International Trade, Customs, and Global Competitiveness, the American Honey Producers Association testified that Malaysia, Indonesia, and Taiwan did not have commercial beekeeping operations "capable of producing anywhere near" the volume of honey they began to export after an AD/CVD order was imposed on U.S. imports from China.⁴⁰
- *Harm to importing U.S. industries*: U.S. importers will pay a higher cost on covered imports if the USITC issues an AD/CVD order on a product.‡ In response to a December 2017 announce-

*India, the U.S. trading partner with the second highest number of open AD/CVD orders, had 39 orders in place in September 2018. U.S. International Trade Commission, *AD/CVD Orders*, September 6, 2018. https://www.usitc.gov/sites/default/files/trade_remedy/documents/orders.xls.

†Final AD rates ranged between 18.3 and 249.9 percent, while CVD rates ranged between 14.78 and 15.97 percent. The WTO Appellate Body found the CVD duties in violation of WTO rules in December 2014. U.S. Department of Commerce, International Trade Administration, *Fact Sheet: Commerce Finds Dumping and Subsidization of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People's Republic of China*, October 10, 2012. https://enforcement.trade.gov/download/factsheets/factsheet_pre-solar-cells-ad-cvd-finals-20121010.pdf.

‡For example, in December 2017, the USITC issued an order on hardwood plywood imports from China commensurate to the amount it was found to be underpriced. The Department of

ment imposing an AD/CVD order on imported Chinese hardwood plywood, the American Alliance for Hardwood Plywood stated, “Industries including the kitchen cabinet, recreational vehicle, window and door, furniture, homebuilding and flooring industries all utilize the Chinese hardwood plywood.”⁴¹ The association emphasized that affected trade associations represent industries employing over a million U.S. workers.⁴²

- *Delayed remedy:* The time required to take action may mean the remedy arrives too late to help a given industry, since an AD/CVD investigation may take 430 days (about 14 months) from start to finish.⁴³ For example, in an AD/CVD case against hardwood flooring imports from China, a petition to begin the case was filed on November 18, 2016; the USITC issued a final determination a year later on December 28, 2017.⁴⁴ U.S. hardwood plywood producers still foresee financial hardship: in an April 2018 presentation, Kip Howlett, president of the Decorative Hardwoods Association, described U.S. hardwood plywood producers as being “in the fight for our life” due to U.S. imports from China.⁴⁵
- *Retaliation:* AD/CVD orders are often highly targeted by country and product, and thus may lead to more narrow retaliation relative to other measures. According to Adams Lee, an international trade lawyer at the firm Harris Bricken, starting in early 2017 the China Ministry of Commerce “has become more outspoken against [U.S. Department of Commerce] determinations in AD/CVD proceedings against China,” which might “[signal] a more aggressive policy stance.”⁴⁶ China is also introducing AD/CVD orders against U.S. exports to China, like dried distiller grains.⁴⁷
- *Prospective relief:* As AD/CVD orders can only adjust the price of future imports, relief for injured parties under AD/CVD orders is only prospective, rather than retroactive to the date the pricing behavior began.

Section 201 of the Trade Act of 1974

As a legal tool, Section 201 is designed to provide relief to domestic producers threatened by serious injury from an import surge, applying a temporary import duty or quota to all or nearly all imports.⁴⁸ It is a “global” safeguard affecting U.S. imports from all countries and thus cannot only address Chinese exports. Under Section 201, following an administration request or private petition, the USITC investigates whether a product’s import volume causes serious injury to U.S. producers.⁴⁹ The USITC presents its recommendations to the president, who decides whether to implement them.⁵⁰ Unlike AD/CVD cases, Section 201 does not require a finding of an unfair trade practice, but injury or threat of injury must be shown to trigger protections.⁵¹ American Federation of Labor and Congress

Commerce found Chinese exporters sold hardwood plywood into the United States at 183.36 percent less than fair market value, and China provided subsidies of between 22.98 and 194.9 percent. U.S. Department of Commerce, International Trade Administration, *Fact Sheet: Commerce Finds Dumping and Subsidization of Imports of Hardwood Plywood Products from the People’s Republic of China*, November 13, 2017. <https://enforcement.trade.gov/download/factsheets/factsheet-pre-hardwood-plywood-products-ad-cvd-final-111317.pdf>.

of Industrial Organizations (AFL-CIO) Trade and Globalization Policy Specialist Celeste Drake told the Commission that Section 201's "higher standards of proof [of serious injury by imports] make this section more difficult to use."⁵²

In 2002, Section 201 duties were imposed to protect the steel industry from imports from "foreign steel producers ... nurtured by government subsidies."⁵³ In 2005, the USITC evaluated these duties' effectiveness "in facilitating positive adjustment of the domestic industry to import competition."⁵⁴ The direct benefit of Section 201 in this instance can be hard to gauge, and economic trends independent of the trade enforcement action can affect the outcome. On the one hand, U.S. raw steel production increased by 9.4 percent (U.S. steel prices generally increased between 2002 and 2004), U.S. companies made investments in new facilities (e.g., U.S. Steel rebuilt a blast furnace for \$200 million, Ipsco Steel completed construction of new steelworks for \$395 million),⁵⁵ and U.S. steel exports increased in some products.*⁵⁶ However, the USITC noted these trends might be owed to "growing demand in China, the improving U.S. economy, and the attractiveness of U.S. exports to the rest of the world due to the weak dollar."⁵⁷ On the other hand, in the same period, the U.S. share of global raw steel production fell from 10.7 percent to 9.5 percent, "major restructuring and consolidation" occurred in the industry, and steel companies shed about 30,000 jobs.⁵⁸

Trade experts posit several limitations to Section 201 as a tool:

- *Underlying economic trend unresolved:* Through active intervention, Section 201 tariffs provide temporary relief to U.S. producers, but in many instances, the global economic trend (e.g., overcapacity) provoking the import surge still exists after relief ends. Recognizing this challenge, in the USITC's 2017 Section 201 decision on solar panels—another industry characterized by overcapacity—Chairman Rhonda K. Schmidlein recommended the Trump Administration "initiate international negotiations to address the underlying cause of the increase in imports of [solar panels] and alleviate the serious injury thereof."⁵⁹
- *Product substitution:* Section 201 cases may decrease global imports of a particular type of product, but protected industries may experience an import shift to similar unspecified items or item inputs.⁶⁰ When a Section 201 ruling intentionally excludes some products, foreign exporters of those products may benefit from the measure, as their competition is reduced.⁶¹ Dr. Bown estimated that between 2001 and 2003, U.S. imports of products excluded from the Section 201 steel safeguard measure increased in value;⁶² moreover, those product imports' volume increased at a faster rate.⁶³
- *Importer substitution:* Section 201 is a global safeguard; however, the United States has at times exempted imports from select countries (e.g., "developing country suppliers" with less

*For example, see hot bar (Long II-8), rebar (Long III-6). Note that for certain products (cold bar, welded pipe), the quantity of product exported declined but increased prices offset lower export quantity. U.S. International Trade Commission, *Steel: Evaluation of the Effectiveness of Import Relief*, September 2005, Long II-6, Tubular II-9.

than 3 percent market share, as required by the WTO) from Section 201 duties.⁶⁴ Section 201 remedies can be undermined by an import increase from exempted countries if the remedy is applied to a subset of countries.⁶⁵ For example, in the 2002 steel case, the United States refrained from restricting imports from preferential trade agreement partners (Canada, Mexico, Israel, and Jordan).⁶⁶ Like product exclusions, these “country exclusion” imports’ value rose and their imported volume increased at a faster rate.⁶⁷

- *Harm to importing U.S. industries:* Section 201 remedies can have an adverse effect on domestic consumers of imported products, including other industries.⁶⁸ During the 2002 Section 201 case, estimates of jobs lost in steel-consuming industries due to import price increases differed widely; however, economists with opposing perspectives on the use of tariffs agreed higher steel prices led to employment declines in steel-consuming industries, although they disagreed about the size of the loss.*
- *Delayed remedy:* As in AD/CVD cases, U.S. industry must show evidence of injury to bring a case under Section 201. Former U.S. trade negotiator Wendy Cutler commented on the most recent Section 201 case, in which “China’s massive support of its solar industry ... resulted in serious overcapacity,” and that “by the time the parties can take legal action, it is often already too late.”⁶⁹
- *Retaliation:* As a “global safeguard,” Section 201 actions will affect nearly all U.S. trading partners for a specific good. Consequently, these actions can lead to broader retaliation than AD/CVD orders and previous Section 232 and 301 cases, which tend to be limited to particular countries. Following tariff implementation, the EU, Japan, South Korea, New Zealand, Norway, Switzerland, Brazil, and China initiated disputes against the United States at the WTO over the United States’ use of Section 201.⁷⁰

Section 232 of the Trade Expansion Act of 1962

Under Section 232, the Department of Commerce can investigate any product to determine whether it “is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security.”⁷¹ If the Department of Commerce finds imports impair or threaten to impair U.S. national security, the president may impose tariffs or quotas to adjust imports.⁷² Sometimes termed the “national security clause,” this tool was designed to address concerns about U.S. overreliance on imports for defense needs, particularly from adversarial countries in times

*An estimate by Trade Partnership economists—who objected to the 2002 Section 201 tariffs—found that between 50,000 and 200,000 jobs were lost due to 2002 steel price increases. A critique of this study by Economic Policy Institute senior economist Robert Scott—who supported the 2002 Section 201 tariffs—reported the USITC net decline in labor income of \$386 million would equate to 10,365 jobs lost due to 2002 steel price increases. Joseph Francois and Laura M. Baughman, “The Unintended Consequences of U.S. Steel Import Tariffs: A Quantification of the Impact during 2002,” *Trade Partnership Worldwide, LLC*, February 4, 2003, 21; Robert E. Scott, “Estimates of Jobs Lost and Economic Harm Done by Steel and Aluminum Tariffs Are Wildly Exaggerated,” *Economic Policy Institute*, March 21, 2018.

of war.*⁷³ For this reason, unlike Section 201 actions, Section 232 actions can target U.S. imports from a specific country. Section 232 is used very infrequently, with only 26 cases investigated between 1963 and 2017.⁷⁴ Of those cases, the Department of Commerce determined that imports impaired national security in eight cases and the president chose to act five times.†

There is no consensus on how broadly such threats to national security may be defined. The Department of Commerce listed “requirements of the defense and essential civilian sectors” and “impact of foreign competition on the economic welfare of the essential domestic industry” among its critical factors.⁷⁵ In addition, Article 21 of the General Agreement on Tariffs and Trade (GATT) states that nothing in the agreement can prevent a member “from taking any action which it considers necessary for the protection of its essential security interests” related to “fissionable materials,” related to traffic in “arms, ammunition, and weapons of war,” or “taken in a time of war or other emergency in international relations.”⁷⁶ The U.S. government argues Article 21 grants the United States authority to take steps to protect its national security: Dennis Shea, U.S. Ambassador to the WTO, has clarified that Section 232 has been invoked as a national security measure, not a safeguard measure.‡ However, nine U.S. trade partners have initiated WTO disputes challenging U.S. steel and aluminum tariffs imposed following the Section 232 investigations concluded in February 2018.§

The recent Department of Commerce investigations on steel and aluminum are the first Section 232 cases to bring up Chinese producers’ particular role in overcapacity. The Department of Commerce report on steel stated, “While U.S. production capacity has remained flat since 2001, other steel producing nations have increased their production capacity, with China alone able to produce as much as the rest of the world combined.”⁷⁷ The Department of Commerce aluminum report echoed the sentiment that Chinese aluminum overcapacity, driven by industrial policy, had adversely impacted U.S. producers: “A major cause of the recent decline in the U.S. aluminum industry is the rapid increase in production in China. [Unresponsive to market forces,] Chinese overproduction suppressed global aluminum prices and flooded into world markets.”⁷⁸ (For more on Section 232 investigations on steel and aluminum, see Chapter 1, Section 1, “Year in Review: Economics and Trade.”)

*For example, two investigations resulted in embargoes on crude oil imports: Iranian oil imports in 1979 and Libyan oil imports in 1982. Rachel F. Fefer and Vivian C. Jones, “Section 232 of the Trade Expansion Act of 1962,” *Congressional Research Service IF10667*, February 23, 2018.

†These five instances related specifically to “petroleum products or crude oil” imports (e.g., in the 1979 Iranian hostage crisis and in a buildup of diplomatic tension with Libya in 1982). Rachel F. Fefer and Vivian C. Jones, “Section 232 of the Trade Expansion Act of 1962,” *Congressional Research Service IF10667*, February 23, 2018; Bernard Gwertzman, “U.S. Decision to Embargo Libyan Oil Is Reported,” *New York Times*, February 26, 1982.

‡Between 2007 and 2018, Ambassador Shea served as a Commissioner on the U.S.-China Economic and Security Review Commission. Dennis Shea, Communication to Ambassador Zhang Xiangchen, April 4, 2018; U.S. Mission Geneva, “Ambassador Dennis Shea—U.S. Permanent Representative to the WTO,” <https://geneva.usmission.gov/our-relationship/ambassador-dennis-shea/>; *Inside U.S. Trade, World Trade Online*, “U.S.-China Economic and Security Review Commission Vice Chair Picked for WTO Ambassador,” July 11, 2017.

§Since April, the following countries have initiated disputes with the United States on measures regarding steel and aluminum: China (DS544), India (DS547), the EU (DS548), Canada (DS550), Mexico (DS551), Norway (DS552), Russia (DS554), Switzerland (DS556), and Turkey (DS564). See World Trade Organization, “Chronological List of Disputes Cases,” https://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm.

Trade experts posit several limitations to Section 232 cases:

- *Underlying economic trend unresolved:* As Section 232 only applies to U.S. imports rather than global production, it may not address “more systemic problems.”⁷⁹ Chinese production volume may not change, but rather will only be diverted to other importing countries, keeping downward pressure on global prices.⁸⁰
- *Harm to importing U.S. industries:* As in Section 201 actions, tariffs following a Section 232 action may benefit one industry at the cost of another. Ms. Cutler described potential tradeoffs from the 2018 Section 232 investigations into steel and aluminum, whereby “trying to save a steel job ... may be at the expense of an auto job, an industry that uses steel.”⁸¹
- *Retaliation:* U.S. trading partners may reject the argument that actions resulting from a Section 232 case are taken to preserve U.S. national security. If this occurs, U.S. trading partners may decide to retaliate against Section 232 actions. For example, on the announcement of tariffs following the U.S. steel and aluminum investigations, Jean-Claude Juncker, President of the European Commission, noted the tariffs “[appear] to represent a blatant intervention to protect U.S. domestic industry and not to be based on any national security justification,” and “the EU will react firmly and commensurately to defend [its] interests.”⁸²

Section 301 of the 1974 Trade Act

Section 301 investigations allow the USTR to examine unfair foreign acts, policies, or practices that restrict U.S. trade.⁸³ Section 301 investigations are “more open-ended” than AD/CVD orders and Section 201 and 232 cases, leaving a wide range of actions available to the administration.⁸⁴ The variety of actions taken following a Section 301 investigation have ranged from threats of tariffs to WTO dispute initiation. Former U.S. Trade Representative Michael Froman noted he viewed Section 301 as a “delaying tactic” employed in previous instances to develop cases to bring to the WTO.⁸⁵ The Congressional Research Service reported that following the WTO’s establishment, “the USTR still sometimes began Section 301 investigations but then brought the issues at hand to the WTO for dispute resolution.”⁸⁶

Section 301 has been previously invoked to investigate Chinese subsidies. In October 2010, the USTR initiated a Section 301 investigation into the acts, policies, and practices of the Chinese government following a petition by the United Steelworkers related to a number of renewable technology government subsidies and discrimination against U.S. firms.⁸⁷ This Section 301 case resulted in the United States initiating a WTO dispute against China’s Special Fund for Wind Power Equipment Manufacturing subsidies in December 2010, later joined by the EU and Japan.⁸⁸ China removed the subsidies at issue in the WTO case; however, Timothy Meyer, now professor of law at Vanderbilt University, commented that “the United States has subsequently taken domestic [AD/CVD] action against Chinese imports of both wind towers and solar panels.”⁸⁹

Multilateral Tools to Address Chinese Subsidies

WTO Cases

The USTR has filed cases against Chinese subsidies at the WTO, most recently against aluminum producers receiving below-market interest rate loans from state-owned banks. The EU, Japan, Canada, and Russia requested to join these consultations.⁹⁰ According to Harvard Law School Assistant Professor Mark Wu, subsidies have proven challenging to resolve through dispute settlement, as WTO rules only prohibit subsidies given by “public bodies” (i.e., directly from the government or associated entities).⁹¹ The blurred line between private and public entities in China makes it difficult to use WTO dispute settlement to address subsidies.⁹² Ambassador Shea noted that “the WTO itself does not currently provide the tools” to enforce China’s commitment to “open, market-oriented policies.”⁹³

The difficulty of addressing Chinese government subsidies at the WTO can be illustrated by one dispute in particular. In 2008, the Department of Commerce determined that “certain Chinese state-owned banks and SOEs were ‘public bodies’” capable of granting loans or deals on preferential terms (e.g., subsidies).⁹⁴ As a consequence, it imposed CVD orders on Chinese exporters benefiting from those terms. China brought a dispute at the WTO to contest the Department of Commerce’s determination.⁹⁵ The WTO dispute settlement panel broadly agreed with the United States’ argument in 2010.⁹⁶ China appealed the WTO ruling, however, and in 2011 the WTO Appellate Body agreed with a number of China’s claims, notably that the Department of Commerce’s interpretation of SOEs as “public bodies” contravened the WTO agreement on subsidies.⁹⁷ The Appellate Body ruled that “majority government ownership alone was insufficient” to prove SOEs could provide government subsidies.⁹⁸ Instead, it concluded a subsidized entity needed to habitually exercise “governmental functions” to qualify.⁹⁹ For U.S. litigators in the case, the Appellate Body’s reinterpretation of “public bodies” became a textbook example of the Appellate Body’s “overreach,” where it overstepped its authority within the dispute settlement system.¹⁰⁰

Furthermore, the Chinese government has repeatedly failed to notify its trading partners of subsidies provided by the central and local government as required by its accession protocol.¹⁰¹ The United States has filed multiple reports detailing this concern at the WTO: in 2006, when China submitted its first subsidy notification since accession, the United States and the EU noted it contained no information regarding local government subsidies; in 2011 the United States submitted a counter-notification of nearly 200 subsidy programs that China had not reported; and by the fall of 2015, the United States had submitted two additional counter-notifications.¹⁰² This trend has not changed. In its 2017 report to Congress, the USTR noted that “China has not yet submitted to the WTO a complete notification of subsidies maintained by the central government, and it did not notify a single sub-central government subsidy until July 2016.”¹⁰³

Under WTO rules, there are no sanctions or consequences for failing to submit a complete subsidy notification. The United States proposed procedural changes to improve compliance at the WTO

Ministerial Conference in December 2017.* To date, proposed changes have not been adopted.¹⁰⁴

Alternative Multilateral Fora

Beyond the WTO, other multilateral fora have provided a space for discussions addressing overproduction generated in part by Chinese government subsidies. The Organization for Economic Cooperation and Development (OECD) Steel Committee, whose members account for about 45 percent of global production and 75 percent of global steel exports, calls attention to the issue of steel overcapacity.¹⁰⁵ In a statement in March 2018, the committee called for the removal of global subsidies for steel production and discussed guidelines on subsidies, saying that a reduction in capacity in Asia was a “modest adjustment,” but that “demand would take more than 30 years to absorb the current level of excess capacity.”¹⁰⁶

In 2016, the G20 leaders created the 33-member Global Forum on Steel Overcapacity, with the OECD acting as a facilitator.¹⁰⁷ The forum’s 2017 report produced guiding principles and a series of concrete policy recommendations.¹⁰⁸ On the report’s release, the USTR welcomed “initial steps” but put forward three critiques of the report: (1) it did not call out “some countries” for eschewing market-based reforms; (2) it did not provide complete information on government policies; and (3) it assumed capacity reduction targets would constitute an “effective response” to overproduction.¹⁰⁹ The USTR concluded, “Meaningful progress can only be achieved by removing subsidies and other forms of state support.”¹¹⁰

Tariffs, Local Content Requirements, and Regulatory Challenges

Beijing employs tariffs, local content requirements, and inequitable application of laws and regulations to bar foreign firms from competing on an equal footing in the Chinese market. Research published by the Peterson Institute for International Economics estimated the trade-weighted average tariff for U.S. goods exported to China at 5.4 percent, while the U.S. trade-weighted average tariff on Chinese imports is 3 percent.[†]¹¹¹ More worrying are government-directed local content requirements that carve out predetermined market shares for Chinese companies, such as a 70 percent local content target in manufacturing components specified as part

* In October 2017, the United States submitted a proposal to the WTO recommending measures to improve compliance with subsidy notification requirements, including negative consequences for missed deadlines. World Trade Organization, “Communication from the United States: Procedures to Enhance Transparency and Strengthen Notification Requirements under WTO Agreements,” October 30, 2017.

† Generally, two methods are used to find average tariff rates: trade-weighted average tariff rates and simple average tariff rates: (1) a trade-weighted average is the average tariff rate applied at the U.S. border to all imported products, which takes products’ imported volume into account. For example, if a tariff on mobile phones is quite low but a tariff on chocolate is quite high, the trade-weighted average depends on the volume of (low) mobile phones imported relative to (high) chocolate; (2) a simple average tariff rate is the average tariff rate across all U.S. imports—as listed in the U.S. tariff schedule—regardless of how much of that good was imported. Using the same example, a simple average would sum the low tariff on mobile phones and the high tariff on chocolate and divide by two tariff lines, regardless of the imported volume of mobile phones or chocolate. Because these methods highlight different aspects of a country’s tariff regime, the WTO publishes both trade-weighted and simple average tariffs. Average tariff rates do not include AD/CVD orders and safeguard measures. See Chad Bown and Soumaya Keynes, “Trade Talks Episode 42: Trump and Tariff Tweets: It’s More Complicated than That,” *Peterson Institute for International Economics*, June 15, 2018.

of the Made in China 2025 initiative, leaving a smaller share of the market available to foreign competitors.¹¹²

Foreign companies with operations in China also face pressure to source Chinese-made components to secure various government approvals: for example, in China's wind power sector, foreign wind turbine manufacturers established production or assembly operations for Chinese-made inputs due to local content targets.¹¹³ To avoid open WTO violations, Chinese government ministries and policy institutes rely on internal or informal communication to convey local content targets to Chinese companies in aviation, electric vehicles, and other industries.¹¹⁴ (For a discussion of the role local content requirements play in the development of China's Internet of Things and fifth generation wireless technology (5G) technologies, see Chapter 4, Section 1, "Next Generation Connectivity.")

Regulatory mechanisms like mandatory testing and licensing play a role in implementing local content requirements. The U.S. Chamber of Commerce identified licensing challenges such as IP disclosures, regulatory interpretations, lengthy approval processes, and "de facto licensing restrictions on the number of [industry] players," concluding that "licensing requirements are a top and long-standing [market access] barrier" for foreign companies in China.¹¹⁵ In her testimony before the Commission, National Association of Manufacturers Vice President Linda Dempsey described "localization policies related to production or technology" that require local testing and certification in the information, communications, telecom, and medical sectors.¹¹⁶

Chinese regulators recently broadened the definition of businesses regulated as telecoms. According to the private sector U.S. Information Technology Office*, when China's Telecom Services Catalogue was expanded in 2016, the measures "incorrectly [classified]" internet-based services like cloud computing, content delivery networks, and online interactive platforms as value-added telecom services.¹¹⁷ The "telecom" designation subjects these services to extensive licensing, regulatory, and ownership restrictions: from 2013 to 2017, 29,000 domestic suppliers of "value-added"† telecom services received licenses required for operation, compared with 41 foreign suppliers.¹¹⁸ As of November 2016, cloud computing providers are also required to hold an Internet Data Center license, which foreign companies can only obtain through joint ventures (JVs) with local Chinese Internet Data Center license holders.¹¹⁹ As a 2017 submission by the U.S. Information Technology Office made clear, "The improper identification of services, paired with existing restrictions on foreign investment in value-added telecoms services, unfairly handicaps foreign ICT [information and communications technology] companies in China."¹²⁰

*The U.S. Information Technology Office is an "independent, nonprofit, membership-based trade association representing the U.S. information communication technologies (ICT) industry in China." It is not part of or affiliated with the U.S. government. U.S. Information Technology Office, "About Us," <http://www.usito.org/about-us>.

†Telecommunications services are divided into "basic" and "value-added" services in China. "Value-added telecommunications services" refer to telecommunications and information services "provided through public network infrastructure," while "basic telecommunications services" refer to "the business of providing public network infrastructure, public data transmission, and basic voice communications services." DLA Piper Intelligence, "Telecommunications Laws of the World: China," May 25, 2017, 2-3.

The software industry association BSA | The Software Alliance observed some Chinese cloud regulations state a preference for specific domestic technologies, with “lists of approved products for ICT, including encryption products, anti-virus software, and even basic operating systems.”¹²¹ It stated foreign cloud companies “experience discrimination based on nationality due to the Value-Added Telecom Service licensing regime.”¹²² For these and other reasons, BSA | The Software Alliance rated China very poorly—22nd of 24 countries—in evaluating China’s cloud computing environment.¹²³

Impact

Tariffs, local content requirements, and regulatory and licensing challenges hinder or bar foreign suppliers from operation. As stated in the USTR’s 2017 assessment of China’s WTO compliance, market opportunities for U.S. service providers “should be promising” but are diminished by regulatory barriers such as “case-by-case approvals, discriminatory regulatory processes, informal bans on entry and expansion, overly burdensome licensing and operating requirements, and other means.”¹²⁴ For example, large companies like Amazon, Microsoft, and Google rely on cloud computing as a high-growth business segment.*¹²⁵ However, Chinese law bars foreign companies from marketing to or registering Chinese customers directly,¹²⁶ which cuts foreign companies off from the fast-growing Chinese market. Management consulting group Bain estimated the cloud computing market in China will be worth \$20 billion by 2020.¹²⁷

A presence in China can also solidify entry into Asian markets more generally. According to PricewaterhouseCoopers advisory service, the increase in demand for data center services in Asia substantially outstrips increasing demand in Europe and North America.† According to BSA | The Software Alliance, the American Chamber of Commerce in China, the U.S. Chamber of Commerce, the private U.S. Information Technology Office, and the U.S.-China Business Council, “none, or at least very few, of these restrictions [requiring a license or foreign partner to establish commercial operations] apply to Chinese cloud service operators as they invest abroad, including in the United States.”¹²⁸

Multilateral Tools to Address Chinese Tariffs, Local Content Requirements, and Regulations

Bilateral and Plurilateral Negotiations

In the past, tariff reductions occurred through negotiations as part of trade agreements. Tariff reductions had formed part of the WTO negotiations on the Information Technology Agreement Expansion, an 80-country plurilateral negotiation designed to lower

*For example, Amazon Web Services’ operating income after expenses was \$4.3 billion in 2017, its most profitable business segment, which grew 39 percent over 2016. See U.S. Securities and Exchange Commission, *Amazon Investor Relations, Amazon SEC Form 10-K Filing*, February 2, 2018, 69. <https://www.sec.gov/Archives/edgar/data/1018724/000101872418000005/amzn-20171231x10k.htm#sF4D226117080548193EEA79328D2EA6E>.

†PricewaterhouseCoopers reports that by 2021, demand for data center services in Asia will be increasing at 27 percent over the previous year, while demand in Europe will be increasing at 13 percent and demand in North America will be increasing at 12 percent. Maxime Blein et. al., “Surfing the Data Wave: The Surge in Asia Pacific’s Data Center Market,” *PricewaterhouseCoopers*, January 2017, 4.

tariffs on advanced ICT products.*¹²⁹ The United States and China reached an initial agreement to cut tariffs in November 2014, a deal that more than 50 countries formally agreed to and approved at a WTO Ministerial in December 2015.¹³⁰ Per the agreement, tariffs on technology products were set to decrease over a period of three years; exports from China comprise about 23 percent of total exports covered by the agreement.¹³¹

WTO Cases

The WTO has been used to address tariffs and other protections in the past. The United States is currently awaiting results on disputes challenging China's tariff-rate quotas on grains like rice, corn, and wheat, and export restraints on certain raw materials used in manufacturing.¹³² (For additional information on ongoing WTO cases, see Chapter 1, Section 1, "Year in Review: Economics and Trade.") The WTO prohibits the use of local content requirements, and WTO case law has found local content requirements illegal.¹³³ The United States brought three local content-related cases against China between 2006 and 2016; in every case, the WTO ruled for the United States or the parties settled in the United States' favor.[†]¹³⁴ Chinese government entities attempt to avoid openly violating WTO rules by informally conveying local content requirements using "internal or semi-official documents."¹³⁵

Investment Restrictions on Foreign Ownership

The OECD ranks China as the fourth most restrictive country (of 68 countries) for foreign direct investment (FDI) in the world (after the Philippines, Saudi Arabia, and Indonesia).¹³⁶ As of 2017, China continued to restrict or close a broad range of sectors to foreign investment.¹³⁷ Media and telecommunications were reported as the most restricted sectors in China.¹³⁸

In China, the Catalogue for the Guidance of Foreign Investment in Industries (or Foreign Investment Catalogue) classifies industries into three categories: "encouraged," "restricted," or "prohibited" to foreign investment.¹³⁹ Industries in both "encouraged" and "restricted" categories may be subject to ownership caps, necessitating a JV with local partners.¹⁴⁰ According to the U.S. Chamber of Commerce, such restrictions "either block opportunities" for foreign companies to enter or participate in the Chinese market, creating a domestic protection, or "in some cases, create a de facto technology transfer requirement ... as a pre-condition for market access."¹⁴¹ In this, the Chinese government is not abiding by its past promises or agreements.¹⁴² China's WTO Protocol of Accession states,

China shall ensure that ... [the right of] investment by national and sub-national authorities is not conditioned on: whether competing domestic suppliers exist; or performance

*The International Technology Agreement covered 201 products ranging from medical devices to audiovisual products like DVD players, new generation semiconductors, GPS, video games, satellites, printing and copying machines, loudspeakers, microphones, associated parts and components, and machinery and machine tools for their production. World Trade Organization, "20 Years of the Information Technology Agreement," 2017, 65.

†DS340 regarding auto parts was resolved through dispute resolution in complainants' favor; DS358 regarding tax refunds, reductions, or exemptions settled in complainants' favor; and DS419 regarding wind power equipment subsidies with local content requirements was resolved when China ended the program.

*requirements of any kind, such as local content, offsets, the transfer of technology, export performance, or the conduct of research and development in China.*¹⁴³

Discussing these investment restrictions in testimony before the Commission, Jennifer Hillman, Georgetown University professor of practice, noted that provisions in China's investment laws and catalogues "also violate China's basic commitment to national treatment, requiring that China treat foreign companies no less favorably than it treats Chinese companies."¹⁴⁴ Though Chinese officials "continue to promise" market access, the U.S. Department of State advised U.S. exporters in June 2017 that "announcements are met with skepticism due to lack of details and timelines."¹⁴⁵

Impact

Chinese investment restrictions and foreign firms' responses vary by industry. For example, to enter the Chinese market, most U.S. carmakers have established JVs with Chinese partners described as "cumbersome"* and "financially draining."¹⁴⁶ In financial services, by contrast, Goldman Sachs, Citigroup, and Bank of America have divested their former holdings in Chinese banks altogether; the *Financial Times* reported that, while profitable, those JVs did not help foreign banks establish a presence in China.¹⁴⁷ Fraser Howie, coauthor of *Red Capitalism*, commented in May 2018, "The restrictions on foreign capital were put in place to protect domestic players, and they worked well ... Even now, foreign banks are only around 2 percent of bank assets in China."¹⁴⁸

In early July 2018, China's National Development and Reform Commission and the Ministry of Commerce jointly released a new "negative list" for foreign investment, which reduces the number of restricted sectors from 63 to 48 and removes or lowers investment restrictions in fields like mining and transportation.¹⁴⁹ Though these changes went into effect in late July, the announcements were met with skepticism.¹⁵⁰ Restrictions have been lifted in sectors like ship-building and rail services—where Chinese companies remain dominant—while the scheduled removal of ownership caps on foreign financial service providers and car manufacturers is not due to take effect until 2021 and 2022, respectively.¹⁵¹ In addition, the negative list reductions demonstrate investment restrictions will continue to occur "on Beijing's terms and in service of China's national development and domestic priorities."¹⁵²

Bilateral Tools to Address Chinese Investment Restrictions

Bilateral Negotiations

For over a decade, U.S. diplomats have negotiated with Chinese officials in attempts to lower investment market access barriers. These efforts include statements affirming open trade principles and sec-

*Despite these JV requirements, foreign automobile brands dominate the Chinese market: Chinese-brand automobile market share has fluctuated between 39 and 45 percent in the period between 2009 and 2017. In addition, the Chinese government recently announced it planned to lift ownership restrictions on foreign car manufacturers by 2022; however, the move most benefits companies that have not yet entered the market or established businesses in China, like Tesla. *Bloomberg News*, "Chinese Carmakers under Pressure as Joint-Venture Caps Erased," April 17, 2018; Keith Bradsher, "China Loosens Foreign Auto Rules in Potential Peace Offering to Trump," *New York Times*, April 17, 2018.

tor-specific statements¹⁵³ made in the U.S.-China Joint Commission on Commerce and Trade (JCCT), the U.S.-China Strategic Economic Dialogue (SED) and its replacement the U.S.-China Strategic and Economic Dialogue (S&ED), bilateral investment treaty (BIT) negotiations, and, most recently, the Comprehensive Economic Dialogue (CED). Despite these efforts, observers have expressed concern that only incremental progress has been achieved. Ms. Reade noted that while U.S. diplomats gained the opportunity to engage with Chinese regulators on cross-cutting issues in the S&ED, the dialogue's mixed achievements and extensive scope have caused some to question its value.¹⁵⁴ Given the wide-ranging scope and questionable progress made by high-level dialogues, the Trump Administration has halted the JCCT and CED fora, calling the future of these discussions into question.

- *JCCT*: Led by the U.S. secretary of commerce, the USTR, and a Chinese vice premier, the JCCT had served as the “main bilateral dialogue” forum for trade since 1983.¹⁵⁵ The JCCT was composed of 16 working groups that operated year-round on issues like IP, pharmaceuticals, and trade and investment.¹⁵⁶ The JCCT meetings culminated each year in a plenary meeting to cover these topics.¹⁵⁷ Topics of discussion have ranged from patent rights protection; the WTO Government Procurement Agreement; and non-discriminatory standards setting for smart grid infrastructure in 2010 to non-discriminatory medical device procurement; excess capacity in steel, aluminum, and soda ash; and clarifications of China’s antimonopoly law and cyber-security law in 2016.¹⁵⁸
- *SED/S&ED*: The SED began in 2006 under then President George W. Bush as a separate economic dialogue, then became incorporated into the broader S&ED established under then President Barak Obama.*¹⁵⁹ Its economic track was chaired jointly by the U.S. secretary of the Treasury and a Chinese vice premier and addressed short-, medium-, and long-term economic concerns.¹⁶⁰ According to a 2014 U.S. Government Accountability Office (GAO) report, of 114 total S&ED trade and investment commitments between 2007 and 2013, 30 commitments were generally related to investment (e.g., investment restrictions, investment principles, BIT negotiations, and investment promotion between the two countries).¹⁶¹ GAO observed that some investment commitments were broad joint statements with no specific request and no defined deadline for implementation, and some commitments recurred through multiple negotiations.¹⁶²
- *CED*: Following a summit meeting in April 2017, President Donald Trump and Chinese President and General Secretary of the Chinese Communist Party Xi Jinping agreed to restructure the S&ED into the U.S.-China Comprehensive Dialogue, with the CED as one of four dialogue tracks.†¹⁶³ The first CED,

*The S&ED covered both strategic and economic concerns in separate tracks: the U.S. secretary of State would chair the “strategic track,” while the U.S. secretary of the Treasury would chair the “economic track.” Dennis Wilder, “The U.S.-China Strategic and Economic Dialogue: Continuity and Change in Obama’s China Policy,” *Brookings Institution*, May 15, 2009.

†The Comprehensive Dialogue was broken into: (1) the Diplomatic and Security Dialogue, (2) the Comprehensive Economic Dialogue, (3) the Cyber and Law Enforcement Dialogue, and (4)

held in July 2017, ended without any new agreements or the planned joint statement.¹⁶⁴ In November 2017, David Malpass, Under Secretary for International Affairs at the Department of the Treasury, described the CED as “stalled.”¹⁶⁵

- *BIT negotiations*: Launched under the Bush Administration at the 2008 SED, a BIT was viewed by its proponents as a means of securing legal protections for U.S. companies in China, including non-discriminatory treatment and free transfers of capital.¹⁶⁶ As a 2016 Commission staff research paper noted, U.S. negotiators sought to ensure “pre-establishment national treatment,” affording U.S. firms equal treatment unless specified in the negative list.¹⁶⁷ Xinhua, a Chinese state-run media outlet, reported 33 rounds of negotiations between 2012 and 2017.¹⁶⁸ After the U.S.-China CED in July 2017, discussions were halted.¹⁶⁹

Tangible gains resulting from high-level bilateral talks have been limited. As stated by the 2014 GAO report, China’s implementation of JCCT and S&ED commitments was not always clearly evaluated in U.S. follow-up reports.¹⁷⁰ Implementation timeframes were only specified in 17 percent of JCCT commitments and 18 percent of S&ED commitments; in the S&ED, it was assumed “each year’s S&ED commitments are to be implemented by the next S&ED meeting.”¹⁷¹

The USTR’s 2017 report on China’s WTO compliance described bilateral talks as largely “unsuccessful”; the talks only brought about “incremental market access improvements” while China “repeatedly failed to follow through on [broad] commitments.”¹⁷²

Limited IP Protection, IP Theft, Technology Transfer, and Economic Espionage

According to economist and longtime China observer Barry Naughton, the Chinese government has launched “a massive state-directed program of innovation designed to give it mastery in certain selected industries.”¹⁷³ The Chinese government’s commitment to technological promotion and advancement has been accompanied by practices that unfairly exploit or disadvantage foreign corporations.¹⁷⁴ The USTR’s Section 301 investigation said the Chinese government uses a “variety of tools, including opaque and discretionary administrative approval processes, joint venture requirements,” and other mechanisms to compel technology transfer.¹⁷⁵

Industry groups have become increasingly vocal regarding the broad challenge of technology transfer and IP theft. Information Technology Industry Council President Dean Garfield said the Chinese government’s top-down approach “fosters an environment that actively pursues technology transfer as a prerequisite for doing business in China.”¹⁷⁶ Similarly, in 2017 the American Chamber of Commerce in Shanghai reported that members’ top regulatory hindrances included a lack of IP protections and enforcement, the process to obtain required licenses, and data security and trade secrets protection.¹⁷⁷

the Social and People-to-People Dialogue. U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, “Year in Review: Economics and Trade,” in *2017 Annual Report to Congress*, November 2017, 57.

Despite private complaints of abuse, however, companies do not often formally report their concerns for fear of retaliation from the Chinese government.¹⁷⁸ Lee Branstetter, Carnegie Mellon University economist and public policy professor, testified that the lack of public documentation hampers the U.S. government's ability to craft an effective, well targeted deterrent to forced technology transfer.¹⁷⁹

Apart from the de facto challenges described above, several legal IP challenges present further hurdles for foreign companies with operations in China:

- IP licensing conditions for foreign firms that benefit Chinese partners in negotiations;¹⁸⁰
- Low—an average of \$20,000 in 2013*—IP violation damage awards (e.g., patent infringement damages) that do little to deter IP violations and lead to low royalty payments †; and
- High damage awards for antimonopoly violations brought on foreign companies relative to IP damage awards foreign companies could receive from IP infringers. If IP violation damages in China are relatively low, damages from Antimonopoly Law violations can amount to hundreds of millions of dollars in awards, like the \$975 million fine imposed on Qualcomm in 2015.¹⁸¹

U.S. companies can thus be prevented from protecting their IP due to the threat of legal action in China. As stated in the USTR's 2018 "Special 301" ‡ annual review of IP rights, "There is ongoing concern that China's competition authorities may target foreign patent holders for [Antimonopoly Law] enforcement and use the threat of enforcement to pressure U.S. patent holders to license to Chinese parties at lower rates."¹⁸² Mark Cohen, director and distinguished senior fellow at the Berkeley Center for Law and Technology and former senior counsel for China at the U.S. Patent and Trademark Office, described a similar pattern in testimony before the Commission:

A U.S. company brings an action in the United States or another jurisdiction for patent or trademark infringement. The Chinese company brings a retaliatory action in a home court enforcing dubious patent rights or even seeking an antitrust remedy. The Chinese court accelerates its procedures—and it's the quickest docket in the world—to render a judgement in advance of the U.S. court. Because of the chokehold of the Chinese market, the U.S. company is forced into settling,

*IPHouse Judicial Data Research Center calculated the average IP damage awarded in the Beijing Intellectual Property Court in 2015 as about \$70,900 (460,148 RMB, converted using the U.S. Department of the Treasury December 2015 exchange rate of 6.49 RMB to dollars). IPHouse Judicial Data Research Center, "Beijing Intellectual Property Court: Judicial Protection Data Analysis Report, 2015," 2016. https://chinaipr2.files.wordpress.com/2016/12/bjipc_judicial-protection-data-analysis-report-20151.pdf; Mark Cohen, "IPHouse and IP Litigation Statistics," *China IPR*, December 22, 2016.

† In April 2018, China stated its intention to introduce more punitive IP damage awards. The head of the State Intellectual Property Office, Shen Changyu, said, "We are introducing a punitive damages system for IPR infringement to ensure offenders pay a big price." *Xinhua*, "Interview: China Calls for Better Protection for Chinese IPR," June 12, 2018. http://www.xinhuanet.com/english/2018-04/12/c_137106496.htm; Mark Cohen, "April 10–16, 2018 Updates," *China IPR*, April 18, 2018.

‡ Unlike Section 301 investigations, which are quite rare, the USTR is mandated to release an annual "Special 301" report on global IP rights protection and enforcement. Office of the U.S. Trade Representative, *Special 301*. <https://ustr.gov/issue-areas/intellectual-property/Special-301>.

*which results in a global cross-license allowing the Chinese company to continue to conduct business using what we now call stolen IP.*¹⁸³

Such a strategy may have been employed in a recent case involving the largest U.S. memory chip maker, Micron Technology, Inc. (“Micron”). In August 2017, Taiwan authorities indicted former Micron employees for trade secret theft to benefit a government-funded Chinese company.¹⁸⁴ Former Micron engineers were found to have illegally provided proprietary chip designs to United Microelectronics Corp. (“UMC”), a Taiwan partner of Fujian Jinhua Integrated Circuit (“Jinhua”) backed by the Fujian provincial government.*¹⁸⁵ Micron sued UMC and Jinhua for trade secret theft in U.S. district court in December 2017.¹⁸⁶ While the U.S. case remains ongoing, Jinhua and UMC countersued Micron’s Chinese subsidiaries for patent infringement in Fujian Province in January 2018, an action that Micron has described in investor statements as retaliatory.¹⁸⁷ In July 2018, the court in Fujian issued a preliminary injunction barring Micron from selling 26 products in China, a ruling Micron says it will appeal.¹⁸⁸

In addition to these legal challenges, the standardization law draft issued in March 2017 and the Cybersecurity Law implemented in 2017 pose further risks to foreign companies by subjecting proprietary corporate data, IP, and enterprise standards to review or disclosure.¹⁸⁹ As described by software industry group BSA | The Software Alliance, these items are typically protected by trade secret law or other IP laws, and “requirements for the disclosure of source code and enterprise standards pose significant inherent risks to intellectual property.”¹⁹⁰

Impact

Due to lack of information, the impact of any forced technology transfer, IP or data theft, or economic espionage is difficult to assess. In 2017, the Commission on the Theft of American Intellectual Property (IP Commission) estimated that the U.S. economy loses between \$225 billion and \$600 billion per year from counterfeit products, piracy, and trade secret theft.¹⁹¹ By exchanging technology and IP for market access in China, foreign companies may also be investing in future competition: a 2010 U.S. Chamber of Commerce report identified instances of Chinese technology companies becoming competitive in high-speed rail, wind energy, and aviation by drawing on technology acquired (sometimes through illicit means) from foreign competitors.¹⁹²

U.S. Unilateral Tools to Address Chinese IP Theft, Technology Transfer, and Economic Espionage

Section 301 of the Trade Act of 1974

The USTR’s March 2018 Section 301 investigation report was the first Section 301 investigation to address the Chinese government’s

*As described by *New York Times* technology reporter Paul Mozur, Jinhua used Micron’s internal language in slides supposedly pertaining to Jinhua products. Paul Mozur (@paulmozur), “The engineer in this case raised suspicions because he Googled how to wipe his work computer. Later the Chinese company used Micron’s own code names in slides that were supposed to be about its internally developed products.” Twitter, June 22, 2018.

practices related to technology transfer. In addition to government subsidies for acquisitions of U.S. technology, the investigation documented several patterns of forced technology transfer from U.S. and other foreign companies to Chinese counterparts: (1) a foreign company provides proprietary technology in exchange for market access, whether in the establishment of a JV or in licensing and approvals processes, as described above; (2) Chinese technology licensing requirements that benefit local Chinese partners at the expense of foreign licensors; and (3) cyber intrusions that access confidential corporate information.¹⁹³ Mr. Cohen testified before the Commission that the Section 301 report “gave voice to many long-standing concerns of myself and others regarding China’s efforts to become an innovation superpower as well as U.S. government strategies to address China’s innovation strategies.”¹⁹⁴

Section 301 investigations offer the president a wide range of possible remedies. Following the March 2018 Section 301 investigation, President Trump directed: (1) the USTR to review possible tariffs to impose on U.S. imports of Chinese goods; (2) the USTR to initiate a WTO case regarding China’s unfair technology licensing practices; and (3) the U.S. Department of the Treasury to address concerns regarding Chinese investment into the United States “using any available statutory authority.”¹⁹⁵

Section 337 of the Tariff Act of 1930

A complainant can bring a Section 337 case to the USITC in instances where specific imported products use “unfair competition in import trade,” such as IP infringement, misappropriation of trade secrets, false advertising, or violations of antitrust laws.¹⁹⁶ Like AD/CVD cases, Section 337 cases have historically been targeted and narrow in scope. If the USITC finds a violation, it can issue an exclusion order prohibiting imports of the violating product.¹⁹⁷ Nearly a third of the 487 cases filed since January 2008 involved Chinese respondents alleged to have imported IP-infringing products into the United States, resulting in 46 exclusion orders and numerous settlements.¹⁹⁸ Ms. Drake noted in her testimony before the Commission that Section 337 “has much broader applications than have been successfully utilized by the private sector.”¹⁹⁹ As stated by the USITC in 2003, “The [USITC] has great latitude in deciding what constitutes ‘unfair methods of competition’ or ‘unfair acts in importation’ and thereby, whether jurisdiction exists.”²⁰⁰

Prosecution of Economic Espionage

As reported by the U.S. Department of Defense (DOD) 2013 *Annual Report to Congress*, China utilizes a “large, well-organized network to facilitate collection of sensitive information and export-controlled technology from U.S. defense sources.”²⁰¹ Though all countries engage in cyber espionage for national security purposes, concerns over economic espionage* and cyber-enabled

*The National Counterintelligence and Security Center defines economic espionage as “(a) stealing a trade secret or proprietary information or appropriating, taking, carrying away, or concealing, or by fraud, artifice, or deception obtaining, a trade secret or proprietary information without the authorization of the owner of the trade secret or proprietary information; (b) copying, duplicating, downloading, uploading, destroying, transmitting, delivering, sending, communicating, or conveying a trade secret or proprietary information without the authorization of the owner of the trade secret or proprietary information; or (c) knowingly receiving, buying, or possessing

theft of commercial IP “have increasingly strained” U.S.-China relations since the early 2000s.²⁰² In 2013, Obama Administration officials and others began “publicly identifying the Chinese government as the source of many cyber attacks.”²⁰³ According to Fred H. Cate, law professor and cybersecurity expert at Indiana University, by 2015

*Chinese activity [was] mounting to the degree that U.S. companies and government agencies [were] increasingly willing to charge not only that significant attacks originate from China, but also that at least some of those attacks are connected with the Chinese government.*²⁰⁴

The U.S. Department of Justice (DOJ) has prosecuted isolated cases of economic espionage, most successfully against state-sponsored actors. In May 2014, DOJ pressed criminal charges against five members of People’s Liberation Army (PLA) Unit 61398.²⁰⁵ This indictment alleged theft of trade secrets and internal communications from six U.S. entities between 2006 and 2014, including Westinghouse, U.S. Steel, and Alcoa.²⁰⁶ According to James Lewis, senior vice president and cybersecurity expert at CSIS, “The PLA indictments, widely questioned when they were announced, contributed significantly to the Chinese decision to agree to refrain from commercial cyber-spying.”²⁰⁷ John Carlin, former DOJ National Security Division head, agreed: “[The indictment was not] seen as an end in and of itself. Rather the investigation and prosecution of the PLA members were pieces of a larger deterrence strategy” to establish “basic international norms in cyberspace.”²⁰⁸

DOJ has also indicted private entities for stealing IP from U.S. companies, but legal penalties are overshadowed by potential gains. In January 2018, Sinovel Wind Group and three individuals were convicted of theft of trade secrets after “stealing proprietary wind turbine technology”²⁰⁹ from U.S. wind energy company AMSC. This case represented a joint effort between DOJ, the Federal Bureau of Investigation, and the Austrian Federal Criminal Intelligence Service and Federal Ministry of Justice.²¹⁰ Sinovel and AMSC reached a settlement on July 3, 2018, whereby Sinovel agreed to pay AMSC \$57.5 million; Sinovel will also pay \$850,000 to additional victims.²¹¹ DOJ imposed the maximum statutory fine of \$1.5 million on Sinovel.²¹² According to evidence presented by AMSC at the trial, AMSC “lost more than \$1 billion in shareholder equity and almost 700 jobs, over half its global workforce.”²¹³ AMSC is still in operation today, though it reportedly “has gone through financial difficulties in recent years.”²¹⁴

Section 1637 of the 2015 National Defense Authorization Act

Section 1637 of the 2015 National Defense Authorization Act (NDAA) expanded the powers of the International Emergency Economic Powers Act of 1977 (IEEPA) to create a deterrent against economic espionage.²¹⁵ IEEPA allows the president to regulate com-

a trade secret or proprietary information that has been stolen or appropriated, obtained, or converted without the authorization of the owner of the trade secret or proprietary information.” National Counterintelligence and Security Center, *Foreign Economic Espionage in Cyberspace*, 2018. <https://www.dni.gov/files/NCSC/documents/news/20180724-economic-espionage-pub.pdf>.

merce in the face of a foreign-sourced “unusual and extraordinary threat” to U.S. national security, foreign policy, or the economy.²¹⁶ Such commercial regulation can include raising tariffs, blocking transactions, or freezing assets.²¹⁷ Under IEEPA, if the United States is “engaged in armed hostilities” or “has been attacked by a foreign country or foreign nationals,”²¹⁸ the president can “confiscate property connected with a country, group, or person that aided in the attack.”²¹⁹ As expanded in Section 1637 of the 2015 NDAA, in the event of a cyber attack, the president may “prohibit all transactions in property” of any person determined to have conducted “economic or industrial espionage in cyberspace.”²²⁰ Section 1637 of the NDAA has never been used.

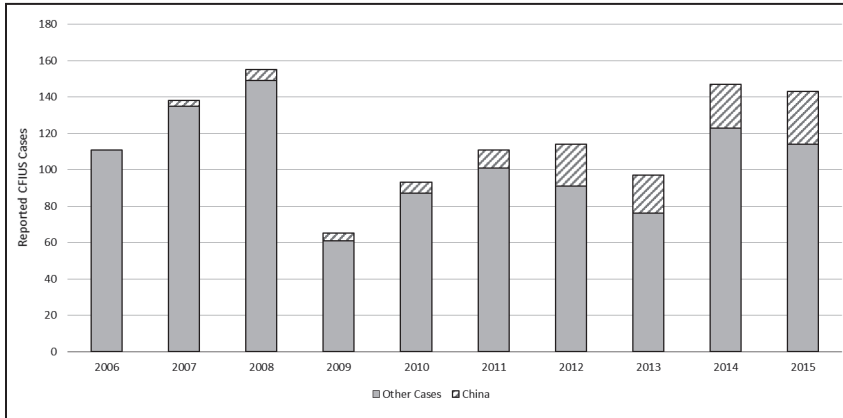
Committee on Foreign Investment in the United States

The Committee on Foreign Investment in the United States (CFIUS) oversees the review of inbound FDI for national security threats. This interagency review process, chaired by the Treasury, allows the U.S. economy to maintain its historical openness to foreign investment save for exceptional cases where national security concerns are warranted.²²¹ Upon receiving a transaction notification, CFIUS conducts a risk assessment with three considerations: (1) any threat posed by a foreign investment’s “intent and capabilities”; (2) any national security vulnerabilities the business in question would pose; and (3) potential consequences of exploiting those vulnerabilities.²²² These considerations determine whether a transaction is deemed “covered”* under Section 721 of the Defense Production Act of 1950 and thus is subject to review by CFIUS.

In its 2017 report to Congress (which covers 2015 data), CFIUS reported it reviewed a total of 143 transactions, of which 29 cases (about 20 percent) involved Chinese parties.²²³ By contrast, for all years between 2006 and 2011, no more than 10 cases per year involved Chinese parties, and these cases comprised less than 10 percent of total cases reviewed in the given year (see Figure 3).²²⁴ CFIUS does not report the number of withdrawals by country, but in 2015 foreign investors withdrew 13 attempted transactions during the CFIUS review process.²²⁵

The number of CFIUS reviews has increased from 97 cases in 2013 to 172 in 2016²²⁶ and—according to private sector estimates—over 200 in 2017,²²⁷ partly due to an increase in attempted Chinese acquisitions of U.S. technology and policy makers’ growing unease with those acquisitions.²²⁸ Analysis by the law firm Wilson Sonsini Goodrich and Rosati estimates most of the approximately 20 deals blocked by CFIUS in 2017 involved Chinese investors.²²⁹

*As stated in the U.S. Department of the Treasury Section 721 description, “The term ‘covered transaction’ means any merger, acquisition, or takeover that is proposed or pending after August 23, 1988, by or with any foreign person which could result in foreign control of any person engaged in interstate commerce in the United States.” U.S. Department of the Treasury, *Section 721 of the Defense Production Act of 1950*, 50 U.S.C. App. 2170.

Figure 3: Covered Transactions by Acquirer Home Country, 2006–2015

Source: U.S. Department of the Treasury, *Resource Center: Reports and Tables, 2008–2017*. <https://www.treasury.gov/resource-center/international/foreign-investment/Pages/cfius-reports.aspx>.

Rhodium Group’s Investment Monitor estimates Chinese investment in U.S. ICT at about \$16.8 billion between 2000 and the first quarter of 2018, compared to FDI in U.S. consumer products and services at \$6.7 billion.²³⁰ Chinese companies’ interest in acquiring U.S. technology has caught regulatory attention and led to concerns that CFIUS’ current mandate may exclude consideration of important transactions. Witnesses at a Senate Committee on Banking, Housing, and Urban Affairs hearing on CFIUS reform in January 2018 agreed that “China increasingly has sought to acquire emerging U.S. technologies in ways that may evade CFIUS review.”²³¹ In August 2018, President Trump signed into law a major overhaul of CFIUS (for more on Chinese FDI in the United States and U.S. screening mechanisms, see Chapter 1, Section 1, “Year in Review: Economics and Trade”).

Export Controls

Where conditions of a specific technology’s sale or transfer raise national security concerns, the Department of Commerce’s Bureau of Industry and Security export controls may be employed to prevent the transaction. Former Assistant Secretary for Export Administration Kevin Wolf summarized export controls as rules governing the export, re-export, and transfer of technology and services to specific end uses, end users, and destinations for national security purposes.²³² The regime allows for tailored controls adaptable to technologies in all stages of development.²³³ Provided the technology of concern can be identified, this system does not “[impose] unnecessary regulatory and economic burdens on transactions not of concern.”²³⁴ Where possible, such controls have been imposed in coordination with likeminded allies. Eric Hirschhorn, former Undersecretary of Commerce for Industry and Security, has referred to unilateral embargoes as “damming half of the river,” which “doesn’t have much effect.”²³⁵

Bilateral Tools to Address Chinese IP Theft, Technology Transfer, and Economic Espionage

Economic Cyber Espionage Agreement

Following the theft of U.S. Office of Personnel Management records, then President Obama and President Xi released joint statements in 2015 stating neither government would “conduct or knowingly support cyber-enabled theft of intellectual property, including trade secrets or other confidential business information for commercial advantage.”²³⁶ This agreement was reiterated by President Trump and President Xi in October 2017 at the Law Enforcement and Cyber Security Dialogue.²³⁷ The IP Commission noted that cyber attacks may have decreased since its report’s release in 2014, though the precise reasons for this decrease are undetermined.²³⁸ In his testimony before the Commission in 2017, Dr. Lewis commented that China appeared “to be living up to its commitments under the Obama-Xi agreement.”²³⁹

However, according to the U.S. Chamber of Commerce, “U.S. industry does not believe there has been a full cessation of cyber enabled IP theft.”²⁴⁰ William Carter, deputy director of the technology policy program at CSIS, viewed Chinese cyber espionage as becoming more focused on “professionalizing, centralizing, [and] better utilizing their capabilities for strategic goals.”²⁴¹ Cybersecurity firm FireEye concurred that though economic cyber espionage specifically for IP theft had declined, particularly around the time of the agreement, attacks against U.S. companies have increasingly targeted information such as bid prices, contracts, and mergers and acquisitions; FireEye also reported a “surge” in cyber campaigns against business service providers like cloud, legal, and telecommunications services.²⁴²

Negotiations

In its March 2018 Section 301 report, the USTR listed ten prior agreements in which the Chinese government pledged not to require technology transfer.²⁴³ The USTR states the practice continues despite these promises.²⁴⁴ Longtime observers have expressed doubts as to the effectiveness of bilateral negotiations alone on technology transfer. As CSIS Senior Vice President Matthew Goodman remarked,

*[Chinese policy makers] want to get to a more advanced value-added part of their economy. They want to bring another 600 million people into the middle class. And these [technological advancement] plans are fundamental to them, and they’re not going to give [the plans] up just like that.*²⁴⁵

Working Groups

The U.S. Patent and Trademark Office holds bilateral working discussions with China’s State Intellectual Property Office and other IP agencies. As Mr. Cohen stated in written testimony before the House Judiciary Committee, “[The U.S. Patent and Trademark Office] officials routinely engage in discussion with high-ranking Chinese officials related to IP law developments.”²⁴⁶ Mr. Cohen expanded on this structure in testimony before the Commission:

*[The U.S. Patent and Trademark Office] pursued several notable efforts to address weaknesses in China’s patent examination system in certain technical areas ... Similar efforts were undertaken to address trademark prosecution and copyright protection practices and have borne results in many well-defined areas.*²⁴⁷

Mr. Cohen points to the establishment of China’s specialized IP court system as “[reflecting] two decades” of U.S.-China technical engagement on IP through the U.S. Patent and Trademark Office, the U.S. Court of Appeals for the Federal Circuit, the Federal Circuit Bar Association, and U.S. Patent and Trademark Office directors.²⁴⁸

Multilateral Tools to Address Chinese IP Theft, Technology Transfer, and Economic Espionage

WTO Cases

Chinese government trade-distorting laws and regulations that are codified and formalized—rather than informal or covert—can be more easily challenged at the WTO relative to unwritten measures. For instance, following the USTR’s Section 301 investigation into China’s IP and technology transfer policies and practices, President Trump directed the USTR to initiate a case at the WTO against China’s licensing practices. The EU and Japan both requested to join the United States’ challenge.²⁴⁹ Similarly, on June 6, 2018, the EU brought a case to the WTO regarding China’s licensing practices; Japan and the United States have both requested to join these consultations.²⁵⁰

Ambassador Shea cast doubt on the WTO’s ability to resolve broad industrial policy concerns including technology transfer, stating:

*[The WTO’s dispute settlement mechanism] is narrowly targeted ... While some Chinese measures have been found by WTO panels or the Appellate Body to run afoul of China’s WTO obligations, fundamental problems remain unaddressed as many of the most significant Chinese policies and practices are not directly disciplined by WTO rules or the additional commitments that China made in its Protocol of Accession.*²⁵¹

Professor Hillman agreed that the 40 WTO disputes brought against China to date had been narrow in scope, but she believed the WTO “has not been given the opportunity to show what can be done.”²⁵² Mr. Cohen concurred that IP-related WTO dispute resolution has only been minimally explored, stating that of the WTO disputes filed by the United States against China, only two involved IP.²⁵³

The Special Case of “Non-Violation Nullification or Impairment” Claims

In testimony before the Commission, Professor Hillman, Dr. Bown, and Mr. Cohen stated the United States had not yet utilized WTO dispute settlement to its fullest extent to address China’s state capitalism.²⁵⁴ Professor Hillman argued that if the United States sought to address economic challenges from China, its best option entailed

launching a “big, bold case” at the WTO, combining specific violation claims and “non-violation nullification or impairment” claims.²⁵⁵ A non-violation claim under Article 23 of the GATT would focus on the “myriad of ways in which China’s economy fails to meet that ‘open, market-oriented’ prerequisite.”²⁵⁶ Non-violation nullification or impairment claims allow the parties to dispute “measures which do not violate the treaty but nevertheless upset the reasonable expectation of the parties.”²⁵⁷

Article 23 of the GATT specifies three types of circumstances under which WTO members can seek a remedy through dispute settlement: (a) a violation complaint or failure of a member to carry out its obligations; (b) a “non-violation” complaint, whereby a member’s regulation or measure is alleged to have “nullified or impaired” a benefit accrued to another member; and (c) a situation complaint, whereby a particular set of circumstances nullifies or impairs a benefit accruing to a member.²⁵⁸

Non-violation complaints, specified in Article 23(b), are considered highly exceptional.²⁵⁹ Their ambiguity generated controversy from the time the text was drafted during GATT negotiations.²⁶⁰ Through their inclusion, the drafters sought to introduce flexibility into the agreement by allowing complaints to address a broad range of unanticipated measures.²⁶¹ The drafters also sought to resolve the problem of “contractual incompleteness.”²⁶² Violation claims can only contest policies that have been “contracted over,” or negotiated and specified within the text of an agreement; conversely, non-violation claims can be “aimed at policies that would otherwise be beyond the reach of the GATT/WTO contract.”²⁶³

In practice, non-violation claims have been rare in WTO disputes and—contrary to the text’s perceived flexibility—narrow in scope, targeted at a single measure or set of measures.²⁶⁴ As economist Robert Staiger and legal scholar Alan Sykes point out, given the broad language used in the treaty text and lack of limitations from case law, one would not expect non-violation to have such a limited role.²⁶⁵ Even in the subset of cases that meet the threshold for a non-violation complaint, however, few have involved broad issues like competition policy; most—and more successful—cases involved complaints regarding subsidies, tariffs, tariff discrimination, or quotas (or other quantitative restrictions).²⁶⁶

Prior non-violation nullification or impairment claims have followed a relatively set pattern of argument, detailing: (1) the application of a measure by the respondent country that complainant countries could not have anticipated, (2) a benefit accruing under the relevant agreement, and (3) the nullification or impairment of the benefit as a result of the application of the measure.²⁶⁷ They often serve as a “backup claim” in the event violation claims fail to convince a WTO panel.²⁶⁸

The U.S. challenge of Japanese regulations on film paper illustrates this trend. In 1996, the United States alleged that a series of Japanese regulations, including foreign investment, antitrust, and commercial regulations, prevented U.S. companies from competing fairly in the Japanese film market.²⁶⁹ In 1998, the panel ruled that the United States had not proved the measures were “causally re-

sponsible for the inability of U.S. exporters to penetrate the Japanese market more successfully.”²⁷⁰

Due to their rarity, it is difficult to predict the outcome of a non-violation case. Cases in which a WTO panel—and in particular, the Appellate Body—has addressed non-violation nullification or impairment claims “[have] remained extremely low”: “no panel reports have ever dealt substantively with a non-violation complaint based upon the impediment to the attainment of an objective.”²⁷¹ A summary of select cases with non-violation nullification or impairment arguments is provided in Table 1.

Table 1: Select Non-Violation Nullification or Impairment Arguments at the WTO

WTO Case	Date of Panel or Appellate Body Ruling	Case Summary	Non-Violation Nullification or Impairment Complaint Result
Japan - Measures Affecting Consumer Photographic Film and Paper	March 1998	The United States alleged Japanese regulations on the distribution and sale of film and paper disadvantaged foreign imports, contrary to GATT Articles 3 and 10; thus, these measures nullified or impaired benefits the United States could reasonably expect.	The panel found the United States had not demonstrated these Japanese measures individually or collectively nullified or impaired benefits accruing to the United States.
South Korea - Measures Affecting Government Procurement	May 2000	The United States alleged South Korean procurement practices in airport construction impaired the benefits the United States could reasonably expect to have accrued under the Government Procurement Agreement.	The panel found the United States had not demonstrated that benefits reasonably expected to accrue under the Government Procurement Agreement were nullified or impaired by South Korea's measures.
European Communities - Measures Affecting Asbestos and Products Containing Asbestos	March 2001	Canada alleged nullification and impairment of benefits when France enacted a ban on asbestos and products containing asbestos, as well as violations of Articles 2, 3, and 5 of the Sanitary and Phytosanitary Agreement.	The panel found Canada had not demonstrated it suffered non-violation nullification or impairment of benefits.

Source: Various.²⁷²

Professor Hillman stated that while many of China's economic and trade challenges do not explicitly violate the letter of WTO

agreements, they “nevertheless upset the reasonable expectations of the parties” that China would participate in the multilateral trading system on open, market-oriented terms.* Dr. Bown reiterated: “China’s economic evolution has not allowed benefits expected under the agreement to materialize.”²⁷³ A WTO “non-violation” case could thus address broad-based policy concerns that “might otherwise be beyond the reach of the GATT/WTO agreements.”²⁷⁴ Professor Hillman admitted that “non-violation claims have been rare,” but contended that “it is this collective failure by China, rather than any specific violation of individual provisions, that should form the core of a big, bold WTO case” to address “these cross-cutting, systemic problems.”²⁷⁵

Technical Standards

Chinese regulators employ standards as “tools for implementing higher-level laws and measures”;²⁷⁶ standards can also function as nontariff barriers to trade. Dr. Naughton observed that once Chinese policy makers saw market demand could support a China-specific standard for videodiscs, they became “very interested in using Chinese technical standards to create competitive advantages for domestic firms.”²⁷⁷ As reported by BSA | The Software Alliance in its Section 301 comments submission to the USTR, this interest has led to standards that: “(i) aim to displace global standards when mandated, (ii) create significant interoperability issues because they deviate substantially from global standards, and (iii) lack sufficient safeguards to protect the intellectual property at issue in standards-setting.”²⁷⁸ According to BSA | The Software Alliance, standards development frequently occurs “without adequate transparency and participation rights.”²⁷⁹ The Consumer Technology Association stated that companies only received 15 days to provide public comment on unique wireless standards, while the WTO Technical Barriers to Trade Agreement recommends a 60 day comment period.²⁸⁰ (For more information on the Chinese government’s use of standards for competitive advantage, see Chapter 4, Section 1, “Next Generation Connectivity.”)

Impact

The Chinese regulatory system of standards development affects U.S. companies in two ways: in the present, it can create additional risks, delays, and expenses for U.S. companies exporting products to China; and more long term, if Chinese standards are adopted globally, it could deprive U.S. companies of valuable licensing revenue. Currently, the Chinese Compulsory Certification System, which issues a safety approval, affects approximately 20 percent of U.S. exports to China and thus requires “redundant testing.”²⁸¹ This testing and certification process can delay product entry.²⁸² Mr. Garfield stated that the Chinese standards regime promotes “China-unique” standards in international standards-setting bodies to favor Chinese companies.²⁸³

* According to the Marrakesh Declaration, WTO members must participate “based upon open, market-oriented policies.” U.S.-China Economic and Security Review Commission, *Hearing on U.S. Tools to Address Chinese Market Distortions*, written testimony of Jennifer Hillman, June 8, 2018, 3, 10.

Virginia Tech security researcher Charles Clancy noted China's international standards participation grew "from almost nothing in 2005 to a commanding presence in 2010."²⁸⁴ This investment in technical personnel on standards bodies has paid off, as seen in Huawei's 5G development: through "the number of people [Huawei has] on committees and the number of people [Huawei has] doing basic research," Huawei has originated "standard-essential IP" and become a leader in 5G.²⁸⁵ China's engagement and leadership in international standards bodies and expansion into third markets via infrastructure packages like the Belt and Road Initiative indicate intent to export its standards abroad, expanding markets for associated licensing and equipment sales.²⁸⁶ (For an in-depth assessment of the Belt and Road Initiative, see Chapter 3, Section 1, "Belt and Road Initiative.")

Bilateral Tools to Address Chinese Technical Standards

Coordination between Government and Industry Groups

In the past, industry representatives have communicated particular challenges to U.S. government officials, who interceded on their behalf; however, this tactic was only successful so long as the U.S. government was actively applying pressure. The best known example of this pattern is the WLAN Authentication and Privacy Infrastructure (WAPI) case. In 2003, the Chinese government introduced WAPI, a wireless encryption standard incompatible with international standards, but required for all wireless systems sold in China.²⁸⁷ As a proprietary standard, WAPI could only be accessed by a small number of Chinese companies selected by the government.²⁸⁸ Then Managing Director of the private U.S. Information Technology Office Ann Stevenson-Yang observed that "the real motivator is to promote the interests of certain Chinese companies over other companies."²⁸⁹

Industry representatives from the U.S. Chamber of Commerce, Information Technology Industry Council, Semiconductor Industry Association, National Association of Manufacturers, and the U.S.-China Business Council wrote a letter to then U.S. Trade Representative Robert Zoellick requesting intercession on U.S. industry's behalf.²⁹⁰ In 2004 then Ambassador Zoellick, then Secretary of Commerce Donald Evans, and then Secretary of State Colin Powell sent a letter to then Chinese Vice Premier Zeng Peiyan expressing concerns with the WAPI requirement.²⁹¹ After U.S. and Chinese officials met in April 2004, WAPI implementation was suspended.²⁹² In 2009, however, the Chinese Ministry of Industry and Information Technology began only approving Wi-Fi-enabled devices also enabled with the WAPI standard as a de facto policy.²⁹³ As the 2017 USTR report on China's compliance with the WTO affirmed, this "unpublished requirement" remains in place through China's Ministry of Industry and Information Technology approval certification process.²⁹⁴ Thus, once U.S. government pressure and attention was removed, this unique standard was re-implemented.

Data Localization and Restrictions on Cross-Border Data Flows

China's Cybersecurity Law, implemented in 2017, has the potential to substantially disrupt global corporate ICT systems and cross-border data flows. Companies deemed to hold "critical information infrastructure" must store data on servers within China and undergo a security assessment ahead of outbound data transfer.²⁹⁵ Data transfer could also be prohibited entirely on the grounds of national security or societal public interest.²⁹⁶ This new law can be seen as part of the Chinese government's broader cyber policy and regulatory system. As China digital economy expert Graham Webster noted in testimony before the Commission, the Chinese government has concluded:

*the digital economy, cyberspace, [and] digital industries need a comprehensive regulatory approach ... [The Chinese government has] put together this interlocking and highly complex set of regulations ... Data protection [and] protect-ing access to it for domestic interests are part of it.*²⁹⁷

President Xi has identified data as a basic national resource.²⁹⁸ Large amounts of data held locally in China could help bolster China's progress in technologies like artificial intelligence (AI). The State Council's national AI strategy, released in July 2017, saw data as the foundation necessary for the development of next-generation AI, with applications for economic growth and innovation, social development, governance, and national defense. As stated in the strategy:

*Focusing on the urgent need to raise China's international competitiveness in AI, next-generation AI key general technology R&D and deployment should make algorithms the core; data and hardware the foundation; and upping capabilities in sensing and recognition, knowledge computing, cognitive reasoning, executing motion, and human-machine interface the emphasis; in order to form openly compatible, stable and mature technological systems.*²⁹⁹

Impact

The precise impact of localizing and restricting the flow of data is still under analysis, but much is at stake given the volume of e-commerce and digital trade. For example, in 2016 the management consulting company McKinsey reported that between 2005 and 2016, "used cross-border bandwidth"—an approximate measure for international internet traffic—increased 45 times from 4.7 terabits per second to 211.3 terabits per second.³⁰⁰ In a review of international digital trade, the USITC reported that "data localization measures pose a significant problem for U.S. firms doing business across borders, due to the importance of free-flowing data for digital trade."³⁰¹ As the USITC argued, generally, data localization policies mandating that data storage, management, and processing occur within one country "prevent firms from taking advantage of the cost, speed, and security advantages offered by the distributed nature of cloud technologies."³⁰²

According to industry experts, implementation and enforcement of these cross-border data regulations have yet to occur. Many multinational companies have undertaken expensive internal reviews and made changes to global procurement to come into compliance—opening data centers, forming partnerships with local cloud service providers, and separating out data to be stored in China.³⁰³

Multilateral Tools to Address Chinese Data Localization and Cross-Border Restrictions

WTO Forum Communications

The United States and other countries have used the WTO as a forum to express concern regarding the possible disruption in cross-border data flows, stating it may conflict with China's commitments under the General Agreement on Trade in Services (GATS).³⁰⁴ In July 2017, Japan—supported by South Korea, Australia, Taiwan, and the United States—raised concerns at the WTO Services Council that the Cybersecurity Law could prevent the free flow of data and “new suppliers from operating in China,” calling on China to “abide by its National Treatment commitments under the GATS.”³⁰⁵ In September 2017, the United States circulated a communication regarding China's intention to restrict cross-border data flows, which stated that the “impact of the measures would fall disproportionately on foreign service suppliers operating in China, as these suppliers must routinely transfer data back to headquarters and other affiliates.”³⁰⁶

Coordination across Industry Groups and Political Allies

In the past, the U.S. government, its allies, and industry groups have coordinated to express concern regarding the implementation of specific cyber regulations. According to Chinese cyber policy experts at New America, a nonpartisan think tank, Chinese government officials demonstrate “a degree of responsiveness” to foreign and domestic industry concerns.³⁰⁷ One of the best known examples of coalition pressure affecting Chinese government policy is the “Green Dam” case.³⁰⁸ Following a 2009 regulation requiring computers to come with “Green Dam” internet filtering software preinstalled, an U.S., Canadian, European, and Japanese industry coalition sent a statement to then Chinese Premier Wen Jiabao urging the government to drop the requirement.³⁰⁹ The Department of State also lodged a complaint and met separately with U.S. industry associations and Chinese Ministry of Industry and Information Technology officials.³¹⁰ When this requirement was delayed indefinitely, the private U.S. Information Technology Office cited pressure from the international community as one cause.³¹¹

*In 2009, the Chinese government issued a directive stating that new consumer laptops and PCs must be sold with “Green Dam Youth Escort” internet filter software. The Chinese government argued the filter would block pornographic content. U.S. officials, industry groups, and rights activists said it would increase internet censorship and allow the government to monitor users' online activity, while also causing technical and security problems. Andrew Jacobs, “China Requires Internet Censorship Software on New PCs,” *New York Times*, June 8, 2009; Chris Buckley, “China's Internet Backdown Lauded by Firms, Activists,” *Reuters*, June 30, 2009; Loretta Chao, “Big Business Groups Complain to China's Premier,” *Wall Street Journal*, June 27, 2009.

Implications for the United States

U.S. companies and policy makers have struggled to address the challenges presented by Chinese industrial policy, including subsidies; tariffs, local content requirements, and regulatory challenges; investment restrictions; IP underprotection and theft, technology transfer, and cyber espionage; technical standards; and data localization and cross-border data restrictions. These economic and trade challenges restrict access to China's market and protect local Chinese companies, while providing anticompetitive support in targeted industries.³¹²

To counter these practices, the U.S. government has employed unilateral, bilateral, and multilateral tools like AD/CVD orders; trade laws such as Section 201, 232, and 301 investigations; CFIUS and export controls; bilateral negotiations and working groups; WTO cases; and collaboration at alternative fora like the Forum on Over-capacity. Based on the evidence at hand, while these policy tools may have resolved isolated concerns—such as eliminating a subsidy program like the Special Fund for Wind Power Equipment Manufacturing, and reducing specific tariff line items as seen in the Information Technology Agreement Expansion—they have not successfully deterred the broader challenges presented by Chinese industrial policies. Analysts from the Information Technology and Innovation Foundation concluded that “Chinese innovation mercantilism has proven hydra-headed: for every one policy effectively countermanded, two more appear,” requiring “an approach that systematically addresses the fundamental problems.”³¹³

On the one hand, U.S. policy tools are often narrow in scope or only address the symptom, not the source of a concern. On the other hand, practices like technology transfer and localization targets are often relayed and implemented informally, through regulatory processes characterized by government discretion. Private companies withhold complaints, and the rules-based international community struggles to build sufficient documentation. These challenges' recurrence derives from the size of the Chinese market and the opportunities the market presents to global companies, as well as from industrial policies' strategic importance to Chinese leadership. As a consequence, U.S. policy makers view China's continued benefit from WTO membership while not adhering to its commitments under the WTO as undermining the multilateral trading system.

U.S. policy makers seeking to address Chinese trade and economic challenges are at a crossroads. They may maintain the status quo. They may choose to repurpose and modify existing policy options or craft new ones to create a deterrent or additional leverage. They may exercise multiple policy options simultaneously. They may combine the distinctive technical expertise of the USTR, Department of Commerce, Department of State, the U.S. Patent and Trademark Office, and other federal agencies.³¹⁴ Moreover, they may magnify a policy's effect by working in tandem with U.S. allies and partners who are also negatively affected by Chinese trade-distorting practices.

U.S. complaints regarding China's trade and economic challenges are shared broadly with Australia, Canada, Japan, South Korea, the United Kingdom, and the EU.³¹⁵ At the Commission's hearing

on U.S. tools to address Chinese market distortions, all witnesses emphasized the benefits of cooperation. Dr. Bown, Ms. Drake, and Dr. Branstetter indicated that global challenges require “a global solution,” while a “go-it-alone” approach could undermine the U.S. negotiating position, as China is “quite adept at playing off different Western governments and Western firms against one another.”³¹⁶ Professor Hillman pointed out that a coalition effort could “shield its members from direct and immediate retaliation from China” and place “sustained pressure at the highest levels on China.”³¹⁷ Mr. Cohen noted such coalitions could cover trade-related negotiations as well as coordinated action on government procurement restrictions, law enforcement, data or intelligence sharing, or other changes in domestic law.³¹⁸ However, witnesses also recognized that unilateral actions by the United States have contributed to the interest of other nations in finding stronger tools against China’s contravention of global trading norms.

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