

# **USCC 2018 ANNUAL REPORT**





**2018**  
**REPORT TO CONGRESS**  
*of the*  
**U.S.-CHINA ECONOMIC AND  
SECURITY REVIEW COMMISSION**

ONE HUNDRED FIFTEENTH CONGRESS  
SECOND SESSION

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NOVEMBER 2018

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Printed for the use of the  
U.S.-China Economic and Security Review Commission  
Available via the World Wide Web: <http://www.uscc.gov>





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The Commission was created on October 30, 2000 by the Floyd D. Spence National Defense Authorization Act of 2001, Pub. L. No. 106-398 (codified at 22 U.S.C. § 7002), as amended by: The Treasury and General Government Appropriations Act, 2002, Pub. L. No. 107-67 (Nov. 12, 2001) (regarding employment status of staff and changing annual report due date from March to June); The Consolidated Appropriations Resolution, 2003, Pub. L. No. 108-7 (Feb. 20, 2003) (regarding Commission name change, terms of Commissioners, and responsibilities of the Commission); The Science, State, Justice, Commerce, and Related Agencies Appropriations Act, 2006, Pub. L. No. 109-108 (Nov. 22, 2005) (regarding responsibilities of the Commission and applicability of FACA); The Consolidated Appropriations Act, 2008, Pub. L. No. 110-161 (Dec. 26, 2007) (regarding submission of accounting reports; printing and binding; compensation for the executive director; changing annual report due date from June to December; and travel by members of the Commission and its staff); The Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291 (Dec. 19, 2014) (regarding responsibilities of the Commission). The Commission’s full charter <http://www.uscc.gov/about/uscc-charter> and Statutory Mandate [http://www.uscc.gov/about/fact\\_sheet](http://www.uscc.gov/about/fact_sheet) are available via the World Wide Web.

U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

NOVEMBER 14, 2018

The Honorable Orrin G. Hatch  
President Pro Tempore of the U.S. Senate, Washington, DC 20510  
The Honorable Paul D. Ryan  
Speaker of the U.S. House of Representatives, Washington, DC 20510

DEAR SENATOR HATCH AND SPEAKER RYAN:

On behalf of the U.S.-China Economic and Security Review Commission, we are pleased to transmit the Commission's 2018 Annual Report to Congress. This Report responds to our mandate "to monitor, investigate, and report to Congress on the national security implications of the bilateral trade and economic relationship between the United States and the People's Republic of China (PRC)." The Commission reached a broad and bipartisan consensus on the contents of this Report, with all 11 members (one appointment remains vacant) voting unanimously to approve and submit it to Congress.

In accordance with our mandate, this Report, which is current as of October 9, includes the results and recommendations of our hearings, research, travel, and review of the areas identified by Congress in our mandate, as defined in Public Law No. 106-398 (October 30, 2000), and amended by Public Laws No. 107-67 (November 12, 2001), No. 108-7 (February 20, 2003), No. 109-108 (November 22, 2005), No. 110-161 (December 26, 2007), and No. 113-291 (December 19, 2014). The Commission's charter, which includes the 11 directed research areas of our mandate, is included as Appendix I of the Report.

The Commission conducted six public hearings and one public roundtable, taking testimony from 56 expert witnesses from government, the private sector, academia, think tanks, research institutions, and other backgrounds. For each of these hearings, the Commission produced a transcript (posted on our website at <http://www.uscc.gov>). This year's hearings and roundtable included:

- China's Belt and Road Initiative: Five Years Later;
- China's Military Reforms and Modernization: Implications for the United States;
- China, the United States, and Next Generation Connectivity;
- China's Relations with U.S. Allies and Partners in Europe and the Asia Pacific;
- China's Role in North Korea Contingencies;
- China's Agricultural Policies: Trade, Investment, Safety, and Innovation; and
- U.S. Tools to Address Chinese Market Distortions.

The Commission received a number of briefings by executive branch agencies and the Intelligence Community, including both unclassified and classified briefings on China's military moderniza-

tion, China's defense and security activities in the Indo-Pacific, China's relations with Northeast Asia, China's cyber activities, Chinese threats to the Department of Defense's supply chain, China's focus on megaprojects, U.S. critical telecommunications infrastructure, and money laundering. The Commission is preparing a classified report to Congress on these and other topics. The Commission also received briefings by foreign diplomatic and military officials as well as U.S. and foreign nongovernmental experts.

Commissioners made official visits to Taiwan and Japan to hear and discuss perspectives on China and its global and regional activities. In these visits, the Commission delegation met with U.S. diplomats, host government officials, business representatives, academics, journalists, and other experts. Since its establishment, the Commission has had productive visits to China. Recently, the PRC government has been unable to support these visits, which affects the Commission's ability to fully assess issues in country.

The Commission also relied substantially on the work of our excellent professional staff and supported outside research (see Appendix IV) in accordance with our mandate (see Appendix I).

The Report includes 26 recommendations for congressional action. Our ten most important recommendations appear on page 22 at the conclusion of the Executive Summary.

We offer this Report to Congress in the hope that it will be useful for assessing progress and challenges in U.S.-China relations.

Thank you for the opportunity to serve. We look forward to continuing to work with Members of Congress in the upcoming year to address issues of concern in the U.S.-China relationship.

Yours truly,

  
Robin Cleveland  
Chairman

  
Carolyn Bartholomew  
Vice Chairman

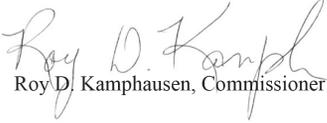
## Commissioners Approving the 2018 Report

  
Robin Cleveland, Chairman

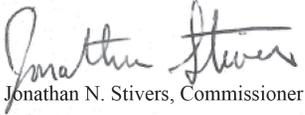
  
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# CONTENTS

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	Page
TRANSMITTAL LETTER TO THE CONGRESS .....	iii
COMMISSIONERS APPROVING THE REPORT .....	v
EXECUTIVE SUMMARY .....	1
KEY RECOMMENDATIONS .....	22
INTRODUCTION .....	25

## 2018 REPORT TO CONGRESS OF THE U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

<b>Chapter 1: U.S.-China Economic and Trade Relations</b> .....	29
Section 1: Year in Review: Economics and Trade .....	29
Key Findings .....	29
Introduction .....	31
U.S.-China Bilateral Trade .....	31
U.S.-China Investment Flows .....	35
Bilateral Economic Tensions .....	43
China’s Economic Policymaking .....	49
China’s Domestic Economic Rebalancing .....	56
Section 2: Tools to Address U.S.-China Economic Challenges .....	74
Key Findings .....	74
Recommendations .....	76
Introduction .....	76
Challenges Presented by China’s Industrial Policy .....	77
Subsidies .....	79
Tariffs, Local Content Requirements, and Regulatory Challenges .....	88
Investment Restrictions on Foreign Ownership .....	91
Limited IP Protection, IP Theft, Technology Transfer, and Economic Espionage .....	94
Technical Standards .....	105
Data Localization and Restrictions on Cross-Border Data Flows .....	107
Implications for the United States .....	109
Section 3: China’s Agricultural Policies: Trade, Investment, Safety, and Innovation .....	125
Key Findings .....	125
Recommendations .....	126
Introduction .....	127
U.S.-China Agricultural Trade .....	127
China’s Food Policy .....	130
U.S. Concerns Regarding Chinese Agricultural Biotechnology Policies .....	137
Safety of U.S. Food Imports from China .....	142
Implications for the United States .....	146
<b>Chapter 2: U.S.-China Security Relations</b> .....	157
Section 1: Year in Review: Security and Foreign Affairs .....	157
Key Findings .....	157
Introduction .....	158
Major Developments in China’s Security and Foreign Affairs in 2018 .....	159
China’s Global Security Activities in 2018 .....	176
U.S.-China Security Relations in 2018 .....	181

## VIII

	Page
Section 2: China's Military Reorganization and Modernization: Implications for the United States .....	205
Key Findings .....	205
Recommendations .....	206
Introduction .....	206
Beijing Sets Goal to Build World-Class Military .....	208
Military Reform in 2018: Political Control and Combat Power Growing .....	211
PLA Services Modernization: Aiming to Dominate the Region .....	218
Implications for the United States, U.S. Allies, and Partners .....	241
<b>Chapter 3: China and the World</b> .....	<b>259</b>
Section 1: Belt and Road Initiative .....	259
Key Findings .....	259
Recommendations .....	260
Introduction .....	261
China's Objectives for BRI .....	261
BRI Coordination and Financing Mechanisms .....	275
Global Reactions and Competing Visions .....	277
Implications for the United States .....	286
Section 2: China's Relations with U.S. Allies and Partners .....	304
Key Findings .....	304
Introduction .....	304
Recommendations .....	305
Beijing's Objectives in Its Relations with U.S. Allies and Partners .....	306
Beijing's Influence Toolbox .....	307
Implications for the United States .....	328
Section 3: China and Taiwan .....	340
Key Findings .....	340
Recommendations .....	341
Introduction .....	342
Beijing Formalizes Increasingly Hardline Policy .....	344
The Struggle for Taiwan's International Space .....	345
Economics and Trade .....	352
Cross-Strait Military and Security Issues .....	360
Implications for the United States .....	368
Section 4: China and Hong Kong .....	382
Key Findings .....	382
Recommendations .....	383
Introduction .....	383
Hong Kong Political Developments .....	384
Rule of Law at Risk .....	389
Declining Freedom of Expression .....	391
Economic Relations with Mainland China .....	396
Hong Kong's Key Role in the Belt and Road Initiative .....	399
Implications for the United States .....	400
Section 5: China's Evolving North Korea Strategy .....	412
Key Findings .....	412
Recommendations .....	413
Introduction .....	413
China's Evolving North Korea Policy .....	414
China-North Korea Relations Thaw in 2018 .....	416
China's Role in North Korea Contingencies .....	421
Chinese Preparations for North Korea Contingencies .....	428
U.S.-China Contingency Talks .....	431
Implications for the United States .....	433
<b>Chapter 4: China's High-Tech Development</b> .....	<b>441</b>
Section 1: Next Generation Connectivity .....	441
Key Findings .....	441
Recommendations .....	442
Introduction .....	443
Overview of China's Industrial Policy Blueprints .....	443

IX

	Page
The Internet of Things .....	444
Fifth-Generation Wireless Technology .....	451
Implications for the United States .....	460
<b>Comprehensive List of the Commission’s Recommendations .....</b>	<b>483</b>
 <b>Appendices:</b>	
Appendix I: Charter .....	489
Appendix II: Background of Commissioners .....	497
Appendix III: Public Hearings of the Commission During 2018 .....	507
Appendix IIIA: List of Witnesses Testifying Before the Commission During 2018 .....	511
Appendix IV: List of Research Material .....	515
Appendix V: Conflict of Interest and Lobbying Disclosure Reporting .....	519
Appendix VI: Acronyms and Abbreviations .....	521
<b>2018 Commission Staff and Acknowledgements .....</b>	<b>525</b>



## EXECUTIVE SUMMARY

### Chapter 1: U.S.-China Economic and Trade Relations

#### Section 1: Year in Review: Economics and Trade

In 2018, the United States announced a series of trade enforcement actions involving China stemming from three investigations conducted by the U.S. government: (1) Section 201 investigations into a surge of washing machines and solar panel imports, (2) Section 232 investigations into the national security risks posed by imports of steel and aluminum, and (3) the Office of the U.S. Trade Representative's Section 301 investigation into "whether acts, policies, and practices of the Government of China related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce." In each instance, China retaliated against U.S. enforcement actions with reciprocal tariffs. In total, over \$250 billion worth of U.S. imports from China and \$110 billion worth of U.S. exports to China are subject to tariffs initiated in 2018.

The Chinese government continues to focus on sustaining domestic economic growth, a goal made more difficult by rising trade tensions with the United States and efforts to reduce debt levels. These challenges have already begun to weigh on China's overall economic performance as investment, consumption, and business activity growth fell in the second quarter of 2018. Early indicators suggest China's economy will slow further in the second half of 2018, threatening progress on the Chinese Communist Party (CCP) policy priorities, such as deleveraging, controlling pollution, and reducing poverty. Beijing already appears to be suspending debt reduction efforts in favor of supporting gross domestic product growth, despite rising levels of Chinese banks' nonperforming loans and a growing threat of defaults by local government financing vehicles.

#### *Key Findings*

- China's state-led, market-distorting economic model presents a challenge to U.S. economic and national security interests. The Chinese government, directed by the Chinese Communist Party (CCP) leadership, continues to exercise direct and indirect control over key sectors of the economy and allocate resources based on the perceived strategic value of a given firm or industry. This puts U.S. and other foreign firms at a disadvantage—both in China and globally—when competing against Chinese companies with the financial and political backing of the state.
- The United States has sought to address unfair Chinese trade practices in part by using mechanisms codified in U.S. trade laws, bringing cases to the World Trade Organization, and threatening additional trade actions. The Trump Administration's trade

policies target Chinese technology transfer requirements and insufficient intellectual property protections, the growing U.S. trade deficit, and national security risks posed by an overreliance on steel and aluminum imports, among other factors.

- The Chinese government continues to resist—and in some cases reverse progress on—many promised reforms of China’s state-led economic model. Repeated pledges to permit greater market access for private domestic and foreign firms remain unfulfilled, while the CCP instead enhances state control over the economy and utilizes mercantilist policies to strategically develop domestic industries. Chinese policymakers have stated their intent to, but been largely unsuccessful in, fighting three “battles” to achieve high-quality development in the next three years: cutting corporate and local government debt, controlling pollution, and reducing poverty.
- Chinese President and General Secretary of the CCP Xi Jinping has prioritized efforts to consolidate control over economic policymaking. However, this strategy may have unintended consequences for China’s economic growth. Increased state control over both public and private Chinese companies may ultimately reduce productivity and profits across a range of industries, with firms pursuing CCP—rather than commercial—objectives.
- China’s debt burden poses a growing threat to the country’s long-term economic stability. Even as Chinese banks’ nonperforming loans rise and unofficial borrowing by local governments comes due, Chinese policymakers continue to spur new credit growth to combat fears of an economic slowdown.
- In 2017 and the first half of 2018, the Chinese government reported it exceeded its targets for gross domestic product (GDP) growth. However, economic indicators suggest China’s GDP growth may slow in the second half of 2018, with China’s drivers of growth stalling amid trade tensions with the United States. Meanwhile, discrepancies between official government data at the national and local levels, and growth figures that remain unusually consistent across months and years, continue to cast doubt on the reliability of China’s official data.
- In the first half of 2018, China posted a current account deficit of \$28.3 billion, or 1.1 percent of GDP, for the first time in 20 years. A declining current account balance could contribute to increased volatility in the exchange rate. It could also lead Beijing to sell foreign assets or increase foreign borrowing to finance government projects, limiting China’s ability to insulate itself from financial shocks.
- The United States posted a record trade deficit in goods with China in 2017 (\$375.6 billion), and is poised to exceed that total in 2018. Through the first seven months of 2018, the U.S. goods deficit was up 9 percent compared to the same period in 2017. Services continued to be the one area where the United States had a surplus with China, although the size of the services trade surplus remains dwarfed by the goods trade deficit. In 2017, the U.S. services trade surplus with China increased to a

historic high of \$40.2 billion, largely on the strength of Chinese tourism to the United States.

- Chinese foreign direct investment (FDI) in the United States has dropped over the last 18 months amid Beijing's efforts to tighten both political and regulatory controls on capital outflows and increased uncertainty surrounding U.S. investment review procedures. In 2017, Chinese FDI flows to the United States fell to \$29.4 billion, down from \$45.6 billion in 2016. Chinese venture capital (VC) investments in the United States have accelerated, however, with China representing the largest single foreign VC investor (\$24 billion) in the United States cumulatively between 2015 and 2017, according to a recent U.S. government study. Meanwhile, U.S. investment in China has increased as the Chinese government selectively liberalized foreign investment restrictions in some industries, including banking, automobiles, and agriculture.
- The Trump Administration has threatened to impose tariffs on \$517 billion worth of Chinese imports, with tariffs on \$250 billion worth of imports implemented as of October 2018. The initial set of U.S. tariffs primarily targeted Chinese technology products after the Section 301 investigation conducted by the Office of the U.S. Trade Representative concluded that Beijing employs an array of unfair practices against foreign firms primarily designed to advance China's technological capabilities.
- In retaliation for U.S. trade enforcement actions, China has implemented tariffs on \$113 billion worth of imports from the United States. Beijing's tariffs primarily target U.S. exports of agriculture products, automobiles, and aviation, among other industries.

## **Section 2: Tools to Address U.S.-China Economic Challenges**

U.S. policy makers have reached a broad consensus that China's actions negatively impact the multilateral trading system. Chinese industrial policies create market barriers to entry, discriminate against foreign firms, encourage technology transfer as a condition of market access, provide limited protection and recourse for foreign intellectual property holders in strategic industries, and unfairly subsidize local Chinese companies in their development and expansion abroad.

Various tools are available to the United States to address these challenges, including unilateral tools (e.g., trade actions like anti-dumping and countervailing duties and Section 201 cases, the Committee on Foreign Investment in the United States, and prosecution of economic espionage), bilateral tools (e.g., high-level bilateral dialogues), and multilateral tools (e.g., World Trade Organization [WTO] cases and joint pressure). On the one hand, these tools are often highly targeted or 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 Beijing's discretion. Consequently, U.S. actions to address China's trade distorting practices have proven narrow and limited in effectiveness when set

against the broad sweep of the government's development strategy, the size of the Chinese market, and the government's willingness to intervene in local firms and markets.

### ***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 duty investigations into the 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 multilateral 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 business, 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.

### **Section 3: China's Agricultural Policies: Trade, Investment, Safety, and Innovation**

While China is the United States' second-biggest market for agricultural goods behind Canada, its large population and dearth of water and arable land suggest U.S. agriculture exports to Chi-

na should be greater. Unfortunately, U.S. exports have been constrained by Chinese policy for a number of reasons. First, China's longstanding goal of food self-sufficiency disadvantages U.S. farmers through domestic subsidies, in violation of its commitments to the WTO. Second, China frequently retaliates against U.S. trade actions by restricting access for U.S. agricultural products. Third, China's asynchronous review of U.S. genetically modified crops not only prevents their export to China, but also delays their implementation in the United States and around the world. Finally, China uses its system of tariff-rate quotas as a tool to limit imports of U.S. cereals.

In the absence of market restrictions, U.S. agricultural firms, which enjoy a reputation among China's rising middle class for safety and quality, would see higher demand. The U.S. government has engaged in a systematic effort to address China's trade distorting agricultural policies, but success has been limited. During bilateral dialogues, the Chinese government tends to make minor concessions or offer commitments it does not uphold, rather than addressing systemic problems.

### ***Key Findings***

- Food and agriculture play an important role in the U.S.-China trade relationship. In 2017, U.S. agricultural and agriculture-related exports were the United States' second-largest category of overall U.S. goods exports to China, accounting for roughly \$24 billion; the U.S. agricultural surplus with China reached \$13.3 billion that year.
- China has a relative paucity of water and arable land, while the United States has both in abundance, suggesting the United States and China should be natural trading partners in agricultural products. However, U.S. exports are constrained by Chinese restrictions and unfair trade practices.
- China has repeatedly used duties and unscientific food safety barriers against U.S. agricultural products to protect its domestic farmers, retaliate against U.S. trade actions, or prompt a U.S. concession in a trade negotiation. In particular, Beijing has frequently targeted U.S. products that are highly reliant on China's market for retaliatory duties. Soy and sorghum are especially vulnerable to retaliation; in 2017, 82 percent of U.S. exports of sorghum and 57 percent of U.S. soybean exports went to China.
- Under its World Trade Organization (WTO) accession protocol, China agreed to allow quotas of foreign rice, wheat, and corn into the country at a 1 percent tariff (known as tariff-rate quotas, or TRQs). All imports beyond these quotas are subject to a prohibitive 65 percent tariff. However, the Chinese government pursues a policy of self-sufficiency in rice, wheat, and corn, and provides generous subsidies to domestic farmers to the disadvantage of foreign producers. The Chinese government also applies TRQs in an opaque and managed way that ensures the quota is never met, which restricts access for U.S. farmers and violates China's WTO commitments.

- China appears reluctant to rely on its current agricultural trading partners (such as the United States) for its food imports, and has attempted to diversify its imports to new markets through promotion of foreign agricultural investment and its Belt and Road Initiative. While these efforts have been largely unsuccessful to date, there may be negative long-term effects on U.S. agricultural exports as Beijing gets better at carrying out its diversification strategies.
- Chinese policies governing genetically modified organisms (GMOs) limit U.S. agriculture export opportunities in two important ways. First, because China broadly closes its borders if it detects unapproved GMO imports and because it is difficult to keep GMOs and conventional crops separate, U.S. firms do not widely release new GMOs in the United States or overseas without Chinese approval. Second, as China lags several years behind the rest of the world in approving GMOs, it holds back new U.S. GMOs long after they are approved in other countries. This slows U.S. agricultural productivity and puts past innovation at risk as pests and weeds acquire immunity to current biotechnology products.
- Since 2014, the United States has engaged with China on its biotech approval process through multiple rounds of high-level bilateral talks. While the Chinese government made commitments to improve its biotechnology regulatory system, it has either not carried out promised changes or has implemented them in a marginal way that did nothing to reform structural problems.
- The Chinese government is investing significant resources into boosting Chinese innovative capacity in biotechnology and genomic sequencing. China appears to be particularly competitive with respect to new gene-editing technology such as CRISPR-Cas9 (CRISPR), a new tool for genetic editing that dramatically lowers the cost of genetic modification. The competence of Chinese firms in new genetic tools such as CRISPR and their ability to quickly sequence genomes may help them become more competitive in agricultural research as CRISPR technology is applied to developing new crop strains.
- U.S. agricultural biotechnology firms have been the target of Chinese corporate espionage, and U.S.-developed GMOs appear to be grown in China without authorization despite Chinese laws banning their cultivation.
- Since major food safety outbreaks in 2007 and 2008, China's food safety laws have improved. However, implementation of these laws remains a challenge due to shortfalls in China's inspection capacity and the large number of small Chinese agricultural firms.

## Chapter 2: U.S.-China Security Relations

### Section 1: Year in Review: Security and Foreign Affairs

The year 2018 saw Beijing declare its intent to expand China's political, economic, and military presence within its region and on the global stage. At the CCP's 19th National Congress in late 2017, President Xi announced that China had begun a new era of confidence and capability as it moved closer to the "world's center stage." In this new era, President Xi declared China would increase its efforts to change the international order, build a "world-class" military, and act as a political and economic model for others to emulate. In June 2018, he expanded on this foreign policy guidance and repeatedly called for China to lead the construction of a "community of common human destiny"—what could be the CCP's ideological formulation for a revised global order.

Within its region, China took new steps to advance its sovereignty claims over disputed territory as President Xi declared in unusually strong language in his 19th Party Congress address that other countries should not have "the fantasy of forcing China to swallow the bitter fruit of damaging its own interests." At the Party Congress, President Xi proclaimed the success of China's South China Sea island-building efforts, while China's military increased patrols near the Senkaku Islands and continued fortifying its position near the site of a recent military standoff with India. China made new efforts to deepen partnerships with Russia, Iran, and Pakistan—leveraging the relationships to challenge U.S. security and economic interests—and continued taking steps to expand its overseas military presence.

But pushback to China's posturing emerged both at home and abroad. In China, prominent intellectual voices expressed concern over the abandonment of term limits for President Xi and the increasing emergence of a surveillance state, questioning whether the CCP was negating the policies that shaped China's reform and opening era. U.S.-China security relations grew more strained, as the Trump Administration disinvited China from a major multilateral exercise over its continued militarization of the South China Sea and imposed sanctions on China for purchasing advanced weapons from Russia. In response, Beijing warned Washington of its resolve to defend its territorial claims.

#### ***Key Findings***

- China signaled a decisive end to its more than quarter century-old guidance to "hide your capabilities and bide your time, absolutely not taking the lead" as President Xi issued a series of new foreign affairs and military policy directives calling on China to uncompromisingly defend its interests and actively promote changes to the international order.
- U.S.-China security relations remain tense due to serious disagreements over issues such as China's continued coercive actions in regional territorial disputes, espionage and cyber activities, and influence operations. The tenor of the relationship was reflected in President Xi's public warning to visiting U.S. Secretary of Defense James Mattis that China would not tolerate the loss of a "single inch" of its territorial claims.

- The People's Liberation Army continues to extend its presence outside of China's immediate periphery by increasing air and maritime operations farther from its shores, expanding presence operations in disputed areas in the East and South China seas, maintaining troops and building a pier at China's sole overseas military base in Djibouti, deploying more advanced combat units to UN peacekeeping operations, and conducting more complex bilateral and multilateral overseas exercises.
- Tensions and the potential for accidents, miscalculation, and escalation between China and Japan intensified in the East China Sea as China sailed a number of naval vessels close to the Senkaku Islands and increased its military presence in the area. Based on the terms of the U.S.-Japan Mutual Defense Treaty, China's increasing military activity near the Senkakus constitutes a challenge to U.S. security guarantees to Japan.
- China took new steps to consolidate its military posture and improve its ability to project power into the South China Sea, as President Xi proclaimed at the 19th Party Congress the success of China's island-building efforts. Chinese forces are now capable of overpowering any other South China Sea claimant, challenging U.S. presence operations in the region, and presenting a significant obstacle to the U.S. military during a conflict. China deployed advanced antiship and surface-to-air missiles to its Spratly Island outposts for the first time, demonstrating its ability to create a military buffer around the southern reaches of the South China Sea.
- Following their land border dispute in 2017, strategic jockeying in 2018 between China and India expanded to include New Delhi's maritime interests in the Indian Ocean.
- China continued to deepen its partnerships with Russia, Iran, and Pakistan and leveraged the relationships to challenge U.S. security and economic interests. During a high-level visit to Russia, China's defense minister stated that China's visit was intended to demonstrate the depth of China-Russia strategic cooperation to the United States and to the world. China's purchase of advanced weapons systems from Russia resulted in the United States applying sanctions against China's Equipment Development Department, a key military body.
- China's arms exports continued to grow in volume and sophistication in 2018, although they remain limited to low- and middle-income countries and trail in value compared to U.S. and Russian sales.

## **Section 2: China's Military Reorganization and Modernization: Implications for the United States**

China's reorganization and modernization of the People's Liberation Army (PLA) is intended to constrain the United States and its allies and partners from operating freely in the Indo-Pacific and to restore what China perceives as its historic and rightful place as the dominant power in Asia. New directives from Beijing now significantly accelerate China's military modernization timetable and set

the PLA's sights on becoming a "world-class" military on par with the United States by mid-century. In the near term, as the PLA works to achieve its modernization goals, Chinese leaders may use coercive tactics below the threshold of military conflict rather than resort to a highly risky use of military force to achieve its objectives in the region. Over the medium to long term, however, the danger grows that China may not be deterred from using force and that the United States may be unable to retain an operational advantage should a crisis escalate to conflict.

Today, the PLA's modernization has already resulted in a force capable of contesting U.S. operations in the region, presenting challenges to the U.S. military's longstanding assumption of enjoying ground, air, maritime, and information dominance in a conflict in the post-Cold War era. The PLA continues to build capabilities in the following areas:

- China has declared its goal to build a blue water navy and improved its capability to project force abroad, including expanding the PLA Marines and reconfiguring the force for expeditionary operations. China's maritime forces increasingly outnumber their neighbors in the Indo-Pacific, which challenges U.S. regional security interests while raising the potential for accidents and miscalculation.
- With the advances made by the PLA Air Force, the United States and its allies and partners can no longer assume achieving air superiority in an Indo-Pacific conflict. PLA efforts to project air power farther from China's coast allow it to increasingly contest the air domain in the region.
- China's establishment of the PLA Strategic Support Force has improved the PLA's joint capabilities and centralized space, cyber, and electronic warfare operations. As the force advances its own warfighting capabilities, it will challenge the United States' ability to establish information dominance and control over the electromagnetic spectrum.

The United States faces a rising power in China that sees the security structures and political order of the Indo-Pacific as designed to limit its power. The widening gap in military capability between China and the rest of region also enables Beijing to coerce its neighbors with the increasingly credible implied threat of force. China's ability to threaten its neighbors impedes the United States' ability to maintain a stable regional balance, sustain adherence to international laws and norms, and protect its rights and the rights of its allies and partners.

### ***Key Findings***

- President Xi significantly accelerated China's military modernization goals in late 2017, requiring the PLA to become a fully "modern" military by 2035 and a "world-class" military by mid-century. This new guidance moves China's military modernization timeline up nearly 15 years.
- Beijing is currently capable of contesting U.S. operations in the ground, air, maritime, and information domains within the sec-

ond island chain, presenting challenges to the U.S. military's longstanding assumption of supremacy in these domains in the post-Cold War era. By 2035, if not before, China will likely be able to contest U.S. operations throughout the entire Indo-Pacific region.

- China's large-scale investment in next-generation defense technologies presents risks to the U.S. military's technological superiority. China's rapid development and fielding of advanced weapons systems would seriously erode historical U.S. advantages in networked, precision strike warfare during a potential Indo-Pacific conflict.
- The PLA Strategic Support Force—whose organization and operations reflect the importance Beijing places on information warfare—poses a fundamental challenge to the United States' ability to operate effectively in space, cyberspace, and the electromagnetic spectrum. The new force signals Beijing's intent to build a military capable of dominating these domains of warfare.
- China's rapid buildup of the PLA Navy as a blue water force through its continued commissioning of highly capable, multi-mission warships will give Beijing naval expeditionary capabilities deployable around the globe as early as 2025, well ahead of the PLA's broader 2035 modernization goal.
- China continues to develop and field medium- and long-range air, sea, and ground-launched missile systems that substantially improve China's capability to strike both fixed and moving targets out to the second island chain. China's ability to threaten U.S. air bases, aircraft carriers, and other surface ships presents serious strategic and operational challenges for the United States and its allies and partners throughout the Indo-Pacific.
- Beijing has sought to use its sweeping military reorganization efforts to address the PLA's "peace disease" and persistent weaknesses in its ability to conduct joint combat operations. Much of Chinese leaders' concerns center on the PLA's lack of recent combat experience and the perceived inability of many operational commanders to carry out basic command functions such as leading and directing troops in combat. President Xi's "Strong Military Thought" ideology, promulgated in late 2017, also seeks to overcome perceived shortcomings in the PLA's war preparedness and combat mindset.
- Prior to the PLA achieving its objectives of becoming a "modern" and "world-class" military, Beijing may use coercive tactics below the threshold of military conflict rather than resorting to a highly risky use of military force to achieve its goals in the region. However, as military modernization progresses and Beijing's confidence in the PLA increases, the danger grows that deterrence will fail and China will use force in support of its claims to regional hegemony.
- The Central Military Commission's assumption of direct control over the People's Armed Police and China Coast Guard in 2018 effectively removed all remaining civilian status from both forc-

es and clarified their military role. The move places added importance on the China Coast Guard as an instrument to police, enforce, and advance China's domestic maritime law.

### Chapter 3: China and the World

#### Section 1: Belt and Road Initiative

Five years have passed since President Xi inaugurated his trademark foreign policy project, the Belt and Road Initiative (BRI). BRI seeks to expand Chinese influence through financing and building infrastructure around the world, with a focus on Asia, the Middle East, Africa, and Europe. Beijing has invested hundreds of billions of dollars in BRI projects to date, but a large proportion of projects remain in the planning phase and will take years to complete. Chinese leaders see BRI as a long-term effort—they call it the “project of the century” and even wrote BRI into China's constitution.

Beijing wants to use BRI to revise the global political and economic order to align with Chinese interests. Official Chinese communiqués focus on the initiative's economic objectives—building hard and digital infrastructure, fueling domestic development, and expanding markets and exporting standards. But China also seeks strategic benefits from BRI, despite its insistence to the contrary. Beijing's geopolitical objectives for the project include securing energy supplies, broadening the reach of the PLA, and increasing China's influence over global politics and governance.

Countries around the world are starting to compare their experiences with BRI projects to China's lofty rhetoric and early promises of easy, no-strings-attached infrastructure financing. As a consequence, some participating countries have begun to voice concerns about BRI projects creating unsustainable debt levels, fueling corruption, and undermining sovereignty. Meanwhile, major powers—such as the United States, Japan, India, European states, and Russia—acknowledge BRI as one means for meeting global infrastructure needs. At the same time, these countries are advancing their own plans for financing connectivity that variously compete and collaborate with BRI. In several areas, BRI challenges U.S. interests in a free and open Indo-Pacific. The Trump Administration's Indo-Pacific strategy—particularly the programs aimed at boosting global infrastructure financing—is in part a response to the initiative.

#### ***Key Findings***

- In 2013, President Xi inaugurated the Belt and Road Initiative (BRI), his signature economic and foreign policy project designed to finance and build infrastructure and connectivity around the world, with a focus on Eurasia and the Indo-Pacific region.
- Although there is no official definition for BRI, after five years China's objectives for BRI are discernable: fueling domestic development and increasing control in China's outer provinces, expanding markets while exporting technical standards, building hard and digital infrastructure, bolstering energy security, expanding China's military reach, and advancing geopolitical influence by moving China to the center of the global order.

- Strategic interests are central to BRI, even though the Chinese government denies that BRI advances its geopolitical ambitions. At the same time, BRI will also expose China to major risks, including terrorism and instability, and political fallout in partner countries. BRI could pose a significant challenge for U.S. interests and values because it may enable China to export its model of authoritarian governance and encourages and validates authoritarian actors abroad.
- Beijing sees BRI in part as an externally oriented development program to boost China's slowing economy and help it move up the global value chain through economic integration with neighboring countries. Chinese planners believe infrastructure development in BRI countries can open new markets and boost foreign demand for Chinese products, particularly in higher-end manufactured goods. Despite Beijing's rhetoric about BRI being open and inclusive, Chinese state-owned enterprises are winning the lion's share of contracts for BRI projects.
- As China increases its international economic engagement through BRI, Chinese companies are seeking to define and export standards for a broad set of technological applications, including through the so-called Digital Silk Road, which taken together could alter the global competitive landscape. BRI potentially threatens U.S. businesses and market access as well as the broader expansion of free markets and democratic governance across the globe.
- BRI offers partner countries much-needed infrastructure financing, but also presents significant risks. Chinese engagement with BRI countries has largely been through infrastructure projects financed by Chinese policy and commercial banks rather than direct investment. Chinese lending poses debt sustainability problems for a number of BRI countries while providing Beijing with economic leverage to promote Chinese interests, in some cases threatening the sovereignty of host countries. Beijing's response to problems of debt distress in BRI countries has ranged from offering borrowers additional credit to avoid default to extracting equity in strategically important assets.
- A growing People's Liberation Army presence overseas, facilitated and justified by BRI, could eventually create security problems for the United States and its allies and partners beyond China's immediate maritime periphery. China is trying to use BRI to bolster its influence and presence in the Indo-Pacific through access to port facilities and other bases to refuel and resupply its navy, while expanding operations and exercises with regional militaries.
- China does not have a monopoly on plans to facilitate connectivity and spread influence across Eurasia, and BRI is not unfolding in isolation. Other major powers—including the United States, Japan, India, European states, and Russia—are executing their own initiatives that variously compete and collaborate with BRI. More broadly, skepticism of BRI's purposes and methods appears to be growing worldwide as projects are implemented and the initiative's challenges become more apparent.

## Section 2: China's Relations with U.S. Allies and Partners

Over the last few years, concerns have grown sharply within the governments and societies of a number of U.S. allied and partner countries in the Indo-Pacific—but also in Europe and elsewhere—over Beijing's efforts to influence their policies and perceptions to be more favorable to China's interests. As China's power and international influence have grown, Beijing has intensified its influence efforts using an expanding array of tools, often to the detriment of the United States and its relationships with important allied and partner countries. Beijing's preferred tactics include large-scale, targeted investment; focused diplomatic engagement; economic punishment; "sharp power" and perception management; and other influence operations such as "United Front" work that seeks to co-opt, subvert, and neutralize opponents. At its core, Beijing's use of these influence instruments aims to weaken opposition to China's policies and undermine and subvert U.S. alliances and partnerships. If successful, these efforts could fundamentally weaken the United States' ability to support democracy and international law.

U.S. allies and partners can offer important insights to the United States and each other into the nature of the challenges presented by Beijing's use of its influence toolbox, how those challenges might evolve, and how the U.S. government might best respond on its own or in concert with partners. It is important for U.S. policymakers to both be aware of Beijing's efforts to influence policies and perceptions and to precisely frame this issue, differentiating illegitimate influence and coercion from legitimate forms of engagement. As China attempts to spread its influence around the globe, a nuanced and comprehensive policy to push back against negative aspects of this influence while welcoming legitimate contributions will become increasingly important to protecting democratic processes and ensuring the durability of the liberal international order.

### *Key Findings*

- Beijing seeks to undermine U.S. alliances and partnerships in the Indo-Pacific to reorder the region to its advantage. China seeks a dominant role in Asia and views U.S. military alliances and influence as the primary obstacle to achieving this objective.
- China's relations with European countries have affected European unity with regard to China policy. On several occasions in recent years, the EU was unable to reach a consensus on human rights in China, or take a firm stance regarding Beijing's activities and claims in the South China Sea when certain governments deferred to Beijing's sensitivities on those issues. This trend could make transatlantic cooperation on China more difficult.
- Australia and New Zealand have been targets of extensive Chinese Communist Party influence operations, which have included political donations and the establishment of near-monopolies over local Chinese-language media. Canberra has responded vigorously with attention from then Prime Minister Turnbull and the passage or debate of several pieces of legislation regarding

subversive foreign influence. There has been less high-level response from Wellington to these challenges, but there have been signs from the New Zealand government that concern regarding China is growing.

- Countries in Western Europe have been more resilient in the face of Beijing's efforts to influence policies and perceptions due to the strength of their democratic institutions and economies. However, some Central, Eastern, and Southern European countries have been more susceptible to Beijing's influence due to the relative weakness of their democratic institutions, economic challenges, and focused efforts by Beijing to divide them from the rest of the EU.

### **Section 3: China and Taiwan**

Over the past several years, Beijing has dramatically increased its coercive activities targeting Taiwan as it seeks to advance its broader goal of eventual cross-Strait unification. These actions have altered the status quo across the Strait as Beijing has employed diplomatic, economic, and military levers to intimidate Taiwan and undermine its legitimate efforts to participate in the international community. To fortify Taiwan's economy and respond to Beijing's increasing pressure, Taiwan President Tsai Ing-wen is continuing her efforts to pursue new markets and trade partnerships, support the development of new innovative and job-creating industries, and strengthen ties with the United States and other like-minded countries.

Taiwan's vibrant democracy, robust civil society and technology sector, and strategic location make it a natural partner for the United States and its free and open Indo-Pacific strategy. Taiwan's deepening engagement with Japan, India, and other countries throughout the region further reflects the importance of a strong, democratic, and economically-resilient Taiwan to the security and prosperity of U.S. treaty allies and partners. Given Taiwan's expertise in disaster response and relief, environmental protection, and combating infectious diseases, pushing back against Beijing's efforts to exclude Taipei from organizations such as the World Health Organization and the UN Convention Framework on Climate Change benefits both the United States and the broader international community.

#### ***Key Findings***

- Taiwan President Tsai Ing-wen continues to pursue a cross-Strait policy of maintaining the status quo in the face of actions by Beijing that have increased pressure on Taiwan and instability in the Strait. Over the past year, Beijing increased actions to pressure and isolate Taiwan, while advancing unilateral efforts to deepen cross-Strait economic and social integration, including actions that Taiwan viewed as threatening to its sovereignty. To these ends, Beijing enticed three of Taiwan's diplomatic partners to terminate official relations with Taiwan, pressured U.S. and other foreign companies to identify Taiwan as part of the People's Republic of China (PRC) on their websites, and treated Taiwan as PRC-governed territory by unilaterally activating new flight routes near the island.

- China is also intensifying its political warfare activities in Taiwan. Beijing has employed a variety of tactics seeking to undermine Taiwan's democracy, and the Tsai Administration in particular, including supporting opposition political parties and spreading disinformation using social media and other online tools.
- The threat to Taiwan from China's military posture and modernization continues to grow, and Beijing has increased coercive military activities to intimidate Taipei. In response, Taiwan has taken initial, but significant, steps to enhance its defensive capabilities by adopting a new defense strategy, increasing its emphasis on asymmetric capabilities, and increasing procurement from its domestic defense industries and the United States. It also continues its decade-long transition to an all-volunteer force.
- As part of a strategy of "resolute defense, multi-layered deterrence" introduced by the Tsai Administration, Taiwan's new Overall Defense Concept aims to exploit Chinese military vulnerabilities and capitalize on Taiwan's defensive strengths by focusing on three areas: (1) preservation of warfighting capability, (2) pursuing decisive victory in the littoral area, and (3) annihilating the enemy on the beach. However, the success of the new strategy faces a major challenge from the scale and speed of China's People's Liberation Army's continued growth.
- Taiwan remains reliant on China as its largest trading partner and destination for foreign investment, making it vulnerable to economic coercion and political pressure from Beijing. President Tsai has prioritized several domestic initiatives—including the "5+2" Innovative Industries program and Forward-looking Infrastructure Program—to strengthen key engines of Taiwan's economy and spur innovation and job creation. Meanwhile, Taiwan continues to pursue the New Southbound Policy to diversify its economic ties in South and Southeast Asia and reduce its reliance on the Chinese economy.
- U.S.-Taiwan relations are strong, with the unanimous passage and presidential signing of the Taiwan Travel Act, a public visit to Taiwan by a senior official from the U.S. Department of State's Bureau of East Asian and Pacific Affairs, and the dedication of the American Institute in Taiwan's new office complex in Taipei. Although Taiwan continues to prioritize economic relations with the United States, discussions over longstanding issues in the relationship (such as beef and pork market access restrictions) remain stalled.

#### **Section 4: China and Hong Kong**

Beijing's encroachment on Hong Kong's political system, rule of law, and freedom of expression is moving the territory closer to becoming more like any other Chinese city, a trend that serves as a cautionary example for Taiwan and the Indo-Pacific region. During the 19th National Congress of the CCP in October 2017, Beijing emphasized the CCP's control over the territory, leading to further

curbs on Hong Kong's promised "high degree of autonomy" and freedoms guaranteed under the "one country, two systems" policy and the Basic Law, Hong Kong's mini constitution. President Xi's maneuver to end presidential term limits alarmed the territory's prodemocracy advocates due to the steady erosion of Hong Kong's autonomy under his watch. China's failure to abide by its commitments in Hong Kong sends a strong message to Taiwan that Beijing would do the same in a similar arrangement with Taipei.

In light of China's increasing reach into Hong Kong, some observers argue the territory is losing the unique characteristics and legal protections that make it important to U.S. interests. As Beijing continues to increase its control over Hong Kong, the territory also faces growing economic competition from mainland cities, which receive increasing investment and incentives. Over the long term these trends could diminish Hong Kong's standing as a global business center. The preservation of Hong Kong's way of life and maintenance of its status as a global financial and business hub help facilitate U.S. interests. Considerations regarding the export of sensitive U.S. technology to Hong Kong are also predicated on the territory's separation from the Mainland. In this light, the ongoing decline in rule of law and freedom of expression is a troubling trend.

### ***Key Findings***

- Beijing's statements and legislative actions continue to run counter to China's promise to uphold Hong Kong's "high degree of autonomy." At the 13th National People's Congress in March 2018, China's legislative body passed an amendment to its constitution waiving presidential term limits, allowing President Xi to serve beyond two five-year terms. Given the steady erosion of Hong Kong's autonomy under President Xi's leadership, the decision has alarmed the territory's prodemocracy legislators, civil society groups, and legal community.
- In a troubling case of Beijing's direct involvement in U.S.-Hong Kong affairs that went against Beijing's commitments under the "one country, two systems" policy, the Hong Kong government rejected a U.S. fugitive surrender request at Beijing's insistence for the first time since the 1997 handover of Hong Kong from the United Kingdom. Beijing also denied a U.S. Navy ship a routine port call in Hong Kong for the first time in two years.
- In 2018, challenges to freedom of speech and assembly in Hong Kong continue to increase as Beijing and the Hong Kong government closed down the political space for prodemocracy activists to express discontent. For the first time, the Hong Kong government banned a political party (the Hong Kong National Party, which advocates for Hong Kong's independence from China), raising concerns that it may lead to the passage of national security legislation that would allow the government to further silence prodemocracy organizations and supporters. The Hong Kong government also denied a visa renewal to the vice president of the Hong Kong Foreign Correspondents' Club without explanation; observers believe the denial was in retaliation for the club's August 2018 event hosting the head of the Hong Kong

National Party. Self-censorship has become increasingly prevalent in Hong Kong among journalists and media organizations due to mainland China's rising presence in the territory.

- China's central government took additional steps toward undermining Hong Kong's legal autonomy. For example, Beijing facilitated a controversial rail terminal project that for the first time institutes mainland law in a small portion of the territory. Beijing also passed a National Anthem Law that makes disrespecting China's national anthem a criminal offense, and compelled Hong Kong to pass similar legislation.
- Beijing and the Hong Kong government's harsh criticism and attempted silencing of a prominent Hong Kong academic for expressing his views on potential futures for the territory marked an expanded effort to prevent the open discussion of ideas. The response also raised fears among prodemocracy advocates and academics that freedom of speech is increasingly at risk.
- Hong Kong continues on the path of greater economic integration with the Mainland. The Hong Kong government has sought to position Hong Kong as a regional hub for China's Belt and Road Initiative and a key node of the Guangdong-Hong Kong-Macau Greater Bay Area integration project, Beijing's plan to establish a globally competitive advanced manufacturing, finance, and technology center.

## **Section 5: China's Evolving North Korea Strategy**

China and North Korea share a complicated relationship marked by both pragmatic coordination and deep strategic mistrust. Sino-North Korean relations appeared to thaw beginning in March 2018 after hitting a historic low over the deteriorating security situation on the Korean Peninsula and tensions between President Xi and North Korean Chairman of the State Affairs Commission Kim Jong-un. China seeks a central role in international negotiations over North Korea's nuclear and missile programs, and is wary of being isolated in the process. In its talks with the United States and South Korea, North Korea values China's support.

Beijing's priorities for nuclear talks with Pyongyang differ in places from those of Washington and Seoul. China values stability, avoiding war, and undermining the U.S.-South Korean alliance, and considers North Korean denuclearization a lower priority. As negotiations proceed, China will continue its efforts to influence the format, substance, and implementation of diplomacy with North Korea. China could also link the North Korea problem to other issues in U.S.-China relations. Beijing appears to have already started to loosen enforcement of sanctions on North Korea, undermining the U.S. "maximum pressure" campaign.

A return to nuclear brinksmanship or another precipitating event could trigger a military contingency in North Korea, which China worries could result in refugee flows across the Sino-North Korean border, loose weapons of mass destruction, or a South Korean-led unification of the Peninsula. Beijing has prepared to move decisively to advance its interests during such a crisis, including through military intervention. Chinese forces crossing into North Korea would

complicate the operational environment and raise the potential for clashes with South Korean or U.S. forces, and could also result in a post-conflict Chinese occupation of North Korean territory. Bilateral talks with China on these questions remain underdeveloped considering the importance of the issues at stake.

### ***Key Findings***

- China considers the disposition of North Korea to be vital to its national security interests, despite a complicated and often antagonistic history between the two countries. Tense relations between President Xi and North Korean Chairman of the State Affairs Commission Kim Jong-un shifted into warming ties amid North Korea's broader diplomatic outreach campaign in 2018.
- China supports U.S. and South Korean diplomatic engagement with North Korea, although Beijing is wary of being isolated in the process or losing out if North Korea commits to a full-scale strategic realignment with the United States and South Korea. More immediately, China sees the potential to advance its geopolitical goals on the Korean Peninsula. Those goals include avoiding war or instability in North Korea and, eventually, rolling back the U.S.-South Korea alliance. Beijing sees ending North Korea's nuclear and long-range missile programs as a worthwhile but secondary goal. China is aiming to achieve these goals by advocating for a peace treaty to formally end the Korean War, seeking the suspension of joint U.S.-South Korean military exercises, and pushing for a reduction of U.S. forces in South Korea.
- Beijing will continue efforts to ensure its participation in or influence over the diplomatic process surrounding North Korea's nuclear and missile programs. China will try to shape the negotiating format, terms of an agreement, timing and sequencing for implementation, and whether the North Korea issue is tied to other dimensions of U.S.-China relations.
- China's preparations for contingencies in North Korea indicate that Beijing has the capability to respond forcefully in a crisis to manage refugee flows and lock down the border, seize weapons of mass destruction and associated sites, and occupy territory to gain leverage over the future disposition of the Korean Peninsula. Relations between China's People's Liberation Army and North Korea's military, the Korean People's Army (KPA), have been strained for many years. How the KPA might respond to a Chinese intervention is unknown.
- The United States and China have conducted basic talks for North Korea contingencies during high-level visits and major dialogues, but there is no evidence the U.S. and Chinese theater and combatant commands that would be directly involved have discussed operational planning for any contingency. It is likely these discussions have not yet delved into the level of detail necessary to avoid miscommunication and unwanted escalation in a crisis. Continuing and expanding those talks could help manage the massive risks associated with a potential crisis in North Korea.

## Chapter 4: China's High-Tech Development

### Section 1: Next Generation Connectivity

The Internet of Things (IoT) and fifth-generation wireless technology (5G) will transform how countries conduct business, fight wars, and interact as a society. The Chinese government seeks to overtake the United States in these industries to gain a higher share of the economic benefits and technological innovation. The scale of Chinese state support for the IoT and 5G, the close supply chain integration between the United States and China, and China's role as an economic and military competitor to the United States create enormous economic, security, supply chain, and data privacy risks for the United States.

Chinese firms have already leveraged strong state support to become global leaders in information technology and network equipment manufacturing, and have strengthened their roles in international standards-setting and deployment of 5G. The scale of Chinese state support undermines the ability of U.S. firms to fairly compete either within China or in third country markets. It also enables the dominance of Chinese firms and China-based manufacturing in global network equipment, information technology, and IoT devices. U.S. telecommunications providers' reliance on imports from China raises serious supply chain concerns about the secure deployment of U.S. critical next generation telecommunications infrastructure.

Rapid advances in the number and capabilities of IoT devices and 5G networks are strengthening China's strategic deterrent, warfare, and intelligence capabilities, and eroding the ability of the United States to operate freely in the region. In addition, the rapid proliferation of unsecure IoT devices is increasing the avenues Chinese actors could exploit to deny service, collect intelligence, or launch a cyber attack. The large amount of data collected by the ever growing number of IoT devices, the value of such data to criminal and state actors such as China, and lax U.S. security and legal protections are worsening privacy, safety, and security risks for U.S. citizens, businesses, and democracy. China's leadership is not a foregone conclusion. U.S. companies remain market leaders in these industries, and their continued innovation will extend the United States' technological edge.

#### ***Key Findings***

- The Chinese government has strengthened its strategic support for the Internet of Things (IoT) (physical devices embedded with sensors that can collect data and connect to each other and the broader internet) and fifth-generation wireless technology (5G) networks. The government has laid out comprehensive industrial plans to create globally competitive firms and reduce China's dependence on foreign technology through: significant state funding for domestic firms and 5G deployment, limited market access for foreign competitors, China-specific technical standards, increased participation in global standards bodies, localization targets, and alleged cyber espionage and intellectual property theft. This state-directed approach limits market opportunities for foreign firms in China and raises concerns about

the ability of U.S. and other foreign firms to compete fairly both in China's domestic market and abroad.

- 5G networks are expected to quicken data speeds by 100 times, support up to 100 times more IoT devices, and provide near-instant universal coverage and availability. U.S. and Chinese companies are engaged in a fierce competition to secure first mover advantage and benefit from the trillions in economic benefits 5G and subsequent technologies are expected to create.
- IoT devices collect enormous amounts of user information; when aggregated and combined with greater computing power and massive amounts of publicly available information, these data can reveal information the user did not intend to share. U.S. data could be exposed through unsecure IoT devices, or when Chinese IoT products and services transfer U.S. customer data back to China, where the government retains expansive powers to access personal and corporate data.
- The Chinese government is leveraging its comparative advantage in manufacturing and state-led industrial policies to secure an edge in the IoT's wide-ranging commercial and military applications. U.S. firms and the U.S. government rely on global supply chains that in many cases are dominated by China. While not all products designed, manufactured, or assembled in China are inherently risky, the U.S. government lacks essential tools to conduct rigorous supply chain risk assessments. Federal procurement laws and regulations are often contradictory, and are inconsistently applied.
- International 5G standards will be set by 2019, facilitating large-scale commercial deployment expected by 2020. The Chinese government is encouraging its companies to play a greater role in international 5G standards organizations to ensure they set global standards; such leadership may result in higher revenues and exports from internationally accepted intellectual property and technology and more global influence over future wireless technology and standards development.
- China's central role in manufacturing global information technology, IoT devices, and network equipment may allow the Chinese government—which exerts strong influence over its firms—opportunities to force Chinese suppliers or manufacturers to modify products to perform below expectations or fail, facilitate state or corporate espionage, or otherwise compromise the confidentiality, integrity, or availability of IoT devices or 5G network equipment.
- The lax security protections and universal connectivity of IoT devices create numerous points of vulnerability that hackers or malicious state actors can exploit to hold U.S. critical infrastructure, businesses, and individuals at risk. These types of risks will grow as IoT devices become more complex, more numerous, and embedded within existing physical structures. The size, speed, and impact of malicious cyber attacks against and using IoT devices will intensify with the deployment of 5G.

## THE COMMISSION'S KEY RECOMMENDATIONS

The Commission considers 10 of its 26 recommendations to Congress to be of particular significance. The complete list of recommendations appears at the Report's conclusion on page 483.

The Commission recommends:

- Congress require the Office of Management and Budget's Federal Chief Information Security Officer Council to prepare an annual report to Congress to ensure supply chain vulnerabilities from China are adequately addressed. This report should collect and assess:
  - Each agency's plans for supply chain risk management and assessments;
  - Existing departmental procurement and security policies and guidance on cybersecurity, operations security, physical security, information security and data security that may affect information and communications technology, 5G networks, and Internet of Things devices; and
  - Areas where new policies and guidance may be needed—including for specific information and communications technology, 5G networks, and Internet of Things devices, applications, or procedures—and where existing security policies and guidance can be updated to address supply chain, cyber, operations, physical, information, and data security vulnerabilities.
- 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 U.S. Department of Justice to:
  - Examine the application of current U.S. laws, including the “Conspiracy against Rights” law, to prosecuting Chinese Communist Party affiliates who threaten, coerce, or otherwise intimidate U.S. residents.
  - Clarify that labels required by the Foreign Agents Registration Act on informational materials disseminated on behalf of foreign principals, such as *China Daily*, must appear prominently at the top of the first page of such materials.
- Congress require the Director of National Intelligence to produce a National Intelligence Estimate (NIE), with a classified annex, that details the impact of existing and potential Chinese access and basing facilities along the Belt and Road on freedom of navigation and sea control, both in peacetime and during a conflict. The NIE should cover the impact on U.S., allied, and regional political and security interests.
- Congress direct the National Counterintelligence and Security Center to produce an unclassified annual report, with a clas-

sified annex, on the Chinese Communist Party's influence and propaganda activities in the United States.

- Congress direct the U.S. Department of Defense and U.S. Department of Homeland Security to provide to the relevant committees of jurisdiction a report, with a classified annex, assessing how the change in the China Coast Guard's command structure affects its status as a law enforcement entity now that it reports to the Central Military Commission. The report should discuss the implications of this new structure for China's use of the coast guard as a coercive tool in "gray zone" activity in the East and South China seas. This report should also determine how this change may affect U.S. Navy and U.S. Coast Guard interactions with the China Coast Guard, and whether the latter should be designated as a military force.
- Congress direct the National Telecommunications and Information Administration and Federal Communications Commission to identify (1) steps to ensure the rapid and secure deployment of a 5G network, with a particular focus on the threat posed by equipment and services designed or manufactured in China; and (2) whether any new statutory authorities are required to ensure the security of domestic 5G networks.
- 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.
- Congress direct the U.S. Department of the Treasury to provide a report within 180 days on the current state of Chinese enforcement of sanctions on North Korea. A classified annex should provide a list of Chinese financial institutions, businesses, and officials involved in trading with North Korea that could be subject to future sanctions, and should explain the potential broader impacts of sanctioning those entities.
- 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.



## INTRODUCTION

Over a quarter century ago, Deng Xiaoping famously instructed his countrymen to “hide your capabilities and bide your time” and to “absolutely not take lead” in world affairs. The last hint of this formulation for a cautious and conservative Chinese role in the world faded into history this year. The China that emerged from last October’s 19th National Congress of the Chinese Communist Party (CCP) could not be more opposite in tone or bearing. Having amassed all titles of authority and successfully removed term limits on himself, Xi Jinping announced a “new era” that sees his China “moving closer to the world’s center stage” and offering a “Chinese approach” to solving problems.

Although the CCP emphasizes China’s peaceful rise and the “shared prosperity” it claims to bring the world, this rhetoric conceals a coordinated, long-term effort to transform China into a dominant global power. As President Xi pursues structural changes in the global order to facilitate Chinese ambitions, how are other countries welcoming the economic or political opportunities it purports to offer? Is China’s attempt to frame its approach as a new alternative compatible with the existing order, or is it creating a new era of persistent competition? While these questions remain open, one answer is clear: many aspects of China’s attempts to seize leadership have undoubtedly put at risk the national security and economic interests of the United States, its allies, and its partners.

In late 2017, China’s 19th Party Congress solidified President Xi’s consolidation of all visible levers of political power. Putting in place his chosen team and setting aside succession planning, President Xi now appears able to focus on personally guiding China’s political, economic, military, and diplomatic policies for the foreseeable future. Under his control, it is already clear that China is growing increasingly authoritarian at home and assertive abroad.

Domestically, the line between the Party and the state has all but vanished under President Xi’s leadership. CCP entities have taken control over aspects of social, economic, foreign, and security policy once shared with the offices of the Chinese state, undoing moves toward institutionalization of the government taken by his predecessors. In President Xi’s words, “Government, the military, society, and schools; north, south, east, and west—the Party leads them all.”

Many of those who supported China’s accession to the World Trade Organization believed economic growth would raise the quality of life for the Chinese people, but hoped it would also deepen reform and perhaps eventually spark political liberalization. The opposite has happened. The CCP has used economic growth—coupled more recently with its anticorruption campaign—to strengthen its own grasp on authority, advance its state-capitalist model, buttress authoritarian governments abroad, leverage its market against other

nations, and fund a massive buildup of Chinese military power to intimidate and silence its neighbors.

Economic liberalization has stalled under President Xi, and many reforms have been reversed. Foreign companies hoping to participate in China's market must pay a high price for admission, transfer technology, and suffer regulations that tilt the playing field in favor of their Chinese competitors. U.S. companies, inventors, and workers have witnessed the damaging impact of China's trade-distorting policies in curtailed exports, stolen intellectual property, and dumped products flooding the U.S. market. The U.S. goods trade deficit with China continues to climb to new heights, reaching a record \$375 billion in 2017 and on track to exceed that in 2018.

As President Xi and the CCP have rejected liberal democratic ideals for China's own political and economic development, they point to Beijing's model as a viable alternative. The Belt and Road Initiative, President Xi's signature foreign policy endeavor, is the most visible manifestation of China's "going out" policy. Beijing often contrasts its so-called no-strings-attached approach to development with the established global norms which condition financing on good governance, sustainability, transparency, and freedom from corruption. In practice, however, accepting an offer of Chinese money often means also agreeing to purchase the services of Chinese companies and the labor of Chinese workers, aligning certain policies with Beijing's preferences, and possibly ceding sovereign rights over strategic assets or infrastructure.

The CCP views a strong military as essential for supporting its global ambitions. Under President Xi, it has directed the Chinese military to significantly accelerate its modernization timeline with the ultimate goal of becoming a "world-class" force. China's competitive views and political insecurities have often created more fractious relationships that hinder or limit international cooperation during responses to the common threats of piracy, terrorism, and disaster. Meanwhile, President Xi has called on China's soldiers and diplomats to carry out a more muscular, self-confident foreign policy. Today, while working to overcome significant military shortcomings, China is already more assertively advancing Beijing's sovereignty claims throughout the Indo-Pacific, intensifying preparations for combat, and enhancing its capabilities to deter and defeat the U.S. military should it be required to do so in a future conflict.

By 2018, leaders of the U.S. Indo-Pacific Command, U.S. Navy, and U.S. Air Force have all publicly referred to China's military as a "peer competitor" in certain scenarios. The Commission's work this year led to a lively, yet unfinished, debate on China's status as a "peer" to the U.S. military. In the coming year we will explore the accuracy of such claims, the qualifications under which such a title is warranted, and the implications for U.S. national security of facing a "peer competitor" with self-described competing national security interests.

While China is working to project confidence and leadership on the global stage, there are some indications that the unity of purpose presented by President Xi and his loyalists may be intended to draw attention away from dangerous countervailing currents developing at home and abroad. The economy is slowing, bogged down by

rising corporate and local government debt, income inequality, and massive environmental pollution. Fearful of unsustainable debt burdens and China's growing encroachment on their sovereignty, some recipients of Belt and Road Initiative projects are pushing back, re-negotiating some deals and canceling others. Some have also criticized China over its influence operations and use of the Belt and Road Initiative to establish a new type of colonialism. There are indications of dissent within China, and potentially even within the CCP.

In word and deed, the CCP has abandoned any inclination for economic and political liberalization. Rather than promoting fair trade and investment, China engages in predatory economic practices. Rather than providing development finance in line with established rules, China provides loans and investment in nontransparent ways on projects that do not always meet global governance standards and pass tests of commercial viability. Rather than respecting other countries' sovereign rights, China is altering the status quo in the Indo-Pacific and has publicly congratulated itself on its militarization of the South China Sea. Rather than promoting the free flow of information and human rights at home and abroad, China is doubling down on censorship and technologically-enabled repression, including against China's Uyghur ethnic minority population.

For several decades, U.S. policy toward China was rooted in hopes that economic, diplomatic, and security engagement would lay the foundation for a more open, liberal, and responsible China. Those hopes have, so far, proven futile. Members of Congress, the Administration, and the business community have already begun taking bipartisan steps to address China's subversion of international order. Washington now appears to be calling with a unified voice for a firmer U.S. response to China's disruptive actions. In many areas, the CCP will be quick to cast any pushback or legitimate criticism as fear, nationalism, protectionism, and racism against the Chinese people. As a new approach takes shape, U.S. policy makers have difficult decisions to make, but one choice is easy: reality, not hope, should drive U.S. policy toward China.



# CHAPTER 1

## U.S.-CHINA ECONOMIC AND TRADE RELATIONS

### SECTION 1: YEAR IN REVIEW: ECONOMICS AND TRADE

#### Key Findings

- China's state-led, market-distorting economic model presents a challenge to U.S. economic and national security interests. The Chinese government, directed by the Chinese Communist Party (CCP) leadership, continues to exercise direct and indirect control over key sectors of the economy and allocate resources based on the perceived strategic value of a given firm or industry. This puts U.S. and other foreign firms at a disadvantage—both in China and globally—when competing against Chinese companies with the financial and political backing of the state.
- The United States has sought to address unfair Chinese trade practices in part by using mechanisms codified in U.S. trade laws, bringing cases to the World Trade Organization, and threatening additional trade actions. The Trump Administration's trade policies target Chinese technology transfer requirements and insufficient intellectual property protections, the growing U.S. trade deficit, and national security risks posed by an overreliance on steel and aluminum imports, among other factors.
- The Chinese government continues to resist—and in some cases reverse progress on—many promised reforms of China's state-led economic model. Repeated pledges to permit greater market access for private domestic and foreign firms remain unfulfilled, while the CCP instead enhances state control over the economy and utilizes mercantilist policies to strategically develop domestic industries. Chinese policymakers have stated their intent to, but been largely unsuccessful in, fighting three “battles” to achieve high-quality development in the next three years: cutting corporate and local government debt, controlling pollution, and reducing poverty.
- Chinese President and General Secretary of the CCP Xi Jinping has prioritized efforts to consolidate control over economic policymaking. However, this strategy may have unintended consequences for China's economic growth. Increased state control over both public and private Chinese companies may ultimately reduce productivity and profits across a range of industries, with firms pursuing CCP—rather than commercial—objectives.

- China's debt burden poses a growing threat to the country's long-term economic stability. Even as Chinese banks' nonperforming loans rise and unofficial borrowing by local governments comes due, Chinese policymakers continue to spur new credit growth to combat fears of an economic slowdown.
- In 2017 and the first half of 2018, the Chinese government reported it exceeded its targets for gross domestic product (GDP) growth. However, economic indicators suggest China's GDP growth may slow in the second half of 2018, with China's drivers of growth stalling amid trade tensions with the United States. Meanwhile, discrepancies between official government data at the national and local levels, and growth figures that remain unusually consistent across months and years, continue to cast doubt on the reliability of China's official data.
- In the first half of 2018, China posted a current account deficit of \$28.3 billion, or 1.1 percent of GDP, for the first time in 20 years. A declining current account balance could contribute to increased volatility in the exchange rate. It could also lead Beijing to sell foreign assets or increase foreign borrowing to finance government projects, limiting China's ability to insulate itself from financial shocks.
- The United States posted a record trade deficit in goods with China in 2017 (\$375.6 billion), and is poised to exceed that total in 2018. Through the first eight months of 2018, the U.S. goods deficit was up 9 percent compared to the same period in 2017. Services continued to be the one area where the United States had a surplus with China, although the size of the services trade surplus remains dwarfed by the goods trade deficit. In 2017, the U.S. services trade surplus with China increased to a historic high of \$40.2 billion, largely on the strength of Chinese tourism to the United States.
- Chinese foreign direct investment (FDI) in the United States has dropped over the last 18 months amid Beijing's efforts to tighten both political and regulatory controls on capital outflows and increased uncertainty surrounding U.S. investment review procedures. In 2017, Chinese FDI flows to the United States fell to \$29.4 billion, down from \$45.6 billion in 2016. Chinese venture capital (VC) investments in the United States have accelerated, however, with China representing the largest single foreign VC investor (\$24 billion) in the United States cumulatively between 2015 and 2017, according to a recent U.S. government study. Meanwhile, U.S. investment in China has increased as the Chinese government selectively liberalized foreign investment restrictions in some industries, including banking, automobiles, and agriculture.
- The Trump Administration has threatened to impose tariffs on \$517 billion worth of Chinese imports, with tariffs on \$250 billion worth of imports implemented as of October 2018. The initial set of U.S. tariffs primarily targeted Chinese technology products after the Section 301 investigation conducted by the Office of the U.S. Trade Representative concluded that Beijing

employs an array of unfair practices against foreign firms primarily designed to advance China's technological capabilities.

- In retaliation for U.S. trade enforcement actions, China has implemented tariffs on \$113 billion worth of imports from the United States. Beijing's tariffs primarily target U.S. exports of agriculture products, automobiles, and aviation, among other industries.

## Introduction

In 2018, the Chinese government continued to increase Chinese Communist Party (CCP) control and consolidate political power. The administration of Chinese President and General Secretary of the CCP Xi Jinping has made clear it will pursue policies that support short-term economic growth, including increased infrastructure investments and additional funding to develop advanced technologies. To the extent Beijing attempts to address economic and social challenges—including high corporate debt, pollution, and poverty—it does so only when its actions will not impede economic growth or threaten the CCP's rule.

Beijing continues to discriminate against foreign companies operating in China and employ market-distorting and anticompetitive trade practices. These practices include theft and forced transfers of intellectual property (IP), subsidies in violation of World Trade Organization (WTO) rules, state support for commercial firms, and other policies. In response, the United States has taken a more aggressive stance against Beijing, leading to an escalation of tensions involving billions of dollars' worth of tariffs and several WTO disputes.

This section examines China's domestic and external economic rebalancing, as well as key developments in U.S.-China bilateral and multilateral economic engagement since the Commission's *2017 Annual Report to Congress*. For analysis of U.S. trade tools vis-à-vis China, see Chapter 1, Section 2, "Tools to Address U.S.-China Economic Challenges." Chinese agriculture policy and trade with the United States is discussed in Chapter 1, Section 3, "China's Agricultural Policies: Trade, Investment, Safety, and Innovation." Finally, China's development of the Internet of Things and fifth-generation wireless technology (5G) networks is analyzed in Chapter 4, Section 1, "Next Generation Connectivity."

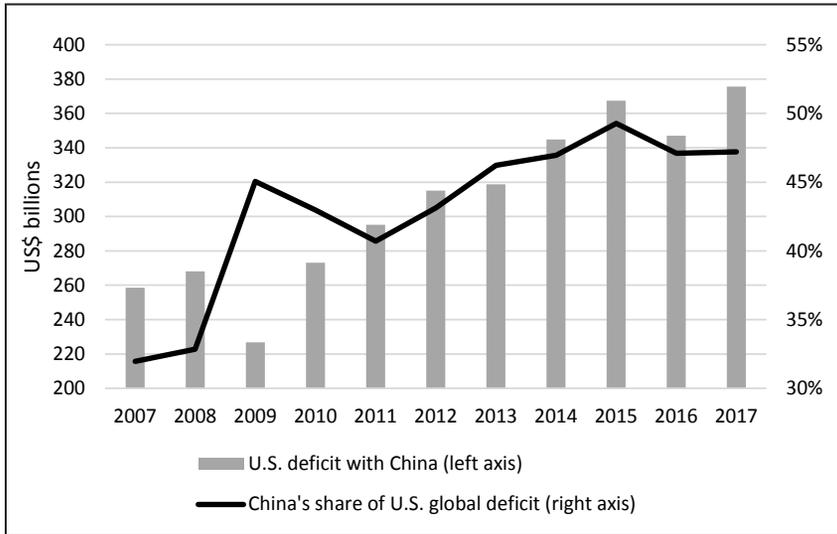
## U.S.-China Bilateral Trade

The U.S.-China trade imbalance reached historic levels in 2017. U.S. goods imports from China remain the primary driver of the deficit, exceeding \$500 billion for the first time in 2017.<sup>1</sup> Although the United States posted a record trade surplus with China in services—primarily due to Chinese tourism—it remains dwarfed by the goods trade deficit.<sup>2</sup>

The U.S. goods trade deficit with China totaled \$375.6 billion in 2017—up 8.2 percent from 2016 levels and the highest yearly deficit on record (see Figure 1).<sup>3</sup> U.S. goods exports increased 12.5 percent year-on-year to \$129.9 billion (see Table 1), while goods imports rose 9.3 percent to \$505.5 billion (see Table 2), both records.<sup>4</sup> China continues to comprise the largest single source of the U.S. global trade

deficit, accounting for 47.2 percent of the United States' \$795.7 billion global trade deficit in goods.<sup>5</sup> In 2017, U.S. exports to China made up 8.4 percent of its global exports, while Chinese exports to the United States made up 20 percent of China's global exports.<sup>6</sup>

**Figure 1: U.S. Goods Trade Deficit with China, 2007–2017**



Source: U.S. Census Bureau, *Trade in Goods with China*.

**Table 1: U.S. Goods Exports to China, 2017**

	US\$ billions
Transportation Equipment	\$29.2
Computer and Electronic Products	\$17.1
Agricultural Products*	\$15.8
Chemicals	\$15.1
Non-Electrical Machinery	\$9.4
Oil and Gas	\$6.8
Waste and Scrap	\$5.6
Food Products	\$3.3
Other	\$27.5
<b>Total Exports</b>	<b>\$129.9</b>

Source: U.S. Census Bureau, NAICS database (Washington, DC: U.S. Department of Commerce, Foreign Trade Division, October 2018).

\*The "agricultural products" category includes oilseeds and grains, fruits, vegetables, and nuts; it does not include fish and seafood, livestock, or forestry products.

**Table 2: U.S. Goods Imports from China, 2017**

	US\$ billions
Computer and Electronic Products	\$184.3
Electrical Equipment	\$43.9
Misc. Manufactured Goods	\$41.3
Non-Electrical Machinery	\$35.0
Apparel and Accessories	\$29.3
Furniture and Fixtures	\$23.5
Fabricated Metal Products	\$22.7
Leather Products	\$20.2
Other	\$105.1
<b>Total Imports</b>	<b>\$505.5</b>

Source: U.S. Census Bureau, NAICS database (Washington, DC: U.S. Department of Commerce, Foreign Trade Division, October 2018).

In the first eight months of 2018, U.S. goods exports to China reached \$83.6 billion (an increase of 5 percent year-on-year) while U.S. goods imports from China were \$344.7 billion, up 8 percent year-on-year.<sup>7</sup> The 2018 U.S. trade deficit with China is on pace to surpass 2017; through August 2018, the overall goods deficit increased 9 percent year-on-year to \$261.1 billion.<sup>8</sup>

One area where the United States has a trade surplus with China is in services (see Figure 2).<sup>\*</sup> The U.S. services trade surplus with China increased to a new high of \$40.2 billion in 2017—up 3.3 percent from 2016 levels—on the strength of U.S. services exports to China, which increased 4.9 percent year-on-year to a record high of \$57.6 billion (see Table 3).<sup>9</sup> U.S. services imports from China also reached a record high, growing at 8.7 percent over 2017 levels to \$17.4 billion (see Table 4).<sup>10</sup> Chinese tourism to the United States—which is considered a U.S. services export—accounted for 57 percent (\$32.8 billion) of total U.S. services exports to China in 2017.<sup>†</sup> Exports of U.S. financial services<sup>‡</sup> saw a large increase from a small base in 2017, rising to \$3.9 billion (up 18.7 percent from 2016 lev-

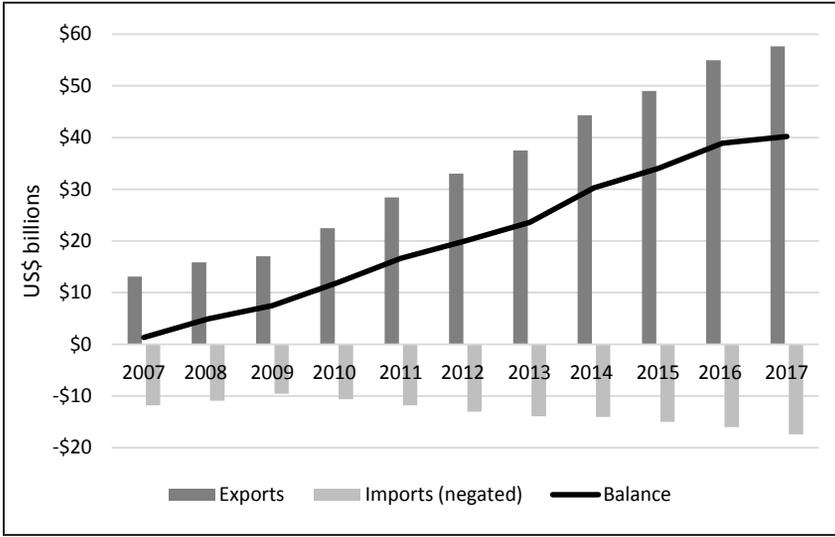
<sup>\*</sup>Services trade includes tourism, financial services, insurance services, transportation, charges for use of IP, and telecommunications services.

<sup>†</sup>Under international and U.S. standards, tourism is broadly defined to include travel and related expenses for business purposes, and travel and related expenses for personal purposes (e.g., vacation, education, and medical services). Chinese visits to the United States are classified as U.S. tourism exports, and U.S. visits to China are classified as Chinese tourism exports. U.S. tourism trade statistics are collected by the U.S. Bureau of Economic Analysis. International Monetary Fund, “Balance of Payments and International Investment Position Manual,” 2009; U.S. Department of Commerce, *Comprehensive Restructuring of the International Economic Accounts: New International Guidelines Redefine Travel*; U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 20, 2018.

<sup>‡</sup>Financial services include financial intermediary and auxiliary services, except insurance services. These include services normally provided by banks and other financial institutions, such as financial advisory services, credit and other credit-related services, and securities lending services. U.S. Bureau of Economic Analysis, “Explanatory Notes.” <https://www.bea.gov/system/files/2018-09/info0718.txt>.

els).<sup>11</sup> U.S. financial services exports could continue to rise as China reduces restrictions on foreign investors in the industry.<sup>12</sup>

**Figure 2: U.S.-China Services Trade, 2007–2017**



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.

**Table 3: U.S. Services Exports to China, 2017**

	US\$ billions
Tourism	\$32.8
Charges for Use of IP	\$8.8
Transport	\$5.2
Financial Services	\$3.9
Other Business Services	\$3.4
Maintenance and Repair Services	\$1.5
IT Services	\$1.0
Insurance Services	\$0.6
Government Goods and Services	\$0.5
<b>Total Exports</b>	<b>\$57.6</b>

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.

**Table 4: U.S. Services Imports from China, 2017**

	US\$ billions
Other Business Services	\$4.8
Transport	\$4.7
Tourism	\$4.6
Charges for the Use of IP	\$0.9
IT Services	\$0.9
Financial Services	\$0.7
Insurance Services	\$0.4
Maintenance and Repair Services	\$0.4
Government Goods and Services	\$0.1
<b>Total Imports</b>	<b>\$17.4</b>

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.

The U.S. trade deficit with China in advanced technology products (ATP)\* stood at \$86.3 billion in the first eight months of 2018, up 8.2 percent over the same period in 2017.<sup>13</sup> Total U.S. ATP imports from China reached \$110 billion, of which information and communication technology (ITC) accounted for \$99.3 billion (up 7.1 percent year-on-year).<sup>14</sup> In the first eight months of 2018, U.S. ATP exports to China totaled \$23.6 billion (up 6 percent year-on-year). Exports of aerospace technology,† the largest product category, were \$9.8 billion—an increase of 1.3 percent compared to the first eight months of 2017.<sup>15</sup>

### U.S.-China Investment Flows

Chinese annual foreign direct investment (FDI) flows to the United States slowed in 2017 and the first half of 2018 due, in part, to Beijing’s crackdown on outbound flows and increased U.S. scrutiny of inbound investments. Meanwhile, U.S. investment flows to China have increased in recent years amid the Chinese government’s efforts to liberalize investment restrictions in sectors like energy, transportation, and electric vehicles.

#### *Chinese Investment in the United States*

Official statistics from the U.S. Department of Commerce Bureau of Economic Analysis indicate the United States attracted more than \$260 billion of global FDI flows in 2017, of which 5.4 percent (\$14 billion) came from China.<sup>16</sup> Because there are limitations to using official data (see textbox “Note on Investment Data”), investment data in this section are from Rhodium Group, a private U.S. economic consultancy.

\*ATP includes products whose technology is from a recognized high technology field and represents a leading edge technology in that field. U.S. Census Bureau, “Trade Definitions.”

†Aerospace exports include helicopter, airplane, and spacecraft parts and machinery. U.S. Census Bureau, “Advanced Technology Product Code Descriptions.” <https://census.gov/foreign-trade/reference/codes/atp/index.html>.

### Note on Investment Data

There are multiple official and privately-collected sources of Chinese FDI in the United States, including:

*Official U.S. government statistics:* The U.S. Bureau of Economic Analysis collects its FDI flow data from surveys of U.S. affiliates of foreign parent companies.<sup>17</sup> These estimates do not include all Chinese FDI, including those routed through Hong Kong and other offshore financial centers, and are provided after a significant delay.\*

*China Global Investment Tracker:* Hosted by the American Enterprise Institute, the database includes all Chinese global outbound FDI transactions worth \$100 million or more since 2005. In total, the database contains information on more than 2,900 separate global transactions.<sup>18</sup>

*China Investment Monitor:* Compiled by Rhodium Group, the database includes transactions valued at \$500,000 or more that result in foreign ownership exceeding 10 percent of equity. The database captures all FDI transactions ultimately owned by Chinese entities regardless of where the initial source of investment is located, but does not include passive investments.†

Rhodium Group estimates that from 2010 to 2016, annual Chinese investment in the United States rose from \$4.6 billion to \$45.6 billion, before dropping down to \$29.4 billion in 2017 due to a combination of Chinese capital controls and increased uncertainty around U.S. investment review procedures.<sup>19</sup> In 2017, acquisitions of existing U.S. assets accounted for 97.3 percent by value of Chinese investment in the United States, with the rest comprising capital-intensive greenfield investments.<sup>20</sup> U.S.-bound Chinese FDI primarily targeted real estate and transportation in 2017, with combined investments in these sectors accounting for nearly 72.7 percent of China's FDI in the United States.<sup>21</sup>

#### *Declining FDI Flows from China*

Rhodium Group estimates that through the first half of 2018, Chinese FDI flows to the United States totaled \$1.8 billion—down 92 percent from the first half of 2017, and the lowest level since 2011.<sup>22</sup> The leading targets of Chinese investment in the first half of the year included U.S. health and biotechnology (\$990 million), real estate (\$387 million), and ICT (\$108 million).<sup>23</sup>

The slowdown in Chinese FDI flows to the United States is likely to continue in the second half of 2018 as a result of Beijing's efforts

\*In a 2013 report produced at the Commission's recommendation, the International Trade Administration (a bureau within the Department of Commerce) said that while Rhodium Group estimates showed \$6.5 billion of FDI flows from China to the United States in 2012, U.S. government estimates showed only \$219 million. The report noted that differing methodologies for compiling the data account for the differences in reported investment value. U.S. Department of Commerce, International Trade Administration, *Report: Foreign Direct Investment (FDI) in the United States from the China and Hong Kong SAR*, July 17, 2013.

†For more on the reliability of statistics on Chinese investment in the United States, see Thilo Hanemann and Daniel H. Rosen, "Chinese Investment in the United States: Recent Trends and the Policy Agenda," *Rhodium Group* (prepared for the U.S.-China Economic and Security Review Commission), December 2016, 12–28.

to tighten controls on capital outflows and increased uncertainty surrounding U.S. investment review procedures. According to Thilo Hanemann, a director at Rhodium Group,

*Given the thin pipeline of pending acquisitions and the looming additional investment restrictions it is unlikely that Chinese investment will rebound significantly in the second half of the year. If current trends hold, the full year figure will come in well below \$10 billion, which would be the lowest in more than five years.<sup>24</sup>*

Diminished FDI flows are partly a consequence of Chinese policy decisions aimed at curbing capital outflows and cracking down on major overseas investors. In November 2016, China's State Administration of Foreign Exchange lowered the threshold for government review of capital transfers abroad from \$1 billion to \$5 million.<sup>25</sup> In June 2017, those regulators also increased scrutiny of deals by large overseas investors (e.g., Anbang Insurance Group, HNA Group, and Dalian Wanda Group), introducing new regulations barring state-owned banks from loaning to large private firms investing overseas.<sup>26</sup> The same month, the China Banking Regulatory Commission began investigating the use of high-interest financial products and overseas loans to finance foreign deals.<sup>27</sup> In August 2017, China's State Council announced new policies restricting "irrational" foreign investments—such as investments in hospitality or real estate—that do not support government objectives.<sup>28</sup>

Increased scrutiny on inbound investments in the United States has also contributed to the chill on FDI flows from China. Since 2017, at least ten attempted acquisitions of U.S. assets by Chinese investors have either been withdrawn due to scrutiny from the Committee on Foreign Investment in the United States (CFIUS) or, in the case of Lattice Semiconductor, rejected by the president on CFIUS's recommendation (see Table 5).<sup>\*29</sup> The total value of these deals is around \$5.8 billion.

**Table 5: The CFIUS Process and Select Chinese Investments, 2017–Q3 2018**

U.S. Target	Chinese Investor	Industry	Value (US\$ millions)	Status
Novatel Wireless, Inc.	TCL Corp.	ICT	\$50	Withdrawn June 2017
Global Eagle Entertainment, Inc.	Beijing Shareco Technologies Co.	Multimedia	\$103	Withdrawn July 2017
Lattice Semiconductor Corp.	China Venture Capital Fund Corp.	Semiconductors	\$1,300	Rejected September 2017

\* CFIUS is the primary U.S. government body that reviews mergers, acquisitions, or takeovers leading to foreign control of U.S. assets. For more on CFIUS reviews of Chinese investments, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, "Chinese Investment in the United States," in *2017 Annual Report to Congress*, November 2017, 81–83.

**Table 5: The CFIUS Process and Select Chinese Investments, 2017–Q3 2018—Continued**

U.S. Target	Chinese Investor	Industry	Value (US\$ millions)	Status
HERE International (partially owned by Intel Corp.)	NavInfo Co. and Tencent Holdings Ltd.	Software	\$330	Withdrawn September 2017
Maxwell Technologies, Inc.	SDIC Fund Management Co.	Electronics	\$46.6	Withdrawn September 2017
Aleris Corporation	Zhongwang USA LLC	Aluminum	\$2,300	Withdrawn November 2017
Cowen Inc.	China Energy Company Ltd.	Financial Services	\$100	Withdrawn November 2017
MoneyGram International, Inc.	Ant Financial	Financial Services	\$880	Withdrawn January 2018
Xcerra, Inc.	Unic Capital Management Co. and China Integrated Circuit Industry Investment Fund Co.	Semiconductors	\$580	Withdrawn February 2018
Cogint, Inc.	BlueFocus Communications Group Co.	ICT	\$100	Withdrawn February 2018

*Note:* Withdrawn deals were either withdrawn from CFIUS's consideration or not refiled. These deals were at various stages of finalization when withdrawn and appear to have been withdrawn due in part to fear of CFIUS review.

*Source:* Compiled by Commission staff; Trade Practitioner, "CFIUS Information Archive," *Squire Patton Boggs*.

In assessing a transaction's national security risks, the Trump Administration has considered a wider array of factors than previous administrations—including the presence of third-party foreign entities and potential implications for future competitiveness.<sup>30</sup> For example, the attempted acquisition of U.S. semiconductor firm Qualcomm Inc. by the Singaporean firm Broadcom Ltd. was blocked in March 2018 due to "credible evidence" that Broadcom, through its control of Qualcomm, "might take action that threatens to impair the national security of the United States."<sup>31</sup> The concerns centered on Chinese tech giant Huawei Technologies, with CFIUS stating that a reduction in Qualcomm's competitiveness and outsized influence in standard-setting for information and communication technology products would allow for competitors like Huawei to fill the void (for more on China's development of next-generation technologies, see Chapter 4, Section 1, "Next Generation Connectivity").<sup>32</sup>

In August 2018, President Donald Trump signed the bipartisan Foreign Investment Risk Review Modernization Act of 2018 (FIRMA) into law, which seeks to "modernize and strengthen" CFIUS to "more effectively guard against the risk to the national security of the United States posed by certain types of foreign investment."<sup>33</sup>

FIRRMA, which reflects many components of a recommendation made by the Commission in its *2017 Annual Report to Congress*, expands CFIUS's jurisdiction to review a broader number of transactions, requires CFIUS to examine a wider array of technologies and industries, and extends the timetable for investment review processes.\*

### *Chinese Venture Capital Investment in the United States*

Before the passage of FIRRMA, the value of Chinese venture capital (VC) investments in early-stage U.S. technology companies was not collected by the U.S. government, despite representing a significant and growing share of total investment in U.S. companies. According to a 2017 report examining these flows by DIUx, a U.S. Department of Defense initiative in Silicon Valley, Chinese investors accounted for between 10 and 16 percent of total U.S. VC funding by value between 2015 and 2017, up from 1 percent in 2010.† Between 2015 and 2017, China was the largest single foreign VC investor in the United States, investing \$24 billion. For comparison, during the same period, all European countries' VC investments in the United States totaled \$36 billion.<sup>34</sup>

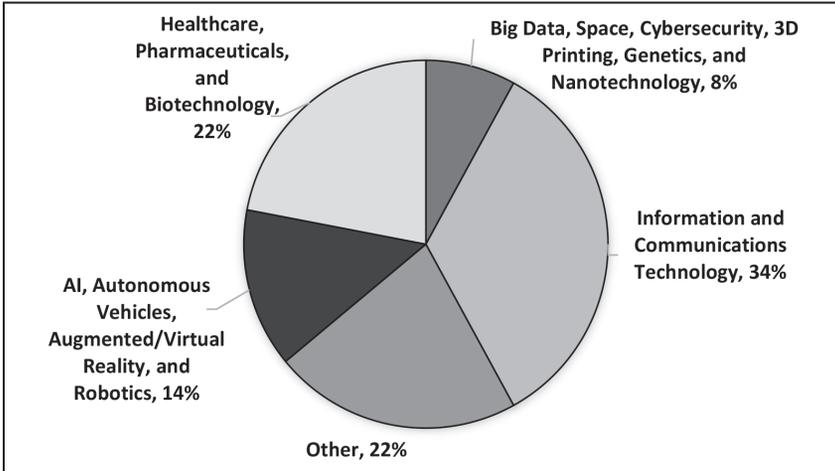
Separately, a Rhodium Group report found that from January to May 2018, Chinese VC investment in the United States reached nearly \$2.4 billion, equal to what Rhodium Group found to be the full-year record set in 2015.<sup>35</sup> From 2000 to May 2018, the report estimates that Chinese VC capital contributions in the United States totaled \$11 billion, 88 percent of which came from private Chinese investors.<sup>36</sup> Chinese VC investments involving state-owned investors have increased modestly since 2014, including deals by investors with ties to the state-owned China Development Bank, the sovereign wealth fund China Investment Corporation, and subsidiaries of Chinese state-owned enterprises (SOEs) such as SAIS Capital (a U.S.-based subsidiary of the Chinese SOE Shanghai Automobile Industry Corporation).<sup>37</sup>

High-tech industries such as artificial intelligence (AI), biotechnology, and virtual reality have been the primary targets of Chinese VC activity in the United States. The DIUx study estimated that from 2014 to the third quarter of 2017, Chinese investors were involved in \$1.2 billion of VC financing for U.S. AI firms.<sup>38</sup> The capital market data firm PitchBook estimates that in the first half of 2018, Chinese VC funds participated in \$5.1 billion worth of investment rounds in U.S. biotech companies, up from \$4 billion in 2017.<sup>39</sup> As seen in Figure 3, the Rhodium Group study found that Chinese investors targeted sensitive technologies in 78 percent of all U.S. VC funding rounds involving a Chinese investor between 2000 and May 2018 (out of a total of more than 1,200 funding rounds with Chinese participation).<sup>40</sup> These investments are not just lucrative business opportunities; they also enable Chinese firms to acquire valuable U.S. technology and IP.

\*For more on the proposed changes under FIRRMA, see Sullivan & Cromwell LLP, "CFIUS Reform—The Foreign Investment Risk Review Modernization Act of 2018," August 7, 2018.

†Estimates include China- and Hong Kong-based private companies' equity financing into emerging U.S. companies. Michael Brown and Pavneet Singh, "China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation," *Defense Innovation Unit Experimental*, January 2018, 6.

**Figure 3: Chinese Participation in U.S. VC Funding Rounds by Industry, 2000–May 2018**



Source: Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, “Chinese Venture Capital in the U.S.: Recent Trends and FIRRMA Impacts,” July 11, 2018, 8.

Due to the potential military applications of some of these products, Chinese VC investments could facilitate technology transfers that threaten U.S. national security interests.<sup>41</sup> Frank Yu, founder of the Hong Kong-based investment group Ally Bridge, told the *Financial Times* that “American companies usually have obvious advantages in terms of cutting-edge innovation, originality and IP,” so Chinese firms’ VC investments seek to “bring some [of] the technologies [Chinese VC funds] have invested in overseas back to China.”<sup>42</sup> Of particular concern are investments in U.S. technology start-ups. For example, the state-owned SAIC Capital has invested in Silicon Valley start-ups developing autonomous driving, mapping, and artificial intelligence technologies.<sup>43</sup> These technologies are not only integral to the future of U.S. innovation and economic development, but are also used to advance the technological superiority of the U.S. military.<sup>44</sup>

Under FIRRMA, CFIUS will now be able to review passive investments (such as foreign investments facilitated through VC funds) provided they allow a foreign entity to (1) access non-public technical information about a company or product, (2) gain membership or observer rights on a company’s board or government body, or (3) be substantially involved in company decision making (except through voting shares).<sup>45</sup> The ability to review these VC investments and other covered transactions was deemed essential for “the capability and capacity of the United States to meet the requirements of national security.”<sup>46</sup>

### ***Chinese Companies Listed on U.S. Stock Exchanges***

Chinese firms’ activities on U.S. capital markets also present challenges for U.S. financial regulators and investors. Although the number of Chinese firms listed on U.S. stock exchanges has declined in recent years, the total market capitalization of Chinese issuers in the United States has continued to grow (see Table 6). U.S. nego-

tiators—including officials at the U.S. Public Company Accounting Oversight Board (PCAOB) and Securities and Exchange Commission—are responsible for ensuring that all public accounting firms, both domestic and foreign, disclose their clients’ financial information as required under U.S. law.<sup>47</sup> However, Chinese laws governing the protection of state secrets and national security prohibit Chinese firms from sharing their audit work reports with foreign regulators, preventing the PCAOB from inspecting certified public accounting firms in China and Hong Kong.<sup>48</sup> This leaves U.S. investors exposed to potentially exploitative and fraudulent activities by Chinese firms listed in the United States.

**Table 6: Chinese Firms Listed in the United States, 2012 and 2018**

	2012	2018
<b>Number of Listings</b>	188	159
<b>Total Market Capitalization (US\$ trillions)</b>	\$0.1	\$1.1

*Note:* These figures represent only Chinese firms listed as American depository receipts on the New York Stock Exchange, NASDAQ, and American Stock Exchange. 2018 figures are as of October 4, 2018.

*Source:* Heng Ren Partners, interview with Commission staff, February 7, 2017; NASDAQ, “Companies by Industry: China.”

Shaswat Das, the lead negotiator in the PCAOB’s discussions with China until 2015, testified to the Commission in January 2017 that the “gap in the PCAOB’s inspection program exposes ... U.S. investors to uncertainty regarding the quality of the audits being performed in China.”<sup>49</sup> Despite over a decade of negotiations with their Chinese counterparts, U.S. regulators have made limited progress in securing Beijing’s cooperation to ensure that Chinese firms listed on foreign stock exchanges are properly audited.<sup>50</sup>

### ***U.S. Investment in China***

U.S. investment in China increased both in value and as a proportion of total U.S. outbound FDI since 2017. According to preliminary U.S. government data, in 2017 annual U.S. FDI in China was \$10.4 billion, up from \$9.5 billion in 2016.<sup>51</sup> The share of U.S. FDI flows to China increased to 3.4 percent of total outbound U.S. FDI in 2016, up from 2.8 percent in 2015.<sup>52</sup> In terms of FDI stock, Rhodium Group estimates that between 1990 and 2017, U.S. companies invested a total of \$256 billion in China, compared with \$140 billion Chinese companies have invested in the United States.<sup>53</sup> U.S. investments have historically been focused on manufacturing and consumer-related assets—particularly agriculture and automobiles—but in recent years have shifted to high-tech and advanced services sectors.<sup>54</sup>

Increased U.S. investment in China has been facilitated by Chinese government initiatives aimed at liberalizing market access and promoting FDI inflows. In 2016, China implemented a negative list\* investment review system that was updated in June 2017 to increase market access in sectors like electric vehicle battery manufacturing, energy, and transportation equipment manufacturing.<sup>55</sup>

\*A negative list identifies industries where foreign investment is limited or restricted. Under the negative list system, all industries not specifically named are open to foreign investment.

In July 2018, China relaxed restrictions on foreign investment and foreign joint venture (JV) ownership limits in 22 sectors, including banking, agriculture, and transportation (see Table 7).<sup>56</sup>

**Table 7: Select Changes to China's Foreign Investment Restrictions, Effective July 2018**

Industry	Investment Ownership Limits Reduced	Foreign JV Ownership Limits Removed	Percent of GDP, 2015
Infrastructure	<ul style="list-style-type: none"> <li>Nuclear site construction and operation</li> <li>Civilian airport construction and management</li> </ul>	<ul style="list-style-type: none"> <li>Railways construction and management</li> </ul>	6.8%
Utilities	<ul style="list-style-type: none"> <li>Utilities construction (in cities with 500,000+ people)</li> </ul>	<ul style="list-style-type: none"> <li>Gas station chain construction and management</li> <li>Electricity grid construction and management</li> </ul>	2.2%
Transport	<ul style="list-style-type: none"> <li>Water transport</li> <li>Domestic shipping agencies</li> <li>Airlines (25% stake)</li> </ul>	<ul style="list-style-type: none"> <li>Aircraft and ship design, manufacturing, and maintenance</li> <li>International maritime transport</li> <li>Rail passenger services</li> </ul>	4.4%
Finance	<ul style="list-style-type: none"> <li>Securities firms, equity investment funds, futures companies, insurance companies (51% stake)</li> </ul>	<ul style="list-style-type: none"> <li>Single foreign investor in a Chinese bank (20% stake)</li> </ul>	8.4%
Automobiles	<ul style="list-style-type: none"> <li>Automobile manufacturing (50% stake)</li> <li>New energy vehicles</li> </ul>	N/A	N/A
Agriculture	<ul style="list-style-type: none"> <li>Wheat, corn, and seed production</li> </ul>	N/A	9.1%
Natural Resources	<ul style="list-style-type: none"> <li>Oil and natural gas exploration and development</li> </ul>	N/A	2.8%

*Note:* Limits on foreign investments in finance-related industries are promised to be scrapped in 2021. The GDP data uses proxies for infrastructure (data represents construction), finance (financial intermediation), and natural resources (mining).

*Source:* Pan Che, "Quick Take: China Culls Foreign Investment 'Negative List,'" *Caixin*, June 29, 2018; China Securities Regulatory Commission via CEIC database; China's National Bureau of Statistics via CEIC database.

The relaxation of ownership limits will not necessarily result in additional investment opportunities for U.S. firms due to China's arduous regulatory and approval processes. Foreign investors report a range of challenges associated with investing in China, including limits on foreign shareholders' voting rights, limits on foreign participation in companies' board of directors, and an unreliable, opaque legal system that favors Chinese companies.<sup>57</sup> In its *2018 China Business Climate Survey Report*, the American Chamber of Commerce in China found that 60 percent of U.S.

companies surveyed\* listed regulatory barriers as a top challenge of operating in China, up from 39 percent in 2014 (see Table 8).<sup>58</sup> According to the survey, regulatory compliance risks are the third-largest challenge facing U.S. companies in China, with 37 percent selecting it as a top challenge, up from the eighth-largest challenge in 2017.<sup>59</sup> The role of the state is also becoming more pronounced in foreign businesses; under Chinese law, foreign companies are effectively required to create a CCP cell in their China-based business.<sup>†</sup> Recent reporting reveals these cells are also required to have an explicit role in the firm's decision making.<sup>60</sup> As a result, Beijing's efforts to loosen foreign investment restrictions remain insufficient for addressing broader market access restrictions facing U.S. firms in China.

**Table 8: Top Five Business Challenges in China for U.S. Firms, 2014–2018**

	2014	2015	2016	2017	2018
1.	Labor costs: 46%	Labor costs: 61%	Inconsistent regulatory interpretation and unclear laws: 57%	Inconsistent regulatory interpretation and unclear laws: 58%	Inconsistent regulatory interpretation and unclear laws: 60%
2.	Inconsistent regulatory interpretation and unclear laws: 39%	Inconsistent regulatory interpretation and unclear laws: 47%	Labor costs: 54%	Labor costs: 58%	Labor costs: 56%
3.	Shortage of qualified employees: 37%	Shortage of qualified employees: 42%	Obtaining required licenses: 29%	Increasing Chinese pro- tectionism: 32%	Regulatory compliance risks: 37%
4.	Shortage of qualified man- agement: 31%	Shortage of qualified man- agement: 32%	Shortage of qualified employees: 29%	Shortage of qualified man- agement: 30%	Shortage of qualified employees: 32%
5.	Obtaining required licenses: 31%	Increasing Chinese pro- tectionism: 30%	Industry over- capacity: 29%	Obtaining required licenses: 29%	Increasing Chinese pro- tectionism: 32%

Source: American Chamber of Commerce in the People's Republic of China, *2018 China Business Climate Survey Report*, January 2018, 40.

## Bilateral Economic Tensions

The United States and China have announced a series of trade enforcement actions in 2018, stemming from three investigations conducted by the U.S. government: (1) Section 201 investigations into a surge of washing machines and solar panel imports, (2) Section 232 investigations into the national security risks posed by imports of steel and aluminum, and (3) the Office of the U.S. Trade Represen-

\*The survey was sent to a total of 849 companies, out of which 411 responded in whole or in part. American Chamber of Commerce in the People's Republic of China, *2018 China Business Climate Survey Report*, January 2018, 12.

† Under Chinese law, foreign and domestic firms with at least three CCP members are required to provide the "necessary conditions" for creating a party cell. Jake Laband, "Fact Sheet: Communist Party Groups in Foreign Companies in China," *China Business Review*, May 31, 2018.

tative’s (USTR) Section 301 investigation into “whether acts, policies, and practices of the Government of China related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce.”<sup>61</sup> (For more on U.S. management of Chinese trade distortions, see Chapter 1, Section 2, “Tools to Address U.S.-China Economic Challenges.”) In subsequent months, the United States and China conducted negotiations and announced a series of actions—including implementing tariffs and bringing cases to the WTO—in response to the Trump Administration’s goal of securing a “fair and reciprocal” trade relationship (see Figure 4).<sup>62</sup>

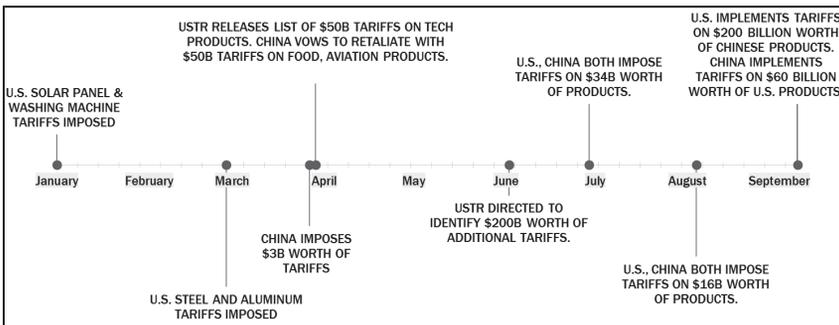
### Select U.S. Trade Remedies Used by the Trump Administration

*Section 201 of the Trade Act of 1974:* The president can impose temporary duties and other trade measures if the U.S. International Trade Commission determines a surge in imports is a substantial cause or threat of serious injury to a U.S. industry.

*Section 232 of the Trade Expansion Act of 1962:* The president can take action to adjust imports of products the Department of Commerce deems threaten to impair U.S. national security.

*Section 301 of the Trade Act of 1974:* The USTR can suspend trade agreement concessions or impose import restrictions if it determines a U.S. trading partner is violating trade agreement commitments or engaging in discriminatory or unreasonable practices that burden or restrict U.S. commerce.<sup>63</sup>

Figure 4: U.S.-China Tariff Actions, 2018



Source: Chad P. Bown and Melina Kolb, “Trump’s Trade War Timeline: An Up-to-Date Guide,” *Peterson Institute for International Economics*, August 23, 2018.

### ***Tariff Actions***

In January 2018, following the conclusion of a U.S. International Trade Commission Section 201 investigation, President Trump announced tariffs on global imports of solar panels and washing machines to combat a surge of imports found to be harming domestic producers.\* Two months after the Section 201 investigation, President Trump announced the imposition of 25 percent tariffs on steel imports and 10 percent tariffs on aluminum imports.<sup>64</sup> The decision followed the release of a Section 232 investigation by the Department of Commerce, which found that “the quantities and circumstances of steel and aluminum imports threaten to impair [U.S.] national security.”<sup>65</sup> Like the January tariffs, the 25 percent tariffs on steel imports and 10 percent tariffs on aluminum imports were applied to imports from around the world—not just from China.

In March 2018, the USTR and Section 301 Committee published its report, which stated that “the acts, policies, and practices of the Chinese government related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce.”<sup>66</sup> Based on the report’s findings, the U.S. government initiated a WTO case challenging China’s discriminatory technology licensing practices, announced plans for \$50 billion worth of tariffs on imports from China, and directed the U.S. Department of the Treasury to consider new restrictions on foreign investments in high-tech industries.<sup>67</sup> Despite several high-level bilateral meetings between the United States and China in subsequent months, both countries proceeded to impose or threaten retaliatory tariffs on a range of industries, including agriculture, technology products, and aviation.<sup>68</sup>

Between July and August 2018, the United States implemented a 25 percent tariff on 1,097 product lines imported from China worth around \$50 billion, including semiconductors, machine parts, and automobiles.†<sup>69</sup> In September, the United States implemented a 10 percent tariff (which will increase to 25 percent on January 1, 2019) on an additional \$200 billion worth of imports covering 5,745 product lines (see Table 9).<sup>70</sup> President Trump has also threatened to impose additional tariffs on products worth \$267 billion if China retaliates, which would bring the total tariffs imposed on imports from China to \$517 billion, more than the \$505 billion worth of goods the United States imported from China in 2017.<sup>71</sup>

\* In the first year of the plan, a 20 percent tariff is applied to the first 1.2 million imports of large washing machines, and a 50 percent tariff will apply to all additional washing machine imports. The tariffs will decline to 16 percent and 40 percent, respectively, in the third year. Solar panels will initially face a 30 percent tax before dropping to 15 percent by the fourth year. Office of the U.S. Trade Representative, *President Trump Approves Relief for U.S. Washing Machine and Solar Cell Manufacturers*, January 2018.

† In August 2018, the Department of Commerce also announced the conclusion of a countervailing duty investigation into imports of certain steel wheels from China. The investigation found that these products were being subsidized in China, and announced duty rates of between 58.75 percent and 172.51 percent for Chinese steel wheel imports. In 2017, the value of Chinese steel wheel exports to the United States was estimated to be \$388 million. U.S. International Trade Administration, *Countervailing Duty Investigation of Steel Racks from the People’s Republic of China: Postponement of Preliminary Determination*, August 28, 2018.

**Table 9: U.S. Tariffs on Select Chinese Goods Implemented as of September 2018**

<b>Product</b>	<b>Value of Chinese Exports to United States, 2017</b>
Machine Parts	\$55.5 billion
Electrical Machinery	\$53.3 billion
Furniture	\$28.3 billion
Motor Vehicles	\$13.7 billion
Iron and Steel	\$8.6 billion
Plastics	\$7.7 billion
Leather	\$7.3 billion
<b>Total</b>	<b>\$174.4 billion</b>

*Source:* Adapted from Chad P. Bown, Euijin Jung, and Zhiyao Lu, “Trump and China Formalize Tariffs on \$260 Billion of Imports and Look Ahead to Next Phase,” *Peterson Institute for International Economics*, September 20, 2018.

In April 2018, China imposed retaliatory tariffs of between 15 and 25 percent on 128 product lines of U.S. imports worth \$3 billion. Three months later, China imposed a 25 percent tariff on 878 product lines worth roughly \$50 billion. The tariffs mainly target automobiles and auto parts, agriculture products, and machinery parts (see Table 10).<sup>72</sup> (For more on U.S. agriculture exports to China, see Chapter 1, Section 3, “China’s Agricultural Policies: Trade, Investment, Safety, and Innovation.”) In September 2018, China implemented additional tariffs of between 5 and 10 percent on \$60 billion worth of goods imports from the United States.<sup>73</sup> That month, the Chinese government also released a white paper criticizing the United States’ tariffs as an attempt “to impose its own interests on China through extreme pressure.”<sup>74</sup>

**Table 10: Chinese Tariffs on Select U.S. Goods Implemented as of September 2018**

<b>Product</b>	<b>Value of U.S. Exports to China, 2017</b>
Motor Vehicles	\$14.4 billion
Cooking Oils and Seeds	\$14.4 billion
Machine Parts	\$9.3 billion
Camera Parts	\$9 billion
Electrical Machinery	\$7.2 billion
Wood Pulp and Paper Scraps	\$4.4 billion
Petroleum	\$4.1 billion
<b>Total</b>	<b>\$62.8 billion</b>

*Note:* The total export value includes only products listed in Table 10. The total value of tariffs on all product lines is greater than \$62.8 billion.

*Source:* Adapted from Chad P. Bown, Euijin Jung, and Zhiyao Lu, “Trump and China Formalize Tariffs on \$260 Billion of Imports and Look Ahead to Next Phase,” *Peterson Institute for International Economics*, September 20, 2018.

### **ZTE Sanctions Announced, Then Revoked at President Trump's Direction**

In March 2016, ZTE Corporation, a Chinese ICT firm, was found to be in violation of U.S. trade laws for re-exporting U.S. technologies to embargoed countries, including Iran, North Korea, and Cuba.<sup>75</sup> At the time, ZTE pleaded guilty and agreed to pay \$892 million in overall forfeiture and fines, take disciplinary action against 39 of its employees, and undergo a seven-year probation requiring six audit reports to ensure its compliance.<sup>76</sup> However, in April 2018, the Department of Commerce announced ZTE's export privileges would be suspended for seven years following the company's "unacceptable pattern of false and misleading statements and related actions" during the investigation.<sup>77</sup> (For additional information on the national security concerns posed by ZTE and other Chinese telecommunications companies, see Chapter 4, Section 1, "Next Generation Connectivity.")

In June 2018, President Trump reversed the Department of Commerce decision. Under the new settlement, ZTE must pay an additional \$1.4 billion fine, replace its board of directors and senior leadership, and retain a team of compliance investigators for ten years.<sup>78</sup> However, ZTE's state-backed controlling shareholder has selected longtime ZTE employees to fill the board member positions, and at least two of ZTE's outgoing directors may continue to influence the firm through stakes they own in a ZTE shareholder.<sup>79</sup> As a result, some observers fear the changes may only shuffle personnel around while effectively leaving ZTE's leadership unchanged.<sup>80</sup>

The threat of U.S. sanctions on ZTE deepened Chinese government fears that the economy is too reliant on imports of foreign-made semiconductors and other technology products. In 2016, China spent \$227 billion importing electronic components for phones, telecommunications equipment, computers, and other electronic devices, despite these products accounting for almost one-third of China's annual exports.<sup>81</sup> In the eyes of the Chinese government, the threat of a ban on ZTE—combined with the imposition of U.S. tariffs on Chinese goods—makes China's pursuit of self-reliance in high-technology industries (and particularly its semiconductor industry) more urgent.<sup>82</sup> In a May 2018 speech before a meeting of China's top scientists, President Xi declared, "Self-reliance is the foundation for the Chinese nation to stand firmly in the world, while independent innovation is the only way for us to climb the peak of the world's science and technology."<sup>83</sup>

President Trump's decision to overturn the Department of Commerce's decision provoked a heated congressional debate. Lawmakers on Capitol Hill attempted to insert legislation into the annual National Defense Authorization Act that would have reinstated sanctions on ZTE, but ultimately abandoned the effort.<sup>84</sup>

## **WTO Cases**

The following subsections discuss key developments in U.S.-China engagement at the WTO. A complete list of ongoing WTO cases between the United States and China can be found in Addendum I.

### *United States Initiates Consultations with China on Findings of Section 301 Investigation*

After reviewing the Section 301 investigation report, President Trump directed the USTR to request WTO consultations\* regarding China's licensing practices.<sup>85</sup> The Section 301 report cites a wide range of unfair Chinese trade practices related to technology transfer, IP, and innovation, but refers only to China's licensing practices as a violation of its commitments under the WTO.<sup>86</sup> The United States' WTO request for consultations states that "China deprives foreign intellectual property rights holders of the ability to protect their intellectual property rights in China as well as freely negotiate market-based terms in licensing and other technology-related contracts."<sup>87</sup> Specifically, the request cites patent holders' inability to enforce their patent rights against Chinese partners in JVs, as well as national treatment violations for foreign technology imports. The EU, Japan, Saudi Arabia, Taiwan, and Ukraine have asked to join the United States' challenge.<sup>88</sup>

### *China Requests Consultations with the United States on Section 232 and 301 Investigations*

On April 4, China requested WTO consultations with the United States over the proposed Section 301 tariffs. The request states that the United States' proposed duties—which apply only to China—represent a violation of China's most-favored nation status and would incur tariffs in excess of the U.S. bound rates.†<sup>89</sup>

On April 5, China requested WTO consultations concerning the United States' decision to implement tariffs of 25 percent and 10 percent, respectively, on steel and aluminum imports.<sup>90</sup> China's request stated that the tariffs, proposed by the Section 232 investigations, "constitute[d] safeguard measures in substance" and, therefore, were not consistent with the United States' obligations under the WTO.<sup>91</sup> The EU, Hong Kong, India, Russia, and Thailand have asked to join consultations.<sup>92</sup>

### *China and the United States Request Consultation on Tariffs*

On June 16, the United States launched five new WTO cases challenging tariffs on U.S. goods imposed by China, the EU, Canada, Mexico, and Turkey in retaliation for U.S. tariffs on global steel and aluminum imports.<sup>93</sup> In August 2018, China filed a request for WTO consultations with the United States regarding the Trump Administration's decision to impose tariffs on \$16 billion worth of imports

\*The WTO dispute settlement process begins with a request for consultations, followed by the establishment of a panel to review the case. After the panel issues its report, the losing party can decide whether to appeal the decision (bringing it to an appellate review), after which the losing party receives a "reasonable period of time" to implement the court's ruling. World Trade Organization, "The Process — Stages in a Typical WTO Dispute Settlement Case."

†A bound rate is the maximum duty that can be imposed on imports from one country with most-favored nation status to another for a given commodity.

from China.<sup>94</sup> That same month, China filed two additional consultation requests—one regarding the imposition of U.S. safeguards on imports of solar panels and solar panel parts, and one regarding alleged U.S. domestic content requirements and subsidy programs in the renewable energy industry.<sup>95</sup>

### China's Economic Policymaking

The Chinese government continues to resist—and in some cases reverse progress on—much-needed reforms of China's state-led economic model. China's economy is facing headwinds as a result of the country's mounting debt levels, trade tensions with the United States, and signs of softening domestic growth indicators like consumption and real estate.<sup>96</sup> Rapid credit growth in particular has historically been difficult for the Chinese government to manage, as regulators find ways to move debt off of companies' balance sheets rather than implement policies to reduce the debt burden.<sup>97</sup> Repeated pledges to permit greater market access for private domestic and foreign firms remain largely unfulfilled; instead, the CCP enhances state control over the economy and utilizes mercantilist policies to strategically develop domestic industries. In its *2017 Report on China's WTO Compliance*, the USTR concluded,

*The Chinese government pursues a wide array of continually evolving interventionist policies and practices aimed at limiting market access for imported goods and services and foreign manufacturers and services suppliers. At the same time, China offers substantial government guidance, resources and regulatory support to Chinese industries, including through initiatives designed to extract advanced technologies from foreign companies in sectors across the economy. The principal beneficiaries of China's policies and practices are Chinese state-owned enterprises and other significant domestic companies attempting to move up the economic value chain.*<sup>98</sup>

Rather than reducing the government's role in the economy, the CCP is seeking to play a more decisive role in economic decision making. In September 2015, China's General Office of the Communist Party stated that SOE reform has reached a critical juncture where "Communist Party leadership can only be strengthened, it cannot be weakened."<sup>99</sup> Despite pledging to improve the quality and efficiency of the Chinese economy, President Xi has also increased government control over both public and private companies, which may reduce productivity and profits across a range of industries in China as firms pursue CCP—rather than commercial—objectives.<sup>100</sup>

Like all central banks, the People's Bank of China (PBOC) has three key levers of monetary policy available to it, which are collectively referred to as the "impossible trinity": (1) managing the exchange rate, (2) managing interest rates, and (3) managing its capital account. Under the "impossible trinity" concept, a government can maintain only two of the following three policies: (1) a fixed (or managed) exchange rate, (2) an independent monetary

policy, or (3) free international capital flows.<sup>101</sup> The United States maintains open capital markets and control over both the money supply and interest rates, but has a free floating dollar exchange rate. China continues to attempt to control all aspects of the trinity by cycling through whatever component is most vulnerable.<sup>102</sup> For example, the Chinese government has intervened to support the value of the currency rather than let the market determine its exchange rate. Between 2014 and 2016, China's central bank stabilized the renminbi's (RMB) value, which was falling due to slowing economic growth, by selling foreign reserves to artificially create demand. The country's reserves fell from \$4 trillion in June 2014 to \$3 trillion in December 2016.<sup>103</sup>

At the December 2017 Central Economic Work Conference in Beijing, Chinese policymakers announced China would engage in three "battles" to achieve high-quality development in the next three years: (1) reducing debt, (2) controlling pollution, and (3) reducing poverty.<sup>104</sup> Beijing is expected to prioritize these policy goals through 2020, while continuing to increase CCP control and consolidate political power.<sup>105</sup> Although the Chinese government has made some progress in these three "battles," it has not undertaken the reforms necessary to address rising debt levels.

### *Debt and Deleveraging*

At the December conference, policymakers agreed China's high and rising debt levels pose a growing threat to the country's long-term economic stability. A statement from the conference read that "prudent monetary policy should be kept neutral, the floodgates of monetary supply should be controlled, and credit and social financing should see reasonable growth."<sup>106</sup> To this end, policymakers pledged to take concrete measures to strengthen the regulation of local government debt, including enhancing enforcement of existing financial rules, increasing punishments for violators of those rules, and engaging in preventative measures (e.g., reducing growth in speculative banking assets).<sup>107</sup> However, recent policies—including cutting banks' reserve requirement ratios and injecting capital into commercial banks—seek to incentivize new credit growth, suggesting that fears of an economic slowdown have derailed the government's plans for cracking down on debt.<sup>108</sup>

According to data from the Bank for International Settlements, China's total debt (government and private) reached 255.7 percent of GDP—or \$32.5 trillion—in the fourth quarter of 2017, up from 141.3 percent of GDP at the end of 2008.\* A working paper by staff of the International Monetary Fund (IMF) estimates that by the end of 2016, Chinese SOEs were responsible for around one-third of China's nonfinancial debt † (SOEs' debt-to-GDP ratio stood at 74 percent, compared to China's total debt-to-GDP ratio of 234 percent).<sup>109</sup> Nonfinancial corporations hold the largest category of

\*In comparison, in the fourth quarter of 2017 the United States' total debt reached \$48.7 trillion (251.2 percent of GDP), Japan's total debt reached \$18.1 trillion (373.1 percent of GDP), and Germany's total debt reached \$6.9 trillion (177.1 percent of GDP). Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," September 12, 2018.

† Nonfinancial debt captures the outstanding debt of the private non-financial sector (which is broken down into household and corporate) and government. Bank for International Settlements, "Changes to the Data Set on Credit to the Non-Financial Sector." <https://www.bis.org/statistics/totcredit/changes.htm>.

debt, comprising nearly two-thirds of China's nonfinancial debt and nearly one-half of China's estimated total debt (see Table 11).<sup>110</sup> Corporate debt reached 160.3 percent of GDP in the fourth quarter of 2017, down from its peak of 166.9 percent in the second quarter of 2016.<sup>111</sup> China's corporate debt was at 96 percent of GDP in the fourth quarter of 2008.<sup>112</sup>

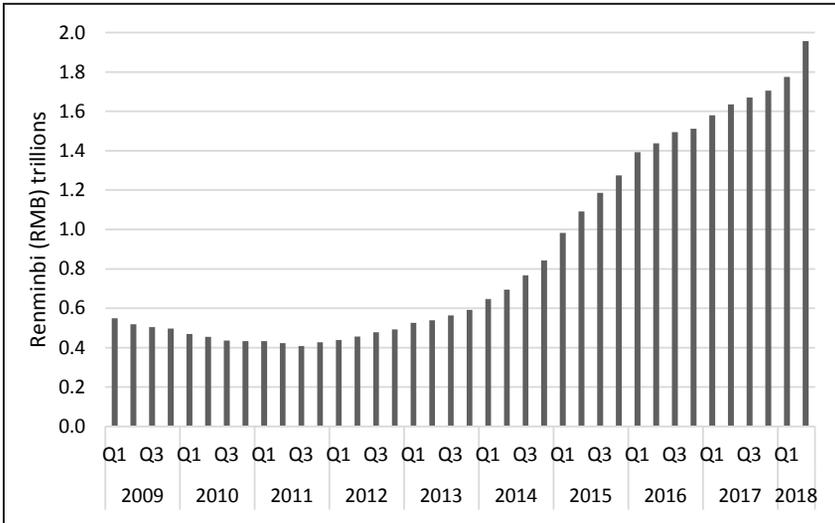
**Table 11: China's Aggregate Debt, Estimate for 2017**

	<b>US\$ trillions</b>
Corporate	\$20.34
Household	\$6.14
Government	\$5.96
LGFV	\$3.00
NPL	\$3.00
<b>Total</b>	<b>\$38.45</b>

*Source:* Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," June 5, 2018; Stratfor, "In China, Unweaving the Tangled Web of Local Debt," July 17, 2018; Ted Osborn, "Pressure on China's Banks to Report Bad Debt is Good News for Foreign Investors," *South China Morning Post*, April 2, 2018.

The value of Chinese banks' nonperforming loans (NPLs), or loans that are unlikely to be paid back, continues to rise. According to the China Banking Regulatory Commission, the amount of NPLs held by Chinese commercial banks climbed from \$65.4 billion in the first quarter of 2011 to \$295.6 billion in the second quarter of 2018 (see Figure 5).<sup>\*113</sup> However, Chinese banks manipulate their profit and NPL reporting based on guidance from Beijing; as a result, official Chinese data on NPLs understate the true value of these loans. While Chinese banks' official reporting indicates NPLs represent around 1.7 percent of all loans, private estimates from Fitch Ratings put the percentage of NPLs as high as 20 percent of all Chinese bank loans, or nearly \$3 trillion.<sup>114</sup>

\*Chinese commercial banks are defined as those that take in deposits from the public; grant short-, medium-, and long-term loans; or issue financial bonds, among other behaviors. All major Chinese banks except the PBOC are considered commercial banks—including China Construction Bank, the Industrial and Commercial Bank of China, and the Agricultural Bank of China, as well as the country's largest national joint-stock banks and city and rural banks. Ernst and Young, "Listed Banks in China: 2017 Review and Outlook," March 23, 2018, 1; China.org.cn, "Law of the People's Republic of China on Commercial Banks," December 27, 2003.

**Figure 5: NPLs Held by Chinese Commercial Banks, 2009–Q2 2018**

Source: China Banking Regulatory Commission via CEIC database.

The size of China's total debt increases further when local government borrowing is taken into account, including credit guarantees for local government financing vehicles (LGFVs).<sup>\*</sup> These debts are not included in official Chinese debt statistics, but private estimates from 2018 indicate hidden local government debts total around \$3 trillion.<sup>115</sup> According to Li Yuze, an analyst at securities brokerage China Merchant Securities, adding these hidden debts to China's official statistics would increase the government debt-to-GDP ratio from 36.7 percent to more than 60 percent, the threshold set by the Bank of International Settlements for countries at risk of a banking crisis.<sup>116</sup>

Beginning in June 2018, a series of local government debts packaged as LGFV three-year bonds began to mature.<sup>117</sup> As LGFVs refinance their debts, the debts will be transformed into officially-sanctioned local government debts with explicit guarantees, which is expected to lead to falling domestic interest rates and bond yields.<sup>118</sup> The IMF has warned that these implicit government debt guarantees have contributed to "moral hazard and excessive risk-taking" in the country's banking sector.<sup>119</sup>

The looming maturity of LGFV debt has also raised the threat of a wave defaults. In September 2018, China's State Council issued guidelines announcing that local government financing platforms will be allowed to default.<sup>120</sup> To date, no LGFV has ever been allowed to default.<sup>121</sup> In June 2018, securities prices of Qinghai Provincial Investment Group (an LGFV with \$300 million in bonds coming due in September 2018) dropped after Standard & Poor's put the company on its negative credit watch, citing refinancing risks.<sup>122</sup> In

<sup>\*</sup>LGFVs are economic entities established by Chinese local governments to finance government-invested projects, typically infrastructure and real estate development projects. Because local governments are barred from borrowing in China, they use LGFVs to borrow the money to finance projects.

September 2018, Moody's Investors Services downgraded the credit ratings of five Chinese LGFVs, while Standard & Poor's Global Ratings lowered the credit ratings of seven Chinese LGFVs, citing a belief that local government support for these vehicles "could weaken over time."<sup>\*</sup><sup>123</sup> In total, around 90 Chinese LGFVs currently hold more than \$40 billion in debt in U.S. dollar bonds, roughly half of which will come due in 2019 or 2020.<sup>124</sup>

In an attempt to limit the risks posed by mounting debt levels, Beijing released new draft legislation strengthening financial regulations, particularly focusing on constraining the activities of wealth management products (WMPs).<sup>†</sup> The legislation, announced in July 2018 by the China Banking and Insurance Regulatory Commission, introduced draft rules on commercial banks' WMPs, including creating a standardized supervision mechanism of banks' WMPs, improving new protections for investors, and barring banks from offering implicit guarantees against losses to attract investors. However, the new regulations will reportedly not go into full effect until 2021.<sup>125</sup> According to official Chinese data, a total of 562 Chinese banks held nearly \$4.5 trillion in outstanding WMPs at the end of 2017.<sup>126</sup>

Beijing successfully cracked down on credit growth in 2017 and the first quarter of 2018, with the country's debt-to-GDP ratio increasing just 0.4 percentage points over that period, down from 12.1 percentage points in 2016.<sup>127</sup> However, economic analysts fear Beijing's strategy for deleveraging is unsustainable, and Chinese policymakers are already spurring new credit growth to combat fears of an economic slowdown. In June 2018, a leaked report from the National Institute of Finance and Development, a Chinese government-backed think tank, concluded that "China is currently extremely likely to experience a financial panic" due to a combination of trade tensions, renminbi (RMB) depreciation, tight liquidity, and bond defaults,<sup>‡</sup> among other factors.<sup>128</sup> In July 2018, amid signs of a softening domestic economy and increasing trade tensions with the United States, China's State Council ended an informal campaign to get local officials to restrain their spending, and instead launched a new initiative urging local officials to accelerate approved investment projects.<sup>129</sup>

### *Controlling Pollution*

Policymakers at the December conference prioritized efforts to control pollution, with authorities aiming for a significant reduction in major pollutant emissions and an improvement in the overall environment by 2020.<sup>130</sup> In June 2018, China's State Council released a three-year action plan aimed at improving antipollution laws,

<sup>\*</sup>The total number of Chinese LGFVs is not known, but one recent Rhodium Group report citing information from WIND, a Chinese financial database, found that there are 1,979 LGFVs with outstanding bonds. The total number of Chinese LGFVs is likely much higher. Bart Carfagno, Rhodium Group, interview with Commission staff, October 5, 2018.

<sup>†</sup>WMPs are financial products packaged and sold by banks, but transferred from banks' balance sheets to nonbank financial institutions like trusts, brokerages, and asset management companies to evade reserve requirements and restrictions on bank investments in certain sectors. Gabriel Wildau, "China Launches Fresh Attack on Shadow Banking Risk," *Financial Times*, February 22, 2017.

<sup>‡</sup>In the first half of 2018, 11 Chinese issuers defaulted on the interest and principal payments of 20 bonds worth a combined \$3 billion. In all of 2017, ten Chinese issuers defaulted on bond payments. *Forbes*, "What China's Recent Bond Defaults Mean for Investors," June 28, 2018; *Reuters*, "China Chengxin Downgrades CEFC Shanghai International after Default," June 22, 2018.

building law enforcement capacity to enforce pollution laws, and increasing public engagement on environmental issues.<sup>131</sup> Under the plan, regions in northeast China—namely the Beijing-Tianjin-Hebei region, Yangtze River Delta, and surrounding areas—are banned from building new steel, aluminum, and cement capacity, and required to cut coal use by 10 percent from 2015 levels by 2020.<sup>132</sup> The plan also seeks to increase China's new energy vehicle production and sales to two million units by 2020.\*<sup>133</sup>

To date, China remains on track to meet its Paris Agreement commitments—including reaching peak carbon emissions by 2030, increasing the share of renewable energy sources in the primary energy supply to 20 percent by 2030, and lowering the carbon intensity of GDP to 60–65 percent of 2005 levels.<sup>134</sup> However, according to the Climate Action Tracker, an independent scientific organization tracking countries' climate change actions, these targets would not be sufficient for limiting a global temperature increase to 1.5 degrees Celsius.<sup>135</sup> Reducing pollution levels is a priority for the Chinese government in part out of economic necessity; a 2015 study by the RAND Corporation found that every year between 2000 and 2010, air pollution led to the loss of 6.5 percent of China's GDP annually, or a combined total of \$675 billion.<sup>136</sup>

China's efforts to address pollution remain woefully inadequate. For instance, air pollution levels in northern China declined between 2013 and 2016, but increased again in 2017 as economic growth efforts—particularly industrial activity—accelerated.† One study found that air pollution contributed to more than 1.2 million deaths in China in 2013 alone.<sup>137</sup> Although the Chinese government halted the operations of many coal plants in recent years, satellite imagery shows many of those plants restarted their operations in 2018, which could increase China's coal-fired power capacity (a significant source of air pollution) by an estimated 4 percent.<sup>138</sup> Chinese companies are also investing heavily in coal power abroad through the government's Belt and Road Initiative, raising concerns that Chinese investment will contribute to poor environmental standards in developing countries.<sup>139</sup>

Water pollution remains one of the most difficult health and economic problems facing the Chinese government. Chinese government statistics indicate that over 75 percent of water in northern China is undrinkable because of pollution and, in some areas, is so polluted that it should not be used to bathe or wash clothes.<sup>140</sup>

According to Jennifer Turner, director of the Wilson Center's China Environmental Forum, two additional areas of environmental concern in China also remain unaddressed: soil pollution and municipal waste. So much of the country's soil has already been contaminated that the Chinese government is hesitant to try and address the problem.<sup>141</sup> The Chinese government has estimated soil cleanup would cost \$150 billion, but only \$2.2 billion has been dedi-

\*According to the China Association of Automobile Manufacturers, 777,000 new energy vehicles were sold in China in 2017, up 53.3 percent year-on-year. State Council of the People's Republic of China, *China's New Energy Vehicle Market Continues Sharp Expansion in 2017*, January 11, 2018.

†For more on China's air pollution, see Steven Bernard and Lucy Hornby, "China's Polluted Skies," *Financial Times*, June 28, 2018.

cated to soil remediation projects to date.<sup>142</sup> In its 2018 action plan, the State Council announced China will take measures to control soil pollution and restore around 90 percent of polluted farmland by 2020.<sup>143</sup> The plan does not include any specific measures that will be taken to reach these goals.

China produces around one-quarter of the world's total generated solid waste—200 million tons in 2016 alone—and is predicted to exceed 500 million tons a year by 2025.<sup>144</sup> Nearly two-thirds of China's municipal solid waste is buried in 640 landfills,\* which slowly release methane—a greenhouse gas 25 times more damaging to the environment than carbon emissions.<sup>145</sup> In 2017, China's National Development and Reform Commission ordered 46 cities to begin mandatory waste-sorting programs, which it hopes will improve recycling and waste removal processes.<sup>146</sup> In July 2017, China's State Council announced a goal of ending all solid waste and scrap imports by 2019 to cut down on its waste holdings.<sup>147</sup> The State Council's June 2018 action plan also pledged to “promote classified disposal of waste and enhance prevention and control of solid waste pollution,” but did not include any specific policies.<sup>148</sup>

### **China Bans Waste and Scrap Imports**

In September 2017, China notified the WTO it would no longer accept imports of 24 types of waste products, including plastics, textiles, unsorted paper, artificial fibers, and certain metals.<sup>149</sup> Effective December 31, 2018, China will also ban imports of 16 other scrap metal and chemical waste products.<sup>150</sup> By the end of 2019, an additional 16 waste product imports will be banned in China.<sup>151</sup> An August 2017 regulation from China's Ministry of Environmental Protection also set a higher standard for recyclable product imports, effectively banning all scrap imports to China.† The new regulations have left Western countries struggling to deal with a buildup of waste products that were previously sent to China.<sup>152</sup>

China was the world's largest importer of waste and scrap, accounting for 22 percent of global waste and scrap imports in 2015 (\$24 billion out of \$109 billion total imports).<sup>153</sup> China also represented the United States' largest export market for waste and scrap, accounting for roughly \$5.7 billion (or 30 percent) of all U.S. waste and scrap exports in 2017.<sup>154</sup> By 2030, it is estimated that there will be an extra 111 million metric tons of “displaced” plastics in landfills and the ocean because of the ban, with the United States alone having to manage 37 million metric tons of additional plastic waste.<sup>155</sup> As a result of the ban, the price of scrap metal will also decline, leading to shifts in global metal supply chains.<sup>156</sup>

\*By comparison, the United States produced 258 million tons of municipal solid waste in 2014, of which approximately 50 percent was deposited in nearly 5,000 landfills. Siyi Mi, “Hot Times: Waste-to-Energy Plants Burn Bright in China's Cities,” *New Security Beat* (Wilson Center blog), November 27, 2017; U.S. Environmental Protection Agency, *Materials and Waste Management in the United States Key Facts and Figures*.

†For more on China's waste import ban, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, October 5, 2017, 8–12.

### *Poverty Reduction*

During the December conference, policymakers pledged to eliminate poverty by 2020 through a “targeted poverty alleviation” strategy.<sup>157</sup> This includes creating measures tailored to individuals and individual households to provide poverty assistance.<sup>158</sup> The strategy is primarily a continuation of existing policies that have successfully reduced poverty levels over the last five years, including by creating a government poverty registration system; expanding industrial development and rural community relocation efforts; and attempting to increase access to water, food, and education in rural areas.<sup>159</sup>

In 2017, at least 30.5 million Chinese were living below the national poverty line of around \$350 per year (set in 2010).<sup>160</sup> According to official Chinese statistics, China has brought millions of people out of poverty in recent years; between the end of 2012 and the end of 2017, China lifted a total of 68.5 million rural people out of poverty, with the poverty rate falling from 10.2 percent to 3.1 percent.<sup>161</sup>

According to the U.S. Central Intelligence Agency, however, China remains one of the most unequal countries in the world as measured by the Gini Coefficient, ranking 29th out of 157 countries—more unequal than Malaysia, South Sudan, and Saudi Arabia.\* A 2018 report by the IMF noted that “differences between rural and urban areas have been found to be a key driver of rising income inequality in China.”<sup>162</sup> Although the rural-urban gap’s contributions to overall inequality in China have declined over the past decade, low educational attainment, lack of access to medical services, and *hukou* † restrictions continue to contribute to inequality between rural and urban households.<sup>163</sup>

The Chinese government’s existing plans for rural development focus primarily on implementing limited reforms to the *hukou* system, which would grant more migrants urban residency and enable them to access urban education, health, and housing services. In 2016, Premier Li Keqiang pledged that 100 million migrant workers would receive urban residency by 2020.<sup>164</sup> By the end of 2016, China had issued 28.9 million new urban residency permits.<sup>165</sup> However, many structural problems persist in the *hukou* system—including lack of appropriate housing, the poor quality of services in rural communities, and an overly complicated *hukou* application process.<sup>166</sup>

### **China’s Domestic Economic Rebalancing**

The Chinese government continues to focus on sustaining robust economic growth, a goal made more difficult by rising trade tensions with the United States and efforts to deleverage. Shi Yinzhong, an adviser to China’s State Council, called trade ten-

\*The United States is ranked 39th. The Gini Coefficient measures inequality on a range from zero (everyone in a country has an equal income) to 100 (one person or household holds all the country’s wealth). Central Intelligence Agency, *World Factbook—Gini Index*.

†China’s household registration system, or *hukou*, establishes eligibility for education and access to government services for all Chinese citizens based on the status of one’s parents and place of birth. The holder of a *hukou* can only receive government services and benefits where they are registered, which disadvantages rural residents who migrate to cities. Congressional-Executive Commission on China, *China’s Household Registration System: Sustained Reform Needed to Protect China’s Rural Migrants*, October 7, 2005.

sions with the United States the “biggest challenge” to China’s economy.<sup>167</sup> Meanwhile, China Banking and Insurance Regulatory Commission Chairman Guo Shuqing commented in June 2018 that China’s financial deleveraging campaign “must fully consider the ability of institutions and the market to withstand” such pressures, suggesting Beijing plans to relax deleveraging efforts if economic growth slows.<sup>168</sup>

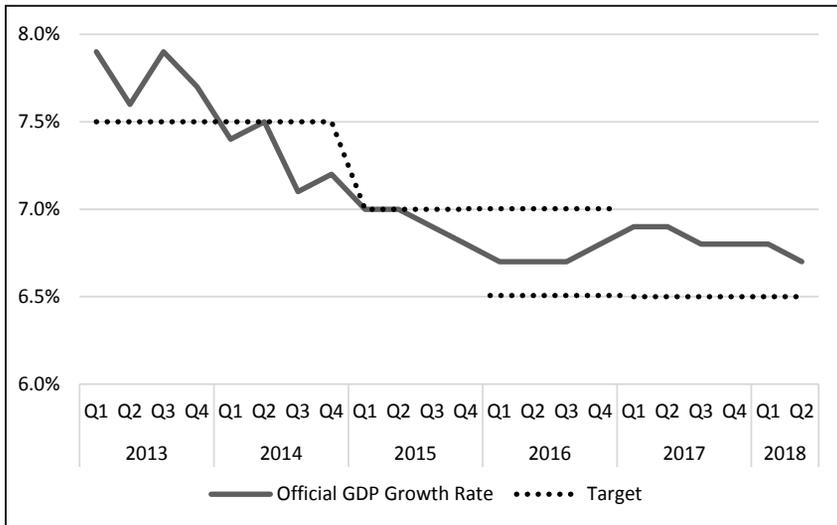
These challenges have already begun to weigh on China’s overall economic performance as investment, consumption, and business activity growth fell in the second quarter of the year. Early indicators suggest China’s economic growth will slow further in the second half of 2018, threatening progress on CCP policy priorities.

Faced with these economic concerns, Beijing appears to be suspending deleveraging efforts in favor of supporting GDP growth. According to Zhu Ning, an economist at Tsinghua University, “The focus is no longer on deleveraging, but on transferring leverage from one sector to another.”<sup>169</sup> In October 2018, the PBOC cut banks’ reserve requirement ratio—the fourth time it has done so in 2018—freeing up around \$110 billion in hopes of spurring new lending and investment.<sup>170</sup> In July 2018, it lent more than \$73 billion to commercial banks in an effort to boost their liquidity, the largest capital injection of this kind since 2014.<sup>171</sup> A government statement also called for increased government spending on infrastructure projects and to keep credit liquidity conditions “reasonable and adequate,” a sign that banks will begin loosening their credit restrictions.<sup>172</sup> The CCP continues to emphasize its debt reduction priorities, however, with Chinese policymakers reiterating in a July 2018 statement that their focus remains on reducing debt and creating jobs in the second half of 2018.<sup>173</sup>

According to official Chinese statistics, in 2017 China’s GDP grew 6.9 percent, up from 6.7 percent in 2016 and exceeding the Chinese government’s target GDP growth of “around 6.5 percent.”<sup>174</sup> In the first quarter of 2018, Chinese data indicate the country’s GDP grew at 6.8 percent year-on-year before falling to 6.7 percent in the second quarter (see Figure 6).<sup>175</sup> However, foreign economists, investors, and analysts remain skeptical about the reliability of China’s official economic growth figures. Discrepancies between GDP data published at the national and provincial levels, as well as China’s unusually consistent growth figures, suggest official statistics are not a wholly accurate indicator of China’s economic growth rate.\*<sup>176</sup>

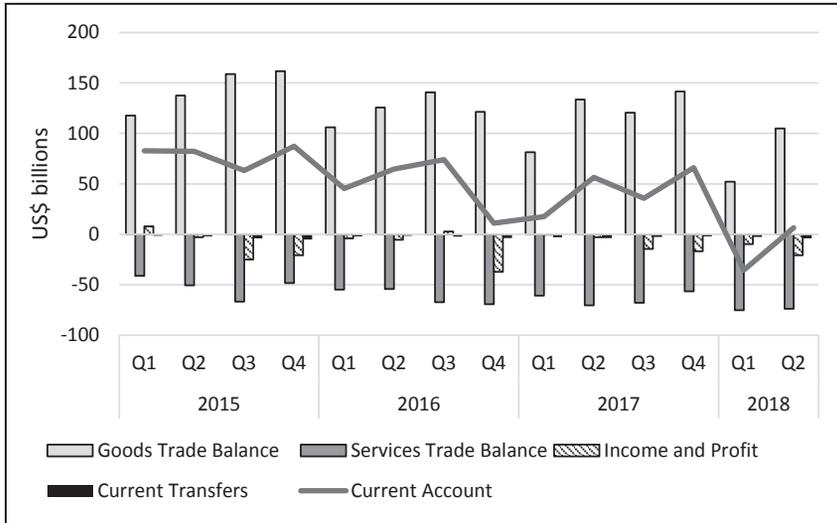
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\*For more on the reliability of Chinese data, see Jacob Koch-Weser, “The Reliability of China’s National Economic Data: An Analysis of National Output,” *U.S.-China Economic and Security Review Commission*, January 28, 2013.

**Figure 6: China's Official GDP Growth, 2013–Q2 2018**

*Note:* In 2016, the GDP growth target was set at a range of 6.5–7.0 percent.  
*Source:* China's National Bureau of Statistics via CEIC database; Li Keqiang, *Report on the Work of the Government*, First Session of the 13th National People's Congress, Beijing, China, March 5, 2018, 20.

In the first half of 2018, China posted a current account deficit of \$28.3 billion—or 1.1 percent of GDP—the lowest level for China in 20 years.<sup>177</sup> The current account represents flows of Chinese goods and services trade as well as net income (including income payments from interest) and direct transfers (e.g., remittances). As seen in Figure 7, China's deficit in the first half of 2018 resulted from its decreasing global goods trade surplus (down 27 percent and 27.9 percent year-on-year in the first and second quarters of 2018, respectively) and an increase in its global services trade deficit (up 3.9 percent and 1.4 percent year-on-year in the first and second quarters of 2018, respectively).<sup>178</sup> Although China's total trade deficit posted a small (\$5.8 billion) surplus in the second quarter of 2018, its current account surplus has been trending downward in recent years.<sup>179</sup> As recently as 2007, China's current account surplus stood at 10 percent of GDP.<sup>180</sup> Ding Shuang, an analyst at the emerging markets bank Standard Chartered, predicts China's current account will still post an annual surplus in 2018, but will drop to just 1 percent of GDP in 2018 and 0.5 percent in 2019.<sup>181</sup>

**Figure 7: China Current Account Balance, 2015–Q2 2018**

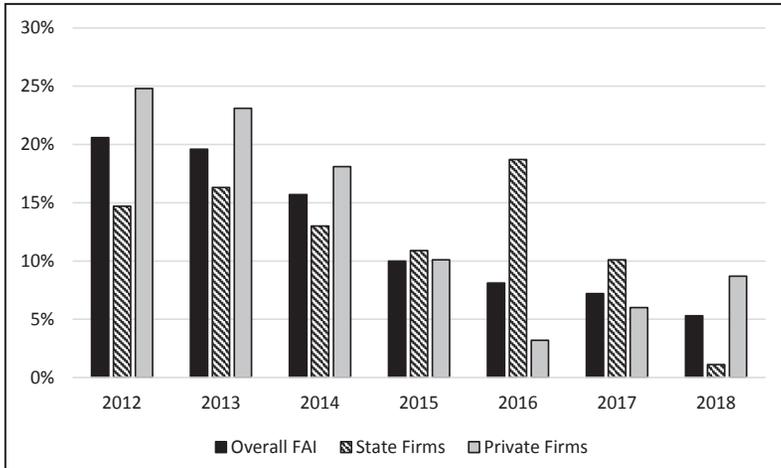
Source: China's General Administration of Customs via CEIC database.

The lasting impact of a declining current account balance for China's economic growth and reform priorities remains unclear. However, one likely outcome of a current account deficit or small surplus is that it will increase volatility in the RMB exchange rate. In recent years, China's current account surplus has supported the RMB's value, but this ability could be affected if China begins to run a deficit or sees the margin of its surplus shrink.<sup>182</sup> A current account deficit may also lead Beijing to sell foreign assets or increase foreign borrowing to finance government projects, limiting China's ability to insulate itself from financial shocks. U.S.-China trade tensions could worsen these risks as new tariffs are implemented on Chinese goods exports to the United States, further reducing China's current account balance.<sup>183</sup>

### ***Investment and Retail Sales Growth Slows***

In 2017, fixed asset investment (FAI)—a traditional driver of China's economy measuring investment in physical assets such as buildings, machinery, or equipment—grew at only 7.2 percent year-on-year, the slowest since 1999.<sup>184</sup> Most of that growth was driven by SOE investments, which increased 10.1 percent year-on-year compared to 6 percent for investment from private firms.<sup>185</sup> In the first eight months of 2018, FAI expanded by only 5.3 percent year-on-year (see Figure 8).<sup>186</sup> SOE investment slowed significantly over that period, increasing just 1.1 percent.<sup>187</sup> However, investment may accelerate as the government seeks to support economic growth in the face of escalating trade tensions.<sup>188</sup>

**Figure 8: Growth in Chinese FAI, 2012–August 2018**  
(Year-on-Year)



Note: Data for 2018 are for the first eight months of the year.  
Source: China's National Bureau of Statistics via CEIC database.

Retail sales—a reliable indicator of consumer demand—increased at their slowest pace since 2003, growing just 4.3 percent year-on-year in the first eight months of 2018.\* In 2017, retail sales increased 10.3 percent year-on-year.<sup>189</sup> Consumption's contribution to GDP declined to 59 percent in 2017, down from 60 percent and 66.5 percent in 2015 and 2016, respectively.<sup>190</sup> Sluggish consumption figures are a worrying sign for the Chinese economy and reflect that the Chinese government is still stalled in its stated desire to transition away from old drivers of growth—such as investment in infrastructure and real estate—toward a consumption-led model.<sup>191</sup> Also worrying for the Chinese government are indications that consumption growth, particularly among younger shoppers, is beginning to slow amid signs of China's weakening economic growth, RMB depreciation, and trade tensions with the United States.<sup>192</sup>

### ***Real Estate Growth Shows Signs of Slowing***

Real estate investment increased 7 percent year-on-year in 2017, consistent with 6.9 percent year-on-year growth in 2016.<sup>193</sup> In the first eight months of 2018, real estate investment rose 10.1 percent year-on-year, driven by increased demand in smaller Chinese cities where property prices are lower and there are fewer restrictive regulations governing real estate purchases.<sup>194</sup>

Property demand is softening, however, particularly in China's largest cities where home prices have risen dramatically in recent years.†<sup>195</sup> In year-to-date terms, property sales by floor area were up

\*Retail sales refer to the sum of sales of commodities sold by wholesale and retail trades, catering services, publishing, post and telecommunications, and other services industries for household consumption and to social institutions for public consumption. China's National Bureau of Statistics via CEIC database.

†Housing prices in Shenzhen, Beijing, and Shanghai grew more than any other city in the world between 2010 and 2017, increasing by 180 percent, 178 percent, and 135 percent, respectively. By comparison, housing prices in San Francisco, which had the fourth-largest rise in prop-

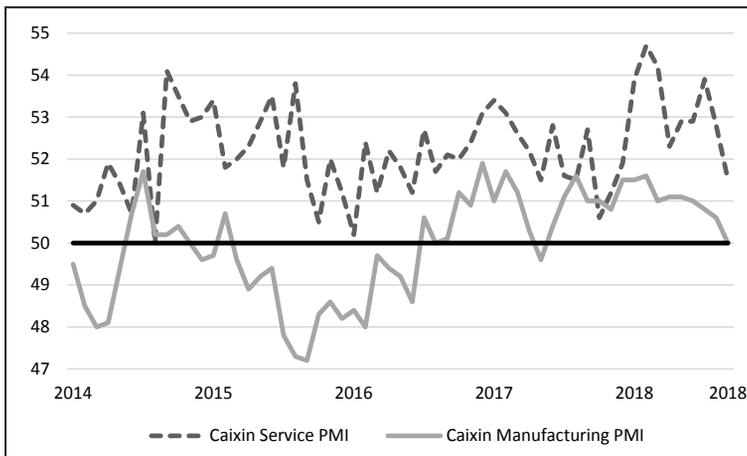
by only 4 percent year-on-year through August 2018, down from 7.7 percent year-on-year in 2017.<sup>196</sup> In the first eight months of 2018, the price of property purchases dropped in Beijing (-21.3 percent year-on-year), Tianjin (-16.5 percent), and Shanghai (-1.9 percent), among other large cities.<sup>197</sup>

### **Exports, Manufacturing, and Services Bolster Growth**

Through the first eight months of 2018, Chinese global goods exports swelled to \$1.6 trillion, up 11.4 percent compared to the same period in 2017.<sup>198</sup> However, Chinese goods exports may dip in the second half of the year as business surveys point to weakening export order growth, possibly due to fears companies will be stuck with high inventories if U.S.-China tariffs lead to rising prices.<sup>199</sup>

China's manufacturing activity remains stagnant. Unofficial estimates by the Chinese financial media firm Caixin found China's manufacturing Purchasing Managers' Index (PMI),\* a measure of economic expansion and industrial utilization, came in at an average of 50.9 in 2017 (see Figure 9).†<sup>200</sup> A reading above 50 indicates an expansion of the manufacturing sector. Through the first nine months of 2018, manufacturing PMI has averaged 51.<sup>201</sup> Meanwhile, the services sector has enjoyed a prolonged period of expansion, with Caixin's services PMI remaining above 50 since mid-2014.<sup>202</sup> Through the first eight months of the year, services exports from China were up 14.4 percent year-on-year, up from 10.6 percent year-on-year growth in 2017.<sup>203</sup>

**Figure 9: Caixin Services and Manufacturing PMIs, 2014–September 2018**



Source: Caixin and IHS Markit, "Caixin China General Manufacturing PMI," *Markit Economics*, June 2, 2018; Caixin and IHS Markit, "Caixin China General Services PMI," *Markit Economics*, June 2, 2018.

erty prices during that period, increased 83 percent. *Bloomberg News*, "China Starts Experiment to Tame Its Wild Property Market," January 25, 2018.

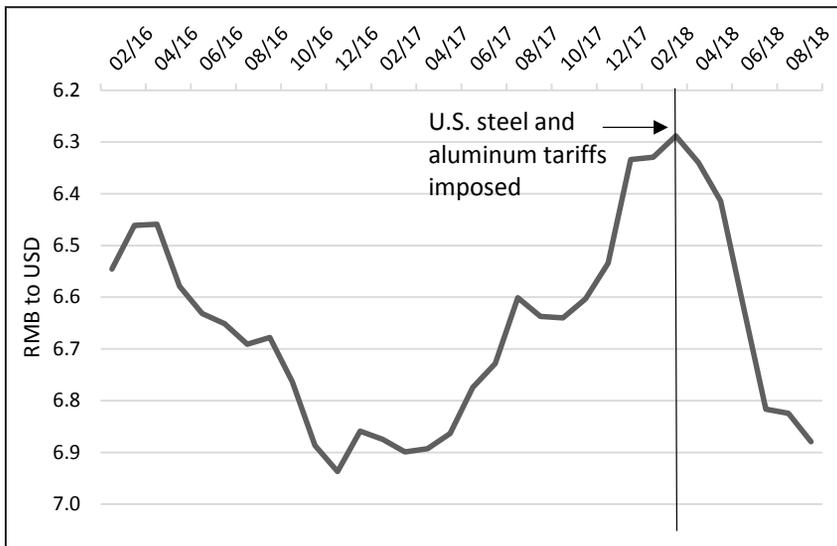
\*The PMI measures the production level, new orders, inventories, supplier deliveries, and employment level to gauge the economic activity level in the manufacturing sector. The global financial information services provider Markit Economics compiles the Caixin-Markit China manufacturing PMI from monthly questionnaires to more than 420 manufacturing purchasing executives (including small- and medium-sized enterprises). By comparison, China's official PMI tracks larger state-owned companies, generally leading to a stronger reading than private PMIs.

†By comparison, the U.S. manufacturing PMI was 58.1 in July 2018, down from 60.2 in June. Trading Economics, "U.S. Factory Growth at 3-Month Low: ISM."

### **RMB Management**

Increased economic uncertainty following escalating trade tensions with the United States led the RMB to depreciate 9.4 percent between March and September 2018, dropping to its lowest level since April 2017 (see Figure 10).<sup>204</sup> The significant currency depreciation has alarmed some global investors, who fear China is intentionally allowing its currency to weaken in order to support exports.<sup>205</sup> In July 2018, President Trump also claimed China was manipulating its currency, devaluing the RMB's value to support Chinese exports and offset the impact of U.S. tariffs.<sup>206</sup>

**Figure 10: RMB to U.S. Dollar Exchange Rate, February 2016–August 2018**



Source: People's Bank of China via CEIC database.

Chinese policymakers believe managing the RMB's exchange rate is necessary for preventing significant depreciation and reassuring global and domestic investors about the stability of China's economy.<sup>207</sup> However, Beijing's control over the exchange rate also presents a potential tool for responding to U.S. trade enforcement actions. If China's economic growth begins to slow as a result of U.S. tariffs, Chinese policymakers could weaken the RMB to adjust prices for Chinese products abroad.<sup>208</sup> According to Brad Setser, senior fellow for international economics at the Council on Foreign Relations, a 10 percent currency depreciation against a basket of currencies generally raises net exports by about 1.5 percentage points of GDP, potentially offsetting any economic slowdown from U.S. tariffs.<sup>209</sup> However, using RMB devaluations as a tool to offset the impact of trade tensions is risky; significant currency devaluations could spark increased capital outflows as investors seek to move their money out of China.<sup>210</sup> If capital outflows do surge, the PBOC would likely buy RMB with its foreign reserves to artificially

create demand and support the RMB's value, much like it did in 2015 and 2016.\*

Chinese policymakers have pledged not to use the RMB as a tool in trade conflicts, with PBOC Governor Yi Gang saying China will “keep the yuan exchange rate basically stable at reasonable and balanced level.”<sup>211</sup> Beijing appears to have the ability to keep its currency's value stable; the PBOC maintains around \$3.1 trillion in foreign reserves † it could use to manipulate the RMB's value, while China's state banks have a net foreign asset position of over \$500 billion, and the China Investment Corporation (a sovereign wealth fund) has \$270 billion in its foreign portfolio that could also be sold.<sup>212</sup> In August 2018, the PBOC reinstated a series of controls over the exchange rate, implementing a banking mechanism used to support the RMB's value against the U.S. dollar.‡ The change represents a reversal from a January 2018 decision to eliminate the mechanism, and signals that Chinese policymakers hope to stabilize the RMB's value.<sup>213</sup>

The Chinese government continues to prioritize efforts to internationalize the RMB, but the strategy has been met with mixed results to date. Despite becoming a world reserve currency in 2015, only a small share of cross-border payments are processed in RMB. According to SWIFT Banking (a global interbank transaction system), in December 2017, only 1.6 percent of its cross-border transactions were denominated in RMB. Meanwhile, the U.S. dollar was used in nearly 40 percent of transactions processed during the same period.<sup>214</sup>

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\*China's foreign reserves fell \$980 billion from their \$3.98 trillion peak in June 2014 to \$3 trillion in January 2017. People's Bank of China via CEIC database; Brad Setser, “Devaluation Risk Makes China's Balance of Payments Interesting (Again),” *Follow the Money* (Council on Foreign Relations blog), July 2, 2018.

†Although the exact composition of China's foreign exchange reserves is unknown, estimates indicate about 67 percent of the value is in dollar-denominated assets, primarily comprised of U.S. Treasury securities, but also including U.S. agency and corporate bonds. Christopher J. Neely, “Chinese Foreign Exchange Reserves, Policy Choices, and the U.S. Economy,” *Federal Reserve Bank of St. Louis*, April 17, 2017.

‡The mechanism, known as the “counter-cyclical factor,” allows the bank to set the daily midpoint of the RMB's dollar exchange rate. The mechanism effectively lessens the impact of market forces in determining the RMB exchange rate. Kelly Olsen, “China's New Currency Policy Is a Dovish Signal in the Trade War, Analysts Say,” *CNBC*, August 27, 2018.

**Addendum I: WTO Cases**  
**Ongoing WTO Cases Brought by the United States against China**

<b>No.</b>	<b>Title</b>	<b>Request for Consultations</b>	<b>Panel Report</b>	<b>Status</b>
DS508	Export Duties on Certain Raw Materials	July 13, 2016	Panel established but not yet composed November 2016	The United States requested consultations with China over China's export subsidies on nine raw materials.*
DS511	Domestic Support for Agricultural Producers	September 13, 2016	Panel composed June 2017	The United States requested consultations with China over China's domestic support for rice, wheat, and corn in excess of its WTO commitments.
DS517	Tariff Rate Quotas for Certain Agricultural Products	December 15, 2016	Panel composed February 2018	The United States argues China's tariff rate quota treatment for rice, wheat, and corn is nontransparent, unpredictable, and violates China's WTO commitments.
DS519	Subsidies to Producers of Primary Aluminum	January 12, 2017	In consultations; panel not yet formed	The United States alleges China provides certain producers of primary aluminum with subsidies, including artificially cheap loans and artificially low-priced inputs for production, such as coal, electricity, and alumina.
DS542	Certain Measures Concerning the Protection of Intellectual Property Rights	March 23, 2018	In consultations; panel not yet formed	The United States requested consultations with China concerning certain measures pertaining to the protection of IP.
DS558	Additional Duties on Certain Products from the United States	July 16, 2018	In consultations; panel not yet formed	The United States requested consultations with China concerning the imposition of duties on certain products from the United States.

*Source:* World Trade Organization, *Disputes by Member*.

\*The materials are antimony, cobalt, copper, graphite, lead, magnesia, talc, tantalum, and tin.

**Addendum I: WTO Cases—Continued**

**Ongoing WTO Cases Brought by China against the United States**

<b>No.</b>	<b>Title</b>	<b>Request for Consultations</b>	<b>Panel Report</b>	<b>Status</b>
DS515	Measures Related to Price Comparison Methodologies	December 12, 2016	In consultations; panel not yet formed	China's complaint alleges the United States has failed to treat China as a market economy for the purposes of calculating antidumping duties.
DS543	Tariff Measures on Certain Goods from China	April 4, 2018	In consultations; panel not yet formed	China requested consultations with the United States concerning tariffs on Chinese goods resulting from the Section 301 investigation.
DS544	Certain Measures on Steel and Aluminum Products	April 5, 2018	In consultations; panel not yet formed	China requested consultations with the United States concerning certain duties imposed on imports of steel and aluminum products.
DS562	Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products	August 14, 2018	In consultations; panel not yet formed	China requested consultations with the United States concerning tariffs on imports of solar panel products.
DS563	Certain Measures Related to Renewable Energy	August 14, 2018	In consultations; panel not yet formed	China requested consultations with the United States concerning alleged subsidies and domestic content requirements in the energy sector.
DS565	Tariff Measures on Certain Goods from China II	August 23, 2018	In consultations; panel not yet formed	China requested consultations with the United States concerning the imposition of duties on certain products from the United States.

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## 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.<sup>1</sup> 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.”<sup>2</sup> 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*).<sup>3</sup> 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."<sup>4</sup> This imperative is achieved through long-term, state-directed policies.<sup>5</sup> 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:

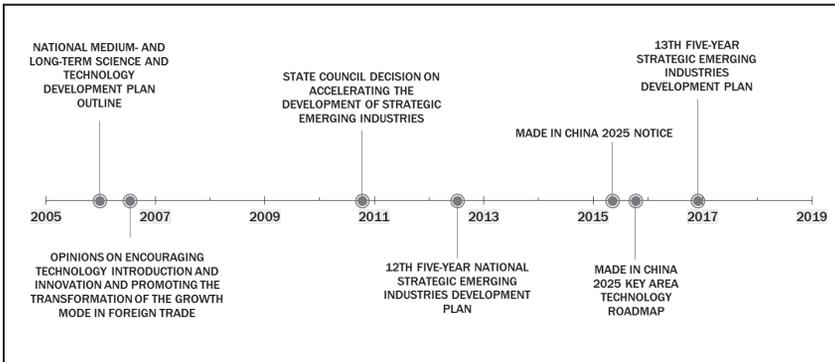
1. Discriminate against U.S. firms or products;
2. Encourage "excessive government involvement in determining market winners and losers";
3. Are tied to export, localization, or local IP targets; or
4. Lead to subsidization or technology transfer.<sup>6</sup>

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.

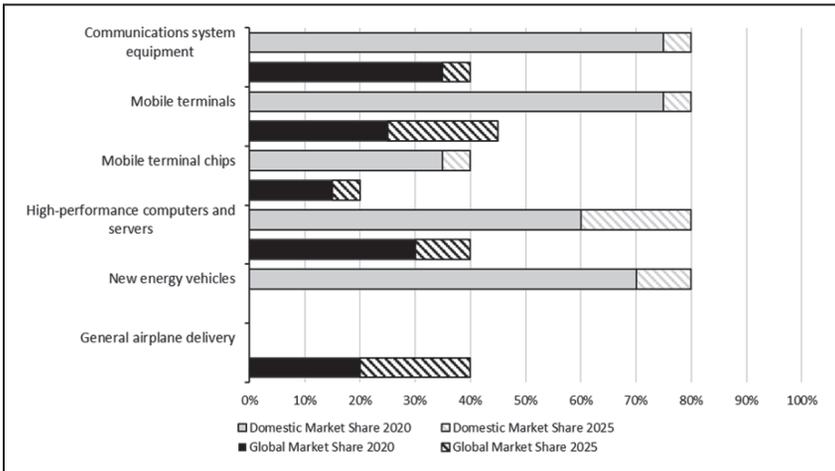
**Figure 1: China’s Major Technology-Related Industrial Policies**



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).<sup>7</sup>

**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.<sup>8</sup> Beijing Genomics Institute then acquired Illumina's closest competitor, Complete Genomics in Mountain View, California, in 2012.<sup>9</sup>

### Subsidies

Subsidies provided by the Chinese government can generate global overcapacity and price distortions in a broad array of sectors, from heavy industry like steel<sup>10</sup> to value-added technologies like semiconductors.<sup>11</sup> 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."<sup>12</sup> 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."<sup>\*13</sup> 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."<sup>14</sup> (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 companies<sup>15</sup>—receive preferential treatment that erodes "competitive neutrality" and creates an uneven playing field for private sector firms.<sup>†16</sup> Private Chinese companies also receive government subsidies, blurring the line between privately and publicly owned firms.<sup>17</sup> 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.<sup>‡</sup>

\*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.<sup>18</sup> 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"<sup>19</sup> in Ant Financial Services Group, Alibaba's financial services affiliate.\*<sup>20</sup> In September 2016, Ant Financial Services Group paid an estimated \$70 million to \$100 million<sup>21</sup> to acquire the U.S.-based EyeVerify Inc., a biometric authentication startup.<sup>22</sup> 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."<sup>23</sup>

## ***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.<sup>24</sup> CVD laws can provide relief to domestic industries adversely impacted by underpriced imports that receive foreign government or public subsidies.<sup>25</sup> 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]."<sup>26</sup> AD/CVD cases are the most frequently used domestic remedy.<sup>27</sup> 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.<sup>28</sup> 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.<sup>29</sup>

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.\*<sup>30</sup> Of those 170, orders on iron and steel comprise the largest share (54), followed by chemicals and pharmaceuticals (35), and miscellaneous manufactured goods (48).<sup>31</sup> 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.<sup>32</sup> 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.<sup>33</sup>

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.<sup>34</sup> 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.<sup>35</sup> According to Dr. Bown, with reduced access to the U.S. market, Chinese exports shift to other countries and global overcapacity remains unresolved.<sup>36</sup> 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.<sup>37</sup>
- *Transshipment*: Chinese manufacturers may reroute their products through an intermediate shipping hub, where the products' country of origin may be relabeled.<sup>38</sup> 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.<sup>39</sup> 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.<sup>40</sup>
- *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](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](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.”<sup>41</sup> The association emphasized that affected trade associations represent industries employing over a million U.S. workers.<sup>42</sup>

- *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.<sup>43</sup> 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.<sup>44</sup> 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.<sup>45</sup>
- *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.”<sup>46</sup> China is also introducing AD/CVD orders against U.S. exports to China, like dried distiller grains.<sup>47</sup>
- *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.<sup>48</sup> 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.<sup>49</sup> The USITC presents its recommendations to the president, who decides whether to implement them.<sup>50</sup> 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.<sup>51</sup> 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."<sup>52</sup>

In 2002, Section 201 duties were imposed to protect the steel industry from imports from "foreign steel producers ... nurtured by government subsidies."<sup>53</sup> In 2005, the USITC evaluated these duties' effectiveness "in facilitating positive adjustment of the domestic industry to import competition."<sup>54</sup> 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),<sup>55</sup> and U.S. steel exports increased in some products.\*<sup>56</sup> 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."<sup>57</sup> 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.<sup>58</sup>

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."<sup>59</sup>
- *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.<sup>60</sup> When a Section 201 ruling intentionally excludes some products, foreign exporters of those products may benefit from the measure, as their competition is reduced.<sup>61</sup> Dr. Bown estimated that between 2001 and 2003, U.S. imports of products excluded from the Section 201 steel safeguard measure increased in value;<sup>62</sup> moreover, those product imports' volume increased at a faster rate.<sup>63</sup>
- *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.<sup>64</sup> Section 201 remedies can be undermined by an import increase from exempted countries if the remedy is applied to a subset of countries.<sup>65</sup> For example, in the 2002 steel case, the United States refrained from restricting imports from preferential trade agreement partners (Canada, Mexico, Israel, and Jordan).<sup>66</sup> Like product exclusions, these “country exclusion” imports’ value rose and their imported volume increased at a faster rate.<sup>67</sup>

- *Harm to importing U.S. industries:* Section 201 remedies can have an adverse effect on domestic consumers of imported products, including other industries.<sup>68</sup> 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.”<sup>69</sup>
- *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.<sup>70</sup>

### *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.”<sup>71</sup> 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.<sup>72</sup> 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.\*<sup>73</sup> 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.<sup>74</sup> 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.<sup>75</sup> 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.”<sup>76</sup> 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.”<sup>77</sup> 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.”<sup>78</sup> (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](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.”<sup>79</sup> Chinese production volume may not change, but rather will only be diverted to other importing countries, keeping downward pressure on global prices.<sup>80</sup>
- *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.”<sup>81</sup>
- *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.”<sup>82</sup>

### *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.<sup>83</sup> 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.<sup>84</sup> 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.<sup>85</sup> 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.”<sup>86</sup>

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.<sup>87</sup> 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.<sup>88</sup> 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.”<sup>89</sup>

## *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.<sup>90</sup> 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).<sup>91</sup> The blurred line between private and public entities in China makes it difficult to use WTO dispute settlement to address subsidies.<sup>92</sup> Ambassador Shea noted that “the WTO itself does not currently provide the tools” to enforce China’s commitment to “open, market-oriented policies.”<sup>93</sup>

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).<sup>94</sup> 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.<sup>95</sup> The WTO dispute settlement panel broadly agreed with the United States’ argument in 2010.<sup>96</sup> 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.<sup>97</sup> The Appellate Body ruled that “majority government ownership alone was insufficient” to prove SOEs could provide government subsidies.<sup>98</sup> Instead, it concluded a subsidized entity needed to habitually exercise “governmental functions” to qualify.<sup>99</sup> 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.<sup>100</sup>

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.<sup>101</sup> 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.<sup>102</sup> 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.”<sup>103</sup>

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.<sup>104</sup>

### *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.<sup>105</sup> 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.”<sup>106</sup>

In 2016, the G20 leaders created the 33-member Global Forum on Steel Overcapacity, with the OECD acting as a facilitator.<sup>107</sup> The forum’s 2017 report produced guiding principles and a series of concrete policy recommendations.<sup>108</sup> 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.<sup>109</sup> The USTR concluded, “Meaningful progress can only be achieved by removing subsidies and other forms of state support.”<sup>110</sup>

### **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.<sup>†</sup><sup>111</sup> 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.<sup>112</sup>

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.<sup>113</sup> 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.<sup>114</sup> (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.<sup>115</sup> 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.<sup>116</sup>

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.<sup>117</sup> 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.<sup>118</sup> 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.<sup>119</sup> 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."<sup>120</sup>

\*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.”<sup>121</sup> It stated foreign cloud companies “experience discrimination based on nationality due to the Value-Added Telecom Service licensing regime.”<sup>122</sup> For these and other reasons, BSA | The Software Alliance rated China very poorly—22nd of 24 countries—in evaluating China’s cloud computing environment.<sup>123</sup>

### *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.”<sup>124</sup> For example, large companies like Amazon, Microsoft, and Google rely on cloud computing as a high-growth business segment.\*<sup>125</sup> However, Chinese law bars foreign companies from marketing to or registering Chinese customers directly,<sup>126</sup> 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.<sup>127</sup>

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.”<sup>128</sup>

## ***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.\*<sup>129</sup> 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.<sup>130</sup> 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.<sup>131</sup>

### *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.<sup>132</sup> (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.<sup>133</sup> 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.<sup>†</sup><sup>134</sup> Chinese government entities attempt to avoid openly violating WTO rules by informally conveying local content requirements using "internal or semi-official documents."<sup>135</sup>

### **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).<sup>136</sup> As of 2017, China continued to restrict or close a broad range of sectors to foreign investment.<sup>137</sup> Media and telecommunications were reported as the most restricted sectors in China.<sup>138</sup>

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.<sup>139</sup> Industries in both "encouraged" and "restricted" categories may be subject to ownership caps, necessitating a JV with local partners.<sup>140</sup> 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."<sup>141</sup> In this, the Chinese government is not abiding by its past promises or agreements.<sup>142</sup> 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.*<sup>143</sup>

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."<sup>144</sup> 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."<sup>145</sup>

### *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."<sup>146</sup> 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.<sup>147</sup> 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."<sup>148</sup>

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.<sup>149</sup> Though these changes went into effect in late July, the announcements were met with skepticism.<sup>150</sup> 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.<sup>151</sup> 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."<sup>152</sup>

## ***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 statements<sup>153</sup> 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.<sup>154</sup> 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.<sup>155</sup> The JCCT was composed of 16 working groups that operated year-round on issues like IP, pharmaceuticals, and trade and investment.<sup>156</sup> The JCCT meetings culminated each year in a plenary meeting to cover these topics.<sup>157</sup> 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.<sup>158</sup>
- *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.\*<sup>159</sup> 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.<sup>160</sup> 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).<sup>161</sup> 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.<sup>162</sup>
- *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.†<sup>163</sup> 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.<sup>164</sup> In November 2017, David Malpass, Under Secretary for International Affairs at the Department of the Treasury, described the CED as “stalled.”<sup>165</sup>

- *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.<sup>166</sup> 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.<sup>167</sup> Xinhua, a Chinese state-run media outlet, reported 33 rounds of negotiations between 2012 and 2017.<sup>168</sup> After the U.S.-China CED in July 2017, discussions were halted.<sup>169</sup>

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.<sup>170</sup> 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.”<sup>171</sup>

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.”<sup>172</sup>

### **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.”<sup>173</sup> The Chinese government’s commitment to technological promotion and advancement has been accompanied by practices that unfairly exploit or disadvantage foreign corporations.<sup>174</sup> 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.<sup>175</sup>

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.”<sup>176</sup> 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.<sup>177</sup>

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.<sup>178</sup> 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.<sup>179</sup>

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;<sup>180</sup>
- 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.<sup>181</sup>

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."<sup>182</sup> 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](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](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.*<sup>183</sup>

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.<sup>184</sup> 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.\*<sup>185</sup> Micron sued UMC and Jinhua for trade secret theft in U.S. district court in December 2017.<sup>186</sup> 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.<sup>187</sup> 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.<sup>188</sup>

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.<sup>189</sup> 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.”<sup>190</sup>

### *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.<sup>191</sup> 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.<sup>192</sup>

## ***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.<sup>193</sup> 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.”<sup>194</sup>

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.”<sup>195</sup>

#### *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.<sup>196</sup> 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.<sup>197</sup> 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.<sup>198</sup> 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.”<sup>199</sup> 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.”<sup>200</sup>

#### *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.”<sup>201</sup> 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.<sup>202</sup> In 2013, Obama Administration officials and others began “publicly identifying the Chinese government as the source of many cyber attacks.”<sup>203</sup> 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.*<sup>204</sup>

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.<sup>205</sup> 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.<sup>206</sup> 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.”<sup>207</sup> 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.”<sup>208</sup>

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”<sup>209</sup> 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.<sup>210</sup> 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.<sup>211</sup> DOJ imposed the maximum statutory fine of \$1.5 million on Sinovel.<sup>212</sup> 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.”<sup>213</sup> AMSC is still in operation today, though it reportedly “has gone through financial difficulties in recent years.”<sup>214</sup>

#### *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.<sup>215</sup> 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.<sup>216</sup> Such commercial regulation can include raising tariffs, blocking transactions, or freezing assets.<sup>217</sup> Under IEEPA, if the United States is “engaged in armed hostilities” or “has been attacked by a foreign country or foreign nationals,”<sup>218</sup> the president can “confiscate property connected with a country, group, or person that aided in the attack.”<sup>219</sup> 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.”<sup>220</sup> Section 1637 of the NDAA has never been used.

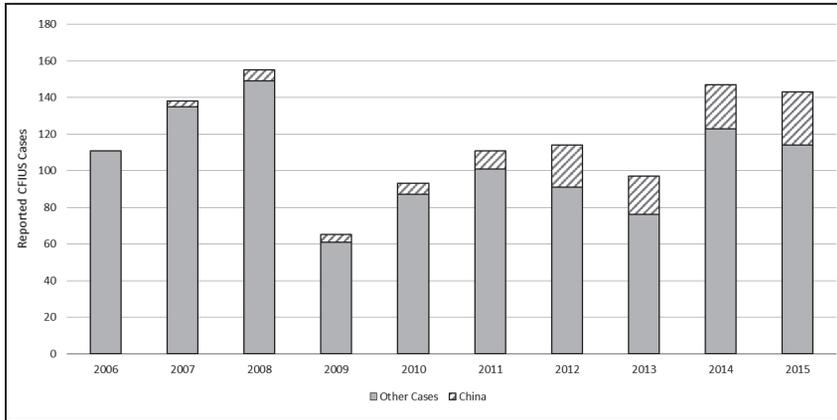
#### *Committee on Foreign Investment in the United States*

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.<sup>221</sup> 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.<sup>222</sup> 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.<sup>223</sup> 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).<sup>224</sup> CFIUS does not report the number of withdrawals by country, but in 2015 foreign investors withdrew 13 attempted transactions during the CFIUS review process.<sup>225</sup>

The number of CFIUS reviews has increased from 97 cases in 2013 to 172 in 2016<sup>226</sup> and—according to private sector estimates—over 200 in 2017,<sup>227</sup> partly due to an increase in attempted Chinese acquisitions of U.S. technology and policy makers’ growing unease with those acquisitions.<sup>228</sup> 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.<sup>229</sup>

\*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.<sup>230</sup> 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.”<sup>231</sup> 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.<sup>232</sup> The regime allows for tailored controls adaptable to technologies in all stages of development.<sup>233</sup> Provided the technology of concern can be identified, this system does not “[impose] unnecessary regulatory and economic burdens on transactions not of concern.”<sup>234</sup> 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.”<sup>235</sup>

## ***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.”<sup>236</sup> This agreement was reiterated by President Trump and President Xi in October 2017 at the Law Enforcement and Cyber Security Dialogue.<sup>237</sup> 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.<sup>238</sup> 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.”<sup>239</sup>

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.”<sup>240</sup> 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.”<sup>241</sup> 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.<sup>242</sup>

### *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.<sup>243</sup> The USTR states the practice continues despite these promises.<sup>244</sup> 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.*<sup>245</sup>

### *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.”<sup>246</sup> 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.*<sup>247</sup>

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.<sup>248</sup>

### ***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.<sup>249</sup> 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.<sup>250</sup>

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 un-addressed 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.*<sup>251</sup>

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.”<sup>252</sup> 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.<sup>253</sup>

#### *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.<sup>254</sup> 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.<sup>255</sup> 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.”<sup>256</sup> 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.”<sup>257</sup>

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.<sup>258</sup>

Non-violation complaints, specified in Article 23(b), are considered highly exceptional.<sup>259</sup> Their ambiguity generated controversy from the time the text was drafted during GATT negotiations.<sup>260</sup> Through their inclusion, the drafters sought to introduce flexibility into the agreement by allowing complaints to address a broad range of unanticipated measures.<sup>261</sup> The drafters also sought to resolve the problem of “contractual incompleteness.”<sup>262</sup> 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.”<sup>263</sup>

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.<sup>264</sup> 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.<sup>265</sup> 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).<sup>266</sup>

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.<sup>267</sup> They often serve as a “backup claim” in the event violation claims fail to convince a WTO panel.<sup>268</sup>

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.<sup>269</sup> 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.”<sup>270</sup>

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.”<sup>271</sup> 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.<sup>272</sup>

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.”<sup>273</sup> A WTO “non-violation” case could thus address broad-based policy concerns that “might otherwise be beyond the reach of the GATT/WTO agreements.”<sup>274</sup> 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.”<sup>275</sup>

### Technical Standards

Chinese regulators employ standards as “tools for implementing higher-level laws and measures”;<sup>276</sup> 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.”<sup>277</sup> 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.”<sup>278</sup> According to BSA | The Software Alliance, standards development frequently occurs “without adequate transparency and participation rights.”<sup>279</sup> 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.<sup>280</sup> (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.”<sup>281</sup> This testing and certification process can delay product entry.<sup>282</sup> Mr. Garfield stated that the Chinese standards regime promotes “China-unique” standards in international standards-setting bodies to favor Chinese companies.<sup>283</sup>

\* 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."<sup>284</sup> 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.<sup>285</sup> 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.<sup>286</sup> (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.<sup>287</sup> As a proprietary standard, WAPI could only be accessed by a small number of Chinese companies selected by the government.<sup>288</sup> 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."<sup>289</sup>

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.<sup>290</sup> 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.<sup>291</sup> After U.S. and Chinese officials met in April 2004, WAPI implementation was suspended.<sup>292</sup> 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.<sup>293</sup> 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.<sup>294</sup> 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.<sup>295</sup> Data transfer could also be prohibited entirely on the grounds of national security or societal public interest.<sup>296</sup> 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.*<sup>297</sup>

President Xi has identified data as a basic national resource.<sup>298</sup> 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.*<sup>299</sup>

### 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.<sup>300</sup> 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."<sup>301</sup> 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."<sup>302</sup>

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.<sup>303</sup>

### ***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).<sup>304</sup> 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.”<sup>305</sup> 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.”<sup>306</sup>

#### *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.<sup>307</sup> One of the best known examples of coalition pressure affecting Chinese government policy is the “Green Dam” case.<sup>308</sup> 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.<sup>309</sup> 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.<sup>310</sup> When this requirement was delayed indefinitely, the private U.S. Information Technology Office cited pressure from the international community as one cause.<sup>311</sup>

\*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.<sup>312</sup>

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.”<sup>313</sup>

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.<sup>314</sup> 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.<sup>315</sup> 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.”<sup>316</sup> 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.”<sup>317</sup> 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.<sup>318</sup> 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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## **SECTION 3: CHINA'S AGRICULTURAL POLICIES: TRADE, INVESTMENT, SAFETY, AND INNOVATION**

### **Key Findings**

- Food and agriculture play an important role in the U.S.-China trade relationship. In 2017, U.S. agricultural and agriculture-related exports were the United States' second-largest category of overall U.S. goods exports to China, accounting for roughly \$24 billion; the U.S. agricultural surplus with China reached \$13.3 billion that year.
- China has a relative paucity of water and arable land, while the United States has both in abundance, suggesting the United States and China should be natural trading partners in agricultural products. However, U.S. exports are constrained by Chinese restrictions and unfair trade practices.
- China has repeatedly used duties and unscientific food safety barriers against U.S. agricultural products to protect its domestic farmers, retaliate against U.S. trade actions, or prompt a U.S. concession in a trade negotiation. In particular, Beijing has frequently targeted U.S. products that are highly reliant on China's market for retaliatory duties. Soy and sorghum are especially vulnerable to retaliation; in 2017, 82 percent of U.S. exports of sorghum and 57 percent of U.S. soybean exports went to China.
- Under its World Trade Organization (WTO) accession protocol, China agreed to allow quotas of foreign rice, wheat, and corn into the country at a 1 percent tariff (known as tariff-rate quotas, or TRQs). All imports beyond these quotas are subject to a prohibitive 65 percent tariff. However, the Chinese government pursues a policy of self-sufficiency in rice, wheat, and corn, and provides generous subsidies to domestic farmers to the disadvantage of foreign producers. The Chinese government also applies TRQs in an opaque and managed way that ensures the quota is never met, which restricts access for U.S. farmers and violates China's WTO commitments.
- China appears reluctant to rely on its current agricultural trading partners (such as the United States) for its food imports, and has attempted to diversify its imports to new markets through promotion of foreign agricultural investment and its Belt and Road Initiative. While these efforts have been largely unsuccessful to date, there may be negative long-term effects on U.S. agricultural exports as Beijing gets better at carrying out its diversification strategies.

- Chinese policies governing genetically modified organisms (GMOs) limit U.S. agriculture export opportunities in two important ways. First, because China broadly closes its borders if it detects unapproved GMO imports and because it is difficult to keep GMOs and conventional crops separate, U.S. firms do not widely release new GMOs in the United States or overseas without Chinese approval. Second, as China lags several years behind the rest of the world in approving GMOs, it holds back new U.S. GMOs long after they are approved in other countries. This slows U.S. agricultural productivity and puts past innovation at risk as pests and weeds acquire immunity to current biotechnology products.
- Since 2014, the United States has engaged with China on its biotech approval process through multiple rounds of high-level bilateral talks. While the Chinese government made commitments to improve its biotechnology regulatory system, it has either not carried out promised changes or has implemented them in a marginal way that did nothing to reform structural problems.
- The Chinese government is investing significant resources into boosting Chinese innovative capacity in biotechnology and genomic sequencing. China appears to be particularly competitive with respect to new gene-editing technology such as CRISPR-Cas9 (CRISPR), a new tool for genetic editing that dramatically lowers the cost of genetic modification. The competence of Chinese firms in new genetic tools such as CRISPR and their ability to quickly sequence genomes may help them become more competitive in agricultural research as CRISPR technology is applied to developing new crop strains.
- U.S. agricultural biotechnology firms have been the target of Chinese corporate espionage, and U.S.-developed GMOs appear to be grown in China without authorization despite Chinese laws banning their cultivation.
- Since major food safety outbreaks in 2007 and 2008, China's food safety laws have improved. However, implementation of these laws remains a challenge due to shortfalls in China's inspection capacity and the large number of small Chinese agricultural firms.

## Recommendations

The Commission recommends:

- Congress direct the U.S. Department of Agriculture to identify the extent to which China's asynchronous biotech review and approval system for agricultural products adversely impacts U.S. industry. As part of its review, the U.S. Department of Agriculture should work with the Office of the U.S. Trade Representative to seek bilateral or multilateral measures, as appropriate, to address these impacts.
- Congress direct the U.S. Department of Agriculture, in collaboration with the U.S. Food and Drug Administration, to prepare an annual report on its technical engagement with China on

food safety, inspection, mechanisms for addressing sanitary and phytosanitary problems, and any technical assistance provided to China to improve its food safety inspection regime.

## Introduction

While China is the United States' second-biggest market for agricultural goods behind Canada, its large population and dearth of water and arable land suggest U.S. agriculture exports to China should be greater. Unfortunately, U.S. exports have been constrained by Chinese policy for a number of reasons. First, China's longstanding goal of food self-sufficiency disadvantages U.S. farmers through domestic subsidies, in violation of its commitments to the World Trade Organization (WTO). Second, China uses access to its agricultural market to retaliate against U.S. trade measures and as a bargaining chip in negotiations. Finally, China uses its system of tariff-rate quotas as a tool to manage imports of U.S. cereals.

Because China closes its borders if it detects nonapproved agricultural biotechnology imports, and because U.S. biotech firms bear legal and financial responsibility for agriculture shipments seized by Chinese authorities in such situations, U.S. biotech firms do not fully release new genetically modified seeds without Chinese approval. As China's approval process for genetically modified organisms (GMOs) lags behind the rest of the world by several years, China's biotechnology policies threaten U.S. agricultural innovation and productivity by halting the global deployment of new U.S. GMOs.

China's food safety laws have improved since the melamine scandals of 2006 and 2008, and fewer major food safety incidents have occurred. However, China's capacity and the authority of Chinese regulators to enforce food safety laws is lacking. As China is the third-largest supplier of food products to the United States, gaps in China's food safety screening regime could expose U.S. consumers to unsafe products, requiring careful monitoring by U.S. agencies.

This section examines China's agricultural policies and how they affect U.S. farmers, agricultural innovation, and the safety of Chinese food exports. It draws on the Commission's April 2018 hearing on China's agricultural policies, unclassified briefings with U.S. officials, consultations with agriculture and food safety experts, and open source research and analysis.

## U.S.-China Agricultural Trade

China must feed a fifth of the world's population with less than a tenth of the world's arable land\* as consumer demand for high-quality food and animal protein expands—a demand U.S. farmers are well positioned to fill. Agriculture and food products play a key role in the U.S.-China trade relationship, despite Chinese restrictions on U.S. imports. While the United States ran a \$375.6 billion overall trade deficit in goods with China in 2017, it enjoyed a \$13.3 billion

\*China accounts for nearly 20 percent of the world's population but only 8.3 percent of global arable land. The country also faces a mismatch in its limited water resources, which are heavily concentrated in the south far away from China's agricultural production in the north. China's per-capita consumption of resource-intensive meat products (e.g., beef, poultry, sheep, and pork) has increased 37 percent from 1999 to 2017. World Bank Open Data. <https://data.worldbank.org/>; Organization for Economic Cooperation and Development, "OECD Data: Meat Consumption," June 25, 2018.

surplus in agriculture and agriculture-related products.\* China imports more food and agriculture products from the United States than from any other country in the world, and exports to China are second only to Canada in terms of their importance for U.S. farmers. In 2017, exports to China accounted for \$24 billion, or roughly 15 percent of U.S. global agriculture and agriculture-related exports (exports to Canada were valued at \$24.7 billion that year).<sup>1</sup> Agriculture and agriculture-related products are the second-biggest category of U.S. exports to China overall (18.5 percent), with transportation equipment (\$29.5 billion or 23 percent) taking the top spot.<sup>2</sup>

Following China's accession to the WTO in 2001, U.S. agricultural exports to China rose by an average of \$1.25 billion per year (see Figure 1).<sup>3</sup> However, growing market restrictions introduced by the Chinese government are putting U.S. exports at risk. For example, between 2012 and 2017, U.S. agriculture and agriculture-related exports to China fell from \$28.6 billion to \$24 billion—a 16 percent decline—driven, in part, by trade restrictions such as China's retaliatory tariffs on dried distillers grains<sup>†</sup> and China's rejection of U.S. corn over GMO safety concerns (for more on Chinese market restrictions, see “China's Restrictions on U.S. Agricultural Exports” later in this section).<sup>4</sup>

**Figure 1: U.S. Agriculture and Agriculture-Related Exports to China, 1997–2017**



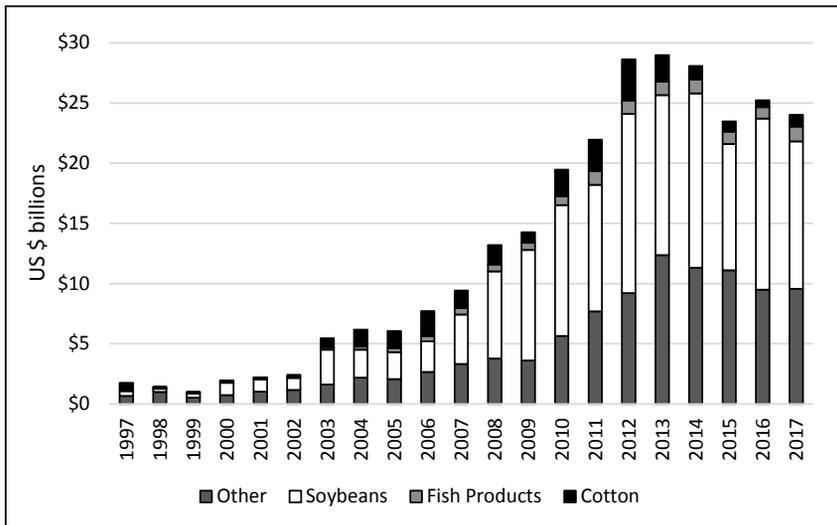
Source: U.S. Department of Agriculture Foreign Agricultural Service, *Global Agricultural Trade System Online*, October 2, 2018.

\*This section uses the broadest possible definition of U.S. agriculture and agriculture-related products, and includes bulk products (e.g., soybeans and wheat), agriculture-related products (e.g., seafood and forest products), consumer oriented products (e.g., fruit, pork, and nuts), and intermediate products (e.g., hides, vegetable oils, and live animals). U.S. Department of Agriculture Foreign Agricultural Service, *Global Agricultural Trade System Online*, October 2, 2018; U.S. Census Bureau, *USA Trade Online*, October 2, 2018.

<sup>†</sup>Dried distillers grains are a byproduct from distillation and ethanol production that can be used as high-protein animal feed.

For nearly two decades, soybeans dominated U.S. agricultural exports to China (see Figure 2).<sup>5</sup> In 2017, exports of soybeans represented 59 percent of U.S. agriculture exports to China—in other words, they were greater than exports of all other agricultural products combined.<sup>6</sup> U.S. soybean farmers are dependent on China's market. In 2017, China accounted for 57 percent of all U.S. soybean exports to the world; roughly one-third of all soybeans grown in the United States were exported to China by value.<sup>7</sup> China is the world's largest importer of soybeans,\* which makes it difficult for U.S. farmers to transition to other markets without lowering their prices.†

**Figure 2: Composition of U.S. Agriculture and Agriculture-Related Exports to China, 1997–2017**



Source: U.S. Department of Agriculture Foreign Agricultural Service, *Global Agricultural Trade System Online*, October 2, 2018.

Similar to soybeans, many other U.S. agricultural products, such as sorghum and hay, are heavily dependent on China's market and are frequent targets of Chinese retaliation (see Table 1).<sup>8</sup> (For further discussion, see "Retaliatory Tariffs" later in this section.)

\*For 2017–2018, China's soybean imports are estimated at 94 million metric tons, or 62 percent of total world imports (151.9 million metric tons). U.S. Department of Agriculture, *World Agricultural Supply and Demand Estimates*, September 12, 2018.

†Brazil—whose production in the 2017–2018 growing year was equivalent to the United States (119.5 million metric tons)—is expected to be a beneficiary of Chinese tariffs on U.S. soybeans, but several factors may prevent this from happening. First, Brazil's domestic soybean crush industry is expected to use up to 43 million metric tons of domestically produced soybeans, leaving only 76 million metric tons available for export. Second, soybean growing and harvesting seasons alternate between the Northern Hemisphere (September through November) and Southern Hemisphere (February through May); this means Brazil's export season will have concluded by the time Chinese tariffs on U.S. soybeans go into effect. Meanwhile, Argentina, the third-largest soybean grower in the world, is projected to produce only 37.8 million metric tons in 2017–2018. U.S. Department of Agriculture, *World Agricultural Supply and Demand Estimates*, September 12, 2018; Gustavo Oliveira, "Why China Can't Count on Brazil to Fill the Soybean Gap in its Trade Battle with the U.S.," *South China Morning Post*, June 25, 2018.

**Table 1: U.S. Agriculture Products by Exposure to China's Market, 2017**

Product	Export Value to China (US\$ millions)	Exports to China as Share of Global U.S. Exports	Share of U.S. Production Exported to China
Sorghum	\$839	81.6%	63%
Soybeans	\$12,253	57.1%	34%
Hides and Skins	\$899	57.3%	n/a
Hay	\$340	27%	6%
Fish Products	\$1,217	23.2%	15% (2015 data)

Source: Various.<sup>9</sup>

### China's Food Policy

Fred Gale, who is a senior economist at the U.S. Department of Agriculture (USDA) but testified before the Commission on his own behalf, said China maintains a self-described system of “two markets, two kinds of resources” to meet its food needs. This system, adopted in 2013, allows “moderate imports” for some products while making sure China remains “basically self-sufficient in cereals and absolutely secure in rice and wheat.”<sup>10</sup> China's original food policy, issued in 1996, called for 95 percent self-sufficiency in cereals, beans, soybeans, and tubers;<sup>11</sup> the high thresholds for soybeans, beans, and tubers have since been walked back due to China's land and water constraints. Today, the Chinese government is focused on maintaining independence in grain, particularly rice, wheat, and corn.<sup>12</sup>

### Domestic Agricultural Support

The Chinese government supports domestic agriculture production through a series of subsidies and price supports\* in violation of China's commitments to the WTO. According to U.S. Wheat Associates (a U.S. export market development organization), in 2014 China's total government support for the production of rice, wheat, and corn ranged from an estimated \$48 billion to \$110 billion, several times greater than the \$19 billion subsidy limit allowed to China by the WTO that year.<sup>13</sup> These distortions have resulted in domestic overproduction and the world's largest public stockpiles of grain as the government purchases grain at artificially high prices. According to the USDA, China's rice, wheat, and corn stockpiles are estimated to equal 50 percent of all global grain stockpiles in 2018.<sup>14</sup>

China relies on imports to meet over 88 percent of its soybean consumption.<sup>15</sup> Due to Chinese government restrictions on GMOs, the majority of imported soybeans (including from the United

\*China's central government has bought domestic rice, wheat, and corn at minimum prices well above international levels. In October 2016, Beijing ended its price support for corn; however, minimum prices for rice and wheat remain in effect. Niu Shupin, “China to End State Corn Stockpiling, Free up Prices,” *Reuters*, March 28, 2016.

States) are used for animal feed\* or food processing; domestic soybeans are used for human consumption.<sup>16</sup> To support domestic soybean production, China maintains significant subsidies. According to *Dim Sums*, an authoritative blog that follows China's rural economy, in 2018 Heilongjiang Province farmers appeared to receive subsidies equal to almost half the value of their soybean crop from provincial and central authorities.<sup>17</sup>

China's price floors and stockpiles affect U.S. grain exports in two contradictory ways. First, high domestic prices† make U.S. exports more attractive to Chinese buyers, who import U.S. rice, wheat, and corn through China's import quota system, though the size of these imports is limited by the government's manipulation of its quotas (for more, see "China's Restrictions on U.S. Agricultural Exports").‡ Second, China's subsidies and price floors prioritize the domestic production of land-intensive crops better suited to production by U.S. farmers.<sup>18</sup> In the absence of these subsidies, Chinese farmers would switch to other crops, creating greater opportunities for U.S. farmers. According to a 2016 study by Iowa State University, lifting China's domestic support policies would result in roughly \$650 million in additional U.S. wheat exports to China per year, an increase of more than 300 percent for U.S. wheat exports to China based on 2016 trade data.§ China's large stockpile also creates an incentive for the Chinese government to erect trade barriers against foreign imports as the government effectively loses money if foreign competition prevents sales from domestic stockpiles. In his testimony to the Commission, Dr. Gale suggested China's antidumping and countervailing duties on U.S. sorghum and distillers dried grains (which are substitutes for corn) may be related to government efforts to draw down China's corn stockpile.<sup>19</sup>

### ***China's Restrictions on U.S. Agricultural Exports***

Chinese farmers are protected from foreign competition by several restrictions put in place by Beijing. These restrictions include misuse of tariff-rate quotas, food safety restrictions, and tariffs and

\*Although China uses the vast majority of imported soybeans for animal feed, it imports primarily whole soybeans, rather than the more value-added soybean meal. China's soybean crushing industry is the biggest in the world, and enjoys significant government support. After China liberalized soybean imports in the 1990s, the surge in soybean meal imports "reduced profit margins for soybean processors in China." To help remedy the situation, in 1999 the Chinese government "moved to encourage imports of soybeans for processing in China by restoring the VAT [value-added tax] on imported soybean meal, eliminating quotas on imported soybeans, and cutting the soybean tariff to 3 percent." Fred Gale, "Development of China's Feed Industry for Imported Commodities," *USDA Economic Research Service*, November 2015, 13; *Reuters*, "As Trade War Crushes China's Soybean Mills, U.S. Rivals Make Hay," July 27, 2018.

†At the start of the 2018–2019 growing season, global wheat prices were at \$5.93 a bushel, while the price floor set by the Chinese government was \$9.75 a bushel. China's minimum prices for corn were typically between 30 and 50 percent higher than global markets. Nigel Hunt, "Global Wheat Supply to Crisis Levels; Big China Stocks Won't Provide Relief," *Reuters*, August 22, 2018; Niu Shupin, "China to End State Corn Stockpiling, Free up Prices," *Reuters*, March 28, 2016.

‡In the 2016–2017 market year, U.S. exports of rice, wheat, and corn to China were equal to 0 percent, 1.37 percent, and 0.35 percent of Chinese consumption in each crop, respectively. U.S. Department of Agriculture Foreign Agricultural Service, *China: Grain and Feed Annual*, April 4, 2018.

§U.S. wheat exports to China totaled \$205 million in 2016. U.S. Wheat Associates, "Chinese Subsidies Harm World Wheat Exporters," September 2018; U.S. Department of Agriculture Foreign Agricultural Service, *Global Agricultural Trade System Online*, April 12, 2018.

antidumping and countervailing duties enacted as retaliation for U.S. trade policy.

### *Tariff-Rate Quotas (TRQs) on Rice, Wheat, and Corn*

Under its WTO accession protocol, China agreed to allow quotas of foreign rice, wheat, and corn into the country at a 1 percent tariff.<sup>20</sup> All imports beyond these quotas are subject to a prohibitive 65 percent tariff.<sup>21</sup> While China's WTO commitments call for these quotas to serve as a transparent and predictable way for foreign farmers to access China's market, China's application of these quotas is opaque and managed in a way that restricts access for U.S. farmers and protects domestic farm interests.<sup>22</sup> China's underutilization of TRQs serves as a trade barrier and is in violation of China's WTO commitments.<sup>23</sup> In December 2016, the United States brought a case against China's TRQ management at the WTO; the case is still ongoing.<sup>24</sup>

Most of China's quotas are allocated to state-owned trading enterprises;\* however, these enterprises never use all of the quotas allocated to them, denying U.S. exporters valuable market opportunities. For example, in 2017 only 39 percent of the corn quota and 45 percent of the wheat quota were utilized (see Table 2). Beijing chronically underutilizes TRQs to restrict the volume of grain imports that may compete with domestic stockpiles. Chinese state-owned enterprise (SOE) Sinograin has described use of TRQs as a way to "manage" the flow of grain into China, importing grain to supplement domestic shortfalls rather than expose Chinese producers and retailers to foreign competition.<sup>25</sup> According to Dr. Gale, Sinograin attempts to isolate imported grain from the domestic market by storing it separately for designated purposes.<sup>26</sup>

**Table 2: Utilization of Chinese TRQs, 2012–2017**

	2012	2013	2014	2015	2016	2017
<b>Wheat</b>	38%	57%	31%	31%	35%	45%
<b>Rice</b>	44%	42%	48%	63%	66%	75%
<b>Corn</b>	72%	45%	36%	66%	44%	39%

*Source:* Office of the U.S. Trade Representative, *China-Tariff Rate Quotas for Certain Agricultural Products*, April 3, 2018.

### *Food Safety Restrictions*

China restricts imports of some U.S. food and agriculture products on food safety grounds, which in some cases appear to be linked to Chinese trade goals or retaliation against the United States rather than scientific standards. For example, according to Bill Westman, senior vice president of international affairs at the North American Meat Institute, Chinese officials have informed

\*Ninety percent of wheat quotas, 60 percent of corn quotas, and 50 percent of rice quotas are allocated to state trading enterprises. Office of the U.S. Trade Representative, *China-Tariff Rate Quotas for Certain Agricultural Products*, April 3, 2018; U.S. Wheat Associates, "Submission in Response to Notice USTR-2016-0012-0001," September 21, 2016; Office of the U.S. Trade Representative, *China-Tariff Rate Quotas for Certain Agricultural Products*, April 3, 2018.

his organization on multiple occasions that Beijing will not consider easing safety restrictions on U.S. beef and poultry imports until the United States certifies Chinese poultry as safe for U.S. consumers.\*

- **Beef:** In 2003, Chinese authorities banned imports of U.S. beef after one cow in Washington State tested positive for bovine spongiform encephalopathy (BSE, also known as mad cow disease).<sup>27</sup> Despite relatively few cases of BSE in the United States,† China continued to ban U.S. beef until 2017, when it agreed to allow U.S. imports under a stringent safety protocol.<sup>28</sup> This concession was granted shortly after the USDA made progress toward accepting Chinese poultry by proposing to add China to a list of countries eligible to export domestically slaughtered poultry to the United States.<sup>29</sup>
- **Poultry:** The Chinese government has banned U.S. poultry since 2015, claiming fears of avian influenza. This ban appears to be contrary to scientific standards and accepted international practices.<sup>30</sup> For example, while only two farms in the United States were affected by avian influenza in 2015, China issued a blanket ban on all U.S. poultry, unlike other countries, which only banned U.S. poultry raised near the affected farms.<sup>31</sup> Beijing has also maintained its ban for three years, while most other countries lifted their restrictions after 12 months.<sup>32</sup>
- **Pork:** U.S. pork exports to China have been affected by China's ban on the feed additive ractopamine, a compound widely used by U.S. pork producers.‡ Beijing banned ractopamine in 2002 after several Chinese consumers were poisoned by domestic use of clenbuterol, a related but more dangerous compound that is banned in the United States.<sup>33</sup> Chinese experts maintain that a complete ban on ractopamine is the only practical way to ensure food safety, as China has too many food producers to inspect.<sup>34</sup> However, China's import rejection data suggest enforcement of the import ban is related to trade friction with the United States. Rather than rising or falling with trade flows, the vast majority of China's pork rejections have been levied against U.S. pork during the summer and fall of 2007, after the United States introduced safety curbs on Chinese seafood.<sup>35</sup>

\*China first applied for a safety evaluation to export poultry to the United States in 2004. Currently, Chinese firms can export cooked meat from poultry slaughtered in the United States and other approved countries to the U.S. market, but cannot export poultry slaughtered in China to the United States. The USDA is still in the process of determining whether China's poultry slaughter system is equivalent to U.S. standards. U.S. Department of Agriculture, *Frequently Asked Questions - Equivalence of China's Poultry Processing and Slaughter Inspection Systems*, June 16, 2017; U.S.-China Economic and Security Review Commission, *Hearing on China's Agricultural Policies: Trade, Investment, Safety, and Innovation*, testimony of Bill Westman, April 26, 2018.

†There have been six confirmed cases of BSE in the United States. These cases occurred from 2003 to 2018, and one case likely included a cow from Canada. By contrast, BSE has affected roughly 180,000 cattle in the United Kingdom. China maintained a ban on UK beef for 20 years before lifting it in June 2018. CNN, "Mad Cow Disease Fast Facts," May 30, 2018; Centers for Disease Control and Prevention, *BSE Cases Identified in the United States*, 2018; *Agence France-Presse*, "China Lifts Ban on British Beef Imports Triggered by 'Mad Cow Disease' More than 20 Years Ago," June 28, 2018.

‡The EU and Russia also ban the use of ractopamine. Wayne Pacelle, "This Drug, Banned in Europe, Russia and China, May Be in Your Lunch," *Reuters*, March 31, 2015.

### The Smithfield Acquisition

In 2013, Shuanghui International Holdings Limited, a subsidiary of Shuanghui Group (now WH Group), acquired Smithfield, the largest U.S. pork producer, in a \$4.7 billion deal (\$7.1 billion including debt).<sup>36</sup> Because Smithfield is one of a few U.S. companies with a large share of ractopamine-free pork production, this purchase allowed China to secure a steady supply of ractopamine-free pork. In fact, the takeover was announced just weeks after Smithfield said over half of its operations would be ractopamine free.<sup>37</sup> Acquiring Smithfield also granted China access to valuable biotechnology, since Smithfield has “one of the biggest pork genetics and breeding programs in the world.”<sup>38</sup>

The Smithfield purchase raised some concerns that China was trying to secure pork supplies “at the source” rather than allowing free market access to all importers.<sup>39</sup> In 2015, Smithfield accounted for 97 percent of all U.S. pork exports to China; that share fell to 76 percent in 2017.<sup>40</sup>

The Chinese government is trying to improve domestic food safety conditions; however, part of this process includes requirements that shift inspection responsibilities onto exporting countries, potentially disrupting agricultural trade. China’s 2015 Food Safety Law requires all shipments of food into the country to receive a certification from the exporting country guaranteeing the shipment complies with Chinese standards.<sup>41</sup> This requirement would effectively halt U.S. food and agricultural exports to China, as the United States lacks inspectors to certify every shipment to China.\* The requirement is also contrary to international practices, which mandate certification only for select products based on risk.<sup>42</sup> While implementation of this rule (which was slated to begin in 2017) has been delayed for two years following pushback from U.S. and EU officials, Beijing has not committed to abandoning its blanket requirement for certification.<sup>43</sup>

#### *Retaliatory Tariffs*

Beijing frequently applies tariffs on U.S. agricultural products as retaliation for U.S. trade measures, some of which are not related to agriculture (see Table 3). In 2010, the Chinese government applied a tariff on imports of U.S. chicken parts in response to U.S. antidumping duties on Chinese tires, and in 2016 China applied duties against U.S. dried distillers grains in response to the United States challenging China’s subsidies for rice, wheat, and corn at the WTO.<sup>44</sup>

\*As of 2017, the U.S. Food and Drug Administration (FDA) had 190 employees stationed at U.S. ports. Alexandra Heard, Congressional Affairs Specialist, U.S. Food and Drug Administration, interview with Commission staff, February 10, 2017.

**Table 3: Retaliatory Chinese Measures on Select U.S. Agriculture Products**

Product	Date	Duty or Tariff
Chicken Parts	2010	105%
Dried Distillers Grains	2016	42–54%
Most U.S. Agricultural Products (see Table 4)	2018	5–25%

Source: Various.<sup>45</sup>

In 2018, China imposed its largest set of retaliatory tariffs against U.S. agricultural products to date in response to the United States' Section 232 probes on steel and aluminum and Section 301 probe on China's intellectual property (IP) rights conditions (for more on the Section 301 probe, see Chapter 1, Section 1, "Year in Review: Economics and Trade"). In April 2018, Chinese authorities enacted a 15 percent tariff on U.S. exports of fresh fruit, nuts, and wine, and a 25 percent tariff on U.S. pork as retaliation for U.S. Section 232 duties.<sup>46</sup> In July, Beijing imposed a 25 percent tariff on most U.S. agriculture and agriculture-related product exports as a response to the United States' Section 301 probe.<sup>47</sup> In September, China imposed additional tariffs of 5 percent to 10 percent on a range of products including live animals and prepared foods.<sup>48</sup> Based on 2017 export data, China's tariffs affect 95 percent of all U.S. agricultural and agriculture-related exports to China (roughly \$22.8 billion out of \$24 billion) and more than 17 percent of all U.S. goods exports to China by value (see Table 4).<sup>49</sup>

**Table 4: Select U.S. Agriculture and Agriculture-Related Products Subject to Chinese Retaliatory Tariffs**

Product	U.S. Exports to China, 2017 (US\$ millions)	Exports to China as a Share of Total U.S. Exports of This Product, 2017
Sorghum	\$839	81.60%
Wool	\$14	72.50%
Hides, Skins, and Leather	\$899	57.34%
Soy	\$12,253	57.12%
Ginseng	\$22	40.57%
Wood	\$2,130	34.28%
Fish Products	\$1,217	23.18%
Furs	\$45	21.70%
Cotton	\$979	16.58%
Tobacco	\$163	13.47%

Source: Various.<sup>50</sup>

China's retaliatory tariffs target U.S. crops that are highly dependent on China's market and cannot easily transition to other markets—particularly sorghum and soybeans, which are almost wholly

reliant on China's market. China's retaliation has already adversely affected U.S. agricultural producers. For example, in July 2018 soybean prices fell 13 percent compared to 2017, hitting a ten-year low.<sup>51</sup>

On July 24, U.S. Secretary of Agriculture Sonny Perdue announced a \$12 billion relief package to support U.S. farmers impacted by retaliatory tariffs abroad.<sup>52</sup> This package would issue incremental payments to soybean, sorghum, corn, wheat, cotton, dairy, and hog farmers, while allowing the USDA to purchase "unexpected surplus" of products like "fruit, nuts, rice, legumes, beef, pork, and milk," providing a buyer for those products.<sup>53</sup> No relief packages were announced for other industries affected by retaliatory tariffs.

### ***China's Food Import Diversification***

Beijing has sought to diversify its food supply from trading partners such as the United States to other countries. Shifting its food supply to countries accessible through the Belt and Road Initiative is an explicit goal of Chinese foreign policy. In 2018, the Central Committee of the Chinese Communist Party and the State Council issued a policy calling on China to "intensify China's relation of agricultural product trade with the countries and regions along 'The Belt and Road.'"<sup>54</sup> According to the USDA, Beijing likely seeks to diversify its sources of food imports to hedge against trade tensions with its current trading partners.<sup>55</sup> Given that the United States is China's largest source of agricultural imports, Beijing's effort to diversify its source of imports necessarily entails shifting to other exporting countries. (For more, see Chapter 3, Section 1, "Belt and Road Initiative.") To date, China's efforts to diversify its food imports have been largely unsuccessful.

The Chinese government has sought to diversify its food imports through overseas investment, and loans and financing:

- *Foreign direct investment (FDI)*: The stock of China's agricultural FDI overseas reached \$26 billion in 2016, according to China's Ministry of Agriculture.<sup>56</sup> This total likely underestimates China's agricultural investment, as many large acquisitions—such as the \$7.1 billion purchase of Smithfield Foods by WH Group or ChemChina's \$43 billion takeover of Swiss agribusiness Syngenta—are classified by the Chinese government not as agricultural investments but as technology investments.<sup>57</sup> Most of China's agricultural investment has targeted areas on China's periphery, such as eastern Russia and Southeast Asian countries.<sup>58</sup> Roughly 51 percent of China's cumulative agricultural investment is in Asia, followed by Europe (15 percent), Oceania (14 percent), Africa (12 percent), Latin America (6 percent), and North America (2 percent).<sup>59</sup> According to the USDA, while these investments are meant to facilitate imports of food into China, to date most of the agricultural products grown on China-invested farms are sold in the domestic country and relatively few Chinese investment projects have been profitable.\*

\*Analysis by Chinese researchers shows the poor performance of Chinese overseas agricultural projects can be due to several factors, including "inexperience in global markets, lack of technical

- *Loans and finance:* Beijing has provided public credit and financial incentives to facilitate foreign agricultural investment, and all three of China's major public policy banks (the China Import-Export Bank, the China Development Bank, and the Agricultural Bank of China) have pledged to provide credit for overseas agricultural investments.<sup>60</sup> For example, in 2013 the state-owned Bank of China provided a \$4 billion loan to WH Group (formerly Shuanghui) for the acquisition of Smithfield Foods, the United States' largest pork producer.<sup>61</sup> In 2015, China's sovereign wealth fund formed a joint venture with China National Cereals, Oils, and Foodstuffs (a state-owned agribusiness firm) to invest overseas.<sup>62</sup>

Chinese FDI in U.S. food and agriculture sectors is small.<sup>63</sup> From 2000 to 2017, Chinese firms invested \$7.5 billion in the U.S. food and agricultural sector, 95 percent of which (\$7.1 billion) was the Smithfield acquisition.<sup>64</sup> According to the USDA Farm Service Agency, China accounts for only 0.9 percent of all U.S. farmland held by a foreign firm or individual.\*

Chinese attempts to acquire or rent farmland have provoked some public backlashes in host countries. In 2018, Australia introduced rules giving domestic buyers the first right to purchase farmland.<sup>65</sup> In 2017, Laos closed Chinese banana plantations in seven provinces due to excessive pesticide use that caused 63 percent of plantation workers to fall ill.<sup>66</sup>

## U.S. Concerns Regarding Chinese Agricultural Biotechnology Policies

### *Approval Process for GMOs*

Unlike many countries, China will not begin the process of reviewing a GMO for approval until the country of origin has completed its own review process (see textbox "Chinese Government Approval Process for GMOs"). The detection of any amount of unapproved strains in grain shipment can result in a complete ban on all imports of this grain.<sup>67</sup> Since many agricultural crops are mixed together from different sources before they are exported, it is difficult to keep GMO seeds out of shipments bound for China. As a result, U.S. biotech firms do not widely release new GMO crops in the United States or other markets until China approves them.† In addition, China maintains a zero-tolerance policy for low-level presence (LLP) of unapproved biotechnology traits in imports, which means that a shipment of crops would be automatically rejected if any amount of unapproved GMO strains is detected.<sup>68</sup>

personnel, poor language skills, problems with local bureaucracy, political instability, corruption ... [and] statistics that exaggerated the potential for overseas projects." Elizabeth Gooch and Fred Gale, "China's Foreign Agricultural Investment," *U.S. Department of Agriculture*, April 2018, 4–5.

\* Only 2.1 percent of all U.S. farmland is held by foreign investors. As such, Chinese firms and individuals hold roughly 0.019 percent of privately held U.S. farmland. Elizabeth Gooch and Fred Gale, "China's Foreign Agricultural Investment," *U.S. Department of Agriculture*, April 2018. U.S. Department of Agriculture, Farm Service Agency, *Foreign Holdings of U.S. Agricultural Land*, December 31, 2014.

† Instead, biotech firms will only provide limited releases of their products in protected settings that can be carefully tracked. U.S.-China Economic and Security Review Commission, *Hearing on China's Agricultural Policies: Trade, Investment, Safety, and Innovation*, oral testimony of Nathan Fields, April 26, 2018.

Legal penalties incentivize biotech firms to wait for Chinese approval before commercializing new crops. Under U.S. law, biotech development firms can bear legal and financial liability for shipments seized by foreign authorities due to GMO detection. In 2017, Syngenta, the company that developed MIR-162, was ordered to pay \$217 million to Kansas farmers as recompense for releasing MIR-162 prior to receiving Chinese approval.<sup>69</sup> U.S. agricultural industry associations are also very reluctant to endorse new GMO crops without Chinese approval due to the risk of China closing its market to U.S. crops.

A Chinese import ban can have dramatic effects. For example, in November 2013 Chinese regulators detected traces of MIR-162 in a U.S. corn shipment, a GMO strain that was approved in the United States but not in China.<sup>70</sup> Chinese authorities responded by denying import permits for U.S. GMO and non-GMO corn, effectively sealing off China's market to U.S. corn farmers.<sup>71</sup> U.S. corn exports to China fell from \$1.7 billion in 2012 to \$159.9 million in 2017—a 90 percent decrease.<sup>72</sup>

### Chinese Government Approval Process for GMOs

China's review and approval of GMO strains for cultivation is carried out by China's National Biosafety Committee. The committee meets only twice a year and frequently requires resubmission for review if it has questions regarding the application.\* In its 2017 report to Congress on China's WTO compliance, the Office of the U.S. Trade Representative (USTR) noted that China's Ministry of Agriculture was considering "factors other than science when evaluating new biotechnology applications."<sup>73</sup>

Because of these policies, China has approved fewer GMO strains than other major economies, and Chinese approvals lag several years behind the rest of the world.<sup>74</sup> Currently, China has approved 64 GMOs for any sort of commercial use; by contrast, the United States approved 202 GMOs, Japan 318, the EU 216, and South Korea 167.<sup>75</sup> In July 2017, when China last approved a U.S. GMO crop, some U.S. applications had been waiting six years for approval.<sup>76</sup>

In his testimony before the Commission, Joseph Damond, executive vice president for international affairs at the Biotechnology Innovation Organization, said China's asynchronous review process introduces significant delays to commercialization of any given product, "limits U.S. competitiveness, reduces investment in U.S. innovation, and erodes patent life and intellectual property protection for U.S. biotechnology companies."<sup>77</sup>

On its surface, China's biotech approval process appears to favor Chinese firms. While some U.S. GMOs have been approved by China for import, almost no foreign GMOs have been approved for

\*According to Croplife International, an international trade association for agricultural innovation companies, of the ten GMOs currently under Chinese review, three have been resubmitted five times each due to questions from the National Biosafety Committee. U.S.-China Economic and Security Review Commission, *Hearing on China's Agricultural Policies: Trade, Investment, Safety, and Innovation*, written testimony of Howard Minigh, April 26, 2018.

cultivation in China,\* and most are only approved for use as animal feed or as a food processing ingredient.<sup>78</sup> By contrast, GMOs from Chinese firms have been approved for cultivation in China and most China-developed GMOs are approved for all uses, including human consumption.<sup>79</sup> Chinese authorities have blocked U.S. firms from requesting cultivation approval for their GMOs in China. According to the USDA, when foreign companies submit applications for cultivation, China's Ministry of Agriculture rejects their applications on the grounds that China's FDI policies prohibit investment in biotech research or production in China.<sup>80</sup>

In practice, however, Chinese government policies on GMO approvals are also holding back domestic innovation. Despite their protected domestic market, Chinese firms have struggled to commercialize their GMOs, due to government policy banning the planting of GMO strains and public concerns regarding GMO safety.<sup>81</sup> In 2009, the Chinese government approved a Chinese-developed strain of insect-resistant rice for consumption and cultivation; however, following backlash from Chinese consumers, the government walked back its approval and has not approved GMO rice for cultivation since.<sup>82</sup> Beijing has not approved a China-developed GMO since 2009.<sup>83</sup>

### ***Chinese Efforts to Advance Domestic Agricultural Innovation***

China is the largest public spender on agricultural biotechnology, which Beijing views as a "rainy day" asset it can deploy to address food needs as China's food consumption rises.<sup>84</sup> While Chinese research institutions have become increasingly competitive, commercial implementation of Chinese GMOs has been hampered by the Chinese public's resistance to genetically modified food.<sup>85</sup> In a 2016 nationwide survey of Chinese consumers, 41.4 percent of respondents opposed GMOs, and only 11.9 percent supported their use.<sup>86</sup>

Chinese biotechnology institutions have emerged as internationally recognized contributors to agricultural research, but have struggled to commercialize this research due to lack of government approvals for cultivation of GMO strains. From 1973 to 2001, Chinese scientists published very few agricultural biotechnology research articles in international journals.<sup>87</sup> Since 2007, however, China has emerged as the second-largest publisher of GMO research articles in the top ten biology journals internationally.<sup>88</sup> In 2002, Chinese scientists were among the first to sequence the genome for rice, and Chinese researchers have made important strides in developing insect-resistant rice and disease-resistant wheat.<sup>89</sup>

China appears to be particularly competitive with respect to new gene-editing technology such as CRISPR-Cas9 (CRISPR). CRISPR is a new tool for genetic editing that dramatically lowers the cost of genetic modification.† From 2014 to 2017, China accounted for 42 percent of all scientific articles published on applying CRISPR tech-

\*The only exception is a Monsanto strain of cotton licensed to a provincial Chinese SOE in 1997. Stuart Smyth, *Handbook on Agriculture, Biotechnology, and Development*, Edward Elgar Publishing, 2014, 328.

†While earlier genetic tools often cost several thousand dollars to use, CRISPR can be used by researchers for less than \$100. Hedi Ledford, "CRISPR, the Disruptor," *Nature*, June 3, 2015.

nology to agricultural applications, the most of any country.\* The Chinese Academy of Agricultural Sciences and Chinese Academy of Sciences rank first and third worldwide, respectively, for number of CRISPR patent families† related to plant modification (see Table 5).<sup>90</sup>

China is also very competitive in genomic sequencing (i.e., the process of determining the order of DNA molecules in an organism's genetic code), which is a necessary step for identifying genes associated with beneficial agricultural traits. Chinese biotech firms are the world's largest with respect to genomic sequencing capacity, and roughly 20 to 30 percent of the world's genomic sequencing capacity is based in China.<sup>91</sup> The competence of Chinese firms in new genetic tools such as CRISPR and their ability to quickly sequence genomes may help them become more competitive in agricultural research as CRISPR technology is applied to developing new crop strains.

**Table 5: Top Five Research Organizations by Plant-Modification CRISPR Patent Families, 2004–2017**

Research Institute	Patent-Families	Location of Institute
Chinese Academy of Agricultural Sciences	39	China
DuPont	34	United States
Chinese Academy of Sciences	32	China
Broad Institute	25	United States
Massachusetts Institute of Technology	25	United States

*Source:* Corinne Le Buhan and Fabien Palazzoli, "Cross-Patent Landscape," *IP Studies*, January 2018.

China's government has identified biotechnology as a strategic emerging industry, and subsidizes domestic agricultural innovation "primarily through publicly funded research institutes and universities."<sup>92</sup> For example, in 2008 China approved a 15 year plan for the development of new crop and animal traits through the Key Scientific and Technological Grant of China for Breeding New Biotech Varieties (the total funding for the initiative is approximately \$3.5 billion, of which half came from central and local government and half from the private sector).<sup>93</sup> According to Dr. Pray, the Chinese government also supports domestic Chinese research firms through market access restrictions (e.g., foreign investment prohibitions) and favorable biotechnology approvals.<sup>94</sup>

Chinese agricultural innovation has also been facilitated through acquisition of foreign firms, notably the purchase of Swiss agribusiness Syngenta by the Chinese SOE ChemChina in 2017 for \$43 billion.<sup>95</sup> Syngenta was one of the world's largest biotech firms, with at least 96 different GMO crops approved for commercializa-

\*The United States ranked second, accounting for 19 percent of all articles published over this timeframe. Agnes Ricroch, "Use of CRISPR Systems in Plant Genome Editing: Toward New Opportunities in Agriculture," *Portland Press*, November 10, 2017.

†A patent family is a set of patents from multiple countries that protect one invention. For example, if an inventor patented a new solar cell in the United States, China, Germany, and France, he would have four patents and one patent family.

tion worldwide.<sup>96</sup> In his testimony before the Commission, Dr. Pray noted that the Chinese government's attempt to develop an indigenous agricultural biotech industry has failed, and the "government acknowledged [this] failure ... by buying Syngenta."<sup>97</sup>

Despite sustained government support, Chinese firms have commercialized relatively few GMO traits. Many GMO traits developed by Chinese firms are awaiting Chinese government approval, resulting in what David Talbot, senior writer for the *Massachusetts Institute of Technology Review*, refers to as a "stockpile" of unused agricultural technology.<sup>98</sup> According to Mr. Talbot, the Chinese government has likely refrained from approving domestic GMOs due to public concerns regarding their safety, but may implement them in the future to improve Chinese agricultural productivity.<sup>99</sup>

### ***Examples of Commercial Espionage against U.S. Firms by Chinese Actors***

U.S. agricultural research firms have been the target of corporate espionage conducted by Chinese nationals. For example, in April 2018, Weiqiang Zhang—a Chinese scientist working in Kansas—was sentenced to ten years in U.S. prison for a 2013 theft of rice seeds designed to produce proteins for medical research from U.S. research firm Ventria.<sup>100</sup> Mr. Zhang provided the stolen seeds to staff from a Chinese research institute who traveled to the United States.<sup>101</sup> U.S. Customs and Border Protection found the stolen seeds in the luggage of the Chinese staff as they attempted to depart for China.<sup>102</sup> In 2016, another codefendant, Wengui Yan—who worked as a geneticist for the USDA at the time of the theft—admitted to lying about his knowledge of the plans to steal the seeds, and pleaded guilty to making false statements to the FBI; he is awaiting sentencing.<sup>103</sup> Two additional Chinese researchers have been charged in connection with this case.<sup>104</sup>

In December 2016, another Chinese national, Hailong Mo, was convicted of stealing proprietary test seeds from U.S. farms across the Midwest and attempting to ship them back to China where they could be covertly cultivated and analyzed.<sup>105</sup> The stolen seeds were prototypes than can be harvested for additional plantings, unlike most commercial GMO seeds, which can only be planted once. Their theft not only represents a loss of years of research by U.S. firms, but also provides a way for Chinese actors to pirate U.S. agricultural IP.<sup>106</sup> According to U.S. firm DuPont Pioneer, the corn seeds stolen by Mr. Mo were equivalent to a loss of \$30 million and five to eight years of research.<sup>107</sup>

### ***Biotechnology Piracy in China***

While U.S. firms can obtain patents for their seeds in China, the enforcement of these patents is challenging as Chinese farmers appear to be growing U.S. GMO seeds without authorization. A 2015 survey by environmental group Greenpeace found that 93 percent of samples of corn from fields in five counties in Liaoning Province contained genetically engineered traits, despite the Chinese government's ban on cultivating foreign genetically modified corn.<sup>108</sup> Several of these traits were from U.S. companies such as Monsanto,

DuPont Pioneer, and Dow Chemical, indicating that Chinese farmers obtained U.S. seeds and planted them without authorization.<sup>109</sup>

According to Carl Pray, professor at Rutgers University, as much as half of the corn grown in northern China may be genetically modified corn obtained illicitly by Chinese farmers.<sup>110</sup> This illicit use of U.S. seed technology by Chinese farmers affects U.S. business decisions. According to Dr. Pray, Monsanto abandoned distribution of its insect-resistant cotton in China through its Chinese partner in 2003 or 2004, having received no payments for its cotton seeds since 2001 due to widespread Chinese piracy.<sup>111</sup> In the event other GMO crops are approved, they would likely face similar piracy.

### **Safety of U.S. Food Imports from China**

Historically, China has struggled with food safety scandals that have affected U.S. and Chinese consumers. From 2006 to 2007, melamine-contaminated pet food imports\* from China resulted in the deaths of 1,950 cats and 2,200 dogs.<sup>112</sup> In 2008, melamine poisoning widely affected Chinese infants who consumed the compound in contaminated dairy products, resulting in the deaths of six children and illness of 300,000 more—a watershed moment that prompted reform of China's food safety regime.<sup>113</sup>

According to Holly Wang, professor of agricultural economics at Purdue University, China's domestic food safety scandals reduced the public's trust in the Chinese government's ability to manage risks and heightened their concerns over corruption that has been blamed for lax food safety compliance in China.<sup>114</sup> As a result, the Chinese government overhauled its food safety laws and regulatory structure. In 2013, China created the China Food and Drug Administration, which largely centralized control over domestic food safety with respect to food production, distribution, and consumption.<sup>115</sup> Previously, responsibility for China's domestic food safety was split between three different agencies, and poor interagency coordination weakened China's food safety system, according to several food safety experts.<sup>116</sup> In March 2018, Beijing further centralized food security regulation by placing the China Food and Drug Administration and the General Administration of Quality Supervision, Inspection and Quarantine (which has jurisdiction over the safety of food exports and imports) under the same umbrella agency, the State Administration for Market Regulation, which operates directly under the State Council.<sup>117</sup> This reorganization may improve implementation of food safety standards.

### ***China's Food Safety Inspection Regime***

The Chinese government has moved from a reactive food safety system (where food safety officials respond to safety threats after they emerge) to a predictive risk-based system that seeks to anticipate food safety threats and address them before they materialize.<sup>118</sup> Through changes to its Food Safety Law in 2015, China has adopted what some experts have called "the most stringent and comprehensive food safety law in Chinese history."<sup>119</sup> In particular,

\*Melamine is a compound that can make food products appear to contain more protein than they actually do. Melamine contamination can cause crystals to form in consumers' kidneys, leading to kidney failure. World Health Organization, "Questions and Answers on Melamine."

the new Food Safety Law introduced harsher punishments for food safety abuses and created a system of standards more comparable to those of North America and Europe.<sup>120</sup>

Any Chinese food product destined for export undergoes a two-step review process. First, all Chinese food producers are required by law to set up safety and hygiene control systems meant to ensure the production and storage of food is in compliance with the legal requirements of the destination country.<sup>121</sup> Second, before a Chinese food product can be exported, it is subject to entry-exit inspection by China's General Administration of Quality Supervision, Inspection and Quarantine.<sup>122</sup>

According to Chinese government data, food safety compliance rates increased from 90.8 percent in 2006 to 96.8 percent in 2015.<sup>123</sup> The United States has also updated its ability to detect and preempt health risks from China, primarily through the implementation of the Food Safety Modernization Act of 2011 (for more on U.S. defenses against foreign food risks, see the textbox "U.S. Import Food Safety Tools").

### ***Risks Associated with China's Food Safety Inspection Regime***

Despite regulatory improvements in China's food safety system, many food safety risks remain:

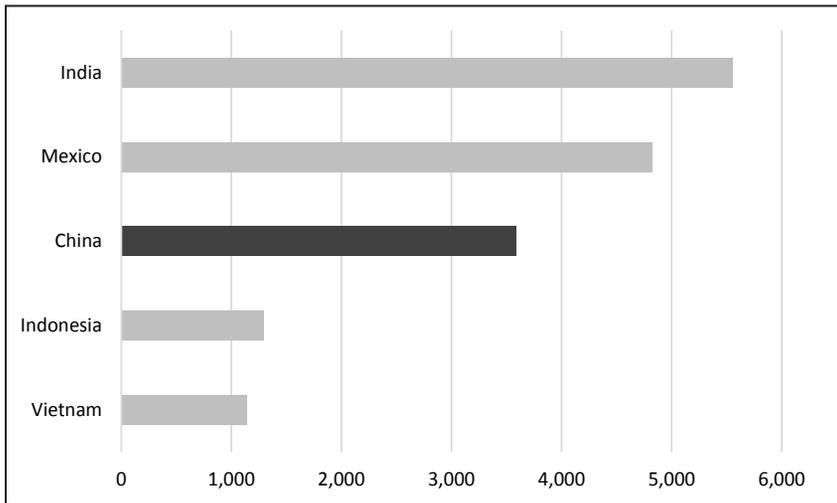
- *Small-scale Chinese agricultural producers:* The large number of small-scale Chinese food producers creates a challenge for Chinese inspectors as they cannot inspect every food producer to ensure food safety compliance.<sup>124</sup> China is estimated to have as many as 200 million individual households engaged in farming relatively small plots of land,\* and there are more than 400,000 registered small or medium food processors.<sup>125</sup> While small-scale producers mostly serve the domestic market, they also provide exports via contracting and farmers cooperatives.<sup>126</sup> Small farms are incentivized to take actions that create health risks but protect their scant agricultural assets, such as applying excessive antibiotics to livestock. Additionally, the Chinese government is reluctant to penalize small-scale farmers for poor safety conditions, as prosecuting several poor farmers would be politically unpopular.<sup>127</sup>
- *Limited inspection resources:* China's inspection capacity is lacking. Food inspectors still require training on China's new food safety regulations, and inspectors have reportedly deferred to the traditional safety standards used by city governments, resulting in a patchwork of conflicting food standards as opposed to one uniform system.<sup>128</sup> Less developed provinces often lack the tools to inspect all food products.<sup>129</sup>
- *Industrial pollution:* China's industrial pollution creates food safety risks. According to a national survey conducted by China's central government, more than 19 percent of China's farmland is contaminated by pollutants (including lead, cadmium, and arsenic).<sup>130</sup> These pollutants can enter some food products, such as cereal crops, that are eaten by Chinese consumers but not shipped

\* Roughly 93 percent of China's farms are less than 1 hectare in size. The average U.S. farm size in 2012 was more than 101 hectares. James MacDonald, "Large Family Farms Continue to Dominate U.S. Agricultural Production," *U.S. Department of Agriculture*, March 6, 2017; Bloomberg, "Farming the World: China's Epic Race to Avoid a Food Crisis," May 22, 2017.

abroad.\* Chinese pollutants can also accumulate in exported products such as seafood. A 2013–2014 survey of coastal Chinese seafood found that 20 percent of surveyed saltwater crabs had excessive levels of cadmium.<sup>131</sup> As seafood is China's largest food export to the United States and China is the United States' largest source of imported seafood, accounting for 14 percent of all U.S. seafood imports in 2017, food safety risks in Chinese seafood have the potential to widely affect U.S. consumers.<sup>132</sup>

Data from the U.S. Food and Drug Administration (FDA) show China was the third-largest source of food-related import refusals (see Figure 3), indicating it remains a source of risk for U.S. consumers.<sup>133</sup> As China is the United States' third-largest source of food imports (behind Canada and Mexico), it is not surprising that China accounts for a significant share of U.S. import refusals.<sup>134</sup> However, China accounts for a proportionally larger share of import refusals than its volume of trade with the United States would warrant. Relative to the total value of each country's food exports to the United States, China had roughly 2.6 times as many import refusals as Mexico and 13 times as many import refusals as Canada from 2014 to 2016.<sup>135</sup>

**Figure 3: Food-Related Import Lines† Refused by the FDA, 2014–2017**



Source: U.S. Food and Drug Administration, *Import Refusal Report*. <https://www.accessdata.fda.gov/scripts/importrefusals/>.

Seafood products constitute the largest share of Chinese import refusals, mostly due to unclean conditions or detection of veterinary drugs such as antibiotics, suggesting they represent the largest

\*Cadmium is a heavy metal that can cause irreversible kidney damage and kidney failure in small doses. Rice in Hunan Province has been shown to have cadmium levels 50 percent higher than the amount allowed under Chinese law and most international standards. Long-term exposure to cadmium can result in cancer and organ toxicity. *Economist*, "The Most Neglected Threat to Public Health in China Is Toxic Soil," June 8, 2017; Centers for Disease Control and Prevention, *Cadmium Toxicity*, May 11, 2013.

†An import line consists of all products of a given type from a particular producer in one shipment. One shipment can have multiple import lines (e.g., a shipment of chocolate cookies from China, India, and England and vanilla cookies from China would have at least four import lines).

source of risk for U.S. consumers among Chinese food products and warrant close monitoring. Due to excessive or inappropriate use of veterinary drugs in Chinese aquaculture, the FDA currently has two import alerts on Chinese seafood: (1) all aquaculture shrimp, dace, and eels from China\* are detained until they are cleared; and (2) all aquaculture seafood imports from select Chinese companies are detained until the importer can show these imports do not pose a health risk.<sup>136</sup> From 2005 to 2013, seafood accounted for 32 percent of all import refusals from China.<sup>137</sup>

### U.S. Import Food Safety Tools

The United States government employs several tiers of defense to protect consumers:

- *Overseas risk prevention:* Before a product arrives at a U.S. port, all importers of human food are required to verify that their foreign suppliers have procedures to ensure they comply with U.S. standards under the Food Safety Modernization Act of 2011.<sup>138</sup> The FDA also plans to incentivize importers to use safe suppliers through the Voluntary Qualified Importer Program, which will provide importers quicker import reviews if they buy from foreign suppliers who adopt food safety assurance procedures and are certified to meet U.S. standards under the FDA's Accredited Third-Party Certification Program.<sup>139</sup> The FDA also inspects some facilities in China. However, given the large number of food exporters in China, FDA inspectors cannot inspect every Chinese supplier. In 2016, there were almost 27,000 FDA-registered food suppliers in China and only 23 FDA China-based personnel.<sup>140</sup>
- *Import screening:* Once an import arrives at a U.S. port of entry, it is electronically screened by PREDICT, an algorithm-based screening methodology.<sup>141</sup> PREDICT screens imports of FDA-regulated products in real time as they arrive at the U.S. border, and directs inspectors to examine shipments that are likely to have a higher risk of containing noncompliant products based on factors such as the type of product being shipped, the compliance history of firms associated with the shipment, and other data.<sup>142</sup> Imports that appear to be adulterated or contaminated are denied entrance to the United States.<sup>143</sup>
- *Import alerts:* Through an import alert, the FDA can also detain food imports from a certain country, from a particular supplier, or of a particular commodity. In response to a health risk, the FDA can issue an import alert that detains all shipments of the type specified at the U.S. border.<sup>144</sup> Once detained, the importer must demonstrate that the shipment is safe, otherwise it is destroyed, returned to the country of origin, or sent to another country.<sup>145</sup>

\*Some Chinese producers are exempted from this detention requirement. U.S. Food and Drug Administration *Import Alert 16-131*, June 8, 2018.

### **U.S. Import Food Safety Tools—Continued**

- *Mandatory recalls:* In the event an unsafe food import enters the United States, the FDA can issue a mandatory recall for the import. The FDA partners with the Centers for Disease Control and Prevention and local and state governments to monitor food safety threats as they emerge and quickly recall products before they are widely consumed.<sup>146</sup>

## **Implications for the United States**

### ***Chinese Market Restrictions***

Due to China's relative paucity of water and arable land, the United States and China should be natural trading partners across many different agricultural products, particularly land- and water-intensive goods such as cereals and meat. However, U.S. farmers have had success in China's market only where Beijing has allowed them access. Soybeans dominate U.S. exports as Chinese authorities have opened this sector to imports, while crops such as rice, wheat, and corn remain subject to underutilized TRQs.

Beijing consistently uses agricultural market access to punish the United States. Since 2010, the Chinese government has applied at least six sets of retaliatory tariffs against U.S. agricultural exports in response to defensive U.S. trade measures.<sup>147</sup> According to industry experts, China also uses nonscientific food safety barriers against U.S. poultry and beef as a tit-for-tat negotiation strategy to urge the United States to move forward with its safety review of poultry exports from China.<sup>148</sup>

### ***Opportunities for U.S. Firms***

In the absence of market restrictions, China presents several opportunities for U.S. agricultural firms:

- *Food quality:* U.S. food products enjoy a reputation for quality and safety that grants them an advantage over domestically sourced goods. For example, Chinese consumers have been willing to pay a markup of 150 to 300 percent for imported infant formula due to concerns regarding the safety of domestic products.<sup>149</sup>
- *China's cold-chain:* According to the U.S. Department of Commerce, China's cold-chain infrastructure, a transportation network that preserves perishable food, is projected to grow by a factor of 20 in the next decade, opening millions of consumers outside of China's largest cities to U.S. meat and perishable food exports if those exports receive predictable market access from Chinese authorities.<sup>150</sup>
- *E-commerce:* E-commerce may provide an opportunity for U.S. firms to sell food products directly to Chinese consumers. U.S. firms have already partnered with online retailers such as JD.com and Alibaba, and China's online food market is projected to more than double by 2020 when it will account for almost 7 percent of all Chinese grocery sales.<sup>151</sup>

- *Consumer demand:* The scale of China's domestic market also creates opportunities for U.S. food producers, especially as incomes rise. A 2015 study by the USDA Economic Research Service found higher purchasing power increased Chinese consumers' demand for imported higher value added foods and beverages, such as wine, spirits, and cheese.<sup>152</sup>

### ***Chinese Biotechnology Policy***

According to Nathan Fields, director of biotechnology for the National Corn Growers Association, China's biotechnology approval process puts U.S. agricultural gains and innovation at risk.<sup>153</sup> U.S. corn productivity has increased roughly 16 percent from 2007 to 2017, largely due to biotech innovation.<sup>154</sup> GMOs that are naturally resistant to weeds and pests can also help reduce pesticide and fungicide use. However, to maintain these benefits, U.S. farmers require a broad suite of biotech products, including new seed strains. In the absence of new products, insects, weeds, and fungi can develop resistance to on-market GMOs, effectively undoing agricultural gains from past innovation. By slowing the commercialization of new U.S. agricultural biotech products, China not only prevents the introduction of new innovative products for U.S. farmers, but also puts current productivity at risk as insects and weeds acquire immunity. Additionally, widespread piracy in China—possibly facilitated by corporate espionage—limits the revenue U.S. biotech firms can earn in China.

### ***U.S.-China Bilateral Engagement***

Engagement with China has been hampered by structural negotiation deficiencies. According to Ambassador Darci Vetter, former USTR chief agricultural negotiator, when engaging with Chinese authorities, U.S. officials are frequently left playing a game of “hot potato” as their concerns are shifted between China's Ministry of Agriculture (which, according to Ambassador Vetter, does not view U.S. trade concerns as a priority) and China's Ministry of Commerce (which is more receptive to U.S. concerns, but frequently refers U.S. requests to the Ministry of Agriculture).<sup>155</sup> In her testimony before the Commission, Ambassador Vetter said this split of responsibility was partially overcome in multiagency dialogues such as the U.S.-China Joint Commission on Commerce and Trade; however, as neither the Chinese minister of agriculture nor the U.S. secretary of agriculture served as cohosts to these dialogues, agricultural issues were typically “a minor part of very broad economic policy agendas, which left little time for discussion.”<sup>156</sup>

As a result, U.S. bilateral dialogues have achieved limited success in addressing Chinese agricultural restrictions, but have not led China to significantly alter these policies. Since 2014, the United States has engaged in intensive negotiations with China on its biotech approval process at the U.S.-China Joint Commission on Commerce and Trade, the U.S.-China Strategic and Economic Dialogue (S&ED), and the U.S.-China Comprehensive Economic Dialogue, which replaced the S&ED.<sup>157</sup> At every meeting, China committed to improve its approval process; however, China's biotechnology regulatory system endures because the Chinese government has not car-

ried out promised changes or has implemented them in a marginal way that did nothing to reform structural problems.<sup>158</sup>

Most tellingly, in May 2017 China agreed to convene a meeting of the National Biosafety Committee by the end of that month to review eight U.S. biotech product applications that were pending review.<sup>159</sup> To date, the committee has approved only four of those eight products; it also has not held another meeting since June 2017.<sup>160</sup>

The Chinese government's tendency to offer commitments it does not uphold and to approve individual products during bilateral dialogues, rather than addressing systemic problems, creates a risk that China will use new U.S. biotech products as a renewable source of bargaining chips to extract concessions from the United States or to appease the United States in future negotiation.

### ***Food Safety***

Since 2013, China has improved its food safety laws, but their implementation remains a challenge due to a lack of qualified inspectors, uneven application of China's food safety regulations, and the large number of small agricultural producers, which are difficult to regulate. The United States has also improved its imported food safety measures since 2011; however, full implementation of the Food Safety Modernization Act has only just begun. For example, the FDA expects company participation in the Voluntary Qualified Importer Program to start in 2019.<sup>161</sup> China's exports to the United States suggest seafood products in particular represent a health risk to U.S. consumers, given China's status as the largest exporter of seafood to the United States and the relatively high levels of veterinary drugs detected in Chinese seafood.

While no major food safety events related to Chinese imports have merged in the United States since the 2006 and 2007 melamine pet food outbreaks, it is not clear if this is due to new U.S. preventative import safety procedures, better Chinese food safety laws, or good fortune. As a result, Chinese food safety conditions require constant monitoring and cooperation between U.S. and Chinese regulators to strengthen both countries' food safety defenses.

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## CHAPTER 2

### U.S.-CHINA SECURITY RELATIONS

#### SECTION 1: YEAR IN REVIEW: SECURITY AND FOREIGN AFFAIRS

##### Key Findings

- China signaled a decisive end to its more than quarter century-old guidance to “hide your capabilities and bide your time, absolutely not taking the lead” as Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping issued a series of new foreign affairs and military policy directives calling on China to uncompromisingly defend its interests and actively promote changes to the international order.
- U.S.-China security relations remain tense due to serious disagreements over issues such as China’s continued coercive actions in regional territorial disputes, espionage and cyber activities, and influence operations. The tenor of the relationship was reflected in President Xi’s public warning to visiting U.S. Secretary of Defense James Mattis that China would not tolerate the loss of a “single inch” of its territorial claims.
- The People’s Liberation Army continues to extend its presence outside of China’s immediate periphery by increasing air and maritime operations farther from its shores, expanding presence operations in disputed areas in the East and South China seas, maintaining troops and building a pier at China’s sole overseas military base in Djibouti, deploying more advanced combat units to UN peacekeeping operations, and conducting more complex bilateral and multilateral overseas exercises.
- Tensions and the potential for accidents, miscalculation, and escalation between China and Japan intensified in the East China Sea as China sailed a number of naval vessels close to the Senkaku Islands and increased its military presence in the area. Based on the terms of the U.S.-Japan Mutual Defense Treaty, China’s increasing military activity near the Senkakus constitutes a challenge to U.S. security guarantees to Japan.
- China took new steps to consolidate its military posture and improve its ability to project power into the South China Sea, as President Xi proclaimed at the CCP’s 19th National Congress the success of China’s island-building efforts. Chinese forces

are now capable of overpowering any other South China Sea claimant, challenging U.S. presence operations in the region, and presenting a significant obstacle to the U.S. military during a conflict. China deployed advanced antiship and surface-to-air missiles to its Spratly Island outposts for the first time, demonstrating its ability to create a military buffer around the southern reaches of the South China Sea.

- Following their land border dispute in 2017, strategic jockeying in 2018 between China and India expanded to include New Delhi's maritime interests in the Indian Ocean.
- China continued to deepen its partnerships with Russia, Iran, and Pakistan, and leveraged the relationships to challenge U.S. security and economic interests. During a high-level visit to Russia, China's defense minister stated that China's visit was intended to demonstrate the depth of China-Russia strategic cooperation to the United States and to the world. China's purchase of advanced weapons systems from Russia resulted in the United States applying sanctions against China's Equipment Development Department, a key military body.
- China's arms exports continued to grow in volume and sophistication in 2018, although they remain limited to low- and middle-income countries and trail in value compared to U.S. and Russian sales.

## Introduction

The year 2018 saw Beijing declare its intent to expand China's political, economic, and military presence both in its region and on the global stage. Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping announced new, far-reaching visions for China's military modernization and foreign policy; Beijing took new steps in advancing its maritime and territorial claims, to the frustration of its neighbors and the international community; and China expanded its global security engagement and international military footprint. This section examines important developments stemming from the CCP's 19th National Congress, Beijing's increasingly assertive efforts to elevate its regional and global leadership role, China's strategic partnerships and other important relationships with key countries, its territorial and maritime disputes in the region, expanding military presence overseas, and U.S.-China security ties. This section is based on Commission hearings and briefings, the Commission's May 2018 fact-finding trip to Asia, discussions with outside experts, and open source research and analysis. (For a full discussion of recent developments in China's military modernization, see Chapter 2, Section 2, "China's Military Reorganization and Modernization: Implications for the United States.")

## Major Developments in China's Security and Foreign Affairs in 2018

### *CCP National Congress Highlights Global Leadership Ambitions*

At the 19th National Congress of the CCP\* in October 2017, President Xi presented a work report outlining his signature ideological contribution to CCP doctrine, since titled “Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era.”<sup>1</sup> According to *Xinhua*, Xi Jinping Thought is intended, among other things, to build a “world-class” military, resolutely defend China’s sovereignty claims, and ensure CCP control over the military and all other government functions.<sup>2</sup> In his address to the CCP body, President Xi announced that China had begun a new era of confidence and capability on the global stage distinct from what he views as its previous two periods—those before and after reform and opening.<sup>3</sup> To carry out this vision, the new political guidance signaled that in the coming years China will increasingly act as a formidable economic and military power, drive changes to the international order as it pursues geopolitical influence, and act as a political and economic model for others to emulate as it “moves closer to the world’s center stage.” It also indicated China will adopt a more uncompromising stance toward resolving outstanding sovereignty disputes in its favor, including unification with Taiwan.<sup>4</sup> Despite President Xi’s assertive tone causing some alarm abroad and even at home, the CCP put its official stamp of approval on his approach, adding “Xi Jinping Thought” to its constitution, which will infuse this ideology into schools, the media, and all aspects of Chinese life and governance.<sup>†</sup><sup>5</sup>

Following the 19th Party Congress, the CCP took significant steps to enhance its control over key law enforcement and paramilitary forces, as the China Coast Guard and People’s Armed Police became fully subordinate to the Central Military Commission (CMC).<sup>6</sup> Reversing a 1980s-era reform granting the government shared control over the People’s Armed Police, this new reform consolidated the CCP’s control over the paramilitary force to “ensure the [CCP’s] absolute leadership,” according to the People’s Liberation Army (PLA) mouthpiece the CCP’s *People’s Daily*.<sup>7</sup> The People’s Armed Police then gained control over the China Coast Guard in July 2018, emphasizing the increasingly military-oriented character of China’s law enforcement entities.<sup>8</sup>

### *The Increasing “Party-ification” of the Chinese Government and the Rise of President Xi*

In one of the most significant developments of 2018, the CCP solidified its control over policy in China through what it called the

\*At the CCP’s National Congress, which occurs every five years, delegates set the CCP’s national policy goals and choose new top leaders. Brookings Institution, “China’s 19th Party Congress,” 2017.

†Former Chinese paramount leader Deng Xiaoping had his ideological contribution added to the CCP Constitution, but his name was added to it only after his death in 1997. Former Chinese presidents Jiang Zemin and Hu Jintao had their signature doctrines added without their names attached. Xi Jinping is the first Chinese leader since Chairman Mao Zedong to have both his name and doctrine added to the CCP Constitution during his lifetime. Ben Blanchard, Christian Shepherd, and Philip Wen, “China to Enshrine Xi’s Thought into State Constitution amid National Fervor,” *Reuters*, January 19, 2018; Chris Buckley, “China Enshrines Xi Jinping Thought, Elevating Leader to Mao-Like Status,” *New York Times*, October 24, 2017.

“deepen[ing] reform of party and state institutions.” The increase in Party control over governmental functions coincided with the additional consolidation of President Xi’s control over the Party, as the Chinese legislature unanimously approved President Xi’s reappointment as Chinese president and abolished limits on the number of terms he can serve in that role.<sup>9</sup> The Party took control of a number of agencies previously overseen by the Chinese state, which indicated an overall “weakening of China’s government institutions,” according to the German think tank Mercator Institute for China Studies.<sup>10</sup> These measures also expanded the authority of some of the CCP’s important “leading small groups”<sup>\*</sup> and committees by institutionalizing their decision-making power; for instance, the Propaganda Department of the CCP Central Committee gained direct oversight of film production and copyright, and Beijing established new central committees concerning governance and auditing.<sup>11</sup> The Chinese legislature also established the National Supervisory Commission, a new anticorruption agency with authority over the entire public sector.<sup>12</sup>

There has been some prominent pushback within China to the recent surge in “Party-ification,” although not without consequences. In a July 2018 essay excoriating the CCP for an apparent backslide to class struggle-based politics,<sup>†</sup> Tsinghua University law professor Xu Zhangrun wrote that Chinese people have recently been

*both critical and fearful of the meaning of the revision of the [CCP] Constitution and the abandonment of term limits on political leaders ... It is felt that this amounts to a negation of the last thirty years of the Reform and Open Door policy era. It is feared that ... China will be cast back to the terrifying days of [one-man rule under] Mao.*<sup>13</sup>

Professor Xu also argued the new National Supervisory Commission’s establishment had caused Chinese people to “feel no greater security in their legal rights [but] quite the opposite” and to fear “the advent of a form of KGB-style control ... embroiled in the factional politics of the [CCP].”<sup>14</sup> According to Rong Jian, a prominent Chinese intellectual, Professor Xu was forced in September to return to China early from his post as a visiting scholar in Japan.<sup>15</sup>

In October 2018, almost two weeks after Meng Hongwei—concurrently Chinese vice minister of public security and president of INTERPOL—disappeared during a trip to China, China’s Minister of Public Security Zhao Kezhi announced Mr. Meng had been detained under suspicion of corruption. According to the *New York Times*, Mr. Meng’s detention dealt “a spectacular, self-inflicted blow to China’s efforts to prove itself ready for more prominent roles in global affairs.”<sup>16</sup> Minister Zhao confirmed the involvement of the National

<sup>\*</sup>According to the Center for Strategic and International Studies, leading small groups are bodies that coordinate policy across different parts of the Chinese bureaucracy. CCP leading small groups predominantly address domestic political and security issues, and state leading small groups predominantly address domestic social and economic issues. Christopher K. Johnson, Scott Kennedy, and Mingda Qiu, “Xi’s Signature Governance Innovation: The Rise of Leading Small Groups,” *Center for Strategic and International Studies*, October 17, 2017.

<sup>†</sup>Veteran sinologist Geremie Barmé defines class struggle as “imposing artificial socio-political categories on individuals and groups and demonizing, ostracizing, or otherwise scapegoating them for political and economic ends.” Xu Zhangrun, “Imminent Fears, Immediate Hopes,” Geremie Barmé, trans., *China Heritage*, August 1, 2018.

Supervisory Commission—the Commission’s highest-profile detention since its establishment—meaning that Mr. Meng had likely been subjected to *liuzhi*, a new form of extrajudicial detention created when the National Supervisory Commission was established.\*<sup>17</sup> INTERPOL announced it had received Mr. Meng’s resignation but did not comment on the circumstances surrounding his disappearance.<sup>18</sup> Julian Ku, professor at Hofstra University School of Law, argued that Beijing’s willingness to disappear Mr. Meng in spite of his role in INTERPOL “should cause the rest of the world to think harder about how to respond to China’s ... campaign to build legitimacy and influence among international organizations.”<sup>19</sup>

### Elevation of the United Front Work Department

As the CCP has consolidated power over many aspects of Chinese society, President Xi has expanded the role of the United Front Work Department (UFWD),† a powerful Party entity responsible for securing the political support of or otherwise co-opting non-CCP entities within China and among the Chinese diaspora in foreign countries, including the United States.<sup>20</sup> President Xi designated United Front work as important for the “whole [Chinese Communist] party” and as a “magic weapon” for achieving the “great rejuvenation of the Chinese nation.”<sup>21</sup> To strengthen the CCP’s control over ethnic minorities, religious groups, and “overseas Chinese,” the State Administration for Religious Affairs, State Ethnic Affairs Commission, and Overseas Chinese Affairs Office—previously reporting to China’s State Council—were placed under the administrative authority of the UFWD.<sup>22</sup> According to analysts Julia Bowie and David Gitter, the UFWD’s assumption of full control over the State Administration for Religious Affairs is the next step in the “sinicization” of religions in China, “a process intended to shape religious traditions and doctrine to better conform with Chinese society and CCP objectives.”<sup>23</sup>

### Charting a More Assertive Course on Foreign Affairs

In 2018, China took steps to implement President Xi’s call for a more assertive Chinese role in the world by increasing the authority of its foreign affairs apparatus and issuing a new foreign

\*The National Supervisory Commission wields the power of a new form of extrajudicial detention called *liuzhi*, or “to set [someone] aside.” *Liuzhi* is a legally codified replacement of the extralegal detention system of *shuanggui*, or “double designation,” under which Party officials were required to report at a designated place and time to be detained and interrogated for alleged discipline violations such as corruption. Unlike *shuanggui*, *liuzhi* can be used to detain all Party and government employees. According to RSDL Monitor, an organization that raises awareness of China’s use of extrajudicial kidnappings and disappearances, one person has already died under this new form of detention. RSDL Monitor, “First Death Reported in New *Liuzhi* System,” May 9, 2018; Human Rights Watch, “China: Revise Draft National Supervision Law,” November 10, 2017; Congressional-Executive Commission on China, *2017 Annual Report to Congress*, November 5, 2017, 102–103.

†The UFWD is the CCP organ responsible for coordinating United Front work, which seeks to neutralize potential political opposition and incorporate new social groups to increase the CCP’s legitimacy within China and overseas. For more on United Front work, the UFWD, and the implications for the United States of this activity, see Chapter 3, Section 2, “China’s Relations with U.S. Allies and Partners,” and Alexander Bowe, “China’s Overseas United Front Work: Background and Implications for the United States,” *U.S.-China Economic and Security Review Commission*, August 24, 2018.

policy strategy that will ensure China's diplomats faithfully carry out President Xi's proactive foreign policy vision. In so doing, Beijing signaled it had overcome any remaining internal resistance to China adopting its new international posture, and that the more cautious, conservative approach its diplomats had taken since the Deng Xiaoping era—when China was instructed to “hide its capabilities and bide its time, absolutely not taking the lead”—had come to a decided end. In implementing this new approach, Beijing streamlined and elevated Chinese foreign affairs agencies to increase their power relative to other bureaucratic actors and ensure their responsiveness to Party guidance, boosted funding for diplomacy and foreign aid, and appointed experienced government officials who have demonstrated loyalty to the Party and President Xi to key foreign policy positions. (For more information on China's Belt and Road Initiative, which is a central component of China's more proactive foreign policy, see Chapter 3, Section 1, “Belt and Road Initiative.”)

In June, the CCP held a Central Foreign Affairs Work Conference—a meeting to coordinate foreign policy concepts and planning among all the country's major bureaucratic actors with a foreign affairs role—the first such meeting since November 2014.<sup>24</sup> At the conference, President Xi expanded on his foreign policy guidance from the 19th Party Congress and codified his personal doctrine, known as “Xi Jinping Thought on Diplomacy of Socialism with Chinese Characteristics for a New Era,” as the guiding principle for China's diplomatic work. In his conference address, President Xi repeatedly called for China to lead the construction of a “community of common human destiny”—what could be the CCP's ideological formulation for a revised global order. President Xi also exhorted China's diplomats to firmly uphold China's sovereignty and development interests, echoing the tone of unusually strong language from his 19th Party Congress address that “no one should have the fantasy of forcing China to swallow the bitter fruit of damaging its own interests.”<sup>25</sup>

To achieve these goals, President Xi called for China to lead efforts to change global governance, build out China's network of international partnerships, and improve China's standing in its relationships with major countries, which he explained would both advance the “China Dream” and promote human progress.<sup>26</sup> At the end of the conference, Yang Jiechi, Politburo member and director of the CCP Central Committee Foreign Affairs Commission's (FAC) General Office, declared that Xi Jinping Thought had been established as the “fundamental guideline” for China's foreign policy.<sup>27</sup>

China also took steps to restructure its agencies in charge of foreign affairs. In March 2018, the Chinese leadership converted what was previously the Central Leading Group for Foreign Affairs into the higher-level CCP Central Committee FAC.<sup>28</sup> President Xi is the head of the FAC—which is analogous to the Central Military Commission for military affairs.<sup>29</sup> During his Central Foreign Affairs Work Conference speech, President Xi stressed the need for Chinese diplomats to follow Party guidance closely.<sup>30</sup> To that end, the FAC

will help oversee foreign policy implementation and ensure its alignment with Party dictates.

Beijing also boosted funding for foreign affairs in 2018, increasing the foreign affairs budget 15 percent over 2017.<sup>31</sup> With this year's increase, China's foreign affairs budget has doubled since 2011, increasing from \$4.53 billion (renminbi [RMB] 30 billion)\* to \$9.06 billion (RMB 60 billion) in 2018.<sup>32</sup> In addition, China created a new foreign aid agency called the China International Development Cooperation Agency to take on duties previously housed under the Ministry of Foreign Affairs and Ministry of Commerce.<sup>33</sup>

Finally, China's highest-ranking officials in charge of foreign affairs, including those known to be President Xi loyalists, were promoted to high-level Party positions as a means of increasing the influence of President Xi's foreign policy vision in broader government decision-making. State Councilor Yang Jiechi was promoted to be a member of the Politburo of the CCP Central Committee, and Foreign Minister Wang Yi received the higher-ranking title of state councilor.<sup>34</sup> Wang Qishan, former Politburo Standing Committee member and a key ally of President Xi, was appointed Chinese vice president. He is widely believed to have also been given a guiding role in foreign policymaking, based on his frequent meetings and experience working with global leaders.<sup>35</sup>

### *China-Russia Relations*

In 2018, China and Russia advanced their increasingly robust and pragmatic relationship through transfers of advanced weapons systems, high-profile combined military exercises, and a series of high-level meetings. These continued improvements to bilateral ties have been driven over the past decade by China and Russia's similar views on the international system. The two countries share hostility toward the United States and a desire to transition from a "unipolar" system dominated by the United States to a "post-Western" multipolar international order where China and Russia control regional spheres of influence and have increased influence in shaping international norms.<sup>36</sup> Following meetings in April 2018 between senior civilian officials and military officers, both sides extolled the strength of the bilateral relationship, with China's CMC Vice-Chairman Xu Qiliang declaring the relationship had reached "an all-time high."<sup>37</sup> At a bilateral summit on the sidelines of a Shanghai Cooperation Organization meeting in June, President Xi called China-Russia ties "the highest level, most profound and strategically most significant relationship between major countries in the world."<sup>38</sup>

Major developments in the Sino-Russian security relationship in 2018 include:

- *Defense Industrial Cooperation:* China continues to acquire advanced military technology from Russia, which allows China to enhance its warfighting capabilities while acquiring important knowledge to drive improvements to its own military industrial

\*Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = RMB 6.62.

base.<sup>39</sup> In May 2018, China received a shipment completing its first regimental set of the S-400 surface-to-air missile (SAM) system, Russia's most advanced air defense system currently only fielded by Russia.<sup>40</sup> China is also due to receive ten additional Su-35 fighters by the end of 2018, after having received ten of the advanced aircraft in 2017 and four in 2016; it is the only country outside Russia to have fielded the Su-35 to date.<sup>41</sup> Maintaining their upward trend in defense cooperation, China and Russia are also working on developing joint projects, including a heavy-lift helicopter.<sup>42</sup> In September 2018, the United States imposed sanctions on China's Equipment Development Department for its purchases of the S-400 and Su-35 under the provisions of a 2017 U.S. law to counter the destabilizing activities of Iran, Russia, and North Korea, known as the Countering America's Adversaries Through Sanctions Act.<sup>43</sup>

- *Bilateral and Multilateral Exercises:* Reflecting their increasingly close defense relationship, Moscow invited Beijing for the first time to participate in one of its major annual military exercises, Vostok-2018 (for more information on the exercise, see the textbox below).<sup>44</sup> China also sent a number of advanced combat systems to the International Army Games in July and August, a series of military competitions founded by Russia in 2015 in which China has progressively expanded its involvement.<sup>45</sup> This year, China sent H-6K strategic bombers and Y-9 transport aircraft to participate in the competitions, which was the first time Beijing deployed these key power projection aircraft overseas.<sup>46</sup> Finally, Beijing and Moscow decided to conduct their 2018 Joint Sea naval exercise, held annually since 2012, in waters near the eastern Chinese city of Qingdao.<sup>47</sup>
- *High-Level Contacts:* In April 2018, during Chinese Defense Minister General Wei Fenghe's first overseas trip as Defense Minister, he met with Russian Defense Minister Sergei Shoigu to discuss bilateral defense cooperation on the sidelines of Russia's annual Moscow International Security Conference. During the visit, General Wei said in unusually pointed terms that "to support the Russian side in organizing the [conference], the Chinese side has come to show the Americans the close ties between the Armed Forces of China and Russia." He emphasized his visit was intended "to show the world the high level of development in [China-Russia] relations, [in addition to the] firm determination [of both countries] ... to strengthen strategic cooperation."<sup>48</sup> Later that month, Chinese Foreign Minister Wang Yi and Russian Foreign Minister Sergey Lavrov met in Beijing to affirm their countries' commitment to deepening their bilateral relationship.<sup>49</sup> Increasing numbers of high-level military contacts between China and Russia in recent years reflect a trend of closer cooperation between the two countries and provide opportunities for their national security establishments to facilitate arms packages, prepare for military exercises, and discuss regional and global security concerns.<sup>50</sup>

### Vostok-2018 Exercise Raises Profile of Defense Ties

In 2018, Moscow invited Beijing for the first time to participate in Vostok-2018, one of Russia's annual large-scale strategic exercises and the largest exercise Russia has held since 1981.<sup>51</sup> The PLA sent the largest force it had ever deployed outside of China's borders to the exercise, which took place from September 11–17 in Eastern Russia, consisting of 3,200 troops and 900 tanks and armored vehicles from its Northern Theater Command, as well as six fixed-wing aircraft and 24 helicopters.<sup>52</sup> China's participation marked an upgrade in defense ties, given that Russia had only previously invited its closest defense partners to participate in the exercise series. In a thinly disguised reference to the United States in its public messaging, China suggested its participation in the drill was in part a response to certain "hegemonic powers [that] target China and Russia ... severely threaten[ing] regional and even global peace and stability."<sup>53</sup> Unlike previous bilateral exercises involving the two countries' ground forces that have primarily focused on countering international terrorism, Vostok-2018 was designed to simulate a large-scale conventional campaign to halt an enemy invasion.<sup>54</sup> Further, both sides used a number of their most advanced weapons systems, signaling a greater willingness to display some of their most sensitive platforms.<sup>55</sup> During the exercise, Chinese and Russian air forces operated in a unified formation for the first time, marking further progress in operating as a combined force.<sup>56</sup> While the PLA Navy did not participate in the exercise, a Chinese intelligence ship reportedly monitored Russian naval assets during the exercise's at-sea training event.<sup>57</sup>

Overall, participation in Vostok-2018 allowed the PLA to gain valuable experience in conducting and observing combined arms and joint operations,\* bolstered its logistical capacity and ability to operate in unfamiliar environments, and signaled to the United States and other observers that the two countries' ties are deepening.<sup>58</sup> During the exercise, Russian Defense Minister Sergei Shoigu and his Chinese counterpart Wei Fenghe agreed to conduct joint exercises on a regular basis.<sup>59</sup>

### *China-Iran Relations*

Since the Trump Administration announced in May 2018 it would withdraw from the 2015 Iran nuclear deal (the Joint Comprehensive Plan of Action)† and reimpose sanctions, Beijing has moved

\*The PLA noted that the Northern Theater Command joint operations command system made its debut at the exercise and was tested for the first time outside China's borders. For more information on the PLA's restructuring efforts to improve its ability to conduct joint operations, see Chapter 2, Section 2, "China's Military Reorganization and Modernization: Implications for the United States." Cai Pengcheng, "A Complete Structure with Joint Operations Command at the Two Levels of the Central Military Commission and the Theaters Is Being Built, the Leadership and Command System Is Achieving Historic Change," *PLA Daily*, September 26, 2018. Translation. [http://www.81.cn/jfjbmapi/content/2018-09/26/content\\_216635.htm](http://www.81.cn/jfjbmapi/content/2018-09/26/content_216635.htm).

†The nuclear deal was reached between the five permanent members of the UN Security Council (the United States, United Kingdom, France, China, and Russia), Germany, the EU, and Iran. Under the agreement, Iran agreed to reduce its uranium enrichment and allow for international inspections of its nuclear facilities and other changes to its nuclear program in exchange for ending sanctions. The deal went into effect on January 16, 2016, one week before President Xi's visit

to further expand its economic footprint in Iran while engaging in diplomatic talks with the deal's signatories to try to save the agreement.<sup>60</sup> U.S. action has left European firms doing business in Iran with a choice to either stay and lose access to the U.S. financial system or leave Iran entirely, which has opened the door for Chinese firms to replace European business in Iran.<sup>61</sup> In late May 2018, Iran's oil minister announced French energy giant Total had two months to secure an exemption from U.S. sanctions or Chinese state-owned China National Petroleum Corporation (CNPC) would take over Total's stake in the South Pars natural gas field.\*<sup>62</sup> Total, then the only Western energy firm investing in Iran, was unable to get a U.S. waiver and decided to leave the project, whose majority stake is now set to be transferred to CNPC.†<sup>63</sup>

President Xi and other top Chinese officials have met with the other signatories to the Iran deal, expressing China's support for the deal to remain in place, despite the benefits Beijing may gain from the United States leaving it.<sup>64</sup> Retaining the deal helps China boost its oil imports from Iran and increases stability in Iranian markets for Chinese firms.<sup>65</sup> Between January and May 2018, China increased its oil imports from Iran by nearly 10 percent year-over-year, amounting for more than a quarter of Iran's oil exports (Chinese oil imports dropped nearly 20 percent between May and August).<sup>66</sup> Peter Harrell, an adjunct senior fellow at the Center for a New American Security, assesses Beijing will likely leverage its position as Iran's top oil importer to secure more favorable pricing following the November 2018 deadline for U.S. allies to cut off their purchases of Iranian oil.<sup>67</sup>

Beijing also sees Iran as a critical hub in its Belt and Road Initiative (BRI), which since 2017 has resulted in several billion dollars in financing for infrastructure projects in the country; Chinese state-owned firms have won contracts for major railroad construction projects that may also be tied to BRI.<sup>68</sup> Given China's ongoing avenues of trade with Iran outside of the U.S. financial system, Beijing will likely continue to expand its economic and other cooperation with Iran, which have served as important initiatives within Beijing's broader increased strategic engagement with the Middle East in recent years.<sup>69</sup>

China and Iran are also likely to continue expanding bilateral security cooperation, which could involve arms sales and technology transfers to Iran that undermine U.S. security interests.<sup>70</sup> Since the Iran nuclear deal was signed, diplomatic and security cooperation between the two sides have deepened. In 2016, the countries upgraded relations to a "comprehensive strategic partnership," and in 2017 conducted their second bilateral naval exercise, a component of which was conducted in the Strait of Hormuz—a strategic water-

to Tehran to upgrade bilateral ties. BBC, "Iran Nuclear Deal: Key Details," May 8, 2018; David E. Sanger, "Iran Complies with Nuclear Deal; Sanctions Are Lifted," *New York Times*, January 16, 2016; U.S. Department of State, *Joint Comprehensive Plan of Action*. <https://www.state.gov/e/eb/tfs/spi/iran/jcpoa/>.

\*According to the U.S. Energy Information Administration, the South Pars natural gas field holds approximately 40 percent of Iran's natural gas reserves. U.S. Energy Information Administration, Country Analysis Brief: Iran, April 9, 2018, 2.

†Total, which has ceased work on the project, is in negotiations to transfer its 50.1 percent share to CNPC, but the Chinese state-owned energy firm is reportedly reluctant to accept full control and attract attention from the United States. Benoit Faucon, "As U.S. Sanctions Loom, Total SA Struggles to Exit Project in Iran," *Wall Street Journal*, August 20, 2018.

way transited by a significant percentage of China's oil imports.<sup>71</sup> Defense industrial cooperation between Beijing and Tehran dates back to the 1980s and has included Chinese nuclear and missile technology transfers.<sup>72</sup> As recently as March 2017, the U.S. government found Chinese proliferators violating U.S. export controls on Iran and facilitating Iran's ballistic missile program.<sup>73</sup>

### *China-Pakistan Relations*

The July 2018 election that resulted in Imran Khan becoming Pakistan's new prime minister created some uncertainty about the future of China-Pakistan relations due to Beijing's close relationship with the previous government in Islamabad and historically frosty relations with Prime Minister Khan's Tehrik-e Insaf party.<sup>74</sup> However, the two countries likely will stay aligned or even move closer given Pakistan's need for outside support and China's economic and strategic investments in Pakistan. As Michael Kugelman, deputy director of the Asia Program and senior associate for South Asia at the Wilson Center, explains, "From Pakistan's perspective, there's never been a more important time for Islamabad to remain close to China, particularly given the importance of the China-Pakistan Economic Corridor and the uncertain future of Pakistan's relationship with America."<sup>75</sup> The China-Pakistan Economic Corridor remains central to Pakistan's economic growth and infrastructure plans and is a linchpin of China's BRI.<sup>76</sup> However, the corridor creates challenges for both countries, as Beijing worries about the security of Chinese workers in Pakistan while Islamabad wants more transparency in projects given the corruption of the previous government and ballooning debt loads—especially with the potential for a contentious International Monetary Fund bailout in the offing.<sup>77</sup>

China and Pakistan also share foreign policy concerns. China's involvement in Afghanistan grew in 2018 as Beijing made moves to facilitate talks with the Taliban.<sup>78</sup> Influencing the course of the war in Afghanistan remains a core aim for Pakistan, as well as an area where both China and Pakistan could cooperate with the United States, India, and Russia.<sup>79</sup> More broadly, however, security competition among major powers in the region is intensifying, which could prompt a shift in South Asia's geopolitics toward new regional blocs. As Andrew Small, senior transatlantic fellow with the Asia Program at the German Marshall Fund, explains, "Dynamics in South Asia are increasingly taking on a zero-sum quality. And with improving U.S.-Indian and Chinese-Pakistani relations set against a decline in U.S.-Pakistani and Chinese-Indian relations, such dynamics are becoming mutually reinforcing."<sup>80</sup>

### ***Increasing Geopolitical Tensions with Neighbors***

#### *East China Sea Tensions Increase*

Overall, tensions and the potential for accidents, miscalculation, and escalation between China and Japan intensified in the East China Sea over the last year. The transit of a number of Chinese

naval vessels, including a submarine, through the contiguous zone\* around the Senkaku Islands (known as the Diaoyu Islands in China) reflected the increasingly militarized nature of China's approach to contesting Japan's administrative control of the islands.<sup>81</sup> Important Chinese activities in the East China Sea in 2018 include:

- *Changing nature of PLA threat:* A Chinese submarine and frigate entered the contiguous zone around the Senkakus in January 2018, drawing strong protests from the Japanese government.<sup>82</sup> Japanese Vice Minister of Foreign Affairs Shinsuke Sugiyama expressed “grave concern” to China's ambassador to Japan Chen Yonghua, and Japan's Minister of Defense Itsunori Onodera said the submarine entering the contiguous zone “unilaterally raises tensions.”<sup>83</sup> In June, the PLA Navy's hospital ship also entered the contiguous zone around the Senkakus, which an unnamed Japanese defense official called a “clear provocation.”<sup>84</sup> PLA Navy ships sailed within the Senkakus' contiguous zone for the first time in 2016, although there were no such occurrences in 2017.†

### Submarine Incursion near the Senkakus

In January 2018, a submerged Chinese nuclear powered submarine transited through the contiguous zone of the Senkaku Islands, the first reported incident of a Chinese submarine entering those waters.<sup>85</sup> The Japanese Maritime Self Defense Force detected the submarine and issued multiple warnings to the boat while it was in the contiguous zone but it remained submerged and continued its transit.<sup>86</sup> However, once the submarine exited the contiguous zone, it surfaced and raised a Chinese national flag—an uncommon action for a submarine.<sup>87</sup> The transit of the submarine was almost certainly intended to challenge Japan's claim to the Senkakus and their surrounding waters. The boat also could have been gathering data on the underwater operational environment, acoustic signatures of nearby ships, and Japan's antisubmarine warfare capabilities.<sup>88</sup>

- *Intensified Chinese aircraft training near Japan:* In 2018, the PLA Air Force continued its trend begun in 2015 of elevated levels of long-distance flight training over maritime areas along China's periphery, which has included areas near Japanese airspace. Flights near Japan have mostly occurred over the Miyako

\*The contiguous zone is a 12-nautical mile (nm) area adjacent to the territorial sea, which is a 12 nm area extending out from a country's coastline, islands, or rocks. In its territorial sea, a state has full sovereignty, subject to the right of innocent passage. In its contiguous zone, a state can enforce customs-related laws. Under the UN Convention on the Law of the Sea, foreign civilian and military ships may transit through a country's territorial sea according to the principle of innocent passage, which prohibits activities that are “prejudicial to the peace, good order or security of the coastal State,” such as military exercises or intelligence gathering. UN Convention on the Law of the Sea Part 2: Territorial Sea and Contiguous Zone. [http://www.un.org/depts/los/convention\\_agreements/texts/unclos/part2.htm](http://www.un.org/depts/los/convention_agreements/texts/unclos/part2.htm).

†In June 2016, a Chinese frigate entered the contiguous zone around the Senkakus; a few days later, a PLA Navy intelligence-gathering ship entered the territorial sea. Previously, the only official Chinese ships to sail within 24 nm of the Senkakus were China Coast Guard and other Chinese maritime law enforcement ships. Ayako Mie, “Chinese Spy Ship Enters Japan's Territorial Waters for Second Time since End of WWII,” *Japan Times*, June 15, 2016; Ayako Mie, “First Chinese Warship to Skirt Senkakus Triggers Protest from Tokyo,” *Japan Times*, June 9, 2016.

Strait in the southern East China Sea between the Japanese islands of Miyako and Okinawa, although aircraft have also flown through the Tsushima Strait into the Sea of Japan<sup>89</sup> Given the history of close encounters between Chinese military aircraft and those of other countries, including Japan, the overall increase in training flights near Japan raises the risk of an accident.<sup>90</sup> (See “PLA Air Force Long-Distance Overwater Training Continues at Elevated Levels,” below.)

- *Other Chinese maritime activity around the Senkakus:* According to Japan’s Ministry of Foreign Affairs, in 2018 an average of seven Chinese government ships entered the territorial sea around the Senkakus each month, representing a slight decrease from an average of nine ships per month in 2017.<sup>91</sup> This could signal limited Chinese efforts to lower bilateral tensions in some areas, although Beijing’s placement of the China Coast Guard—which makes up most if not all of these incursions—directly in the military chain of command probably offsets any potential lowering of tensions from the slight decrease in incursions.<sup>92</sup> Since September 2012, China’s maritime law enforcement and other ships have persisted in entering the territorial seas and contiguous zone around the Senkakus as part of Beijing’s broader challenge to Japan’s sovereignty and control over the islands.<sup>93</sup> Based on the terms of the U.S.-Japan Mutual Defense Treaty, this activity also constitutes a challenge to U.S. security guarantees to Japan.<sup>94</sup>

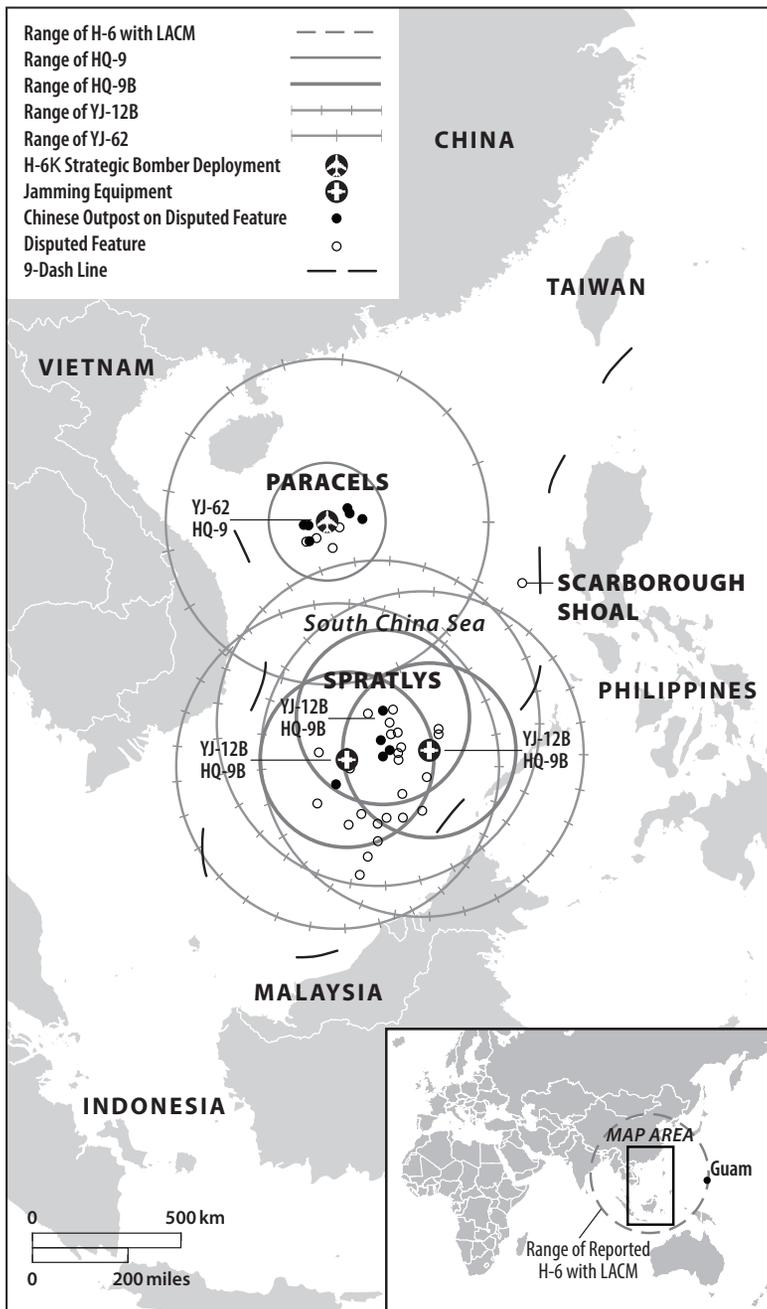
#### *Continued Militarization and Consolidation of Control of the South China Sea*

At the 19th Party Congress, President Xi publically proclaimed the success of China’s South China Sea island-building efforts. Following this top-level encouragement, in 2018 China took new and important steps to consolidate its control over and project power into the region. During Admiral Philip Davidson’s April 2018 confirmation hearing to be commander of U.S. Indo-Pacific Command, in response to a question regarding China’s militarization activities in the South China Sea, the potential challenges these activities pose to U.S. forces, and their effect on China’s ability to project power in the region, he stated:

*Once [its South China Sea bases are] occupied, China will be able to extend its influence thousands of miles to the south and project power deep into Oceania. The PLA will be able to use these bases to challenge U.S. presence in the region, and any forces deployed to the islands would easily overwhelm the military forces of any other South China Sea claimants. In short, China is now capable of controlling the South China Sea in all scenarios short of war with the United States.<sup>95</sup>*

According to U.S. Secretary of Defense James Mattis, China has continued to deploy new weapons for “intimidation and coercion” in the South China Sea, including advanced YJ-12B antiship and HQ-9B surface-to-air missiles on Mischief Reef, Fiery Cross Reef, and Subi Reef in the Spratly Islands, effectively creating a buffer around

**Figure 1: Location and Effective Range of PLA South China Sea Deployments**



Source: U.S.-China Economic and Security Review Commission, 2018, adapted from Asia Maritime Transparency Initiative and BBC. Asia Maritime Transparency Initiative, "China Power Projection"; BBC, "Why Is the South China Sea Contentious?" July 12, 2016.

this strategic area.\*<sup>96</sup> In April 2018, U.S. officials revealed China had also installed jamming equipment on Fiery Cross Reef and Mischief Reef; Admiral Davidson testified that this equipment, in combination with other defense capabilities deployed to the outposts, presents a “substantial challenge” to U.S. operations in the region.<sup>97</sup> During the Commission’s May 2018 trip to Taiwan, a Taiwan Ministry of National Defense official told the Commission that China is trying to turn the South China Sea into its territorial waters and its ultimate objective is to replace the United States there.<sup>98</sup>

As the PLA has deployed additional weapons systems, Beijing has improved its ability to operate in the region by conducting exercises and deploying strategic bombers to Woody Island in the Paracel Islands, marking the first-ever PLA bomber deployment to a base in the South China Sea.<sup>99</sup> During the deployment, PLA Air Force H-6K bombers conducted training that simulated strikes on maritime targets and probably developed an operational template Beijing could use in the future to deploy bombers farther south to the Spratly Islands.<sup>100</sup> The PLA Navy staged its largest-ever South China Sea exercise in March 2018, parading more than 40 ships—including submarines, surface combatants, and the aircraft carrier *Liaoning*—near Hainan Island in a military display personally presided over by President Xi.<sup>101</sup>

### **United States Disinvites China from 2018 Rim of the Pacific Exercise**

In May 2018, the United States disinvited China from participating in the 2018 iteration of the U.S.-led Rim of the Pacific Exercise—a biennial, large-scale naval exercise near Hawaii that includes the participation of the navies of a number of U.S. allies and partners—due to China’s militarization of disputed features in the South China Sea.<sup>102</sup> Senior Colonel Ren Guoqiang, spokesperson for China’s Ministry of National Defense, expressed opposition to the move, saying, “The U.S. decision is not constructive. Closing the door of communication at any time will not help enhance mutual trust and cooperation between the two militaries.”<sup>103</sup> China dispatched an intelligence collection ship that arrived on July 11 to monitor the exercise.<sup>104</sup> The United States had previously invited China to participate in the 2014 and 2016 iterations of the exercise.<sup>105</sup>

While militarizing the South China Sea, China held several meetings with Association of Southeast Asian Nations (ASEAN) representatives which resulted in a finalized negotiating framework for a future South China Sea Code of Conduct. The finalization of this framework suggests there may be political will in the region to finalize a Code of Conduct, although concerns remain that China may ultimately use any future agreement to “legitimize its actions in the South China Sea by engaging in the process while subverting its spirit,” according to Huong Le Thu, senior analyst at the Australian

\*YJ-12B antiship missiles and HQ-9B anti-air missiles have reported ranges of 295 nm and 160 nm, respectively. Amanda Macias, “China Quietly Installed Defensive Missile Systems on Strategic Spratly Islands in Hotly Contested South China Sea,” *CNBC*, May 2, 2018; Bonny Lin and Cristina Garafola, “Training the People’s Liberation Army Air Force Surface-to-Air Missile (SAM) Forces,” *RAND Corporation*, 2016, 4.

Strategic Policy Institute.<sup>106</sup> Bill Hayton, associate fellow at Chatham House, argues ASEAN countries want to try to maintain the status quo and limit China's potential for further encroachment, but China will not agree to limits to its own behavior.<sup>107</sup> For example, Beijing has proposed to ASEAN that they both promise not to hold joint military exercises with any extraregional country absent prior notice or agreement, which could in effect give China a veto over any joint exercises between ASEAN countries and the United States or U.S. allies and partners; at the same time, China has reportedly proposed its own regular joint exercises with ASEAN.<sup>108</sup>

Obstacles remain to finalizing a Code of Conduct, however, as signatory countries would first need to fully and effectively implement their earlier Declaration of Conduct.\*<sup>109</sup> Tensions also remain between China and countries in the region; in August 2018, Philippine President Rodrigo Duterte told China to “temper” its behavior in the region and threatened China with war if it moved ahead with oil exploration in disputed areas or took other provocative steps.<sup>110</sup>

### **PLA Air Force Long-Distance Overwater Training Continues at Elevated Levels**

This year, the PLA Air Force continued to conduct long-distance overwater training, representing a continuation of a trend begun in 2015 for the PLA Air Force to operate with greater frequency and with a wider variety of aircraft in areas where it had not previously flown.†<sup>111</sup> This training is part of a broader PLA Air Force effort to transition from a service focused on territorial air defense to one capable of strategic power projection beyond China's coast.<sup>112</sup> This training likewise reflects senior Chinese military leaders' emphasis on the importance of maritime operations for the PLA Air Force.<sup>113</sup>

These training activities serve various purposes, many of which affect U.S. interests in the Pacific:

- Improving the PLA Air Force's capability to execute maritime missions in contingencies involving countries along China's maritime periphery—many of which are U.S. allies and partners—and the United States.<sup>114</sup>
- Gathering intelligence on militaries of neighboring countries and other foreign militaries operating in the East and South China seas.<sup>115</sup>
- Reinforcing Beijing's claims over portions of the East and South China seas while increasing pressure on Taiwan.‡

H-6K bombers—China's newest and most capable bombers—have participated in the majority of these flights.<sup>116</sup> When equipped with

\*The Declaration of Conduct calls for international cooperation in marine environmental protection; marine scientific research; safety of navigation and communication at sea; search and rescue operations; and combating transnational crime. Carl Thayer, “ASEAN and China Set to Agree on Single Draft South China Sea Code of Conduct,” *Diplomat*, July 27, 2018.

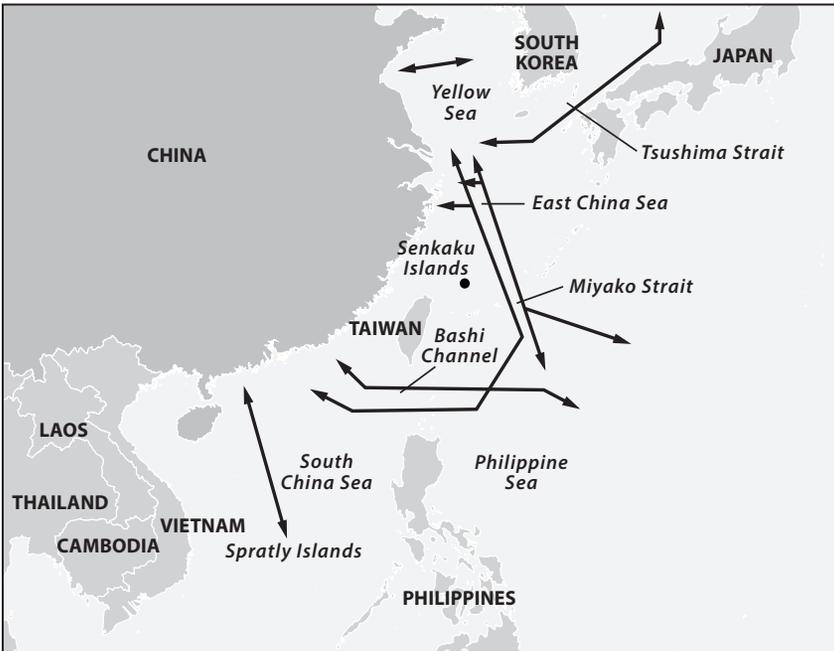
†For more information about these flights, see Matthew Southerland, “Chinese Air Force's Long-Distance Training over Water Continues to Increase and Expand,” *U.S.-China Economic and Security Review Commission*, March 22, 2018.

‡Several of the flights have involved patrols of China's East China Sea air defense identification zone, which includes the airspace over the Senkaku Islands. In 2016, the PLA Air Force also conducted several long-distance training flights in the South China Sea following the release by the intergovernmental Permanent Court of Arbitration of the ruling on a case on China's claims

### PLA Air Force Long-Distance Overwater Training Continues at Elevated Levels—*Continued*

air-launched CJ-20 land-attack cruise missiles, the H-6K gives China the ability to conduct precision airstrikes with air-launched weapons against U.S. military facilities in Guam.<sup>117</sup> The first two long-distance PLA Air Force flights over water in 2015 were conducted by H-6K bombers operating alone, but most subsequent flights have also included fighters, tankers, electronic warfare, electronic intelligence, and early warning and control aircraft.<sup>118</sup>

**Figure 2: PLA Air Force and Navy Long-Distance Training Flights over Water**



Source: Adapted from D-maps.com. [http://www.d-maps.com/carte.php?num\\_car=78&lang=en](http://www.d-maps.com/carte.php?num_car=78&lang=en) and Taiwan's Ministry of National Defense, 2017 *National Defense Report*, December 26, 2017, 38. Translation. [goo.gl/mZURKW](http://goo.gl/mZURKW). With additional information from *Xinhua*, "Chinese Aircraft Conduct Drills in Yellow Sea, East China Sea," December 4, 2017; *CCTV-7*, "Military Report," Television, November 20, 2017. Translation. <https://www.youtube.com/watch?v=oszcUuNYY30>; *Xinhua*, "Chinese Military Aircraft Patrol South China Sea," August 6, 2016; Peter Wood, "Chinese Military Aviation in the East China Sea," *China Brief*, October 26, 2016.

### *China on India's Periphery*

In 2018, China opened new fronts to pressure India and assert its presence along India's land and maritime periphery. Significantly, Beijing's attempts to improve bilateral relations through lead-

and activities there. Mark R. Cozad and Nathan Beauchamp-Mustafaga, "People's Liberation Army Air Force Operations over Water: Maintaining Relevance in China's Changing Security Environment," *RAND Corporation*, 2017, 23; *Xinhua*, "Chinese Military Aircraft Patrol South China Sea," August 6, 2016; *Xinhua*, "China's Air Force Conducts Combat Air Patrol in South China Sea," July 18, 2016.

er-level summits appear to have failed to overcome India's deeper concerns about China's continued regional expansionism and unyielding position on sovereignty disputes.<sup>119</sup> A political crisis in the island country of the Maldives—set off by Maldivian President Abdulla Yameen's declaration of a state of emergency—and subsequent crackdown on opposition leaders to consolidate power ahead of an election led India to consider armed intervention, which China opposed.<sup>120</sup> President Yameen maintained close ties to China and courted investment for infrastructure projects under the BRI.<sup>121</sup> In September 2018, however, opposition candidate Ibrahim Mohamed Solih won a surprise presidential election victory over President Yameen in a development that was widely viewed as a positive sign for the fragile democracy and, at least in part, a rejection of a policy of alignment with China over India.<sup>122</sup> Meanwhile, India's plans for its first overseas military base in the Indian Ocean archipelago country of the Seychelles appear to have stalled amid protests in the Seychelles and concerns there about being embroiled in a geopolitical contest between India and China.<sup>123</sup> As Manoj Joshi, distinguished fellow at the New Delhi-based Observer Research Foundation, explains, "China is the subtext of India's troubles in both the Maldives and the Seychelles, though its hand in the Maldives is clearer."<sup>124</sup> In Sri Lanka, China took a controlling equity stake in and a 99-year lease for Hambantota Port after Colombo could not pay debts owed to Beijing, although the current lease terms forbid China from using the port for military purposes without Sri Lanka's permission.<sup>125</sup>

China continued to make inroads in continental South Asia as well. China and Nepal agreed to a number of new infrastructure projects, including an internet connection through China that would end India's monopoly on providing internet services, and a rail link connecting Tibet with Kathmandu.<sup>126</sup> In addition, China continued fortifying its position on the Doklam Plateau in Bhutan. A recent study found that in the year since the standoff, "China has quietly deployed troops and built new infrastructure in the area, slowly but steadily gaining advantage in the contested region."<sup>127</sup>

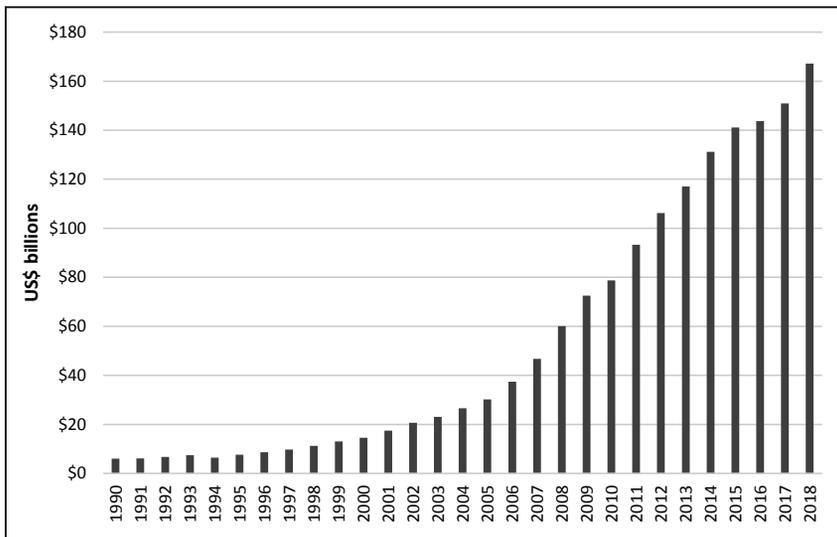
In an attempt to reduce tensions, President Xi joined Indian Prime Minister Narendra Modi in April for an "informal meeting" in Wuhan, capital of China's Hubei Province.<sup>128</sup> Chinese official statements sought to portray the meeting as a "new starting point" in relations.<sup>129</sup> The pair met again on June 9, 2018 in Qingdao, a port city in China's Shandong Province, on the sidelines of the Shanghai Cooperation Organization summit.<sup>130</sup> Despite the leader-level summits, frictions between the two countries probably will not abate without a fundamental change in approach from one or both sides.<sup>131</sup> Rather, "the differences between India and China are therefore still as wide as they were before Wuhan."<sup>132</sup>

### ***Substantial Increase in 2018 Defense Budget***

In March 2018, China announced a 2018 military budget of \$167.2 billion (RMB 1.107 trillion), an increase of 8.1 percent over its announced budget for 2017 and the largest increase in three years.<sup>133</sup> This year's announced defense budget represents approximately 1.3 percent of China's projected gross domestic product and 10.7 percent

of total government spending.\*<sup>134</sup> However, observers note the impossibility of accepting China's official figures at face value due to Beijing's provision of only top-line numbers and its omission of major defense-related expenditures (e.g., research and development programs, foreign arms purchases, and local government support to the PLA).<sup>135</sup> The U.S. Department of Defense routinely added an additional 25 percent to China's official budget numbers from 2012 to 2017, and well-regarded think tanks estimate China's military budget to be between 40 and 50 percent higher than reported, suggesting China's real defense spending for 2018 was between \$209 billion and approximately \$250.8 billion.<sup>136</sup> Since 2002, China's military budget has trailed only the United States, representing a significant investment for a force primarily operating within its own region.<sup>137</sup>

**Figure 3: China's Announced Defense Spending, 1990–2018**



*Note:* This graphic uses the average yearly exchange rate to calculate the U.S. dollar value of China's defense spending in each year, except the 2018 number which uses the exchange rate used throughout this report of \$1 = RMB 6.62. These numbers represent only announced defense spending by the Chinese government since 1990. They do not account for inflation or the appreciation in the value of China's currency, nor do they represent the true amount of Chinese defense spending.†

\*It is impossible to ascertain the exact composition of China's official defense budget. China's defense spending as a percentage of total announced government expenditures was calculated by Commission staff using official figures provided by the Chinese government, and could vary considerably given the unreliability of these figures. In March 2018, China's Ministry of Finance announced its projected total government expenditures for the year would be \$1.526 trillion (RMB 10.331 trillion) and its projected national defense spending as \$167.2 billion (RMB 1.107 trillion). China's projected total government spending includes central government expenditures, tax rebates and transfer payments from the central government to local governments, and reserve funds. According to the Stockholm International Peace Research Institute, which uses its own methodology for calculating Chinese defense spending, the defense spending as a percentage of overall government expenditures was between 6 and 6.6 percent from 2013 to 2017. China's Ministry of Finance, *Report on the Execution of the Central and Local Budgets for 2017 and on the Draft Central and Local Budgets for 2018*, First Session of the 13th National People's Congress of the People's Republic of China, March 5, 2018; Stockholm International Peace Research Institute, "SIPRI Military Expenditure Database." <https://www.sipri.org/databases/milex>.

†This figure reflects Commission judgments based on several sources, each of which provides data for part of the period 1990–2018. The most recent source is used when these sources disagree. For 2018, *Xinhua*, "China Focus: China to Increase 2018 Defense Budget by 8.1. Percent,"

## China's Global Security Activities in 2018

### *Increasing Overseas Military Presence*

#### *Construction Continues at the PLA's Djibouti Military Base*

In May 2018, *IHS Jane's Defence Weekly* reported that a pier was under construction at China's military base in Djibouti, China's first permanent overseas military base which officially opened in August 2017.<sup>138</sup> The base could support a range of PLA operations in the region—including antipiracy, peacekeeping, noncombatant evacuation, and humanitarian assistance and disaster relief operations—and could allow Beijing to more quickly respond to other incidents threatening Chinese interests.<sup>139</sup> According to China's Ministry of National Defense, the base—which China calls a “military support facility”—will be “mainly used to provide rest and rehabilitation for the Chinese troops taking part in escort missions in the Gulf of Aden and waters off Somalia, UN peacekeeping, and humanitarian rescue [operations].”<sup>140</sup> The Djibouti base, which occupies a key chokepoint for sea lines of communications between the Red Sea and the Indian Ocean, serves as a strategic asset for China and represents an initial step allowing Beijing to expand its military presence in the region.<sup>141</sup>

The location of the PLA's Djibouti base also presents problems for the United States because it is located several miles away from Camp Lemonnier, a hub for U.S. counterterrorism operations in North Africa and the Arabian Peninsula, as well as a number of bases used by U.S. allies.<sup>142</sup> Notably, in April 2018 the U.S. military issued a Notice to Airmen in which it warned of “unauthorized laser activity” occurring in the vicinity of the PLA base which had resulted in two U.S. airmen sustaining injuries.<sup>143</sup> A U.S. Department of Defense spokesperson said the Department was confident the activity was conducted by China, and the U.S. government issued a demarche to China in response.<sup>144</sup> According to *IHS Jane's*, multiple intelligence sources indicated that the laser activity originated from a “high-power lasing weapon” operated by the Chinese Navy at the base or on a ship offshore.<sup>145</sup> A Chinese Ministry of Foreign Affairs spokesperson has denied responsibility for the lasing.<sup>146</sup>

#### *Gulf of Aden Deployments Continue to Exceed Antipiracy Requirements*

In August 2018, China's 30th consecutive naval task group set sail from China to conduct an antipiracy mission in the Gulf of Aden.<sup>147</sup> Between 2008—when China began its Gulf of Aden antipiracy operations—and July 2017, the PLA Navy escorted 6,400 Chinese and

March 5, 2018; for 2017, *Xinhua*, “China Focus: China's 2017 Defense Budget to Grow 7 Pct: Finance Official,” March 6, 2017; for 2016, Andrew S. Erickson and Adam P. Liff, “The Limits of Growth: Economic Headwinds Inform China's Latest Military Budget,” *Wall Street Journal*, March 5, 2016; for 2015, Andrew Erickson and Adam Liff, “China's Military Spending Swells Again despite Domestic Headwinds,” *Wall Street Journal*, March 5, 2015; for 2014, Andrew Erickson and Adam Liff, “The Budget This Time: Taking the Measure of China's Defense Spending,” *Asan Forum*, March–April 2014; for 2013, Jeremy Page, “China Raises Defense Spending 12.2% for 2014,” *Wall Street Journal*, March 5, 2014; for 2002–2012, Andrew Erickson and Adam Liff, “Demystifying China's Defense Spending: Less Mysterious in the Aggregate,” *China Quarterly*, December 2013, 805–830; for 1994–2001, Dennis J. Blasko et al., “Defense-Related Spending in China: A Preliminary Analysis and Comparison with American Equivalents,” *United States-China Policy Foundation*, 2007, 19; for 1989–1993, David Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects*, University of California Press, 2002, 189.

foreign vessels and rescued or assisted more than 60 Chinese and foreign ships, although the task groups China has deployed have long exceeded the actual requirements for antipiracy operations.<sup>148</sup> China has also used its antipiracy task groups as cover for deploying submarines to the region since 2013, when the PLA Navy conducted its first known submarine deployment to the Indian Ocean.<sup>149</sup> In December 2017, Admiral Sunil Lanba, chief of naval staff of the Indian navy, claimed that the PLA Navy has deployed submarines to the Indian Ocean region twice a year since then, including deployments of both nuclear and conventional submarines.<sup>150</sup> PLA Navy submarine deployments to the Indian Ocean have raised anxiety in New Delhi over its ability to protect its sea lines of communication.<sup>151</sup> They have also provided the PLA Navy opportunities to test and improve the ability of China's submarine crews to operate for long durations at extended distances from the Chinese mainland; collect intelligence on U.S., Indian, and other forces in the Indian Ocean; prepare for potential crises and wartime operations in the Indian Ocean; and demonstrate China's growing strategic interests in the region.

*UN Peacekeeping Operations Provide Deployment Experience and Opportunity to Test Battlefield Skills*

In December 2017, a PLA Army helicopter unit deployed to Sudan in support of a UN peacekeeping operation (PKO) completed its first mission, marking the PLA's first operational employment of a helicopter unit during a PKO and providing it with opportunities to test and improve capabilities that could be applied to warfighting missions. According to official Chinese media, the unit transported personnel and equipment during its deployment and would also conduct battlefield reconnaissance and air patrol.<sup>152</sup> In August 2018, the PLA established a second helicopter detachment to deploy to Sudan, which like the first was drawn from the PLA Central Theater Command's 81st Group Army.<sup>153</sup> In November 2017, Chinese medical personnel in Mali treated peacekeepers from Niger who were injured in an attack carried out by militants.<sup>154</sup>

More broadly, the PLA's involvement in PKOs allows China to increase its influence in Africa (where most Chinese peacekeepers are deployed),\* gain experience deploying troops overseas, increase intelligence collection opportunities, and improve skills that could be used during actual combat.<sup>155</sup> Nevertheless, according to Dennis Blasko, former U.S. Army attaché in Beijing and Hong Kong, "[these missions] do not substitute for the kind of warfighting experience necessary for future mid- or high-intensity combined arms and joint operations."<sup>156</sup>

***China's Space Program Makes Progress on Key Milestones***

China has made progress in important projects deemed crucial for Beijing's space ambitions, including heavy-lift launch vehicles and a future long-term space station, intensifying competition with the

\*As of June 2018, 2,514 Chinese personnel were active in the following countries: Cyprus, Democratic Republic of the Congo, Israel, Lebanon, Mali, South Sudan, Sudan, and the Western Sahara. This number of deployed personnel ranked China 11th among all UN PKO contributor countries. United Nations, "Country Contributions by Mission and Personnel Type (as of 30 June 2018)." <https://peacekeeping.un.org/en/troop-and-police-contributors>.

United States for military dominance of space.<sup>157</sup> In March 2018, a Chinese official confirmed work had begun on a demonstration version of an engine for the as-yet unapproved Long March-9 (LM-9) heavy-lift rocket—which China will need for a potential future crewed lunar mission—and would potentially be completed by the end of 2018.<sup>158</sup> The next launch of the new LM-5 rocket—intended to be China’s “flagship rocket,” according to Harvard astrophysicist Jonathan McDowell—has been pushed back to 2019 after its second attempted launch failed in July 2017, delaying several important upcoming milestones, including China’s launch of the first component of the China Space Station (CSS), a lunar probe, and a Mars probe.\*<sup>159</sup> China is also working on reusable rocket technology, which will debut with the medium-lift LM-8 launch vehicle around 2021 and likely be used in other LM generations.<sup>160</sup> After the International Space Station is retired in 2024, the CSS may be the world’s only active space station;† in May 2018, the China Manned Space Agency announced UN member countries would be permitted to use the CSS for scientific research.<sup>161</sup>

Several important future projects to make China a stronger space power are underway.<sup>162</sup> In the next several years, official approvals of the LM-9 rocket, a robotic mission to Jupiter, and a crewed mission to the lunar surface will likely be forthcoming.<sup>163</sup> Despite setbacks to the LM-5 program, it remains highly likely China will officially approve a crewed lunar mission in time to complete the lunar mission by the 2030s; if the LM-9 is approved, it may be used instead of the LM-5 for the crewed lunar mission, the Mars probe, and future deep space probes.<sup>164</sup> The planned Xuntian space telescope—which will have a similar resolution to that of the Hubble, but a much wider field of view—is still undergoing feasibility studies, and Chinese authorities are studying the potential objectives of a robotic mission to rendezvous with an asteroid.<sup>165</sup> Beijing has scheduled the launch of a fourth moon probe in December 2018 and a fifth probe and the core CSS module in 2020, followed by the first CSS crewed mission, as well as a first Mars probe and the second CSS module in 2020.<sup>166</sup> China’s Beidou positioning, navigation, and timing satellite network—which will allow China to complete its shift away from reliance on the U.S.-maintained Global Positioning System for precision strike capabilities and other military uses and will strengthen Beijing’s economic diplomacy with countries partici-

\*According to Dr. McDowell, the LM-5 will be China’s “flagship rocket” once it is perfected. It is necessary for China’s plans for the Chang’e-5 moon lander, a crewed space station beginning in 2019, a Mars probe mission in 2020, and a probe mission to Jupiter in the 2020s. Zhao Lei, “Long March Rocket Launch a Success,” *China Daily*, September 29, 2017; Loren Grush, “China’s Most Powerful Rocket Failed Yesterday. What Does That Mean for the Country’s Space Plans?” *Verge*, July 3, 2017.

†The CSS core module will launch in 2020 and two science modules will launch by 2022, with the option for more. The station will be accessible to both crewed and cargo flights, and crew will be able to conduct extravehicular activities and use on-orbit robotic arms. It will support three-person crews for three- to six-month tours or crews of six for shorter tours, and some racks in the science modules will be reserved for foreign partners. UN Office for Outer Space Affairs, “United Nations/China Cooperation on the Utilization of the China Space Station: First Announcement of Opportunity,” May 28, 2018, 3; Andrew Jones, “Launch of First Chinese Space Station Module Delayed to 2020,” *GB Times*, March 5, 2018; Andrew Jones, “China’s Long March 5 Heavy-Lift Rocket to Fly Again around November in Crucial Test,” *Space News*, March 14, 2018; Andrew Jones, “China Progressing with Work on New Medium, Heavy, and Super-Heavy Long March Launch Vehicles,” *GB Times*, October 17, 2017.

pating in the BRI<sup>167</sup>—is expected to achieve global coverage with a total of 35 satellites by 2020.\*<sup>168</sup>

China has consistently been critical of U.S. space operations. In June, China Ministry of Foreign Affairs spokesperson Geng Shuang criticized the U.S. Administration's decision to create a sixth, space-centric military service,<sup>†</sup> claiming China opposes “turning outer space into a battlefield” and “always advocates the peaceful use of outer space and opposes an arms race” there.<sup>169</sup> China supports its and Russia's proposed international treaty that leaves open the possibility of deploying and testing ground-based counterspace weapons, which would allow Beijing to continue developing military space capabilities while appearing to oppose militarization of space.<sup>170</sup>

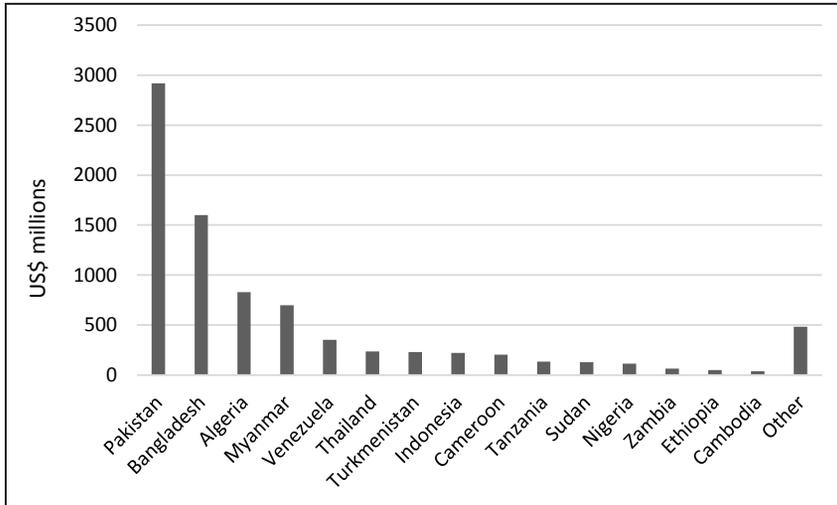
### ***Seeking Increased Influence through Military Sales***

In 2018, China continued to increase its share of the global arms trade, particularly within the Indo-Pacific region through arms sales to Pakistan, Bangladesh, and Burma (Myanmar).<sup>171</sup> China also sold arms to some countries prohibited from purchasing certain U.S. weapon systems, including the sale of advanced unmanned aerial vehicles (UAVs) to multiple countries in the Middle East.<sup>‡</sup> China was the fifth-largest arms exporter worldwide in aggregate terms during the 2013–2017 period, with \$8.3 billion in exports, following the United States with \$50.1 billion, Russia with \$31.7 billion, France with \$9.7 billion, and Germany with \$8.5 billion.<sup>172</sup> China's exports of major arms rose by 38 percent between 2008–2012 and 2013–2017.<sup>173</sup> Over that same period, China's share of the global arms trade increased from 4.6 percent in 2008–2012 to 5.7 percent from 2013–2017.<sup>174</sup> From 2013 to 2017, China delivered major arms to 48 countries, with Asia and Oceania accounting for 72 percent of China's arms sales, Africa accounting for 21 percent, the Americas accounting for 4.9 percent, and the Middle East accounting for 2 percent.<sup>175</sup> China's largest arms sales clients were Pakistan, which received 35 percent of China's arms exports; Bangladesh, which received 19 percent; and Algeria, which received 10 percent.<sup>176</sup> Much of China's growth in international arms sales from 2008–2012 to 2013–2017 was driven by increased demand by Bangladesh and Algeria.<sup>177</sup> China's arms sales to Indo-Pacific countries serve to contain the influence of regional competitors, including the United States and India.<sup>178</sup>

\*According to the Test and Assessment Research Center of the China Satellite Navigation Office, as of October 2018 there were 17 operational Beidou satellites, comprising 15 Beidou-2 and two Beidou-3 satellites, plus 18 Beidou-3 satellites in testing. Test and Assessment Research Center of China Satellite Navigation Office, “System Basic Info.” Translation. <http://www.cnsno-tarc.cn/system/constellation>.

†In August 2018, the Trump Administration announced a plan—which requires Congressional approval—to establish a Space Force by 2020. In a report that same month, the Department of Defense wrote, “The Space Force will protect our economy through deterrence of malicious activities, ensure our space systems meet national security requirements, and provide vital capabilities to joint and coalition forces across the spectrum of conflict.” U.S. Department of Defense, “Final Report on Organizational and Management Structure for the National Security Space Components of the Department of Defense,” August 9, 2018, 3; Mike Stone, “U.S. Space Force Estimated to Cost \$13 Billion in First Five Years: Memo,” *Reuters*, September 17, 2018.

‡These include Jordan, Saudi Arabia, and the United Arab Emirates (UAE), who were previously denied requests to purchase U.S.-made drones under the Missile Technology Control Regime. Daniel Cebul, “Strict Export Regulations May Be Costing U.S. Industry Billions in Foreign Sales.” *Defense News*, June 18, 2018.

**Figure 4: China's Arms Sales by Recipient, 2013–2017**

Source: Stockholm International Peace Research Institute, "SIPRI Arms Transfer Database."

Significant Chinese arms exports agreed upon or reported in 2018 include:

- In March 2018, China supplied Pakistan with an advanced missile tracking system which observers believe is intended to assist Pakistan's ongoing development of multiple independently targetable reentry vehicle (MIRV) technology.<sup>179</sup> The transfer of the sophisticated missile tracking system is most likely intended to assist Pakistan's Abadeel medium-range ballistic missile, the first missile to boast a MIRV capability developed by a South Asian state.<sup>180</sup> In June, the Pakistan Navy announced it had signed a contract to purchase an additional two Type 054A frigates after having purchased two from China in June 2017.<sup>181</sup> This purchase constitutes a significant addition to Pakistan's navy, which currently operates nine older-model frigates, and will further enhance China's military influence over Pakistan while worsening India's security dilemma.<sup>182</sup>
- In 2018, China launched the third and fourth Type C13B corvettes on order for the Bangladesh Navy.<sup>183</sup> The first two Type C13B corvettes were commissioned into the Bangladesh Navy in 2016 and constitute half of its total corvette inventory.<sup>184</sup> Additionally, Bangladesh signed an agreement in June 2018 to procure an undisclosed number of K-8 trainer jets from China.<sup>185</sup>
- In January 2018, *IHS Jane's Defence Weekly* reported that satellite imagery from October 2017 indicates the presence of Chinese manufactured Wing Loong II UAVs at Qusahwurah Air Base in the United Arab Emirates (UAE).<sup>186</sup> In February 2017, Aviation Industry Corporation of China (AVIC) announced it had signed a contract to export the Wing Loong II to an unnamed client.<sup>187</sup> *Jane's* reporting suggests the UAE is the unnamed

client.<sup>188</sup> Neither China nor the UAE government have publicly confirmed the purchase.<sup>189</sup> The UAE purchased the Wing Long II after being denied requests to purchase UAVs from the United States.<sup>190</sup>

### ***PLA Exercises with Foreign Militaries***

In addition to the PLA's first-time participation in Russia's Vostok strategic, large-scale exercise, since late 2017 the PLA has expanded its participation in bilateral and multilateral exercises with foreign militaries, primarily focused on maritime operations, counterterrorism, and humanitarian assistance and disaster relief. Several of these exercises were also firsts of their kind, either in terms of the partnering foreign country or type of exercise. In December 2017, the PLA conducted its first military exercise with Timor-Leste, a rescue operation involving a Chinese hospital ship and Timor-Leste soldiers.<sup>191</sup> In March 2018, the PLA Hong Kong Garrison participated in its first exercise with a foreign military, the French navy (this time reportedly without using the pretext of joining personnel from another theater command as it did during a 2016 exercise with Malaysia).<sup>192</sup> The exercise was another step in working to improve the Garrison's professionalism and combat-realistic training geared toward missions beyond the defense of Hong Kong.<sup>193</sup> The PLA also participated in several new multilateral exercises, including Kaka-du-2018 (Australia's largest naval exercise), the Indian Ocean Naval Symposium Maritime Search and Rescue Exercise, and the inaugural China-ASEAN maritime exercise (see Addendum I, "Select PLA Exercises with Foreign Militaries, October 2017–September 2018"). Through military exercises with foreign counterparts, the PLA is able to improve its defense ties with foreign countries, gain operational knowledge and experience, bolster its logistics capabilities operating in unfamiliar environments, and facilitate its other military modernization goals.

### **U.S.-China Security Relations in 2018**

U.S.-China security relations grew more strained in 2018, particularly regarding the South China Sea, Taiwan, and Chinese arms purchases, and multiple high-level engagements resulted in little or no visible progress in expanding security ties and cooperation. In his address at the Shangri-La Dialogue in Singapore,\* Secretary of Defense Mattis said that the Asia Pacific is a priority region for the United States, and that the United States remains committed to reinforcing the rules-based international order.<sup>194</sup> He also noted the United States' opposition to actions taken by China to undermine that order, specifically criticizing China's unilateral actions in the South China Sea.<sup>195</sup>

In September, citing the U.S. imposition of sanctions on its Equipment Development Department, China recalled the PLA Navy Commander from a visit to the United States. Shortly afterward, China denied a U.S. Navy ship, the *Wasp*, a routine port call in Hong Kong.<sup>196</sup> In October, Secretary of Defense Mattis canceled plans to

\*The Shangri-La Dialogue, or Asia Security Summit, is hosted annually by the London-headquartered International Institute for Strategic Studies. It is attended by defense ministers and their civilian and military chiefs of staff from over 50 Asia Pacific countries. International Institute for Strategic Studies, "About the IISS Shangri-La Dialogue."

visit Beijing for defense talks after China declined to make its counterpart available and the Chinese Navy conducted what the Pentagon described as an “unsafe and unprofessional” maneuver that approached within 45 yards of a U.S. Navy ship conducting a freedom of navigation exercise in the Spratly Islands.<sup>197</sup>

### ***Areas of Engagement***

#### *Secretary of Defense Visits China: Dialogue Continues and President Xi Delivers a Warning*

During Secretary of Defense Mattis’ late June 2018 visit to China, President Xi delivered a strong warning on China’s unwavering commitment to defending its territorial claims. In addition to meeting with President Xi, Secretary Mattis met with Politburo Member and Director of the General Office of the FAC Yang Jiechi, Vice Chairman of the CMC Xu Qiliang, and Minister of Defense Wei Fenghe.<sup>198</sup> Among the topics discussed during the meetings were bilateral defense relations, North Korea, Taiwan, and the South China Sea.<sup>199</sup> Chinese state-run media outlet *Xinhua* reported that President Xi spoke with Secretary Mattis about the importance of U.S.-China relations and military-to-military ties and the shared interests and common ground between the China and United States.<sup>200</sup> However, *Xinhua* reported President Xi also warned that “on the issue concerning China’s sovereignty and territorial integrity, our attitude is firm and clear. Not an inch of the territory left by the ancestors can be lost, and we do not want anything that belongs to others.”<sup>201</sup>

#### *Other High-Level Official Visits*

On February 1, 2018, U.S. and Chinese defense officials met in Beijing for the Defense Policy Coordination Talks.<sup>202</sup> Brigadier General Roberta Shea, Acting Deputy Assistant Secretary of Defense for East Asia, led a delegation for talks with Major General Huang Xueping, Deputy Director of the CMC Office for International Military Cooperation.<sup>203</sup> The participants discussed key regional and global issues. The talks also included the annual meeting of the U.S.-China Notification of Major Military Activities Confidence Building Measures Working Group.<sup>204</sup> Notably, the United States and China have not held their highest-level defense dialogue, the Defense Consultative Talks, since 2014; the meeting is usually held at the Department of Defense undersecretary and PLA deputy chief of the joint staff level.<sup>205</sup>

### ***Areas of Tension***

#### *China Responds to U.S. National Security Policy Documents*

Chinese officials responded negatively to the release of the U.S. *National Security Strategy* in December 2017, the *National Defense Strategy* in January 2018, and the Nuclear Posture Review (NPR) in February 2018, and threatened responses that would further intensify U.S.-China strategic competition.<sup>206</sup> Taken together, the major theme of these documents was positioning the United States for an era of great power competition with China and Russia.<sup>207</sup> The Chinese Embassy in Washington released a response to the National Security Strategy, noting what China views as a contradictory position:

“On the one hand, the U.S. government claims that it is attempting to build a great partnership with China. On the other hand, it labels China as a rival.”<sup>208</sup> The statement also called on the United States to abandon what China called “outdated zero-sum thinking”; a similar article by *Xinhua* said the “confrontational” strategy displayed “an outdated Cold War mentality.”<sup>209</sup> Chinese Ministry of Foreign Affairs spokesperson Hua Chunying accused the United States of “deliberately distorting China’s strategic intentions.”<sup>210</sup>

Responding to the National Defense Strategy, Chinese Ministry of National Defense spokesperson Ren Guoqiang said the document was full of “unreal assertions of ‘zero-sum’ games and confrontations” and argued, instead, the United States was the “backstage manipulator for militarizing the region.”<sup>211</sup> The NPR received a similar response, with Chinese analysts focusing on its discussion of developing new U.S. nuclear capabilities.<sup>212</sup> The NPR concluded broadly that “while China’s declaratory policy and doctrine have not changed, its lack of transparency regarding the scope and scale of its nuclear modernization program raises questions regarding its future intent.”<sup>213</sup> Michael Chase, a senior political scientist at the RAND Corporation, concludes Beijing will view the

*NPR as underscoring the need to ... [move] ahead with a nuclear force modernization program that ... increase[s] the quality and quantity of Chinese nuclear forces, albeit in ways ... largely consistent with China’s longstanding no first use ... policy, and an approach to nuclear strategy that focuses on providing China with a modern and secure nuclear retaliatory capability.*<sup>214</sup>

In considering how Beijing might respond to a more competitive U.S. stance toward China, a commentary by *China Military Online* (the online version of the official newspaper of the PLA) suggested, “China will surely strengthen its strategic posture and improve its combat readiness. Furthermore, China will definitely deepen the comprehensive strategic partnership of coordination with other countries, including Russia, who was also stigmatized by the [National Security Strategy] and [National Defense Strategy]. All of this will make a new Cold War a possibility.”<sup>215</sup>

### **Significant Chinese Espionage Cases in 2018**

The United States faces a continuing threat to its national security from Chinese intelligence collection operations, with several revelations, arrests, or convictions of Chinese espionage activity occurring in 2018. Among the most serious threats are China’s efforts at cyber and human infiltration of U.S. national security organizations.<sup>216</sup> China has long targeted the United States with these operations, but reporting of Chinese espionage has increased significantly in recent years.

Select cases of Chinese espionage in the United States in 2018 include the following:\*

\*For more on Chinese espionage threats to the United States, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 3, “Chinese Intelligence Services and Espionage Threats to the United States,” in *2016 Annual Report to Congress*, November 2016, 289–304.

### Significant Chinese Espionage Cases in 2018—*Continued*

- *Conviction of a Former Central Intelligence Agency (CIA) Officer:* On June 8, 2018, a federal jury in Virginia convicted Kevin Mallory, a former CIA officer, of transmitting secret and top secret documents to China in exchange for \$25,000.<sup>217</sup> Using a Chinese-provided phone, Mr. Mallory transmitted to a Chinese agent four documents, one of which contained unique identifiers for human sources who had helped the U.S. government.<sup>218</sup> Mr. Mallory was convicted of conspiracy to deliver, attempted delivery, and delivery of defense information to aid a foreign government, as well as making material false statements; the Assistant Director in Charge of the FBI's Washington Field Office said the trial "[highlighted] a serious threat to U.S. national security."<sup>219</sup>
- *Arrest of a Former Defense Intelligence Agency (DIA) Officer:* In June 2018, former DIA officer Ron Rockwell Hansen was arrested on federal charges, including the attempted transmission of national defense information to China.<sup>220</sup> Between 2013 and 2017, Mr. Hansen attended military and intelligence conferences in the United States and provided the information he learned to Chinese intelligence contacts.<sup>221</sup> He also improperly sold export-controlled technology to persons in China. Mr. Hansen received at least \$800,000 in funds originating from China.<sup>222</sup>
- *Former CIA Officer Indicted:* In May 2018, former CIA officer Jerry Chun Shing Lee was indicted by a federal grand jury with one count of conspiracy to gather or deliver national defense information to aid a foreign government.<sup>223</sup> Mr. Lee was initially arrested in January 2018 on two counts of unlawfully retaining documents related to national defense.<sup>224</sup> According to prosecutors, Lee provided classified information regarding CIA covert operations to Chinese intelligence officers from April 2010 until at least 2011.<sup>225</sup>
- *Sea Dragon Cyber Attack:* In January and February 2018, cyber attacks sponsored by the Chinese government infiltrated a U.S. Navy contractor's computers, stealing 614 gigabytes of material on an undersea warfare project known as "Sea Dragon."<sup>226</sup> The information was stolen from the contractor's unclassified network despite being "highly sensitive" in nature.<sup>227</sup> Officials have not identified the contractor.<sup>228</sup> Sea Dragon, contracted for the U.S. Naval Undersea Warfare Center, aims to develop a supersonic antiship missile for use on U.S. submarines.<sup>229</sup>

**Addendum I: Select PLA Exercises with Foreign Militaries,  
October 2017–September 2018**

<b>Date (Duration)</b>	<b>Exercise Name or Type (Location)</b>	<b>Other Participants (Number)</b>	<b>Type of Exercise</b>	<b>Details</b>
Oct. 2017 (1 day)	Maritime Exercise (France)	France (two frigates and a supply ship from the PLA Navy, one destroyer from French navy)	Maritime	China's 26th naval escort taskforce conducted a port call in France on its return trip to China after Gulf of Aden antipiracy operations. The ships conducted communication, group sailing, at-sea replenishment, and antipiracy drills.
Nov. 2017 (7 days)	U.S.-China Disaster Management Exchange (Oregon, USA)	United States (96 PLA soldiers from Southern Theater Com- mand, 96 from U.S. Army)	Human- itarian As- sistance/ Disaster Relief (HA/DR)	In the 13th annual exercise, the two sides simulated a combined response using a multinational coordination center to assist a third country suffering severe flooding.
Nov. 2017 (3 days)	IONS Inter- national Maritime Search and Rescue Exercise (Bangladesh)	At least nine countries, includ- ing Bangladesh, India, Iran, and Kenya	Maritime	Participating for the first time in the exercise after observing since 2014, the PLA Navy sent a Type 054A (JIANKAI II-class) frigate with an onboard helicopter. The exercise involved establishing communication mechanisms and tactical cooperation responding to a maritime disaster.
Dec. 2017 (1 day)	HA/DR Exer- cise (Timor-Leste)	Timor-Leste	HA/DR	During the PLA Navy hospital ship <i>Peace Ark's</i> eight-day visit to Timor-Leste, the ship conducted a rescue exercise with Timor-Leste soldiers and officers. This was the first such exercise between the two countries.
Dec. 2017 (3 days)	Friend-2017 (near Shang- hai, China)	Pakistan (one frigate each)	Maritime	The fifth combined exercise between the two navies included coordination meetings and a live-fire portion that focused on firing practice, search and rescue, and driving away adversaries.

**Addendum I: Select PLA Exercises with Foreign Militaries,  
October 2017–September 2018—Continued**

<b>Date (Duration)</b>	<b>Exercise Name or Type (Location)</b>	<b>Other Participants (Number)</b>	<b>Type of Exercise</b>	<b>Details</b>
Dec. 2017 (6 days)	Aerospace Security-2017 (Beijing, China)	Russia	Missile Defense	In a continuation of growing missile defense cooperation in recent years, the two countries held their second computer-simulated tabletop exercise designed to “practice cooperation of [both sides] to repel missile threats from third countries.”
Mar. 2018 (17 days)	Gold Dragon-2018 (Cambodia)	Cambodia (496 troops total)	HA/DR; Counter-terrorism	The second iteration of the exercise increased in scale, added a counterterrorism element, included more personnel and equipment, and was longer in duration. Both sides used a mixed formation to conduct mine and chemical weapon neutralization, terrorist base assaults, hostage rescue, and humanitarian assistance.
Mar. 2018 (1 day)	Search and Rescue Exercise (waters near Hong Kong)	France	Maritime	In the PLA Hong Kong Garrison’s first exercise with a foreign military, the two sides conducted search and rescue and communication drills.
May 2018 (5 days)	Komodo-2018 (Indonesia)	33 other countries (China sent a destroyer and frigate)	Maritime	In addition to multilateral military exchanges, the exercise sea phase involved aerial photography, cross-ship replenishment, search and rescue, helicopter landings on ships, and other drills.
Aug. 2018 (2 days)	ASEAN-China Maritime Exercise (Singapore)	10 ASEAN countries	Maritime	China conducted its first maritime exercise with ASEAN, which was in a table top format. The exercise focused on cooperation in safety-related incidents at sea and confidence building. An October 2018 follow-on exercise is planned in waters near China.

**Addendum I: Select PLA Exercises with Foreign Militaries,  
October 2017–September 2018—Continued**

<b>Date (Duration)</b>	<b>Exercise Name or Type (Location)</b>	<b>Other Participants (Number)</b>	<b>Type of Exercise</b>	<b>Details</b>
Aug. 2018 (6 days)	Peace Mission-2018 (Chebarkul, Russia)	Multiple; Shanghai Cooperation Organization [SCO] members (China sent 700 troops from the Western Theater Command, including an armored tank battle group, an Air Force battle group, and a special operations unit)	Counterterrorism	In the ninth SCO exercise since they commenced in 2005, the SCO member militaries conducted a joint, live-fire drill surrounding and defeating a terrorist camp involving air and ground forces. India and Pakistan notably participated in their first exercise since becoming full SCO members in 2017.
Aug.–Sept. 2018 (17 days)	Kakadu-2018 (waters near Darwin, Australia)	26 countries, including the United States (China sent a Type 054A [JIANGKAI II-class] frigate)	Maritime	China participated for the first time in Australia's major biannual multilateral maritime exercise after being an observer in 2016. During the exercise, a PLA frigate participated in anti-submarine warfare, gunnery, and air defense drills, along with several noncombat drills, involving replenishment at sea and rescue operations.
Sept. 2018 (10 days)	Sagarmatha Friendship-2 (Chengdu, China)	Nepal (each side contributed a platoon of around 15 personnel)	Counterterrorism; HA/DR	Building off their first ever exercise together in 2017, the two countries conducted counterterrorism and disaster management drills.
Sept. 2018 (7 days)	Vostok-2018 (Trans-Baikal region, Russia)	Russia and Mongolia (Russia contributed 290,000 troops from its army, air force, and navy. China sent around 3,200 troops from the Northern Theater Command, including Type 99 main battle tanks, six JH-7A fighter-bombers and 24 WZ-9 and WZ-19 helicopters.)	Land, Maritime, and Air	Russia for the first time invited China to participate in one of its large-scale, joint, strategic exercises—the largest of its kind since 1981—and China's contribution to the exercise was the biggest it has sent abroad. The exercise was designed to simulate a conventional campaign to counter an enemy invasion, and intended to deepen cooperation between the two militaries.

**Addendum I: Select PLA Exercises with Foreign Militaries,  
October 2017–September 2018—Continued**

<b>Date (Duration)</b>	<b>Exercise Name or Type (Location)</b>	<b>Other Participants (Number)</b>	<b>Type of Exercise</b>	<b>Details</b>
Sept. 2018 (18 days)	Falcon Strike-2018 (Udon Thani, Thailand)	Thailand	Air	In the third such combined exercise between the Thailand and China air forces, both sides aimed to improve cooperation, while testing combat tactics and methods and bolstering real combat training.
Late 2018	Joint Sea-2018 (Qingdao, China)	Russia	Maritime	To be announced

*Note:* From late July to mid-August, the PLA participated in the International Army Games-2018, a Russia-led annual military competition that has been held since 2015. For the second year in a row, China hosted some of the events (four of 18 events). The competition serves as a venue for the PLA to train with the Russian Armed Forces and other militaries, and helps build mutual trust. Participants for the exercise in China include Armenia, Azerbaijan, Belarus, Egypt, Iran, Pakistan, Kazakhstan, Uzbekistan, Venezuela, and Zimbabwe. *China Military Online*, "Defense Ministry's Regular Press Conference on April 26," April 27, 2018.

*Source:* Various.<sup>230</sup>

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## SECTION 2: CHINA'S MILITARY REORGANIZATION AND MODERNIZATION: IMPLICATIONS FOR THE UNITED STATES

### Key Findings

- Chinese President and General Secretary of the Chinese Communist Party Xi Jinping significantly accelerated China's military modernization goals in late 2017, requiring the People's Liberation Army (PLA) to become a fully "modern" military by 2035 and a "world-class" military by mid-century. This new guidance moves China's military modernization timeline up nearly 15 years.
- Beijing is currently capable of contesting U.S. operations in the ground, air, maritime, and information domains within the second island chain, presenting challenges to the U.S. military's longstanding assumption of supremacy in these domains in the post-Cold War era. By 2035, if not before, China will likely be able to contest U.S. operations throughout the entire Indo-Pacific region.
- China's large-scale investment in next-generation defense technologies presents risks to the U.S. military's technological superiority. China's rapid development and fielding of advanced weapons systems would seriously erode historical U.S. advantages in networked, precision strike warfare during a potential Indo-Pacific conflict.
- The PLA Strategic Support Force—whose organization and operations reflect the importance Beijing places on information warfare—poses a fundamental challenge to the United States' ability to operate effectively in space, cyberspace, and the electromagnetic spectrum. The new force signals Beijing's intent to build a military capable of dominating these domains of warfare.
- China's rapid buildup of the PLA Navy as a blue water force through its continued commissioning of highly capable, multi-mission warships will give Beijing naval expeditionary capabilities deployable around the globe as early as 2025, well ahead of the PLA's broader 2035 modernization goals.
- China continues to develop and field medium- and long-range air, sea, and ground-launched missile systems that substantially improve China's capability to strike both fixed and moving targets out to the second island chain. China's ability to threaten U.S. air bases, aircraft carriers, and other surface ships presents serious strategic and operational challenges for the United States and its allies and partners throughout the Indo-Pacific.

- Beijing has sought to use its sweeping military reorganization efforts to address the PLA's so-called "peace disease" and persistent weaknesses in its ability to conduct joint combat operations. Much of Chinese leaders' concerns center on the PLA's lack of recent combat experience and the perceived inability of many operational commanders to carry out basic command functions such as leading and directing troops in combat. President Xi's "Strong Military Thought" ideology, promulgated in late 2017, also seeks to overcome perceived shortcomings in the PLA's war preparedness and combat mindset.
- Prior to the PLA achieving its objectives of becoming a "modern" and "world-class" military, Beijing may use coercive tactics below the threshold of military conflict rather than resorting to a highly risky use of military force to achieve its goals in the region. However, as military modernization progresses and Beijing's confidence in the PLA increases, the danger will grow that deterrence will fail and China will use force in support of its claims to regional hegemony.
- The Central Military Commission's assumption of direct control over the People's Armed Police and China Coast Guard in 2018 effectively removed all remaining civilian status from both forces and clarified their military role. The move places added importance on the China Coast Guard as an instrument to police, enforce, and advance China's domestic maritime interests.

## Recommendations

The Commission recommends:

- Congress direct the U.S. Department of Defense and U.S. Department of Homeland Security to provide to the relevant committees of jurisdiction a report, with a classified annex, assessing how the change in the China Coast Guard's command structure affects its status as a law enforcement entity now that it reports to the Central Military Commission. The report should discuss the implications of this new structure for China's use of the coast guard as a coercive tool in "gray zone" activity in the East and South China seas. This report should also determine how this change may affect U.S. Navy and U.S. Coast Guard interactions with the China Coast Guard, and whether the latter should be designated as a military force.
- Congress consider imposing sanctions on key Chinese state-owned enterprises and individuals involved in China's ongoing militarization of the South China Sea.

## Introduction

China's sweeping reorganization of the People's Liberation Army (PLA), initiated in 2016 and led by Chinese President, General Secretary of the Chinese Communist Party (CCP), and Chairman of the Central Military Commission (CMC) Xi Jinping, is designed to improve the PLA's ability to advance China's interests and constrain the ability of the United States to operate freely in the Indo-Pacific region. The most important goal of this restructuring effort is to build a joint force capable of projecting power farther from China's

shores. New directives laid out by President Xi in late 2017 now significantly accelerate China's military modernization timetable and squarely set the PLA's sights on becoming a "world-class" military on par with the United States.

President Xi views the PLA's modernization as fundamental to achieving his signature initiative to realize the "Chinese dream of the great rejuvenation of the Chinese nation"—restoring what China perceives as its historic and rightful place as the dominant power in Asia. The PLA is also building the capacity to support China's ambitions to play an influential role on the world stage. China's military continues to improve its ability to conduct expeditionary operations to protect Beijing's overseas interests, facilitated by the buildup of a blue-water navy, China's construction of its first overseas military base, and potentially by a range of ports and airfields developed around the world through President Xi's Belt and Road Initiative. The Chinese leadership's vision for the PLA is therefore expansive. It seeks to build capabilities not only suited to resolving regional sovereignty disputes in China's favor, but that will also allow China to achieve the further-reaching goals implied by the "China Dream," likely by the 100th anniversary of the founding of the People's Republic of China in 2049. These goals include achieving unification with Taiwan, resolving other remaining territorial disputes, and fully restoring China's regional and global prestige.

One key element of China's worldview is that the first two decades of the 21st century—and potentially longer—serve as an important "period of strategic opportunity" for expanding China's comprehensive national power, during which the likelihood of an outside power initiating a large-scale conflict with China remains low. President Xi's initiation of his overhaul of the PLA—whose major components are scheduled to be completed by 2020—aligns with this strategic window and further shapes Beijing's belief that it is increasingly well positioned to contest the U.S. military presence in the Indo-Pacific, which it views as the foremost obstacle to China achieving its goals in the region. Beijing also believes its growing military power will undermine the confidence of U.S. allies and partners in the ability of the United States to deter China's pursuit of these goals.

Today, the United States and its allies and partners are facing a China more capable and increasingly confident in its ability to use the military as a tool to intimidate countries throughout the Indo-Pacific and support the expansion of its global interests. The PLA's modernization over the past two decades has already resulted in a force capable of contesting U.S. operations in the region, presenting challenges to the U.S. military's longstanding assumption of enjoying ground, air, maritime, and information dominance in a conflict in the post-Cold War era. As China continues to achieve its military modernization goals, the PLA will become increasingly capable of contesting all domains of warfare throughout the Indo-Pacific region and beyond. Given the PLA's lack of recent combat experience, however, Beijing may find itself hard-pressed to execute complicated military operations against a capable and modern opponent. In the meantime, the PLA will continue seeking to overcome these challenges by improving combat-realistic training, which—if successful—will provide Beijing with a greater sense of confidence during

a crisis, especially should Beijing decide to use force. President Xi's successful efforts to end term limits for himself, consolidate his power on the CMC, and carry out a large-scale anticorruption campaign within the PLA have created an environment for him to shape and execute a reorganization and modernization program that will almost certainly result in a much more capable, joint PLA.

This section examines the drivers behind China's military reorganization and modernization efforts and assesses President Xi's vision for how the PLA will help secure his signature "China Dream." Further, it provides important updates on improvements in the PLA's joint command structure, advancements in force building, and efforts to develop joint operational capabilities since the initiation of the PLA's reform and reorganization in 2016. Finally, the section explores the implications of these developments for the United States and U.S. allies and partners in the Indo-Pacific. This section is based on the Commission's February 2018 hearing on the topic, the Commission's May trip to Asia, unclassified statements by U.S. officials, and open source research and analysis.

### **Beijing Sets Goal to Build World-Class Military**

At the CCP's 19th National Congress in October 2017, President Xi laid out new requirements for a military modernization program seeking to achieve force-wide mechanization and major progress in strategic warfighting domains by 2020, a "modern" military by 2035, and a "world-class" military by the middle of the century.<sup>1</sup> These requirements represent President Xi's confidence in the PLA and a major acceleration of China's previous military modernization timeline, moving the goal for a fully modernized military up by nearly 15 years.<sup>2</sup> Cortez Cooper, senior researcher at the RAND Corporation, surmised in his February 2018 testimony to the Commission that the implication of this modernization timeline shift would be that "[b]y 2035, if not before, the PLA likely will be able to contest all domains of conflict—ground, air, sea, space, cyberspace, and electromagnetic—throughout the Indo-Pacific region."<sup>3</sup>

To achieve these goals, President Xi called at the Party Congress for the PLA to continue with its reform and restructuring efforts—begun in 2016 and the most comprehensive in decades—under the banner of the CCP's newly promulgated "Strong Military Thought for the New Era," an important ideological formulation further highlighting the importance of a powerful military to achieving national policy goals.<sup>4</sup> The new guiding ideology, which the CCP has since retitled "Xi Jinping Strong Military Thought" and amended into its constitution, builds on President Xi's past declarations that "a strong military is needed for the great renewal of the Chinese nation."<sup>5</sup> The formulation also suggests Beijing intends for the PLA's modernization to not only address specific perceived threats in the Indo-Pacific but also allow China to more broadly increase its influence in international affairs.<sup>6</sup>

Admiral Philip Davidson underscored the far-reaching implications of China's military modernization for the United States during his April 2018 confirmation hearing to become the new commander of U.S. Indo-Pacific Command (INDOPACOM). In his testimony, he stated that "China is pursuing a long-term strategy to reduce U.S.

access and influence in the [Indo-Pacific] region and become the clear regional hegemon, and Beijing has already made significant progress along this path. China is no longer a rising power but an arrived great power and peer competitor to the United States in the region.”<sup>7</sup>

### ***Overcoming the “Peace Disease” and Improving Combat Readiness***

In his Party Congress report, President Xi gave clear instructions for the PLA to focus its training and modernization efforts exclusively on preparations for war in all domains and directions around China’s periphery.<sup>8</sup> This almost certainly included instructions for the PLA to enhance its preparations for military operations in its “main strategic direction” to the east, focused on combat preparations for Taiwan and any potential U.S. military intervention in a Taiwan conflict.\* As part of President Xi’s broader guidance, he also tasked the PLA to enhance its combat-realistic training; improve preparations for war in all domains, including in space and cyberspace; and increase the active use of the PLA as an element of national power.<sup>9</sup> Notably, President Xi’s instructions to the PLA seek to overcome concerns of his own and among senior military leaders over the PLA’s so-called “peace disease” and lack of ability to fight and win a modern, joint campaign.<sup>10</sup> Prominent among these concerns are significant PLA shortcomings President Xi has termed the “Five Incapables”—referring to the inability of some PLA leaders to effectively judge the military situation and understand their orders, make operational decisions, direct troops in combat, and handle unforeseen battlefield developments.<sup>11</sup>

The PLA’s current modernization effort is rooted in the efforts of President Xi’s predecessors who in the 1990s and early 2000s assessed the PLA suffered from critical shortcomings in modern warfare that would put China at a disadvantage should a conflict occur with a Western power.<sup>12</sup> China’s previous leaders, former Presidents Jiang Zemin and Hu Jintao, initiated important reform and modernization efforts to narrow gaps in PLA warfighting capabilities with the United States and U.S. allies, providing Beijing options for advancing its regional interests and dominating Taiwan.<sup>13</sup> Senior Chinese military leaders observed the U.S. employment of long-range and precision strike capabilities in the 1990s with alarm—including the 1991 Gulf War and 1999 accidental bombing of the Chinese Embassy in Belgrade—leading Beijing to focus its modernization efforts on “antiaccess/area denial (A2/AD)” (or “counterintervention”) † ca-

\* China’s 2015 defense white paper—*China’s Military Strategy*—which outlines China’s national military strategy, calls for the PLA to prepare to respond to crises in multiple domains and geographic regions simultaneously, indicating there are multiple strategic directions that would be assigned to the PLA’s theater commands. While theater commands are assigned primary and secondary strategic directions, Taiwan remains the primary strategic direction at the national level. U.S.-China Economic and Security Review Commission, *Hearing on Hotspots along China’s Maritime Periphery*, written testimony of Mark R. Cozad, April 13, 2017; Wang Hongguang, “Wang Hongguang: Decisively Setting East China Sea as Our Primary Strategic Direction,” *Sohu Military*, March 2, 2016. Translation; China’s State Council Information Office, *China’s Military Strategy*, May 2015; Shou Xiaosong, ed., *The Science of Military Strategy*, Military Science Press, 2013, 117. Translation.

† Antiaccess actions are intended to slow the deployment of an adversary’s forces into a theater or cause them to operate at distances farther from the conflict than they would prefer. Area denial actions affect maneuvers within a theater, and are intended to impede an adversary’s operations within areas where friendly forces cannot or will not prevent access. China, however, uses the

pabilities to deter, delay and, if needed, defeat foreign intervention in a military operation along China's periphery.<sup>14</sup> However, these modernization efforts were not fully successful in transforming the PLA into a force capable of conducting joint operations at long distances from China's coast.

### ***Threats and Missions***

The CCP's primary objective is to maintain its hold on power by ensuring domestic stability, protecting sovereignty claims, and defending China's territorial integrity.<sup>15</sup> China's 2015 defense white paper, *China's Military Strategy*, provides insight into how Beijing views some of the potential conflicts facing China that could challenge the CCP's national goals.\* The white paper states that although a world war is unlikely, terrorism and global hotspots are concerning and could lead to war or conflict in the near term.<sup>16</sup> The 2013 edition of *The Science of Military Strategy*, an authoritative book published by the PLA's Academy of Military Science, states that China must comprehensively prepare for the "threat of war" and make "preparations to contain ... [or win] war."<sup>17</sup>

Accordingly, the CCP has tasked the PLA with a range of strategic missions—including a formalized mission to protect "overseas interests"—which shape the services' need to develop capabilities to defend China's regional sovereignty claims and conduct expeditionary operations. China's 2015 defense white paper outlines the following missions assigned to the PLA:<sup>18</sup>

- Safeguarding the CCP;
- Safeguarding sovereignty and security of China's territorial land, air, and sea;
- Safeguarding unification of the motherland;
- Safeguarding security and interests in new domains;
- Safeguarding security of China's overseas interests;
- Maintaining strategic deterrence and ability to carry out nuclear counterattack;
- Participating in regional and international security cooperation and maintaining regional and world peace;
- Strengthening efforts against infiltration, separatism, and terrorism to maintain China's political security and social stability; and
- Performing emergency rescue and disaster relief, rights and interests protection, guard duties, and support for national economic and social development.<sup>19</sup>

term "counterintervention," reflecting its perception that such operations are reactive. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2013*, 2013, i, 32–33; U.S. Department of Defense, *Air-Sea Battle: Service Collaboration to Address Anti-Access & Area Denial Challenges*, May 2013, 2.

\*China's defense white papers are the primary publicly released official documents that describe how Beijing views national security interests at the unclassified level. To date, the State Council Information Office of China has published ten white papers that have been approved by the Central Military Commission, Ministry of National Defense, and State Council.

## **Military Reform in 2018: Political Control and Combat Power Growing**

Among the most important developments in China's military restructuring efforts in 2018 were the major overhaul of the PLA's joint command structure and President Xi's issuance of new military training guidelines emphasizing combat realism and joint operations. These developments follow major structural changes beginning in 2016 to PLA leadership organs, combat services, and operational theaters, and second-phase reform efforts primarily focused on training officers and soldiers to operate within the PLA's new joint command structure.<sup>20</sup>

### ***Redefining National and Operational Command***

#### *President Xi Overhauls the Central Military Commission*

At the CCP's 19th National Congress, President Xi proved successful in wielding the power of his anticorruption campaign to push through major changes to the CMC's composition and structure that broke a key bureaucratic roadblock to streamlining command and control and helped ensure the personal loyalty of senior military officials on the CMC to President Xi. CMC membership was reduced from 11 to 7 seats—the smallest membership in 20 years—and the PLA service chiefs were removed from the top military decision-making body, effectively placing them outside the formal chain of command from the CMC's strategic command authority to the theater's operational command authority.\* Nevertheless, it remains unclear whether the service chiefs have actually been fully removed from the operational chain of command and if they will retain any role controlling PLA forces conducting out-of-area operations beyond the theater commands' geographic boundaries. Overall, these changes marked a significant shift in reducing the overall power of the PLA service chiefs and empowering the PLA's new joint theater commanders, mirroring in some ways the changes the United States made to its military command structure under the Goldwater-Nichols Department of Defense Reorganization Act of 1986.†<sup>21</sup> The new streamlined structure is expected to allow the CMC to better focus on strategic management issues while empowering the theater commanders to assume full command authority over combat units in their operating area, and focuses the service staffs on the task of “force building” (similar to the U.S. concept of man, train, and equip).<sup>22</sup>

\*The new makeup of the CMC includes Xi Jinping as CMC Chairman and Commander in Chief, followed by Xu Qiliang and Zhang Youxia as vice chairmen. The remainder of the CMC is composed of Wei Fenghe (Minister of National Defense), Li Zuoqiang (Chief of Joint Staff), Miao Hua (Director of the Political Work Department), and Zhang Shengmin (Secretary of the CMC Commission for Discipline Inspection). President Xi likely selected the CMC based upon personal loyalty. China's Ministry of National Defense, *Central Military Commission of the Chinese Communist Party*, November 2017. Translation. <http://www.mod.gov.cn/leaders/index.htm>; Government of China, *Central Military Commission of the Chinese Communist Party*, October 19, 2012. Translation. [http://www.gov.cn/test/2012-11/19/content\\_2269866.htm](http://www.gov.cn/test/2012-11/19/content_2269866.htm).

†The Goldwater-Nichols Act was responsible for reorganizing the U.S. Department of Defense to improve the ability of the U.S. military to conduct joint operations. The act made significant changes to the U.S. military by strengthening the influence and staff of the Joint Chiefs of Staff chairman, compared to those of the service chiefs, and increasing the authority of the combatant commands. These measures removed barriers between the services to enable a more “joint” operational force. Goldwater-Nichols Department of Defense Reorganization Act of 1986, Pub. L. No. 99-433, 1986.

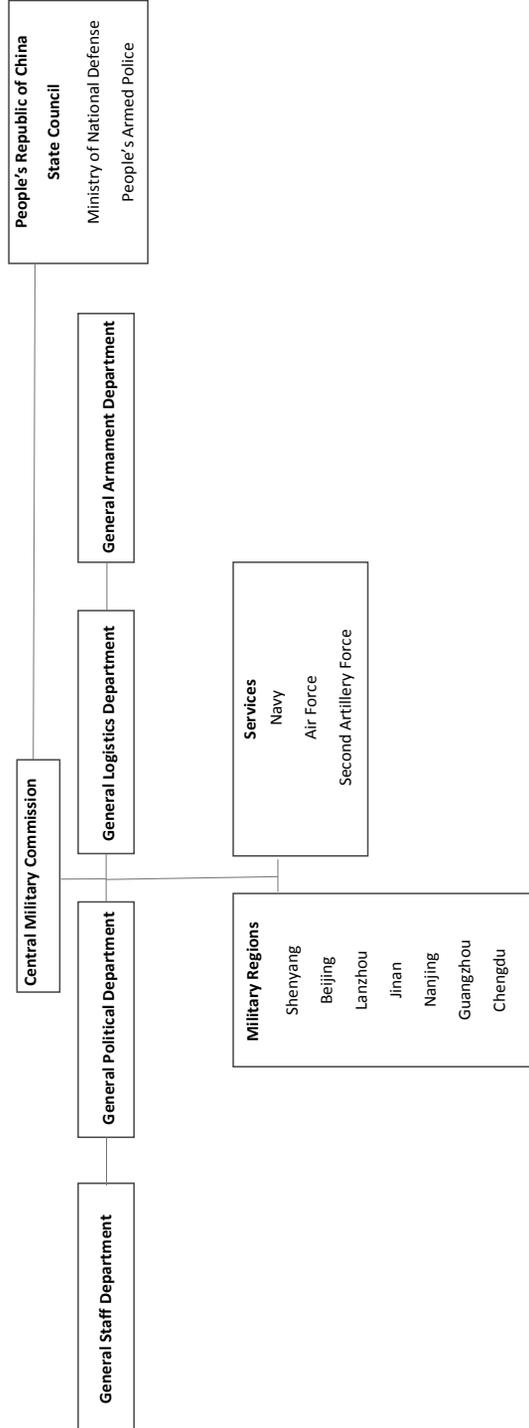
By changing the composition and reducing the size of the CMC, President Xi was also able to consolidate political control over the top military body. During the 19th Party Congress, President Xi made it clear that the CMC must remain loyal to the CCP—and by extension to him personally.<sup>23</sup> This demand for absolute loyalty is likely in part a message from President Xi to the PLA that he will not tolerate any opposition to his reorganization and modernization vision.<sup>24</sup> At the Party Congress, President Xi promoted General Zhang Youxia—previously the head of the CMC’s Equipment Development Department and reportedly a close childhood friend and “sworn brother” of President Xi—to vice chairman of the CMC.<sup>25</sup> General Zhang reportedly has personally “pledged loyalty to [President] Xi,” and has followed President Xi’s promotion trajectory throughout his career.<sup>26</sup> Another important change to the CMC’s composition was the addition of Zhang Shengmin, head of the CMC’s recently strengthened Discipline Inspection Commission; his membership on the top body\* further highlights the important role President Xi’s anticorruption campaign plays in the broader PLA reorganization effort and in his assertion of personal control over the PLA.<sup>27</sup>

Several additional organizational changes occurred in 2018 providing the CMC greater authority. On January 1, China’s national paramilitary force, the People’s Armed Police (previously subordinate to both the CMC and the State Council), was placed solely under the CMC.<sup>28</sup> In July, the China Coast Guard (formerly under the State Oceanic Administration) was also placed under sole CMC authority, reporting through the People’s Armed Police.<sup>29</sup> Prior to these more recent structural reforms, the PLA’s four general departments (the general staff, political, logistics, and armaments departments) were reorganized into 15 subordinate functional sections of the CMC in January 2016.† One of the more significant results of the 2016 restructuring was that it established two lines of authority under the CMC: the first line created a command relationship with joint theater commands through the Joint Staff Department, and the second line established a true service structure focused on the force-building mission for maintaining and improving the PLA (see Figures 1 and 2).<sup>30</sup>

\*The CMC Discipline Inspection Commission is the Chinese military’s top discipline body that monitors PLA officers to ensure their loyalty to the CCP and adherence to military rules and regulations. Upon its establishment in late 2015, the commission became more independent (similar to its CCP counterpart) and subsumed discipline and inspection duties that it previously shared with the General Political Department (which became the CMC Political Work Department in the PLA’s reorganization). Since mid-2016, the commission began dispatching inspection personnel to all levels of the PLA, including the theaters and services. Yan Cheng, “The General Political Department,” *The CMC’s New Round of Inspections Has Begun*, April 2, 2018. Translation; Xia Guodong, Huang Chao, and Yin Hang, “Remember the Mission Is to Trust in Loyal Performance Supervision Duties—A Review of the First Anniversary of the CMC Discipline Inspection Group,” *PLA Daily*, May 19, 2017. Translation; U.S. Department of Defense, *Directory of PRC Military Personalities*, March 2017, 9–10, 14; Roy Kamphausen, “The General Political Department” in Kevin Pollpeter and Kenneth Allen, eds., *The PLA as Organization v2.0*, Defense Group Inc., December 2015, 162, 167, 170; U.S. Department of Defense, *Directory of PRC Military Personalities*, March 2014, 10, 30.

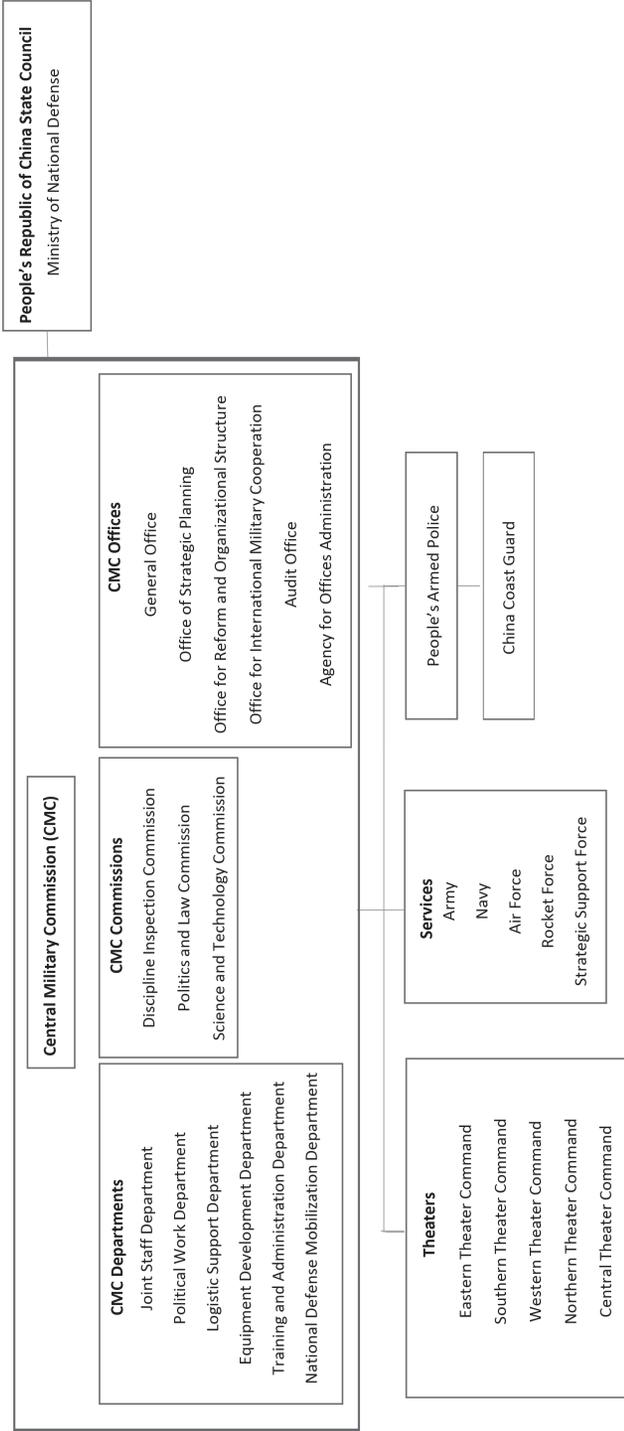
†For a more in-depth examination of reform activity that occurred in 2016, see U.S.-China Economic and Security Review Commission, *2016 Annual Report to Congress*, November 2016, 203–207.

Figure 1: PLA Pre-Reform Organizational Structure



Source: U.S. Department of Defense, *Directory of PRC Military Personalities*, March 2014, xiv.

**Figure 2: PLA Post-Reform Organizational Structure**



Source: Lyle Morris. "China Welcomes its Newest Armed Force: The Coast Guard," *War on the Rocks*, April 4, 2018; U.S. Department of Defense, *Directory of PRC Military Personalities*, March 2017, xvi.

### **Fully Militarizing the Chinese Coast Guard and People's Armed Police**

The CMC's assumption of direct control over the People's Armed Police and China Coast Guard in 2018 effectively removed all remaining civilian status from both forces and clarified their essentially military nature.<sup>31</sup> The move also established a clear military chain of command from President Xi and the CMC down to China Coast Guard and People's Armed Police frontline forces. Beijing's decision to move the People's Armed Police under the sole control of the CMC serves to consolidate military control over the paramilitary force, prevent unauthorized People's Armed Police operations by provincial and local officials, and increase the People's Armed Police's focus on security tasks.<sup>32</sup> The primary reason for bringing the China Coast Guard under the People's Armed Police was likely to enhance the China Coast Guard's role in advancing China's maritime territorial claims. Having direct command of the China Coast Guard will enable Chinese military leaders to finely calibrate the force's role in "gray zone" operations to advance maritime territorial claims while keeping activities below the threshold at which other countries would respond.<sup>33</sup> In other words, bringing the China Coast Guard under the CMC command structure (via the People's Armed Police) makes the sea force a more effective tool for Chinese coercion campaigns under the guise of "maritime law enforcement" or "maritime rights protection," but also suggests the China Coast Guard could be viewed by Japan and other claimants in the East and South China seas as a military force rather than civilian law enforcement, due to its unambiguous military command.<sup>34</sup> China, however, maintains that the People's Armed Police and China Coast Guard still retain law enforcement responsibilities, creating a situation that increases the chance for miscalculation.

#### *Changes within the Services*

China transformed the PLA service structure in 2016 by designating the ground forces as the PLA Army, establishing a headquarters for the army, and elevating the Second Artillery Corps—responsible for China's nuclear and conventional missiles—to a service called the Rocket Force. Prior to establishing an army headquarters, leadership for the ground force had been integrated into the four general departments of the CMC. China also established a new Strategic Support Force (SSF)\* that along with the PLA Navy and Air Force brought the total number of services to five, all of which will focus on the "force-building" mission.<sup>35</sup>

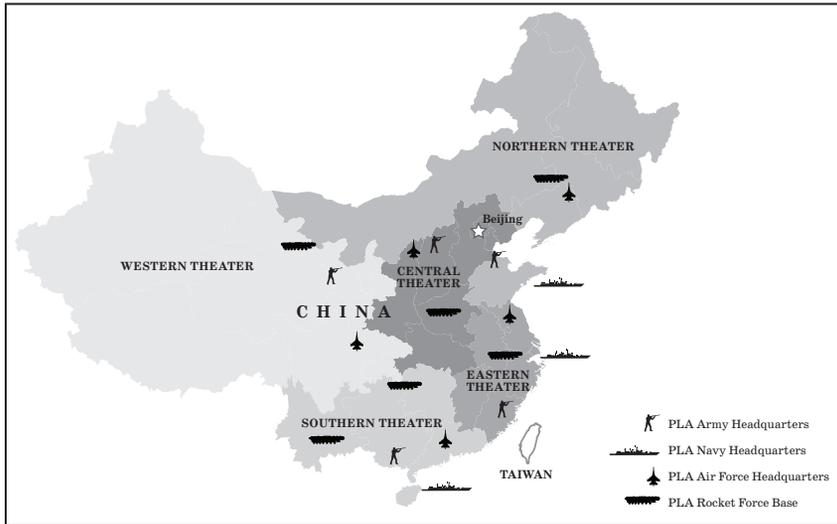
#### *Joint Theater Command Structure*

A central feature of the reorganization was the creation of a joint theater structure with combat responsibilities within the geographic

\*The SSF is technically not a service; however, it is treated as such, similar to the Second Artillery Corps prior to the missile force's elevation to a service (the PLA Rocket Force) as a result of the PLA reorganization in 2016. John Costello, "The Strategic Support Force: Update and Overview," *China Brief*, December 21, 2018.

boundaries of the theater intended to improve joint operations and meet the security challenges in western China and along China's periphery.<sup>36</sup> This structure enables PLA forces to meet the requirements of specific anticipated regional war scenarios more quickly and efficiently than the previous structure, which required a transition from an administrative to an operational command structure to respond to a crisis.\* However, it remains unclear what out-of-area command responsibilities, if any, theater commanders may have.

**Figure 3: PLA Theater Commands**



*Source:* U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 217.

### ***Theater Commands Improving Joint Exercises and Operations***

In January 2018, the CMC officially promulgated new training regulations that provide the services direction for improving the PLA's ability to conduct joint operations as China continues to build its "world-class military."<sup>37</sup> The training guidelines are intended to (1) help improve the consistency between joint operations and training, as well as within the framework of the new command structures; (2) promote and institute standards for combat-realistic training in addition to management standards; (3) adjust the training cycle to

\*The operational focus and structure of the theater commands is likely as follows: 1) Eastern Theater: preventing Taiwan independence, compelling Taiwan unification, countering any foreign intervention during a Taiwan conflict, and defending maritime sovereignty claims in the East China Sea; 2) Southern Theater: defending maritime sovereignty claims and China's sea lines of control in the South China Sea, as well as conducting border defense with Vietnam; 3) Western Theater: combatting domestic extremism and terrorism in Xinjiang and Tibet, addressing an Indian border dispute contingency, and guarding against infiltration by Central Asian extremist and terrorist groups; 4) Northern Theater: stabilizing the Korean Peninsula and conducting border stability operations associated with a North Korea contingency, may share responsibility for contingencies involving Japan with the Eastern Theater, and likely is responsible for northern border contingencies involving Mongolia and Russia; and 5) Central Theater: conducting capital defense operations and responding to domestic emergencies. U.S.-China Economic and Security Review Commission, *2016 Annual Report to Congress*, November 2016, 206.

focus on combat readiness and rolling training; and (4) conduct mission- and task-oriented training for modern warfare.<sup>38</sup>

After the establishment of the five joint theater commands, President Xi emphasized the services must conduct joint and service-specific training to guarantee the implementation of the PLA's restructuring.<sup>39</sup> Specifically, the PLA is working to identify deficiencies in command capability, force integration, and operational planning at the joint theater and service levels through training and exercises.\*<sup>40</sup>

- *Joint operations and theater training:* Joint theater-level exercises are designed to test joint command leadership and enhance transregional mobility and practicing joint operations.<sup>41</sup> The CMC Joint Staff Department has dispatched observers to theater-level training events to identify new operational planning requirements.<sup>42</sup> For example, in the fall of 2017, Joint Staff Department observers monitored the Southern Theater Command Air Force's exercise with PLA Navy Aviation units to test the PLA Air Force's ability to support the operations of dissimilar aircraft from multiple services.<sup>43</sup> From June to August 2018, the PLA focused training on improving theater and transregional operations.<sup>44</sup> During this time, a PLA Navy Marine Corps brigade conducted air assault training during a transregional exercise conducted in the Northern Theater Command; the PLA Air Force led an air defense exercise, Blue-Shield-18,† that included air defense from all the services; and the PLA Army's Stride exercise‡ focused on theater command and control of operational forces.<sup>45</sup>

\*The PLA has conducted joint exercises, particularly since 2005, focused on simulating combat realism to build real operational capability while identifying and addressing recurring problems. In 2015, President Xi identified "five incapables" used to criticize command capabilities of some PLA officers—reproaches that persist to this day. These criticisms included a failure to judge command situations, understand intentions of senior authorities, make operational decisions, deploy troops, and cope with unexpected situations. Mark Cozad, a senior international defense policy analyst with the RAND Corporation, underscores this issue by noting that "improved realism in joint exercises is, in part, designed to alleviate a broader lack of combat experience within the PLA; however, the degree to which [China's] military science-based approach to capability development can meet its most difficult objectives remains uncertain." Liang Pengfei and Wu Xu, "Focus on the Three Major Bottleneck Problems and Implement Resolution of Measures and Methods—Vigorously Push Forward Solving Difficult Problems Plaguing Combat-Realistic Training PLA-Wide," *PLA Daily*, July 30, 2018. Translation; Dennis J. Blasko, "The New PLA Joint Headquarters and Internal Assessments of PLA Capabilities," *China Brief*, June 21, 2016; U.S.-China Economic and Security Review Commission, *Hearing on Developments in China's Military Force Projection and Expeditionary Capabilities*, written testimony of Mark R. Cozad, January 21, 2016, 12.

†The PLA Air Force Blue Shield exercise, held since 2002, is an annual ground-based air defense exercise focused on testing surface-to-air missile units' combat capability during live-fire confrontation drills while units are deployed. Jana Allen and Kenneth Allen, *The PLA Air Force's Four Key Training Brands*, China Aerospace Studies Institute, May 31, 2018.

‡Stride (Kuayue) is a long-distance ground force maneuver exercise that has been held six times between 2009 and 2018. Skills practiced in this exercise series have included command and control, logistics, civil-military integration, joint campaign planning, long-range firepower strike, deployment of special operational forces, urban combat, reconnaissance, information warfare, and electronic warfare. The Stride series of exercises has sought to test and evaluate combat forces and since 2014 has made use of opposing forces to increase realism. During Stride-2018 the PLA continued the theme of long-distance maneuver operations and using an opposing force to simulate combat-realistic training. Wang Zhiguo, He Zhibin, and Hu Yanhua, "Honing the Skills of Crack Troops through Hard Battles North of the Great Wall—A Direct Look at the 'Stride-2018 Zhurihe' [Kuayue-2018 Zhurihe] Real Troop Exercises," *PLA Daily*, August 16, 2018. Translation; Wu Yuanjin and Wu Keru, "The 'Stride-2017 Zhurihe' Gets to the Phase of a Real-Troop Confrontation Drill," *PLA Daily*, September 10, 2017. Translation; Li Qinghua and Wang Ting, "Stride-2016 Zhurihe' Exercise Series Begins," *Xinhua*, July 15, 2016; Zhang Jie and Shao Min, "The Curtain Goes up on the 'Stride-2016 Zhurihe' Real-Troop Confrontation Exercise Series; Five Elite Brigades under the Army Commands of the Five Major Theater Commands Will Take

- *Theater-level service training*: At the theater service level, services are conducting training to improve integration into the new command structure.<sup>46</sup> For example, the Western Theater Command Air Force has conducted training to identify and resolve operational deficiencies before holding larger joint exercises to test the new theater command structure.<sup>47</sup> Like the PLA Air Force, the PLA Navy also engages in theater-level training intended to test its capability to address maritime threats.<sup>48</sup>

## **PLA Services Modernization: Aiming to Dominate the Region**

### ***National-Level Guidance and Service Force-Building Priorities***

President Xi's instructions to the PLA were to complete a "world-class" military by mid-century, but the PLA services immediately embraced the new goal as an authoritative directive to redouble their modernization efforts. At the service level, modernization is driven by service strategy, which is shaped by national-level military requirements.<sup>49</sup> Within the PLA Army and Air Force, service modernization efforts are shaped by "new-type Army"\* and "strategic Air Force"† concepts, respectively, with the ultimate objective of becoming world-class services.<sup>50</sup> The PLA Navy's modernization effort is shaped by the 2015 defense white paper's call for China to extend its naval operations into the distant seas‡ and is bolstered by President Xi's direction for the service to become a world-class navy.<sup>51</sup>

China's military modernization is tied to Beijing's national security objectives, and is intended to prepare the PLA to meet the state's security needs by building the capability to win "informationized local wars" and "[accomplish] diversified military tasks."<sup>52</sup> The CMC's Equipment Development Department will continue to build upon the weapons development programs initiated under the General Armaments Department. The transition from the end of the 12th Five-Year Plan (2011–2015) to the 13th Five-Year Plan (2016–2020) included the

Turns Marching to the Northern Desert to Fight against the Professional 'Blue Force.'" *PLA Daily*, July 16, 2016. Translation; Wang Jiayin. "Stride 2016-Zhurihe A' Exercise Enters Position Attack Phase," *China Military Online*, July 20, 2016. Translation; Zhu Da and Hu Chunlei. "The PLA Army Trans-Regional Base Training Moves toward Normalization—The 'Stride-2014 Sanjie' Confrontation Exercise Begins," *PLA Daily*, September 9, 2014. Translation; Ji Yuan and Guo Chongde. "47th Group Army Brigade Focuses on Shortcomings in Combat Power Development: Focus on Problem Solving Hones Unit's True Fighting Ability," *PLA Daily*, October 23, 2014. Translation.

\*President Xi has discussed the need for the PLA Army to develop "new-type Army" capabilities to conduct air assault, rapid reaction, and long-distance mobility operations. Li Xuanliang and Li Huaqing, "Xi Jinping Inspects Headquarters of PLA Army on Eve of Army Day," *Xinhua*, July 27, 2016. Translation.

†The 2013 edition of *The Science of Military Strategy* indicates the "objective of the Air Force's future development is to build a modern Air Force suited to China's international position, adapted to safeguarding national security and development interests, capable of comprehensively carrying out strategic and campaign missions, and having 'air and space integration, with both attack and defense [capability]." Cristina Garafola, a policy analyst at the RAND Corporation, indicates this PLA Air Force objective "has been referred to in official state media and other sources as constituting a 'strategic air force.'" Cristina L. Garafola, "The Evolution of PLAAF Missions, Roles, and Requirements," in Joe McReynolds, ed., *China's Evolving Military Strategy*, Jamestown Foundation, April 2016, 83; Shou Xiaosong, ed., *The Science of Military Strategy*, Military Science Press, 2013, 221. Translation.

‡China's 2015 defense white paper, *China's Military Strategy*, noted China would increasingly shift from focusing exclusively on its near seas to a "combination of 'offshore waters defense' with 'open seas protection.'" China's State Council Information Office, *China's Military Strategy*, May 2015.

§The concept of "diversified military tasks," introduced in China's 2006 defense white paper, emphasizes the need for the PLA to prepare not only for traditional military missions, but also for nontraditional military operations such as military operations other than war. China's State Council Information Office, *China's National Defense in 2006*, December 2006.

fielding of multimission\* warships and replenishment ships and air force heavy-lift and surveillance aircraft, as well as improvements in China's conventional and nuclear strike capabilities.<sup>53</sup> Discussing the start of the 13th Five-Year Plan, Zhang Youxia, then chief of the CMC's Equipment Development Department, said:

*It is necessary to ... make vigorous efforts to push forward the innovation in science and technology for national defense and weaponry equipment, speed up the in-depth development of military-civilian fusion, ... [and promote] building of science and technology for national defense and weaponry equipment ... development.*<sup>54</sup>

### ***China's Pursuit of Advanced Defense Technologies***

During 2018, the PLA continued to pursue advancements across a range of next-generation defense technologies and weapons systems. As Beijing pushes to transform the PLA into a modern, informationized joint force, it is also seeking to leapfrog the United States in hypersonic weapons,<sup>†</sup> directed energy weapons,<sup>‡</sup> electromagnetic railguns,<sup>§</sup> counterspace weapons, and unmanned and artificial intelligence-equipped weapons.<sup>¶</sup> Beijing views these potentially disruptive defense technologies (yet to be fully developed and deployed by the PLA, the United States, or other leading powers) as areas in which it can exploit U.S. weaknesses such as dependence on information systems and space-based assets for precision strike, navigation, and intelligence, surveillance, and reconnaissance (ISR) operations.<sup>55</sup> China is allocating significant whole-of-country resources in its technological competition with the United States; these include robust government funding, commercial technological exchange, foreign investment and acquisitions, and talent recruitment—much for dual-use purposes.<sup>56</sup> President Xi calls this process “military-civilian fusion.”<sup>57</sup> In particular, the PLA expects artificial intelligence will lead the next revolution in military affairs from

\*The U.S. Department of Defense indicates the PLA Navy “is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multi-role combatants featuring advanced antiship, anti-air, and anti-submarine weapons and sensors.” These ships typically are capable of operating at greater ranges from the coast and able to conduct two or more warfare areas due to their improved antiship, anti-air, and anti-submarine weapons and sensors. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2018*, May 16, 2018, 28; Michael S. Chase et al., “China's Incomplete Military Transformation: Assessing the Weaknesses of the People's Liberation Army (PLA),” *RAND Corporation* (prepared for the U.S.-China Economic and Security Review Commission), 2015, 13–18.

†Hypersonic weapons are defined as (1) hypersonic glide vehicles, which are launched from a large rocket—on a relatively flat trajectory—that either never leaves the atmosphere or reenters it quickly before releasing the vehicle that glides unpowered to its target; and (2) hypersonic cruise missiles, which are powered by a supersonic combustion ramjet or “scramjet” engine that activates after the missile's release from a ground, sea, or air launcher. U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 560.

‡A directed energy weapon uses focused energy to damage or destroy a target. Examples include high-energy lasers, high-power microwave weapons, and particle beam weapons. A directed energy beam arrives at its target almost instantaneously, surpassing even the fastest-moving weapons currently fielded. U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 563.

§An electromagnetic railgun launches rounds using electromagnetic force rather than an explosive propellant. The rails are a pair of parallel conductors through which an electromagnetic current, generated from an external source, is passed, using the projectile along the rails. U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 565.

¶For more detailed coverage of China's pursuit of these advanced systems, see Tate Nurkin et al., “China's Advanced Weapons Systems,” *Jane's by IHS Markit* (prepared for the U.S.-China Economic and Security Review Commission), May 12, 2018.

informationized to “intelligentized” warfare,\* and is focusing considerable effort in this area.<sup>58</sup> If China succeeds at surpassing the United States in these emerging defense technologies, it will further enhance the PLA’s offensive capabilities and cause operational risks for the United States and its allies and partners in the Indo-Pacific.

Notable recent developments in China’s advanced military technology research and development (R&D) include:

- *Hypersonic weapons:* Michael Griffin, U.S. Under Secretary of Defense for Research and Engineering and the Department of Defense’s (DOD) chief technology officer, noted in March 2018 that over the last decade China has conducted 20 times more hypersonic missile technology tests than the United States.<sup>59</sup> In August 2018, China conducted its first “waverider” hypersonic vehicle test, which used the shock waves generated by the launch vehicle upon separation and successfully glided to its target. Chinese state-run media notably reported on the test—the first hypersonic weapon test China has publicly acknowledged.<sup>60</sup> In November 2017, the *Diplomat* reported that China conducted its first two ballistic missile tests using a hypersonic glide vehicle—the DF-17 medium-range ballistic missile—reportedly with a range between 1,800 and 2,500 kilometers (km).<sup>61</sup> The DF-17 is expected to be capable of delivering nuclear and conventional payloads and may be interchangeable with a maneuverable reentry vehicle † in place of a hypersonic glide vehicle.<sup>62</sup> Since 2014, China has reportedly conducted seven other tests using its Wu-14 (DF-ZF) hypersonic glide vehicle, with six having been successful.<sup>63</sup>
- *Counterspace weapons:* In February 2018, China successfully conducted a flight test of its first reusable hypersonic spaceplane with dual civilian and military missions, though it was reportedly a “scaled-down model.”<sup>64</sup> In theory, spaceplanes could be launched from an airport, fly in near space (roughly 12 to 60 miles in altitude), circumnavigate the globe in a matter of hours out of reach of traditional air defenses, and potentially threaten U.S. space assets.<sup>65</sup> China’s Institute of Mechanics at the Chinese Academy of Sciences indicated plans were in place to build a factory in Hefei for the commercial production of scramjets to be used for hypersonic missiles and spaceplanes.<sup>66</sup> The United States reportedly plans to conduct a flight test for a similar spaceplane in 2020.<sup>67</sup>

\*“Intelligentized” warfare refers to leveraging artificial intelligence and its various applications in combat. According to Liu Guozhi, director of the Science and Technology Commission under China’s CMC, “Artificial intelligence will speed up the process of military transformation, and it will bring about changes to force organization, operation modes, equipment systems, combat effectiveness models, etc.” *China National Radio Military*, “Lieutenant General Liu Guozhi, Deputy to the NPC and Director of the Science and Technology Commission at the Central Military Commission: Artificial Intelligence Will Accelerate the Process of Military Transformation,” March 7, 2017. Translation.

†A maneuverable reentry vehicle (MaRV) is a ballistic missile reentry vehicle that is capable of maneuvering after reentering Earth’s atmosphere, in contrast to a standard reentry vehicle, which continues on its trajectory without any course correction capability. MaRVs can be more difficult to intercept and therefore better able to penetrate adversary missile defenses. They also offer greater potential than standard reentry vehicles for striking moving targets, if configured to do so. Lauren Caston et al., “The Future of the U.S. Intercontinental Ballistic Missile Force,” *RAND Corporation*, 2014, 67–69; U.S. Department of Defense, *Ballistic Missile Defense Glossary Version 3.0*, June 1997, 168.

- *Unmanned vehicles*: China is continuing R&D efforts in autonomous and swarming unmanned systems. In May 2018, China demonstrated a record-breaking formation of 1,374 rotary-wing unmanned aerial vehicles in Xi'an.<sup>68</sup> In another test in May 2018, China demonstrated an unmanned swarm of 56 small, unarmed boats in the South China Sea.<sup>69</sup> The test followed China's announced plans for the world's largest facility for unmanned ship research, covering 225 square nautical miles near Macau.<sup>70</sup>
- *Electromagnetic railguns*: Images surfaced on the internet in late January 2018 depicting a railgun mounted on the bow of a Type 072III-class tank landing ship, purportedly for a sea trial of the weapon system.<sup>71</sup> According to the PLA Naval University of Engineering research fellow who led the project, the breakthrough occurred after over 50,000 tests and "hundreds of failures," confirming the railgun test.<sup>72</sup>

In the near term, China's defense technology push is already challenging the United States' longstanding technological superiority. According to former and current U.S. defense officials, China is quickly catching up to the United States in some areas, while leading in others.<sup>73</sup> In June 2018, Vice Chairman of the Joint Chiefs of Staff and U.S. Air Force General Paul Selva assessed the United States had fallen behind China in hypersonic weapons and electronic warfare, and former Deputy Defense Secretary Robert O. Work (2014–2017) called the U.S.-China race in artificial intelligence "too close to call."<sup>74</sup> According to a *Jane's by IHS Markit* report contracted for the Commission in May 2018, China's pursuit of advanced weapons systems occupies the linked domains of space and missile defense "that are central to [U.S.] military dominance, potentially 'discounting not only the U.S. military advantage, but also the way Americans prepare for and fight wars.'"<sup>75</sup> China's rapid development and upgrading of advanced weapons systems that bolster its offensive military capabilities, along with its transition to an integrated joint command structure emphasizing networked, precision strike capabilities, poses considerable challenges to the U.S. lead in defense technology and military superiority in the Indo-Pacific over the long term.<sup>76</sup> DOD officials and U.S. security analysts in recent years have emphasized the challenge presented by China and the need to protect the U.S. edge in defense technology.<sup>77</sup>

### **Emphasis on "Military-Civilian Fusion" as a Resource Multiplier**

"Military-civilian fusion" is a concept designed to remove longstanding barriers in China's defense science and technology sector by facilitating cooperation across civilian and defense resources to help develop China's military capabilities and support economic growth.<sup>78</sup> Although Chinese leaders have promoted civil-military integration in the past, President Xi in late 2013 elevated the military-civilian fusion concept to a national strategy and expanded it beyond the defense industry to include all areas of the economy.<sup>79</sup> The 13th Five-Year Plan (2016–2020) reaffirmed

### **Emphasis on “Military-Civilian Fusion” as a Resource Multiplier—Continued**

the strategy, stating that the Chinese government seeks to “encourage the flow of factors such as technology, personnel, capital, and information between the economic and defense sectors” and strengthen the “coordination between the military and civilian sectors in the sharing of advanced technologies, industries, products, and infrastructure.”<sup>80</sup> Military-civilian fusion also will help China mobilize for war or disaster relief. In January 2017, the CCP created the Central Commission for Integrated Military and Civilian Development to deepen this coordination.<sup>81</sup> Since its formation, President Xi—who heads the commission—has convened three meetings, during which the commission approved implementation of military-civilian fusion in various national guidelines and plans, including demonstration zones, military logistics, and the defense, science, technology, and industry sectors.<sup>82</sup>

China’s pursuit of its military-civilian fusion strategy poses important economic and national security implications for the United States. Close integration between Chinese civilian and military entities raises concerns that technology, expertise, and intellectual property shared between U.S. firms and Chinese commercial partners could be transferred to the PLA and help enhance military capabilities.<sup>83</sup> For cutting-edge sectors such as artificial intelligence, robotics, and biotechnology, commercial entities rather than the military are increasingly driving global R&D breakthroughs, making access to the most advanced technologies harder for the U.S. export control regime to protect.<sup>84</sup> Further, China’s drive to use military-civilian fusion to advance indigenous innovation within its defense R&D sector could result in leapfrogging the United States in certain areas, such as artificial intelligence, which would close the technological gap.<sup>85</sup>

### ***Navy Reorganization and Modernization: Challenging U.S. Naval Dominance in the Indo-Pacific***

China’s 2015 defense white paper, *China’s Military Strategy*, elevated the maritime domain in China’s strategic thinking, asserting “[China’s] traditional mentality that land outweighs sea must be abandoned.”<sup>86</sup> It noted China would increasingly shift from focusing exclusively on its near seas to a “combination of ‘offshore waters defense’ with ‘open seas protection.’”<sup>87</sup> President Xi reaffirmed this shift while inspecting PLA Navy headquarters in May 2017, when he reiterated the need to build a strong, modern navy to “fulfill the Chinese Dream and the strong military dream” and quicken the process of modernization to build a “world-class first-rate strategic service.”<sup>88</sup> As China continues its rapid buildup of the PLA Navy, it will result in a blue water force projection capability as early as 2025, well ahead of the larger PLA modernization mandate to be completed by 2035.<sup>89</sup>

In a mid-2013 speech to the CCP Politburo, President Xi declared China to be a “great maritime power” and claimed the

country's success in implementing this vision would bear directly on the "great rejuvenation of the Chinese nation."<sup>90</sup> Today, China's naval modernization efforts are intended to enhance the PLA Navy's capability to engage adversaries farther from its coast and defeat technologically superior adversaries such as the United States, presenting a fundamental challenge to the United States' longstanding maritime dominance in the Western Pacific.<sup>91</sup> Dr. James Holmes, J. C. Wylie Chair of Maritime Strategy at the U.S. Naval War College, testified to the Commission in February 2018 that China "has approached sea power in a patient, methodical, sequential manner" that has resulted in a PLA Navy—along with supporting long-range, land-based missiles—able to outrange the U.S. Navy and potentially put U.S. naval forces in the region at a numbers disadvantage.<sup>92</sup>

According to Dr. Holmes, in a potential conflict scenario China's increasing naval capabilities—led by its surface combatants equipped with advanced systems, including phased-array radar and long-range antiship cruise missiles—are "progressively eroding or nullifying altogether some of the U.S. Navy's tactical advantages."<sup>93</sup> The ranges of antiship cruise missiles on PLA Navy ships are often greater than those of U.S. ships, giving China the ability to keep U.S. forces at bay even if Chinese ships are inferior on a ship-to-ship basis.<sup>94</sup> In short, Dr. Holmes concludes, the "U.S. Navy's surface battle capacity has fallen behind the times," driving home his point that:

*Long-held assumptions about American naval superiority are coming under mounting duress as the Chinese navy continues transforming itself into an oceangoing force. There is no reason to suppose China will fare more poorly than past maritime competitors as it takes to the sea. Hubris makes a slipshod guide to maritime strategy. Americans and their Asian allies must refuse to yield to overweening pride—lest pride presage a fall.*<sup>95</sup>

In his testimony before the House Armed Services Committee in February 2018, Admiral Harry Harris—then Commander of U.S. Pacific Command\*—provided an example of how China's growing maritime capabilities are already challenging U.S. presence in the region. Admiral Harris stated:

*Across the South China Sea, China's air force, navy, coast guard, and maritime militia all maintain a robust presence. Routine patrols and exercises ensure Chinese forces are in and around all the features, not just the ones they occupy. China routinely challenges the presence of non-Chinese forces, including other claimant nations and especially the U.S., often overstating its authority and insisting foreign forces either stay away or obtain Chinese permission to operate.*<sup>96</sup>

\*U.S. Defense Secretary James N. Mattis announced during the U.S. Pacific Command change-of-command ceremony on May 30, 2018, where Admiral Philip S. Davidson relieved Admiral Harry B. Harris, Jr., that DOD would rename the combatant command the U.S. Indo-Pacific Command. Jim Garamone, "Pacific Command Change Highlights Growing Importance of Indian Ocean Area," *DoD News*, May 30, 2018.

The China Coast Guard and People's Armed Forces Maritime Militia have both expanded in number and quality in recent years, further increasing the challenges faced by the United States and China's neighbors operating in the region. According to DOD, since 2010 the China Coast Guard's fleet of large ships (over 1,000 tons) has doubled from around 60 to more than 130 ships, making it the largest in the world and allowing it to operate concurrently in multiple disputed areas. Its latest ships have more capabilities, including helicopter docks, larger guns and water cannons, and improved endurance. The maritime militia comprises civilian fishing boats and other ships trained, directed, and equipped by the PLA. It has also built larger, more capable ships equipped with water cannons and reinforced hulls. Together with the PLA Navy, the China Coast Guard and maritime militia greatly outnumber the maritime forces of China's neighbors.<sup>97</sup>

### **PLA Navy Marine Corps Expanding**

Before the reorganization of the PLA Navy Marine Corps (PLA Marines), the marine force consisted of two brigades based in the PLA Navy's South Sea Fleet. In 2017, the PLA Army appears to have transferred at least one army brigade to the PLA Marines, and the PLA Marines established a PLA Marine brigade in the Northern Theater Command's North Sea Fleet.<sup>98</sup> According to DOD, by 2020 the PLA Marines will grow to seven brigades and its mission will expand to overseas expeditionary operations.<sup>99</sup> Admiral Harris testified before Congress in February 2018 that the "expansion of the [PLA Navy] Marines continues as well, as the force [has] grown from two brigades to possibly eight, with two brigades each allocated to most of the Theater Commands."<sup>100</sup> Admiral Harris went on to state that since late summer 2017, PLA marines have been stationed at the PLA's first overseas base in Djibouti.<sup>101</sup> China, however, has not officially announced the intended strength for this force by 2020, when the restructuring is complete.

The missions of the PLA Marines are also expanding. While the PLA Marines have traditionally been responsible for taking and holding Taiwan's offshore islands and islands and reefs in the East and South China seas as their primary mission,<sup>102</sup> it is now being described as a "new-type combat force" capable of operating from land, air, and sea and conducting operations in maritime, urban, jungle, tropical, desert, and cold environments.<sup>103</sup> These environments have been reflected in PLA Marine transregional training since 2014.<sup>104</sup> Based on the stated intent to expand the PLA Marines as part of the overall PLA restructuring, coupled with the expansion of training environments, it is likely the PLA will use this force not only for amphibious assault missions, but also as a rapid reaction force capable of operating in all conditions and environments supporting a range of operations.

Figure 4: First and Second Island Chains



Source: U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, May 2012, 40.

### *Missions*

The PLA Navy is tasked with defending China's maritime interests, including protecting Chinese sovereignty in territorial seas and safeguarding the maritime rights and interests along China's maritime periphery.<sup>105</sup> Furthermore, the PLA Navy conducts presence patrols to safeguard China's sea lines of communication, prevent invasion of the Mainland from the sea, and carry out nuclear deterrence.<sup>106</sup> According to the 2015 edition of *The Science of Military Strategy*, these missions conducted in the near and far seas, as well as antiaccess tasks, reflect a service "composed of multiple layers and multiple branches" that shapes China's naval force-building program.<sup>107</sup>

### Training

The PLA Navy is focusing on combat-realistic military training by operating in a complex electromagnetic environment, conducting real-troop confrontation exercises, and participating in transregional joint exercises.<sup>108</sup> These types of training events are intended to improve the PLA Navy's ability to operate in the type of contested environment it may face in a future conflict.

### Force-Building Priorities

The PLA Navy's priority is to develop aircraft carriers and modernize its submarine force, multimission surface forces (capable of anti-air, anti-surface, and anti-submarine warfare), and amphibious ships for expeditionary, amphibious assault, disaster relief, and antipiracy operations.<sup>109</sup> Beijing seeks to complement these naval priorities with more robust capabilities for its other armed maritime forces (which have also increased substantially in quantity) to defend its sovereignty claims. See Table 1 for an overview of PLA Navy equipment under development or nearing entry into service.

**Table 1: Select Advanced PLA Navy Systems Entering Service and under Development**

Equipment	Mission Area	Estimated Service Entry	Implications
Type 055 REN-HAI-class cruiser	Anti-Air Warfare (AAW); Anti-Surface Warfare (ASUW); Anti-Submarine Warfare (ASW)	2018–2019	China has produced four Type 055 cruisers that are undergoing sea trials. The cruisers reportedly will be equipped with phased-array radars and a multipurpose vertical launch system for surface-to-air antiship cruise missiles and anti-submarine missiles. They will increase China's anti-surface, force projection, and expeditionary capabilities.
CV-17, Type 001A aircraft carrier	AAW; ASW	2019–2020	Slightly larger than its first aircraft carrier, <i>Liaoning</i> , and expected to accommodate up to eight more aircraft than <i>Liaoning's</i> 36, CV-17 will boost China's ability to project force.

**Table 1: Select Advanced PLA Navy Systems Entering Service and under Development—Continued**

<b>Equipment</b>	<b>Mission Area</b>	<b>Estimated Service Entry</b>	<b>Implications</b>
J-31 (FC-31) fifth-generation stealth fighter	Air Superiority	2022	The J-31 (and its export variant, the FC-31) will be equipped with modern systems and stealth features that could rival the U.S. F-35 fighter and challenge U.S. aircraft in the Western Pacific. Some Chinese commentators have speculated that China could use the fighters for carrier operations.
Type 075 landing helicopter dock	Transport; Amphibious Assault; Humanitarian Assistance and Disaster Relief (HA/DR)	2020	The Type 075 will reportedly be larger than China's YUZHAO-class amphibious transport dock and have a greater capacity to carry helicopters, providing the PLA increased expeditionary capability.
Type 096 nuclear-powered ballistic missile submarine (SSBN)	Deterrence	Early 2020s (construction)	Complementing China's four JIN-class nuclear-powered ballistic missile submarines (comprising China's sea-based second strike capability) will be the next-generation Type 096. According to DOD, it may be armed with the JL-3 submarine-launched ballistic missile, which will be capable of striking the continental United States from China's periphery.
Type 093B SHANG-class guided-missile nuclear attack submarine (SSGN)	ASUW; A2/AD; Strike	2020–2030 (construction)	According to DOD, the Type 093B SSGN submarine will improve the PLA Navy's anti-surface warfare capability and "might also provide [the PLA Navy a] more clandestine land-attack option."

**Table 1: Select Advanced PLA Navy Systems Entering Service and under Development—Continued**

<b>Equipment</b>	<b>Mission Area</b>	<b>Estimated Service Entry</b>	<b>Implications</b>
Railgun mounted on Type 072 III-class tank landing ship	ASUW	Unknown	In January 2018, images appeared on Chinese social media appearing to show a prototype electromagnetic railgun mounted on a Type 072 tank landing ship. When a railgun is in service on Chinese ships, it will increase the PLA's anti-surface warfare capabilities with the ability to fire projectiles at high speeds and low costs compared to missiles.
Heavy-lift helicopter (joint China-Russia production)	Transport; HA/DR; ASW	2023	When this helicopter enters service, it will provide the PLA with a heavy-lift capability with a longer range and more lift capacity than current helicopters. For the PLA Navy, it could eventually operate from the Type 075 helicopter landing dock, Type 055 destroyer, and aircraft carriers.
AG-600 seaplane	Transport; HA/DR; Search and Rescue; ASW; Maritime Surveillance	2022	With a reported maximum payload of 60 tons, the AG-600 is the world's largest seaplane. It will increase China's ability to resupply the land features it controls in the South China Sea and boost its ability to conduct military operations other than war.

Source: Various.<sup>110</sup>

### ***Air Force Reorganization and Modernization: Seeking Air Superiority***

In 2017, President Xi stressed the need to “accelerate the construction of a powerful people’s air force that integrates air and space and is simultaneously prepared for offensive and defensive

operations.”<sup>111</sup> The 2013 edition of *The Science of Military Strategy* defines PLA Air Force modernization objectives as needing to “build a modern Air Force suited to China’s international position, adapted to safeguarding national security and development interests, capable of ... carrying out strategic and campaign missions, and having ... both attack and defense [capabilities].”<sup>112</sup>

The PLA Air Force is making progress through its modernization efforts and degrading U.S. air superiority around China’s periphery. According to Brendan Mulvaney, director of the China Aerospace Studies Institute, “No longer can the [United States] and its allies plan for and count on being able to achieve air superiority, much less air superiority as rapidly as we do now.”<sup>113</sup> The PLA Air Force and PLA Navy Aviation’s modernization goals to enhance China’s offensive and defensive capabilities farther from its coast are contributing to an increasingly contested regional air domain. The air force’s prioritization of modern fighter jets, strike aircraft, and surface-to-air missile systems with extended ranges, along with improved aerial refueling and strategic lift capabilities that can support operations beyond China’s immediate periphery, all contribute to this trend.<sup>114</sup> Since 2015, PLA Air Force and PLA Navy Aviation long-distance over-water training has become more frequent, featured a greater variety of aircraft, and expanded in geographic scope (for more information on the PLA’s over-water training, see Chapter 2, Section 1, “Year in Review: Security and Foreign Affairs”).<sup>115</sup>

### *Missions*

The PLA Air Force is tasked with conducting “offensive and defensive operations” against challenges emanating from Taiwan (China’s “main strategic direction”),\* performing homeland air defense, safeguarding China’s maritime rights and interests, and maintaining domestic stability.<sup>116</sup> The PLA Air Force is likewise expected to execute missions in addition to defending China’s airspace, to include conducting offensive operations against potential adversaries beyond the first island chain.<sup>117</sup> Furthermore, China is extending the range within which it can interdict foreign forces operating through much of the Western Pacific through the development of long-range land attack cruise missiles capable of striking Guam from PLA Air Force H-6K bombers (see Figure 4).<sup>118</sup>

### *Training*

The PLA Air Force continues to conduct training and exercises intended to gauge its progression in conducting new missions and support cross-theater operations associated with the PLA’s transformation.<sup>119</sup> The training objectives focus on improving the air force’s offensive and defensive air capabilities, enhancing realistic combat training, improving joint training, and training over distant seas to move the force closer to achieving the goal of building a world-class air force.<sup>120</sup>

\*While Taiwan is the main strategic direction for the PLA, China’s 2015 defense white paper calls for the PLA to prepare for crises in multiple domains and geographic regions. Xiao Tianliang, ed., *The Science of Military Strategy*, National Defense University Press, 2015, 375. Translation; China’s State Council Information Office, *China’s Military Strategy*, May 2015.

### *Force-Building Priorities*

The PLA Air Force continues to build and procure long-range surface-to-air missiles, field fourth-generation aircraft, develop fifth-generation fighters, construct long-range bombers—to include a new strategic bomber expected around 2025—and deploy new heavy-lift aircraft.<sup>121</sup> The PLA Air Force’s continuing development, acquisition, and deployment of increasingly advanced aircraft are furthering its ability to project force into the Western Pacific and challenge what the PLA terms “powerful enemies,” such as the United States.<sup>122</sup> See Table 2 for an overview of PLA Air Force equipment under development or nearing entry into service.

**Table 2: Select Advanced PLA Air Force Systems Entering Service and under Development**

<b>Equipment</b>	<b>Mission Area</b>	<b>Estimated Service Entry</b>	<b>Implications</b>
J-20 fifth-generation fighter	Air Superiority	2017	Having officially entered service in September 2017, the J-20 is China’s most advanced indigenously produced fighter, with similar capabilities as the J-31 in terms of stealth features and advanced radar. The J-20 will pose challenges to U.S. aircraft in the Western Pacific.
Su-35 4.5-generation fighter	Air Superiority	2017–2018	Purchased from Russia (24 in total, receiving the last batch of 10 by the end of 2018), the Su-35 provides the PLA improved counter-air and strike capabilities with its advanced avionics and radar. It will boost the PLA’s ability to conduct air operations in the Western Pacific.
J-31 (FC-31) fifth-generation stealth fighter	Air Superiority	2022	The J-31 (and its export variant, the FC-31) will be equipped with modern systems and stealth features that could rival the U.S. F-35 fighter and challenge U.S. aircraft in the Western Pacific. Some Chinese commentators have speculated that China could use the fighters for carrier operations.

**Table 2: Select Advanced PLA Air Force Systems Entering Service and under Development—Continued**

<b>Equipment</b>	<b>Mission Area</b>	<b>Estimated Service Entry</b>	<b>Implications</b>
H-20 long-range stealth bomber	Strike; Nuclear Deterrence; A2/AD	2025	China's next-generation bomber will integrate fifth-generation technologies and be capable of carrying nuclear weapons, according to DOD. Replacing the H-6, the H-20 will have an increased range of at least 5,000 miles (mi), boosting China's ability to operate farther from its shores and putting Hawaii at risk.
Y-20 strategic heavy-lift aircraft	Transport	2016	The Y-20 reportedly has a maximum payload of 66 tons, and is in the same category as the Russian IL-76 and U.S. C-17. As China produces more of these aircraft, they will extend the PLA's expeditionary capabilities.
AN-225 strategic heavy-lift aircraft	Transport	2019–2020	As part of a China-Ukraine agreement, a Ukrainian aircraft firm is restarting production on the AN-225 and transferring the technology to China. As the largest transport aircraft in the world, the AN-225 has a maximum payload of 280 tons. It will be the PLA's largest strategic lift aircraft, increasing its expeditionary capabilities.

**Table 2: Select Advanced PLA Air Force Systems Entering Service and under Development—Continued**

Equipment	Mission Area	Estimated Service Entry	Implications
S-400 surface-to-air missile (SAM) system	Air Defense; A2/AD	2018	Receiving its first regiment of S-400 SAM systems in April 2018 from Russia, China reportedly will receive four to six battalions as part of a 2014 deal. The S-400's 250-mi range expands China's air coverage over the South China Sea and Taiwan if deployed near either area.
HQ-19 SAM system	Air Defense; A2/AD; Ballistic Missile Defense	Unknown	DOD assesses the HQ-19 "may fill the mid-tier of China's [ballistic missile defense] network," and testing so far has focused on intercepting 3,000 km-ranged ballistic missiles. This system will increase China's ability to challenge an adversary's attempt to control airspace or conduct strike operations in China's periphery.

Source: Various.<sup>123</sup>

### ***Army Reorganization and Modernization: Developing a Deployable Force***

While the PLA Army has undergone significant restructuring and has experienced strength reductions under the ongoing reorganization effort, the ground forces remain critical to many PLA missions such as defending China's borders, spearheading an invasion of Taiwan and its offshore islands, and conducting expeditionary operations. PLA Army modernization is focused on creating a smaller, more mobile, and modular force suited for offensive and defensive operations, as well as increasing deployments abroad.<sup>124</sup> Developing modular forces requires improving and increasing network-centric, special operations, helicopter, electronic warfare, light mechanized, and long-range artillery unit capabilities.<sup>125</sup> Ben Lowsen, a former U.S. Army assistant attaché in China, testified before the Commission in February 2018 that this development "marks a fundamental change to the [PLA Army's] former operating concept of 'winning [informationized] local wars,' implying the capacity to fight battles of a greater scale, more geographically dispersed, and more technically oriented than the small-scale, localized skirmishes previously envisioned."<sup>126</sup> Therefore, the PLA Army's development of these capabilities would not only support missions along China's land borders and maritime periphery,<sup>127</sup> but would also enhance the PLA's ability to conduct expeditionary operations beyond China's territorial boundaries.<sup>128</sup>

### **PLA Army: Example of Major Service Structure Change**

The PLA Army experienced the greatest structural change of the reorganization. Before establishing the PLA Army service headquarters, the leadership for the ground force had been integrated into the PLA's four general departments.<sup>129</sup> This change means that for the first time the PLA Army is now aligned with the other PLA services in assuming responsibility for managing and equipping its force. Furthermore, while establishing a PLA Army headquarters is not revolutionary, it does signify that the CMC sees a need for an army that has its own missions and command as part of a joint structure.

Another significant development for the PLA Army was the disbanding of five group armies—reducing the number of group armies from 18 to 13—and a reorganization of the group army structure in April 2017.<sup>130</sup> PLA troops and newer equipment from disbanded group armies were transferred to the group armies that remained intact, while older equipment and other units were decommissioned or retired from the PLA.<sup>131</sup> Furthermore, some group armies transferred PLA Army units to other services, such as the 77th Motorized Infantry Brigade, which moved to the PLA Navy Marine Corps in 2017.<sup>132</sup>

### *Missions*

PLA Army missions include traditional missions such as conducting amphibious island landing operations and border defense, in addition to defending strategic locations and land corridors that pose security challenges for Beijing.<sup>133</sup> The PLA also has been the last resort to restore order in case of serious unrest in China, and has been the main force provider to respond to serious national disasters.<sup>134</sup> PLA Army amphibious operations capabilities are a means for China to deter Taiwan from pursuing independence or to ultimately compel its unification, as well as to protect “maritime sovereignty” if China’s neighbors encroach on Chinese territorial claims in the East or South China seas.<sup>135</sup> Offensive ground operations conducted by the PLA Army would counter any incursions into Chinese territory during a Korean Peninsula or India contingency (or other contingences in far western China), as well as provide China the ability to extend operations across a border for other political purposes, such as intervening in an external crisis.\*<sup>136</sup> The new requirement to protect strategic overland passages and energy routes suggests the PLA Army is exploring missions associated with the Belt and Road Initiative and counterterrorism operations.<sup>137</sup> The PLA Army also conducts a range of military activities abroad, such as humanitarian assistance/disaster relief (HA/DR) and peacekeeping operations, providing experience that supports operations in peacetime and war.

\*China used a border dispute with Vietnam in 1979 as a pretext for the PLA to conduct an incursion across the border with the intention of “teaching Vietnam a lesson,” changing Vietnam’s policy of intervention in Cambodia and preventing Vietnam from dominating its neighbors. Henry J. Kenny, “Vietnamese Perceptions of the 1979 Vietnam War with China,” in Mark A. Ryan, David M. Finkelstein, and Michael A. McDevitt, eds., *Chinese Warfighting: The PLA Experience since 1949*, Routledge, 2003, 218.

### Training

The PLA Army continued to conduct exercises and training intended to reinforce reorganization efforts at the theater level.<sup>138</sup> To carry out President Xi's training guidance to focus on "combat-realistic training," the PLA Army conducted transregional, joint theater, and theater service training in 2018.<sup>139</sup> These types of training events were used to identify problems at the brigade level and develop solutions for addressing deficiencies.<sup>140</sup>

### Force-Building Priorities

PLA Army modernization is focused on army aviation, artillery systems, armored vehicles, and air defense systems.<sup>141</sup> See Table 3 for an overview of key PLA Army equipment under development or nearing entry into service.

**Table 3: Select Advanced PLA Army Systems Entering Service and under Development**

Equipment	Mission Area	Estimated Service Entry	Implications
Z-20 medium-lift helicopter	Transport	2018–2019	The Z-20 will provide the PLA Army and PLA Navy aviation added flexibility in conducting missions at a greater range, and will increase the PLA's expeditionary capabilities.
ZTQ-15 light battle tank	Homeland and border defense; amphibious warfare	2017	This tank is designed to operate in mountainous and high-altitude environments, which would help support PLA operations in China's western border region. <i>IHS Jane's</i> reported that an image appeared on the Chinese internet in July 2018 showing the tank painted in PLA Marine Corps camouflage, suggesting it could support amphibious operations.
Heavy-lift helicopter (joint China-Russia production)	Transport	2023	When this helicopter enters service, it will provide the PLA with a heavy-lift capability with a longer range and more lift capacity than current helicopters.

Source: Various.<sup>142</sup>

### ***Rocket Force Reorganization and Modernization: Putting U.S. Bases and Surface Ships Increasingly at Risk***

The PLA Rocket Force provides China with land-based conventional and nuclear strike capabilities.<sup>143</sup> President Xi described the PLA Rocket Force as the “core of strategic deterrence, a buttress to the country’s position as a major power, and an important aspect of national security.”<sup>144</sup> The PLA Rocket Force modernization program is focused on improving China’s conventional and nuclear forces to enhance long-range strike and deterrence capabilities,<sup>145</sup> as well as increasing the reliability and effectiveness of both conventional and nuclear missile systems.<sup>146</sup>

China’s growing ballistic and cruise missile inventory is within range of and can target U.S. bases and surface ships, including aircraft carriers, throughout the Western Pacific.<sup>147</sup> The PLA Rocket Force’s focus on further developing China’s long-range strike and deterrence capabilities through improving its conventional and nuclear missile systems is targeted to satisfy the PLA’s broader goal to complicate U.S. presence in the region during peacetime, and deter, degrade, or defeat the entry of U.S. forces in a regional military conflict.<sup>148</sup> With the Rocket Force’s April 2018 announcement that it had deployed its DF-26 intermediate-range ballistic missile (capable of carrying conventional and nuclear warheads), China bolstered its conventional capability of reaching U.S. bases on Guam, which would likely be called upon in an Asia contingency.<sup>149</sup> According to Michael S. Chase, senior political scientist at the RAND Corporation, “China’s conventional missile force capabilities could also present serious challenges to U.S. forces in the region if the United States intervened militarily in a conflict involving China.”<sup>150</sup> The continued modernization of these capabilities could hold at risk more U.S. surface ships and other assets at greater distances from China’s coast.<sup>151</sup> Furthermore, the development of the DF-41 ICBM with its multiple independently targetable reentry vehicle (MIRV)-capable warhead and ability to carry hypersonic glide vehicles significantly increases the rocket force’s nuclear threat to the U.S. mainland.<sup>152</sup>

#### ***Missions***

The PLA Rocket Force has both nuclear deterrence and conventional strike missions. Nuclear deterrence is considered the force’s foundational mission and central to deterring or containing large-scale conflicts.<sup>153</sup> China seeks to maintain nuclear forces capable of a retaliatory strike that inflicts unacceptable damage\* on an opponent in the event of a nuclear attack.<sup>154</sup> Should deterrence fail, the force is tasked with conducting nuclear counterstrike operations.<sup>155</sup> In addition to nu-

\*The 2001 edition of *The Science of Military Strategy* lays out three gradations of nuclear deterrence that are still in use today. The first gradation is “maximum nuclear deterrence,” where a country has sufficient nuclear force to threaten an opponent with a first strike capable of disarming the opponent, thereby deterring an opponent from initiating a nuclear strike. The second gradation is “minimum nuclear deterrence,” where a country relies on a small arsenal capable of holding an opponent’s cities at risk to deter an attack. The third gradation is “deterrence of moderate intensity,” where a country relies on a “sufficient and effective” nuclear force capable of threatening an opponent with “unbearable destruction.” The 2001 edition of *The Science of Military Strategy* indicates “deterrence of moderate intensity” falls between “maximum nuclear deterrence” and “minimum nuclear deterrence” in intensity. Of these three nuclear posture options, “deterrence of moderate intensity” most closely aligns with China’s desire to maintain nuclear forces capable of assured retaliation. Peng Guangqian and Yao Youzhi, eds., *The Science of Military Strategy*, Military Science Press, 2005, 218. (PLA’s Academy of Military Science English translation of the 2001 edition of *The Science of Military Strategy*.)

clear deterrence, the PLA Rocket Force is tasked with a conventional precision strike mission.<sup>156</sup> Dr. Chase asserts, “PLA strategists believe conventional ballistic and cruise missiles could serve as a powerful instrument of coercive diplomacy in addition to the important role they would play in ... PLA joint campaigns.”<sup>157</sup> Enhancing conventional capabilities could improve China’s ability to hold adversary assets at risk—particularly fixed bases,<sup>158</sup> key nodes, and large ships—at greater distances from China’s coastline.<sup>159</sup>

### *Training*

In 2018, the PLA Rocket Force conducted service training and exercises in support of deterrence, long-range strike, transregional operations, and joint theater operations.<sup>160</sup> Rocket force training, in addition to missile units exercising under combat-realistic conditions, worked on connecting missile units with theater command information systems in support of joint operations.<sup>161</sup> Rocket force training has exposed some areas where missile units need to improve, such as emergency repair capabilities and logistical support to deployed forces.<sup>162</sup>

### *Force-Building Priorities*

In 2016, the PLA Rocket Force implemented long-term modernization plans to enhance its strategic deterrence capability.<sup>163</sup> The service is developing and testing several new variants of missiles, forming additional missile units, retiring or upgrading older missile systems, and developing methods to counter ballistic missile defenses.<sup>164</sup> The Equipment Department of the PLA Rocket Force manages its force modernization priorities, which include enhancing nuclear counterattack and improving conventional long-range precision strike capabilities.<sup>165</sup> See Table 4 for an overview of PLA Rocket Force equipment under development or nearing entry into service.

**Table 4: Select Advanced PLA Rocket Force Systems Entering Service and under Development**

<b>Equipment</b>	<b>Mission Area</b>	<b>Estimated Service Entry</b>	<b>Implications</b>
DF-41 intercontinental ballistic missile (ICBM)	Deterrence, Assured Retaliation	2018	The DF-41 will be China’s first MIRV-capable, road-mobile ICBM. The solid-fuel missile will enhance China’s deterrence capabilities.
DF-17 medium-range ballistic missile (MRBM) with Wu-14 (DF-ZF) hypersonic glide vehicle	Strike, Deterrence; A2/AD	2020	The DF-17 is reportedly designed for use with a hypersonic glide vehicle (tested with the Wu-14 [DF-ZF]) and capable of delivering both conventional and nuclear payloads. Its range reportedly falls between 1,800 and 2,500 km. This system will pose challenges to U.S. and allied missile defense systems.

**Table 4: Select Advanced PLA Rocket Force Systems Entering Service and under Development—Continued**

Equipment	Mission Area	Estimated Service Entry	Implications
CH-AS-X-13 nuclear-capable air-launched ballistic missile	Strike; Deterrence	2025	According to DOD, China is developing “two new air-launched ballistic missiles, one of which may include a nuclear payload.” The nuclear-capable version is reportedly a two-stage, solid-fueled ballistic missile with a range of 3,000 km, intended for use with a modified H-6N bomber that has a 6,000-km combat radius. This missile will bolster China’s deterrence capabilities.

Source: Various.<sup>166</sup>

### ***Strategic Support Force: Contesting U.S. Information Dominance***

The PLA Strategic Support Force (SSF) was created to oversee PLA space and cyber capabilities and directly conduct operations in those domains.<sup>167</sup> The SSF absorbed departments that resided under the General Staff Department prior to the PLA’s restructuring, including elements from the First Department (operations), Second Department (intelligence), Third Department (technical reconnaissance), and Fourth Department (radars and electronic countermeasures).<sup>168</sup> This composition suggests the force is responsible for space warfare and surveillance, cyber warfare, signals intelligence, and electronic warfare capability at the strategic level of war.<sup>169</sup> These capabilities provide the SSF the ability to conduct operations directly in the space and cyber domains, conduct operations to deny an adversary’s use of the electromagnetic spectrum, and support operations conducted by other forces through those domains. Admiral Harris testified before Congress in April 2017 that the establishment of the SSF “is a potential game-changer if it succeeds in denying other countries the use of space, the electromagnetic spectrum, and networks.”<sup>170</sup>

The SSF poses challenges for U.S. control over the electromagnetic spectrum, placing at risk U.S. command, control, communications, computers, and intelligence, surveillance, and reconnaissance (C4ISR) systems critical for military operations, including satellites, radars, and computer networks.<sup>171</sup> According to a March 2017 Defense Science Board study, “Advances and proliferation in advanced electronic warfare, kinetic, space, and cyber capabilities threaten [the United States’] ability to maintain information superiority.”<sup>172</sup> The study notes that electronic threats against U.S. satellite communication are rapidly increasing, and that jamming can render most U.S. defense satellites inoperable, which “should be considered a crisis to be dealt with immediately.”<sup>173</sup>

### *Missions*

As noted, the SSF will use space, cyberspace, and the electromagnetic spectrum as its primary warfighting domains, while also enabling PLA warfighting by other forces through the use of those domains to achieve the PLA's operational objectives.<sup>174</sup> The force's ability to provide space-based intelligence support and battlefield assessments helps theater commands by establishing a common intelligence picture for joint forces, which John Costello, New America Cybersecurity Policy Fellow and the Executive Director of the China Cyber and Intelligence Studies Institute, contends is needed to “fulfill the PLA's mission of winning ‘[informationized] local wars.’”<sup>175</sup> Furthermore, the SSF may also play a role in the conduct of both information and legal warfare.<sup>176</sup>

- *Space and aerospace mission:* The SSF's Space Systems Department is responsible for PLA space operations, including: space launch and support; telemetry, tracking, and control; space attack and defense; and ISR operations.<sup>177</sup>
- *Cyber mission:* The SSF's cyber forces fall under the Network Systems Department, which is responsible for computer network exploitation, cyber surveillance, computer network attack, and computer network defense missions.<sup>178</sup> This combination of capabilities, Mr. Costello suggests, indicates the SSF seeks to conduct “integrated cyber attack, defense, and reconnaissance” operations.<sup>179</sup>
- *Electronic warfare mission:* The SSF is also responsible for electronic warfare\* and carrying out national-level electronic warfare operations.<sup>180</sup>

### *Training*

Since the establishment of the SSF on December 31, 2015, the force has worked to build its own operational skills as well as those needed to support other services, including satellite reconnaissance, electronic warfare, cyber operations, and space-based intelligence support and battlefield assessments.<sup>181</sup> The SSF is seeking to develop its operational readiness capabilities by conducting training at the joint theater and service levels to integrate the force into the PLA.<sup>182</sup> The PLA acknowledges that embedding SSF elements into the theater commands is an ongoing process that needs continued testing to ensure successful integration.<sup>183</sup> For example, in May 2018 the SSF participated in an exercise intended to identify shortcomings, including restrictions on the generation of combat power, operational planning deficiencies, and command and control problems.<sup>184</sup> Resolving these types of deficiencies exposed during combat-realistic training helps the SSF become a more powerful, operational force.<sup>185</sup>

### *Force-Building Priorities*

The PLA continues to improve its C4ISR capabilities for joint operations.<sup>186</sup> The SSF force-building priorities for space, cyber, and electromagnetic spectrum operations include:

\*Portions of the former General Staff Department's Fourth Department responsible for strategic-level electronic warfare were transferred to the SSF after the force was established. John Costello, “The Strategic Support Force: Update and Overview,” *China Brief*, December 21, 2016.

- *Space*: Improving space-based reconnaissance capabilities remains a development priority for the SSF.<sup>187</sup> And while the SSF's role in counterspace operations and weapons development remains murky, the PLA continues to develop antisatellite weapons such as the DN-3 antisatellite missile, which was launched from the SSF's Jiuquan Satellite Launch Center in August 2017, and the experimental co-orbital satellite, the Shiyan-7.<sup>188</sup>
- *Cyber*: The SSF is working to improve offensive and defensive cyber capabilities to enhance the development of a cyber force. The SSF is conducting testing and evaluation of PLA units and developing cybersecurity standards to apply to systems across the entirety of the military's information networks.<sup>189</sup>
- *Electromagnetic spectrum*: The SSF appears to be focusing on capabilities to exploit and attack opponents' electromagnetic operational environment while protecting and managing the spectrum for the PLA.<sup>190</sup> The SSF has been engaged in service-specific and joint training likely intended to test the SSF's operational abilities, resolve defense issues, and identify new requirements for building future capabilities.<sup>191</sup>

### **Joint Logistics Support Force as a Force Multiplier**

In September 2016, the PLA also established the Joint Logistics Support Force to support joint operations, some sustainment functions common to all services, and PLA operations abroad.<sup>192</sup> This force seeks to reduce redundancies inherent in the services by consolidating logistics support under a joint organization.<sup>193</sup> Furthermore, the Joint Logistics Support Force is partnering with the civilian transportation sector through military-civilian fusion to supplement PLA lift and transport capabilities with assets from the air, rail, and shipping industries.<sup>194</sup> The Joint Logistics Support Force's objective is to strengthen the PLA's capability to sustain theater operations and ultimately support expeditionary operations and warfighting missions farther into the Western Pacific and beyond.<sup>195</sup> The development of this force suggests an effort to develop a mature logistics support capability that will have a significant impact on the PLA's ability to operate beyond the Indo-Pacific region.

#### *Missions*

The Joint Logistics Support Force was established—as a subordinate force of the CMC's new Logistics Support Department—to serve as the PLA's primary logistics force to support joint operations.<sup>196</sup> The force accomplishes this task by managing the logistics functions of the theater commanders and their joint forces, with the services overseeing the service-specific logistics operations within the theater.<sup>197</sup> The Joint Logistics Support Force has subordinate Joint Logistics Support Centers in each theater command as a bridge between the force and the services.<sup>198</sup>

## **Joint Logistics Support Force as a Force Multiplier— Continued**

### *Logistics Modernization Priorities*

China has studied how the United States conducts sustainment of deployed U.S. forces operating abroad, which has influenced the PLA's modernization of logistics and sustainment functions.<sup>199</sup> The PLA sees the capability for joint logistics support to a deployed force as critical for sustaining combat operations at home, but also—and more importantly—for expeditionary operations.<sup>200</sup> Kevin McCauley, an independent analyst who writes on PLA and Taiwan military affairs, contends the need to develop a joint capability resulted in “the CMC issuance in 2007 of the ‘Outline for Comprehensive Building of Modern Logistics’ ... [that] proposed an integrated advanced logistics supply structure, integration of a civilian logistics supply model, application of information technologies, and an accelerated logistics construction” program.<sup>201</sup> Mr. McCauley stated to the Commission that the PLA's strategy to optimize joint logistics for informationized warfare includes the following guidance:

- *Integrat[e] ... information technologies into logistics equipment to support precision logistics and mobilization.*
- *Accelerate innovation and “systems of systems”\* integration of strategic, campaign and tactical support forces.*
- *Eliminate traditional problems of compartmentation and multi-level bureaucracy.*
- *[Integrate] [c]ivil-military ... strategic assets and projection forces, including civil air transport and large transport ships.*
- *Accelerate overseas support means and facilities construction to safeguard overseas national interests, as well as fulfill international and peacekeeping obligations.*
- *Establish an integrated theater with a base system focused on general purpose and special integrated logistics support bases to meet theater requirements.*
- *[Establish] [g]roupings of flexible, mobile strategic logistics contingency support forces, mobile maritime support forces including large supply ships, and PLA [Air Force] emergency mobile support groups and air refueling forces.*
- *[Establish] [s]mall, light, mobile, modular tactical logistics groups.<sup>202</sup>*

\*The PLA “system of systems” term refers to the capability to support military operations through an integrated C4ISR structure that enables jointness and information sharing to increase the PLA's warfighting capabilities. Kevin McCauley indicates the “PLA uses system of systems operations to unify forces down to the tactical level through information technology to create seamless networked information systems that will generate increased combat effectiveness.” Kevin McCauley, *PLA System of Systems Operations: Enabling Joint Operations*, Jamestown Foundation, January 2017, 10.

## Implications for the United States, U.S. Allies, and Partners

China's military reorganization and modernization intends to achieve parity with the United States and exert China's influence throughout the Indo-Pacific. At its current rate of modernization, the PLA will likely possess the capability to contest all warfighting domains in the Indo-Pacific region by 2035, and thus begin more forceful efforts to resolve all remaining sovereignty disputes in China's favor, completing China's "great rejuvenation" by the middle of the century.\* China has accelerated this effort in recent years, and placed a particularly strong emphasis on maritime capabilities intended to overcome its longstanding fears of its operational inferiority vis-à-vis the United States. As a result, it will soon have an initial naval expeditionary capability that is likely to be globally capable by 2025, if not sooner. President Xi's sweeping reorganization of the PLA is a critical component of Beijing's broader military modernization efforts, and if completed on schedule in 2020 will result in the PLA posing an even greater near-term threat than the United States and its allies and partners currently face in the Indo-Pacific.

There will be areas of both concern and opportunity for the United States during this period of transition for the PLA. In the near term, China may continue to feel constrained in a crisis as it chooses between military options ranging from cautious "gray zone" operations to a contested and highly risky use of limited force. The PLA's reorganization and training efforts seek to address its limited operational experience, which combined with Chinese leaders' concerns over the force's "peace disease" give the United States important competitive advantages in dissuading China from resorting to military force to advance its national interests. However, as the PLA's modernization progresses and self-confidence increases, the United States may no longer be capable of deterring China or regaining superiority in all warfighting domains after the outbreak of a conflict in the region.

China's military reorganization and modernization efforts have already substantially improved the PLA's capability to conduct operations across the land, maritime, air, and information domains, and pose clear challenges to the ability of the United States, U.S. allies, and partners to operate freely in the Indo-Pacific. Jacqueline N. Deal, president of the Long Term Strategy Group, testified to the Commission that the PLA aims to create "more 'strategic space' for the PRC."<sup>203</sup> The PLA has mostly discussed this concept in defensive terms, but Dr. Deal asserted the PLA is seeking this strategic space "to make it safe for the PRC to coerce regional powers and, over time, to spread the CCP's own rules and norms."<sup>†204</sup> She added that a "prerequisite for accomplishing this goal is disrupting U.S.

\* According to DOD's *National Defense Strategy*, published in January 2018, China "will continue to pursue a military modernization program that seeks Indo-Pacific regional hegemony in the near-term and displacement of the United States to achieve global preeminence in the future." The *National Defense Strategy* for the first time named the "reemergence of long-term, strategic competition" with revisionist powers China and Russia as the main challenge for U.S. national security. U.S. Department of Defense, *National Defense Strategy*, January 2018, 2.

† According to the 2013 edition of the *Science of Military Strategy*, "Strategic space is an area required for the national race and resistance of external interference and the maintenance of self-survival and development." It calls for the expansion of China's "strategic space" to include the western Pacific Ocean and the northern Indian Ocean. Shou Xiaosong, ed., *Science of Military Strategy*, Military Science Press, 2013, 105, 241–249. Translation.

alliances, and extruding or neutralizing the U.S. military's presence and influence in the Asia-Pacific."<sup>205</sup> The PLA's reorganization and modernization efforts pose challenges to the United States and its partners across the following domains:

- *Challenges in the maritime domain:* China's maritime forces in the Indo-Pacific are among the most pressing areas of concern for U.S. allies and partners in the region; they increasingly outnumber—and in a number of areas are more advanced than—their neighbors in the region.<sup>206</sup> PLA maritime operations are becoming more frequent, challenging U.S. regional presence and operations while raising the potential for accidents and miscalculation.<sup>207</sup> Routine U.S. air and maritime operations in the Western Pacific and beyond are monitored and increasingly contested by modern Chinese ships and aircraft.<sup>208</sup> Furthermore, China's growing ballistic and cruise missile capabilities enable the PLA to challenge INDOPACOM's ability to operate within the second island chain, and the continued modernization of these forces may soon hold U.S. and allied forces at risk beyond the second island chain.
- *Challenges in the air domain:* Given PLA Air Force and naval aviation modernization, the United States and U.S. allies can no longer assume the ability to achieve air superiority in an Indo-Pacific conflict.<sup>209</sup> The PLA's air force modernization goals to enhance China's offensive capabilities farther from its coast will contribute to an increasingly contested air domain in the region as it prioritizes the development and fielding of modern fighter jets, strike aircraft, advanced surface-to-air missile systems with extended ranges, as well as improved aerial refueling and strategic lift capabilities that can support operations well beyond China's periphery.<sup>210</sup>
- *Challenges in the information domain:* China's establishment of the SSF, which integrated its space, cyber, and electronic warfare capabilities, enables the new force to conduct independent operations across these domains and facilitate joint operations across the PLA. As the SSF further advances its own warfighting capabilities and ability to facilitate PLA joint operations, it will challenge the United States' ability to establish information dominance and control over the electromagnetic spectrum.<sup>211</sup>

China's contesting of U.S. military presence in the Indo-Pacific enables Beijing to coerce its neighbors with the implied threat of force, which impedes the United States' ability to maintain a stable regional balance, sustain adherence to international laws and norms, and uphold a free and open regional order. Beijing's strengthening military capabilities also undermine the confidence of U.S. allies and partners in the United States' ability to deter China, which could lead to negative consequences for U.S. interests; these include a degraded U.S. alliance network, more aggressive behavior from China and its partners, greater hedging by regional countries, and increased Chinese military sales.<sup>212</sup> The PLA's growing nuclear capabilities could also raise concerns among U.S. allies and partners regarding the credibility of U.S. extended deterrence.<sup>213</sup> Finally, the PLA's modernization and its emphasis on developing offensive ca-

pabilities present serious threats to U.S. allies and partners in the region—including Japan, South Korea, and India—and even an existential threat to Taiwan.<sup>214</sup>

The United States faces a rising power in China that sees the security structures and political order of the Indo-Pacific as being out of balance and designed to limit its power and influence. China is increasingly confident in its ability to seek changes to that order through competition with the United States and its allies and partners. Kathleen Hicks, senior vice president, the Henry A. Kissinger Chair, and director of the International Security Program at the Center for Strategic and International Studies, testified to the Commission that “China’s power is not growing benignly. With a decided lack of transparency in its investments and intentions, alongside a manifest series of coercive and, at times, extralegal actions in the cyber, air, and maritime domains, China has largely demonstrated a will to compete rather than cooperate.”<sup>215</sup>

In the near term, as China bolsters its competitive advantage through modernization efforts accelerated by its new military structure, the United States will face ever-greater uncertainty over its ability to operate freely in the region. In an era of intensifying competition, U.S. allies and partners will also be increasingly threatened by China’s growing military strength, and will continue looking to the United States for leadership in maintaining the region’s balance. At the 2018 Shangri-La Dialogue in Singapore, U.S. Secretary of Defense James Mattis stated, “The U.S. [Indo-Pacific] strategy recognizes no one nation can or should dominate the Indo-Pacific.”<sup>216</sup>

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## CHAPTER 3

### CHINA AND THE WORLD

#### SECTION 1: BELT AND ROAD INITIATIVE

##### Key Findings

- In 2013, Chinese President and General Secretary of the Chinese Communist Party Xi Jinping inaugurated the Belt and Road Initiative (BRI), his signature economic and foreign policy project designed to finance and build infrastructure and connectivity around the world, with a focus on Eurasia and the Indo-Pacific region.
- Although there is no official definition for BRI, after five years, China's objectives for BRI are discernable: fueling domestic development and increasing control in China's outer provinces, expanding markets while exporting technical standards, building hard and digital infrastructure, bolstering energy security, expanding China's military reach, and advancing geopolitical influence by moving China to the center of the global order.
- Strategic interests are central to BRI, even though the Chinese government denies that BRI advances its geopolitical ambitions. At the same time, BRI will also expose China to major risks, including terrorism and instability, and political fallout in partner countries. BRI could pose a significant challenge for U.S. interests and values because it may enable China to export its model of authoritarian governance and encourages and validates authoritarian actors abroad.
- Beijing sees BRI in part as an externally oriented development program to boost China's slowing economy and help it move up the global value chain through economic integration with neighboring countries. Chinese planners believe infrastructure development in BRI countries can open new markets and boost foreign demand for Chinese products, particularly in higher-end manufactured goods. Despite Beijing's rhetoric about BRI being open and inclusive, Chinese state-owned enterprises are winning the lion's share of contracts for BRI projects.
- As China increases its international economic engagement through BRI, Chinese companies are seeking to define and export standards for a broad set of technological applications, including through the so-called Digital Silk Road, which taken together could alter the global competitive landscape. BRI

potentially threatens U.S. businesses and market access as well as the broader expansion of free markets and democratic governance across the globe.

- BRI offers partner countries much-needed infrastructure financing, but also presents significant risks. Chinese engagement with BRI countries has largely been through infrastructure projects financed by Chinese policy and commercial banks rather than direct investment. Chinese lending poses debt sustainability problems for a number of BRI countries while providing Beijing with economic leverage to promote Chinese interests, in some cases threatening the sovereignty of host countries. Beijing's response to problems of debt distress in BRI countries has ranged from offering borrowers additional credit to avoid default to extracting equity in strategically important assets.
- A growing People's Liberation Army presence overseas, facilitated and justified by BRI, could eventually create security problems for the United States and its allies and partners beyond China's immediate maritime periphery. China is trying to use BRI to bolster its influence and presence in the Indo-Pacific through access to port facilities and other bases to refuel and resupply its navy, while expanding operations and exercises with regional militaries.
- China does not have a monopoly on plans to facilitate connectivity and spread influence across Eurasia, and BRI is not unfolding in isolation. Other major powers—including the United States, Japan, India, European states, and Russia—are executing their own initiatives that variously compete and collaborate with BRI. More broadly, skepticism of BRI's purposes and methods appears to be growing worldwide as projects are implemented and the initiative's challenges become more apparent.

## Recommendations

The Commission recommends:

- Congress create a fund to provide additional bilateral assistance for countries that are a target of or vulnerable to Chinese economic or diplomatic pressure, especially in the Indo-Pacific region. The fund should be used to promote digital connectivity, infrastructure, and energy access. The fund could also be used to promote sustainable development, combat corruption, promote transparency, improve rule of law, respond to humanitarian crises, and build the capacity of civil society and the media.
- Congress require the U.S. Department of State to prepare a report to Congress on the actions it is taking to provide an alternative, fact-based narrative to counter Chinese messaging on the Belt and Road Initiative (BRI). Such a report should also examine where BRI projects fail to meet international standards and highlight the links between BRI and China's attempts to suppress information about and misrepresent reporting of its human rights abuses of Uyghurs in Xinjiang.

- Congress require the Director of National Intelligence to produce a National Intelligence Estimate (NIE), with a classified annex, that details the impact of existing and potential Chinese access and basing facilities along the Belt and Road on freedom of navigation and sea control, both in peacetime and during a conflict. The NIE should cover the impact on U.S., allied, and regional political and security interests.

## Introduction

China's expansive Belt and Road Initiative (BRI) is the signature foreign policy and geoeconomic project of Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping, who has extolled it as the "project of the century."<sup>1</sup> Since its inception in 2013, BRI has climbed to the top of Beijing's foreign policy agenda as a well-resourced, whole-of-government concept for regional and global connectivity. What BRI means in practice is still coming into focus, but Beijing's aspirations for the initiative are clear: encouraging domestic development and increasing control in China's outer provinces, expanding markets and exporting technical standards, building hard and digital infrastructure, bolstering energy security, expanding the reach of China's military to protect overseas interests, and advancing geopolitical influence. The initiative has security implications for the United States and its allies and partners, including expanding China's military influence, overseas presence, and access to foreign ports.

China is using BRI to challenge U.S. and allied interests and the international rules-based order predicated on open markets and democratic, transparent governance. Many countries have raised concerns about threats BRI poses for participating countries, including exacerbating debt burdens and undermining transparency, good governance, and sovereignty. The U.S. government and like-minded governments are working to develop responses that strike a balance between engaging BRI as a means for meeting global infrastructure needs while countering its economic and strategic risks.

This section analyzes the status of BRI five years after its inception and the degree to which BRI is reshaping global economic norms and diminishing the United States' influence in the process—or how BRI could do so in the future. This section also documents other countries' connectivity and trade plans that alternately compete with and complement BRI. In doing so, this section draws on the Commission's January 2018 hearing on "China's Belt and Road Initiative: Five Years Later," briefings with U.S. officials, the Commission's May 2018 research trip to Taiwan and Japan, consultations with experts on regional politics and U.S. policy, and open source research and analysis.

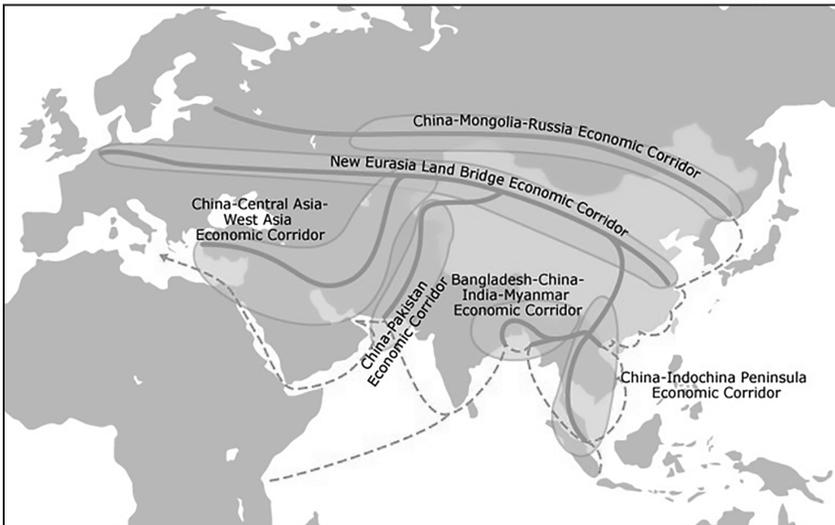
## China's Objectives for BRI

Launched in 2013 with the stated aims of "promoting policy coordination, facilities connectivity, unimpeded trade, financial integration, and people-to-people bonds," BRI has become the keystone of President Xi's foreign policy and a major component of China's

economic development plan.<sup>2</sup> The Chinese leaders demonstrated the importance they place on BRI when, in October 2017, they wrote BRI into China's constitution.<sup>3</sup> Broadly, BRI's land-based "Belt" crosses from China to Central and South Asia, the Middle East, and then Europe. The sea-based "Road" connects China with South Asia, the Middle East, East Africa, and Europe via sea lanes that traverse the South China Sea, Indian Ocean, Red Sea, Suez Canal, and Eastern Mediterranean (see Figure 1).<sup>4</sup> However, BRI's ambitions are not confined to just two geographic paths. China's vision for BRI also includes Latin America and the Caribbean, the Arctic, and even space—although plans for projects in these areas are less developed.<sup>5</sup>

China is developing BRI in regions with huge infrastructure needs, and the initiative promises a reach that dwarfs earlier visions of regional connectivity. The Asian Development Bank estimates developing countries in Asia collectively will need \$26 trillion in infrastructure investment from 2016 through 2030.<sup>6</sup> Five years on, BRI has expanded to more than 80 participating countries (see Addendum I) that account for about 30 percent of global gross domestic product (GDP).<sup>7</sup>

**Figure 1: Map of BRI Eurasian and Indian Ocean Corridors**



Source: Hong Kong Trade Development Council, "The Belt and Road Initiative," May 3, 2018.

BRI is closely intertwined with and intended to serve Beijing's goals to revise the global political and economic order to align with China's geopolitical interests and authoritarian political system.<sup>8</sup> Some economic goals—such as fueling domestic development, expanding markets and exporting technical standards, and building hard and digital infrastructure—are explicitly stated in China's official policy communiques. Other goals—such as furthering China's strategic ambitions by bolstering energy security, expanding the reach of China's military to protect overseas interests, and advancing geopolitical influence—are less publicly articulated. Chinese

leaders frequently dismiss arguments that BRI has strategic aims that go beyond its economic footprint. As President Xi said in his speech at the Belt and Road Forum in May 2017, “In pursuing the Belt and Road Initiative, we will not resort to outdated geopolitical maneuvering.”<sup>9</sup> However, subsequent statements demonstrate how China clearly views BRI as a testing ground for moving China to the center of the global order. In a speech marking BRI’s fifth anniversary in August 2018, President Xi emphasized that the initiative “serves as a solution for China to participate in global opening up and cooperation, improve global economic governance, promote common development and prosperity, and build a community with a shared future for humanity.”\*

Five years on, the realities of BRI—including growing international skepticism, funding and execution challenges, and pressing domestic tradeoffs—are forcing Beijing to consider recalibrating the project. However, there is no sign yet that China has plans to fundamentally change course rather than tweak its mechanisms for choosing and implementing BRI projects. As foreign observers debate the quality and impact of BRI projects, some Chinese citizens have begun to criticize the country’s foreign development spending, arguing BRI money would be better spent at home.<sup>10</sup> Other domestic critics assert that President Xi’s ambitious foreign policy, with BRI as its centerpiece, has thrust China into a global leadership role that it is not yet ready to handle, and that will ultimately cause other powers to take actions to counter Beijing.<sup>11</sup>

### ***Building Hard Infrastructure and Exporting Overcapacity***

Infrastructure has been a major component of BRI, with the transportation and energy sectors receiving about 80 percent of total BRI-related investment.<sup>12</sup> Through the construction of large-scale infrastructure projects, BRI also provides an opportunity to absorb some—though not all—of China’s massive excess industrial capacity.<sup>13</sup>

The American Enterprise Institute and Heritage Foundation’s Chinese Global Investment Tracker put BRI’s footprint at roughly \$340 billion between 2014 and 2017.<sup>14</sup> The value of new engineering and construction contracts signed by Chinese companies in BRI countries has grown strongly: in 2017, Chinese enterprises signed more than 7,200 new overseas contracts worth \$144 billion with BRI countries, up from nearly 4,000 new contracts valued at \$92.6 billion in 2015.<sup>15</sup> Despite the high volume of contracts signed, BRI projects outside of China have progressed slowly. According to Jonathan Hillman, director of the Reconnecting Asia Project at the Center for Strategic and International Studies (CSIS), China itself is the biggest part of BRI and where most of the investment is going.<sup>16</sup>

In testimony to the Commission, Mr. Hillman noted there is no official definition for what qualifies as a BRI project, adding that “by design, BRI is more a loose brand than a program with strict criteria.”<sup>17</sup> Although there is no publicly available official list of BRI projects, after five years some trends can be discerned.<sup>18</sup> A large

\*The phrase “community with a shared future for humanity” is used by Chinese leaders as coded shorthand for what may be a China-led global order. *Xinhua*, “Xi Pledges to Bring Benefits to People through Belt and Road Initiative,” August 27, 2018.

proportion of BRI projects remain in the planning phase and will take years to complete. Of BRI's six trade corridors, the China-Pakistan Economic Corridor (CPEC) is the furthest along, though many CPEC projects predate BRI.<sup>19</sup> Geographically, most BRI construction contracts and investments have gone to South Asia (e.g., Pakistan and Bangladesh) and Southeast Asia (e.g., Malaysia and Indonesia) (see Table 1).<sup>20</sup> Political and security risks, financing difficulties, environmental concerns, and a lack of political trust between China and some host countries pose considerable challenges for Beijing and have stalled some of BRI's most high-profile projects, such as high-speed rail in Malaysia and the Kyaukpyu port in Burma (Myanmar).<sup>21</sup> According to research and advisory firm RWR Advisory Group, about 270 out of 1,814—or 32 percent of the total value of—Chinese infrastructure projects across 66 BRI countries announced since 2013 have run into problems.\*

**Table 1: Largest BRI Projects by Estimated Cost**

Country (BRI Corridor)	Project	Companies	Cost (US\$ billions)	Financing	Status
Russia (New Eurasian Land Bridge)	Moscow-Kazan High Speed Railway	Contract not yet awarded	\$21.4	n/a	Construction expected to begin in 2018; to be completed by 2022
Malaysia (China-Indochina Peninsula Economic Corridor [CICPEC])	East Coast Rail Link	China Communications Construction (China)	\$20 †	Export-Import Bank of China (China Exim Bank) to provide 85% funding through 20-year concessional loan	Contract awarded November 2016; project under review ‡
Malaysia (CICPEC)	Melaka Gateway	PowerChina (China); KAJ Development (Malaysia)	\$11	Privately financed; terms unknown	Memorandum of Understanding (MOU) signed September 2016; to be completed by 2025

\*RWR Advisory Group's analysis did not include BRI projects in Africa or Latin America. James Kynge, "China's Belt and Road Projects Drive Overseas Debt Fears," *Financial Times*, August 7, 2018; RWR Advisory Group, "RWR Statistics Targeted by Chinese State-Run Tabloid, Global Times," July 16, 2018.

†In July 2018, Malaysia's finance minister said the government had revised its estimates of project costs to \$20 billion—up from the \$13 billion estimated under the previous government. The finance ministry said the basic cost of the project was around \$13 billion, but costs would rise to \$20 billion when factoring in land acquisition, interest, fees, and other operational costs. *Reuters*, "Major Malaysian Rail Link to Cost \$20 Billion, Finance Minister Says, up 50 Percent from Estimates," July 3, 2018.

‡On August 21, 2018, Malaysian Prime Minister Mahathir Mohamed announced the cancellation of the East Coast Rail Link due to its high costs. However, on August 24, Prime Minister Mahathir said the government was reviewing the project to determine whether the project should be cancelled or deferred to see if project costs could be negotiated down. *Straits Times*, "East Coast Rail Link Not Cancelled Yet, All Options Still Being Studied: Malaysian PM Mahathir," August 25, 2018; Amanda Erickson, "Malaysia Cancels Two Big Chinese Projects, Fearing They Will Bankrupt the Country," *Washington Post*, August 21, 2018.

**Table 1: Largest BRI Projects by Estimated Cost—Continued**

Country (BRI Corridor)	Project	Companies	Cost (US\$ billions)	Financing	Status
Cambodia (CICPEC)	Preah Vihear-Koh Kong Railway*	China Railway Group (China)	\$7.5	n/a	MOU signed December 2012; construction delayed due to funding shortages
Pakistan (CPEC)	Karachi-Lahore Peshawar Railway Track Rehabilitation and Upgrade	Contract not yet awarded	\$6.2†	China to provide 85% funding; terms unknown	Feasibility study completed July 2018; to be completed by 2022
Laos (CICPEC)	Kunming-Vientiane Railway	China Railway Corp (China)	\$6.27	China to fund 70%; Laos to fund remainder	Under construction; to be completed by 2021
Thailand (CICPEC)	Bangkok-Nakhon Ratchasima High-Speed Rail	Contract not yet awarded	\$5.5	Thailand in talks with China for financing	Construction expected to begin in 2019 after repeated delays
Indonesia	Jakarta-Bandung High Speed Rail	China-Indonesia consortium (KCIC)‡	\$5	China Development Bank to provide 75% of funding; KCIC to raise remainder	Under construction after recurring delays; to be completed by 2019
Bangladesh (Bangladesh-China-India-Myanmar Economic Corridor)	Padma Bridge Rail Link	China Railway Group (China)	\$3.14	China Exim Bank to fund 80% through preferential buyer's credit; Bangladesh to fund remainder	Under construction after repeated delays; to be completed by 2022
Pakistan (CPEC)	Peshawar-Karachi Motorway Multan-Sukkur Section	China State Construction Engineering Corporation (China)	\$2.98	China to provide concessional loan; terms unknown	Under construction; to be completed by 2019

Source: Various.<sup>22</sup>

\*The railway is part of the larger \$9.6 billion joint venture between China Railway and the Chinese-owned Cambodia Iron and Steel Mining Industry Group to connect a planned steel factory in Preah Vihear Province to a new port in Koh Kong Province. Center for Strategic and International Studies, "Preah Vihear-Kaoh Kong Railway," *Reconnecting Asia Database*; Daniel de Carteret, "Lack of Funds Delays Railway," *Phnom Penh Post*, April 22, 2014.

†In October 2018, Pakistan cut the size of the project from \$8.2 billion to \$6.2 billion, citing concerns about the country's debt burden. Mubasher Bukhari, "Pakistan Cuts Chinese 'Silk Road' Rail Project by \$2 Billion Due to Debt Concerns," *Reuters*, October 1, 2018.

‡KCIC is a joint venture between four Indonesian state-owned firms and China Railway International.

Chinese state-owned enterprises (SOEs) are winning the lion's share of contracts, despite Beijing's rhetoric about BRI being open and inclusive.<sup>23</sup> CSIS's Reconnecting Asia Project examined the degree to which BRI projects are subject to fair competition and found that 89 percent of Chinese-funded transportation infrastructure projects are awarded to Chinese contractors, compared to 29 percent in multilateral development bank-funded projects.\*<sup>24</sup> Chinese SOEs are competitive global infrastructure players in their own right,† but their access to state subsidies and credit guarantees allows them to take on projects foreign competitors consider too risky.

### ***Constructing a Digital Silk Road***

The "Digital Silk Road"—China's plans for integrating digital sectors like telecommunications, Internet of Things, and e-commerce into its vision for regional connectivity—is a less analyzed but critically important component of BRI. According to Chen Zhaoxiong, China's vice minister of industry and information technology, the Digital Silk Road will help "construct a community of common destiny in cyberspace"—a phrase mirroring language China uses to describe its preferred vision for global order aligned to Beijing's liking.<sup>25</sup> The 2015 action plan on BRI called for the construction of cross-border optical cables and other communications networks to improve international communications connectivity.<sup>26</sup> The joint communique from the 2017 Belt and Road Forum spoke of "strengthening cooperation on innovation, by supporting innovation action plans for e-commerce, digital economy, smart cities and science and technology parks."<sup>‡</sup><sup>27</sup>

While the concept lacks specifics, the Digital Silk Road aims to channel investment in technology and consumer-oriented sectors to create new markets for Chinese tech companies, enable Chinese companies to lead those sectors, and promote Chinese technical standards.<sup>28</sup> As Chinese companies lay fiber optic cable, supply smart city projects, and expand e-commerce offerings, they are expanding China's influence over the global digital economy to align more closely with Beijing's vision of internet governance.<sup>29</sup>

- *Building telecommunications infrastructure:* Chinese telecommunications companies are expanding their efforts to build telecommunications infrastructure, provide network services, and sell communications equipment in BRI countries.<sup>30</sup> There is high demand for digital infrastructure in many BRI countries: in 2015, Hou Weigui, former president of the Chinese telecommunications giant ZTE, said internet speed in most countries along the Belt and Road is less than 10 percent of that in developed countries.<sup>31</sup> According to estimates from the Asian Development Bank, developing Asian countries will need \$2.3 trillion in telecommunications infrastructure investment

\*This aligns with research from the American Enterprise Institute, which finds that Chinese SOEs account for over 95 percent of BRI construction activity. Cecilia Joy-Perez and Derek Scissors, "The Chinese State Funds Belt and Road but Does Not Have Trillions to Spare," *American Enterprise Institute*, March 2018, 1.

†In 2017, seven of the top ten global contractors (measured by contracting revenue outside their home country) were Chinese. *Engineering News-Record*, "ENR 2017 Top 250 Global Contractors," August 2017.

‡Smart cities are urban areas that incorporate advanced information and communications technologies and the Internet of Things to improve a range of city services such as energy, public safety, and transportation.

from 2016 through 2030.<sup>32</sup> ZTE and Huawei have a longstanding presence in Central Asian mobile networks and are making inroads in Africa, Latin America, and Southeast Asia.<sup>33</sup> In 2015, China signed an agreement with the EU to explore joint research opportunities in 5G development.<sup>34</sup> Chinese telecommunications companies like China Unicom, Huawei, and ZTE are also playing an increasing role in building undersea fiber optic cables and land-based cable links across BRI countries.<sup>35</sup> In 2017, Huawei was awarded a contract to construct a cable system linking Pakistan to Kenya, which may be extended to South Africa and Europe.<sup>36</sup>

- *Expanding e-commerce offerings:* Chinese e-commerce giants like Alibaba and JD.com have linked their global expansion to BRI, identifying countries along the Belt and Road as among the most important markets for their expansion plans.<sup>37</sup> Chinese companies have focused in particular on Southeast Asia and India—home to some of the world’s fastest-growing e-commerce markets—where Chinese and U.S. technology companies are competing to draw new consumers into their respective digital ecosystems.<sup>38</sup> In these markets, Chinese companies have poured significant investments into expanding their e-commerce, cloud computing, logistics, and payments capabilities, laying the digital infrastructure to dominate consumer markets.<sup>39</sup> Alibaba has gone a step further, partnering with regional governments to facilitate crossborder e-commerce for small and medium-sized enterprises. It launched the world’s first digital free-trade zone in Malaysia in November 2017, followed by a second one in Thailand in April 2018.<sup>40</sup> The digital free-trade zones provide a one-stop shop for small- and medium-sized enterprises to access foreign buyers and suppliers, logistics services, customs clearance, trade finance, and payment platforms.<sup>41</sup> However, some analysts fear such public-private partnerships—developed in close collaboration with host country governments—afford Alibaba too much control and could allow the company to effectively monopolize regional e-commerce markets.<sup>42</sup>
- *Supplying smart city projects:* At the Belt and Road Forum held in May 2017 in Beijing, President Xi said, “We should advance the development of big data, cloud computing and smart cities to transform them into a 21st century Digital Silk Road.”<sup>43</sup> China aims to export its smart city technologies abroad.<sup>44</sup> The country has launched several smart city projects under the banner of BRI at both government and private sector levels. The Chinese and Filipino governments have partnered to create a new smart “city within a city” called the New Manila Bay City of Pearl.<sup>45</sup> Alibaba and Malaysia signed a deal in January 2018 to deploy its smart city platform City Brain in Kuala Lumpur; the platform leverages big data collection and processing capabilities, cloud computing, and artificial intelligence to improve traffic operations and emergency services response.\*

\*City Brain was first adopted by the Hangzhou municipal government in 2016. Malaysia marks the platform’s first use outside China. Jon Russell, “Malaysia’s Capital Will Adopt ‘Smart City’ Platform from Alibaba,” *TechCrunch*, January 2018.

Chinese leaders' plans for a Digital Silk Road dovetail with their plans to advance "military-civilian fusion." This strategic concept has emerged as a means to integrate China's military and commercial capabilities, and support economic growth. Although Chinese leaders have promoted military-civilian integration since Deng Xiaoping in the 1980s, President Xi has elevated the concept to a national strategic priority and expanded the concept beyond the defense industry to include all areas of the economy.<sup>46</sup> (For a discussion of China's emphasis on military-civilian fusion, see Chapter 2, Section 2, "China's Military Reorganization and Modernization: Implications for the United States.")

### ***Expanding Markets and Exporting Standards***

Chinese planners believe infrastructure development in BRI countries can open new markets and boost foreign demand for Chinese products, particularly in higher-end manufactured goods (e.g., telecommunications equipment, construction machinery, and high-speed rail equipment).<sup>47</sup> In the process, Beijing has been using BRI to push for acceptance of Chinese technology standards in sectors such as high-speed rail, energy, and telecommunications, which challenges the ability of U.S. and foreign companies to compete.<sup>48</sup>

**China's Trade with BRI Countries:** According to data from China's Ministry of Commerce (MOFCOM), China's bilateral trade with BRI countries\* reached \$1.1 trillion (renminbi [RMB] 7.4 trillion) in 2017, up 18 percent year-on-year, outpacing the increase in China's overall trade growth.<sup>†</sup><sup>49</sup> Exports reached \$650 billion (RMB 4.3 trillion), up 12 percent year-on-year, while imports reached \$470 billion (RMB 3.1 trillion), a 27 percent year-on-year increase.<sup>50</sup> China's top exports to BRI countries reflect its shift to higher-valued-added exports, with electrical equipment and machinery as its top export products, while China's imports from BRI countries are dominated by minerals and fuels and electrical equipment.<sup>51</sup>

**Chinese Investment in BRI Countries:** While BRI aims to strengthen investment links between China and BRI countries, Chinese engagement with BRI countries has largely been through infrastructure projects financed by Chinese policy and commercial bank loans rather than foreign direct investment (FDI).<sup>52</sup> Chinese investment in BRI countries remains a small percentage of its total overseas FDI; in 2017, just 12 percent of China's investment flow went to BRI countries.<sup>‡</sup><sup>53</sup> China's FDI in BRI countries totaled \$14.4 billion in 2017, down 1.2 percent from 2016.<sup>54</sup> The decline was slight compared to the overall drop in China's outbound FDI, which fell 29.4 percent year-on-year as Beijing tightened capital controls and stepped up scrutiny of overseas acquisitions.<sup>55</sup> China's BRI-related investment was less impacted, as such investments are often policy-driven and led by SOEs; moreover, outbound investments in BRI-related infrastructure projects fall under the "encouraged" cat-

\* China's MOFCOM does not specify which countries are included in its categorization of BRI countries.

† Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = RMB 6.62.

‡ China's outbound investment data is an unreliable measure of total BRI investment because a significant amount of China's outbound investment passes from China through an intermediate country or territory (often Hong Kong) before reaching its final destination. Gabriel Wildau and Ma Nan, "China New 'Silk Road' Investment Falls in 2016," *Financial Times*, May 10, 2017.

egory of China's outward investment policy.<sup>56</sup> In the first half of 2018, Chinese enterprises invested \$7.4 billion in BRI countries, up 12 percent over the same period last year.<sup>57</sup>

**BRI as a Vehicle for Exporting Standards:** As China increases its overseas investment through BRI, Chinese companies are seeking to define and export standards for a broad set of technological applications, which, taken together, could alter the global competitive landscape. According to a 2017 action plan from the Standardization Administration of China, China will promote the implementation of its national standards—including for 5G and smart cities—in countries along the Belt and Road.<sup>58</sup> A 2017 report from the East-West Center explains, “Standards serve as bridges between developing innovations and the marketization and industrialization of those innovations.”<sup>59</sup> China's efforts to export technological standards could thus challenge the ability of U.S. and foreign firms to sell technology in BRI markets and beyond.<sup>60</sup> High-speed rail and telecommunications are notable examples of this effort.

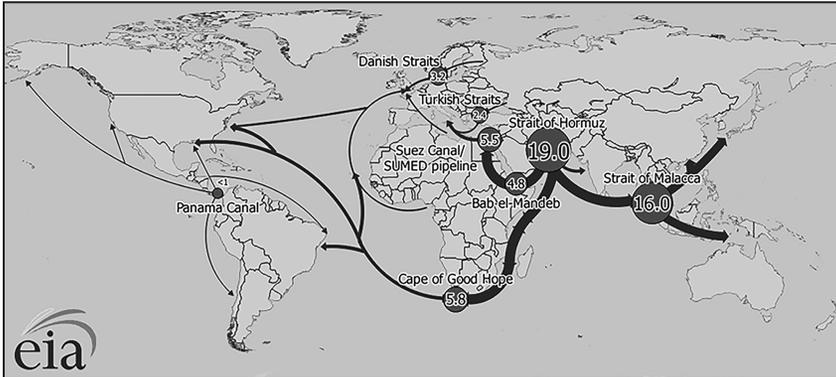
- In Beijing's push to export high-speed rail, it is encouraging host countries to adopt Chinese technical and engineering standards, with some successes in Thailand and Indonesia.\*<sup>61</sup> Chinese high-speed rail could become the regional standard if BRI countries hosting Chinese high-speed rail projects make the technology their national standard; this would provide Chinese firms with a key advantage over foreign competitors, particularly Japanese and European manufacturers of high-speed rail.<sup>62</sup>
- Chinese telecommunications companies are expanding their efforts to build telecommunications infrastructure, provide network services, and sell communications equipment in BRI countries.<sup>63</sup> Huawei, China Mobile, and ZTE are closely involved in developing 5G technology and have increased their participation in international standard-setting bodies for 5G.<sup>64</sup> (For more on China's efforts to set 5G standards and their economic implications for the United States, see Chapter 4, Section 1, “Next Generation Connectivity.”)

### ***Bolstering China's Energy Security***

Chinese civilian officials and academics envision BRI helping to improve China's commercial and energy security by providing alternative shipping routes for goods and energy, both via rail lines and roads that extend all the way to Europe (the “Belt”) and via maritime shipping (the “Road”).<sup>65</sup> One goal for expanded sea routes is to reduce Beijing's reliance on energy shipments that transit through maritime chokepoints and would be vulnerable to interdiction during a conflict (see Figure 2).<sup>66</sup> China worries that these maritime chokepoints are nearly all patrolled and secured by the United States and its allies and partners, leaving Beijing's sea lines of communication at potential risk in the event of a conflict.

\*China developed a globally competitive high-speed rail industry through strong political and financial commitments to rail development and, significantly, technology transfer agreements between Chinese state-owned rail companies and Japanese and European rail firms eager to gain access to the Chinese market. For more on China's high-speed rail development and export ambitions, see Michelle Ker, “China's High-Speed Rail Diplomacy,” *U.S.-China Economic and Security Review Commission*, February 21, 2017.

**Figure 2: Daily Oil Transit Volumes through World Maritime Chokepoints**  
(Millions of barrels per day, 2016)



Note: The Strait of Malacca, Strait of Hormuz, Bab el-Mandeb, and Suez Canal chokepoints all overlap with main BRI routes. Includes crude oil and petroleum liquids.

Source: U.S. Energy Information Administration, *World Oil Transit Chokepoints*, July 25, 2017.

New BRI routes include port investments in Burma and Pakistan and associated pipeline and transportation infrastructure to ship energy and goods to China directly from the Indian Ocean; similar land-based BRI projects include energy pipelines from Russia and Central Asia to China.\* As Mikkal Herberg, research director of the Energy Security Program at the National Bureau of Asian Research, finds, BRI “expands the scale, scope, and impact of China’s energy footprint and empowers Beijing to increasingly shape the future energy security environment across continental Eurasia and through the vital sea lanes of the Indo-Pacific.”<sup>67</sup>

### ***Promoting Domestic Development, Connectivity, and Control***

Beijing sees BRI as an externally-oriented domestic development program designed to boost China’s slowing economy and move it up the value-added chain. BRI has been integrated into China’s 13th Five-Year Plan and is aligned with key Chinese economic development plans, such as the “Made in China 2025” and “Internet Plus” initiatives.† BRI is a way of expanding Chinese companies’ international footprint and making them globally competitive, particularly in the higher-value-added industries Beijing seeks to foster (e.g., information technologies and advanced manufacturing).

BRI also aims to close the gap between China’s wealthier coastal regions and underdeveloped northeastern and western provinces

\* Pipelines through Burma play a significant role in China’s efforts to bolster its energy security by building infrastructure that bypasses the Strait of Malacca. U.S.-China Economic and Security Review Commission, Chapter 3, Section 1, “Chinese Economic Engagement with Continental Southeast Asia,” in *2017 Annual Report to Congress*, November 2017, 286–287; Joel Wuthnow, “Chinese Perspectives on the Belt and Road Initiative: Strategic Rationales, Risks, and Implications,” *Institute for National Strategic Studies*, October 2017, 11; Christopher Len, “China’s Maritime Silk Road and Energy Geopolitics in the Indian Ocean: Motivations and Implications for the Region,” in Erica Downs et al., “Asia’s Energy Security and China’s Belt and Road Initiative,” *National Bureau of Asian Research*, November 2017, 41–53.

† BRI projects directly target at least half of ten key high-technology sectors in the Made in China 2025 strategy: aerospace equipment, power equipment, new information technology, rail equipment, and marine technologies. Internet Plus aligns with the “Digital Silk Road” component of BRI that will be developed through the building of information technology networks and increased regional e-commerce. U.S.-China Economic and Security Review Commission, *Hearing on China’s Belt and Road Initiative: Five Years Later*, written testimony of Nadège Rolland, January 25, 2018, 5.

through domestic investment and economic integration with neighboring countries.<sup>68</sup> Every Chinese province has a BRI work plan and about 80 percent of Chinese provinces have signed BRI cooperation agreements with countries participating in the initiative (for more on the role of Chinese provinces in BRI, see “BRI Coordination and Financing Mechanisms”).<sup>69</sup>

The leadership in Beijing is particularly interested in developing China’s western Xinjiang autonomous region as part of its strategy to use economic growth to dampen unrest among its Uyghur population (with the other part of the strategy being systematic, technology-enabled repression).<sup>\*</sup> Outside China’s borders, BRI projects are intended to promote stability and good relations with neighboring countries—a concept China calls “periphery diplomacy”—while helping to combat extremism that the Chinese government views as stemming from deprivation.<sup>70</sup>

### Xinjiang: BRI Hub and Police State

Xinjiang—a critical region for BRI that sits at a strategic crossroads where China meets the countries to its west—is the site of an extensive campaign of repression by the CCP government targeting the region’s majority Islamic Uyghur population and other ethnic minorities, many of whom do not culturally or politically identify with China.<sup>71</sup> As Michael Clarke, associate professor at the National Security College, Australian National University, points out, “[President] Xi has declared that ‘long term stability’ in Xinjiang—a hub for three of the six proposed ‘economic corridors’ linking China to South Asia, the Middle East and Europe under BRI—is vital to the initiative’s success.”<sup>72</sup> From China’s perspective, stability in Xinjiang is critical for the success of BRI, and BRI’s success is essential for continued legitimacy of the Party. In the minds of Chinese leaders, the stakes for handling the restive region are high.<sup>73</sup> Some countries along BRI routes with significant Muslim populations—including Pakistan, India, Bangladesh, and Kazakhstan—have begun to voice concerns about Chinese mistreatment of Uyghurs.<sup>74</sup> Growing backlash over China’s Uyghur policy could make some states unwilling to cooperate with Beijing on BRI projects.

Today, the UN estimates that more than a million Uyghurs and other ethnic minorities in Xinjiang, or 8 percent of the province’s total ethnic minority population, are being held in internment camps.<sup>†</sup><sup>75</sup> Detained Uyghurs are routinely forced to denounce their Muslim religious beliefs, their own actions, and the actions of their family, and to give thanks to the CCP.<sup>76</sup> The U.S. Department of State reported that China has “continued to extract unpaid labor, conduct indoctrination sessions, and closely monitor and restrict the movements of Uyghurs to counteract what it con-

<sup>\*</sup>Chinese authorities use cutting-edge surveillance capabilities enabled by smartphones, security cameras, and other data-tracking tools to monitor—and often arrest and imprison—Uyghur populations in Xinjiang whom they suspect of plotting against the state. *Economist*, “China Has Turned Xinjiang into a Police State Like No Other,” May 31, 2018.

<sup>†</sup>Xinjiang is home to about 11.3 million Uyghurs, who comprise 48 percent of the population in the region. Statistics Bureau of the Xinjiang Uyghur Autonomous Region, *Population by Ethnicity in Major Years*, March 15, 2017. Translation. [http://www.xjtj.gov.cn/sjcx/tjnj\\_3415/2016xjtjnj/rkij/201707/t20170714\\_539451.html](http://www.xjtj.gov.cn/sjcx/tjnj_3415/2016xjtjnj/rkij/201707/t20170714_539451.html); China’s National Bureau of Statistics, *China Statistical Yearbook 2016*. <http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>.

### **Xinjiang: BRI Hub and Police State—Continued**

siders ‘religious extremism’ in Xinjiang.”<sup>77</sup> Cutting-edge technology enables the Chinese government’s repression campaign. As documented by Human Rights Watch, “authorities conduct compulsory mass collection of biometric data, such as voice samples and DNA, and use artificial intelligence and big data to identify, profile, and track everyone in Xinjiang.”<sup>78</sup>

In addition, Chinese authorities have arrested Uyghurs to intimidate and blackmail relatives overseas in order to suppress dissent outside China; others have been forced to spy for Beijing or else have their families arrested or face longer sentences.<sup>79</sup> Authorities have also detained the Xinjiang-based families of Radio Free Asia Uyghur Service journalists in retaliation for their negative coverage of the situation in the region.<sup>80</sup> The funding China allocates to this repression apparatus illustrates its vast scale. From 2016 to 2017, spending on domestic security in Xinjiang nearly doubled from \$4.6 billion to \$8.8 billion.<sup>81</sup> In total, regional security spending has grown nearly tenfold since 2007, for a province of 23.6 million people.<sup>82</sup>

### **Expanding China’s Military Reach to Protect Overseas Interests**

The People’s Liberation Army’s (PLA) role in supporting BRI is still in the early stages of development, based on public statements and writings from PLA officials and scholars.<sup>83</sup> However, PLA planning, training, equipment, and operations geared toward protecting China’s overseas interests have all advanced rapidly in recent years.<sup>84</sup> Protecting China’s interests associated with BRI could require further expansion of those capabilities, although in the meantime Beijing could rely on private and host nation security forces to fill in the gaps.<sup>85</sup> In part to meet those demands, the PLA is preparing to carry out missions to protect growing numbers of Chinese citizens, assets, and investments overseas.\* China’s 2015 defense white paper, entitled *China’s Military Strategy*, listed “to safeguard the security of China’s overseas interests” as a core PLA task for the first time.†

Over the last five years, as BRI has taken shape, the PLA simultaneously made substantial progress in developing and fielding capabilities for force projection overseas.<sup>86</sup> The PLA Navy has broadened its focus to include “open seas protection” along with “offshore waters defense.”<sup>87</sup> Official Chinese media and military scholars openly discuss preparations for more expansive missions employing a “blue

\* Official Chinese thinking about and preparations for overseas operations constitute a major strategic trend with drivers that both predate and go beyond BRI. For background on how the PLA is preparing for and thinking about operating abroad, see Timothy R. Heath, “China’s Pursuit of Overseas Security,” *RAND Corporation*, March 2018, 33–37; U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “Developments in China’s Military Expeditionary and Force Projection Capabilities,” in *2016 Annual Report to Congress*, November 2016, 255–288; Ely Ratner et al., “More Willing and Able: Charting China’s International Security Activism,” *Center for a New American Security*, May 2015, 38–42.

† The first official mention of protecting China’s overseas interests came during a 2004 speech by then Chinese President and General Secretary of the CCP Hu Jintao. Alexander Sullivan and Andrew S. Erickson, “The Big Story behind China’s New Military Strategy,” *Diplomat*, June 5, 2015; China’s State Council Information Office, *China’s Military Strategy*, May 26, 2015; Hu Jintao, Tenth Conference of Chinese Diplomatic Envoys Stationed Abroad Held in Beijing, Beijing, China, August 25–29, 2004.

water navy” that can operate in “distant oceans.”<sup>88</sup> China plans an increase to its marine corps from the current level of 20,000; one rationale for the increase is to help secure the country’s overseas interests.<sup>89</sup> The PLA Army conducts counterterror exercises and participates in peacekeeping operations, which would be applicable for preparing the ground forces to undertake BRI security operations should Beijing feel compelled to deploy a force abroad.<sup>90</sup> The PLA has increased the frequency and complexity of its peacetime overseas activities, which has allowed it to gain valuable operational experience that would apply to future overseas BRI support operations.\* Additionally, the PLA derived lessons from its previous experiences evacuating Chinese citizens from unstable countries, including from Libya in 2011 and Yemen in 2015.†

The PLA has also made progress in gaining access to overseas facilities for military use—a development China claimed it would never pursue in its first defense white paper issued in 1998.<sup>91</sup> China’s first overseas base—Beijing calls it a “military support facility”—opened in Djibouti in August 2017 and has the potential to become a regional hub for PLA operations.<sup>92</sup> Many analysts believe China plans a second naval base near Gwadar Port in Pakistan, although the Chinese government denies having intentions to do so.<sup>93</sup> As China’s economic and other interests expand around the globe, Beijing will likely continue to invest in developing overseas bases, facilities, and arrangements that support increased PLA operations or even routine presence in regions covered by the Belt and Road.<sup>94</sup>

### Chinese BRI Investments in Ports and Maritime Infrastructure

Ports and other maritime infrastructure are a major focus of BRI,<sup>95</sup> which has raised concerns that Beijing will try to convert economic stakes into strategic outposts or even bases.<sup>96</sup> Reservations about Chinese intentions grew when Beijing converted outstanding debt into a controlling equity stake and a 99-year lease for Hambantota port in Sri Lanka.<sup>97</sup> Colombo’s experience prompted Burma’s government to review a similar project with China to build a deep-sea port at Kyaukpyu.<sup>98</sup> Analysts from the Center for Advanced Defense Studies examined Chinese port investments and unofficial yet authoritative state- and CCP-affiliated publications discussing the rationales for those investments. They found that “these investments are generating political leverage, increasing Beijing’s military presence, and reshaping the

\*Those activities include antipiracy patrols in the Gulf of Aden, expanded contributions to UN peacekeeping operations, and increased military-to-military engagement through bilateral and multilateral exercises. Timothy R. Heath, “China’s Pursuit of Overseas Security,” *RAND Corporation*, March 2018, 66; U.S.-China Economic and Security Review Commission, Chapter 2, Section 1, “China’s Global Security Activities in 2017,” in *2017 Annual Report to Congress*, November 2017, 170–178, 184–186; Ely Ratner et al., “More Willing and Able: Charting China’s International Security Activism,” *Center for a New American Security*, May 2015, 83.

†The 2011 Libya operation was the first time China used PLA Navy ships to provide security for an evacuation operation. The 2015 Yemen operation was carried out by two PLA Navy frigates and a replenishment ship conducting antipiracy operations in the Gulf of Aden. U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “Developments in China’s Military Expeditionary and Force Projection Capabilities,” in *2016 Annual Report to Congress*, November 2016, 261–262; Jane Perlez and Yufan Huang, “Yemen Evacuation Shows Chinese Navy’s Growing Role,” *New York Times*, March 31, 2015; Gabe Collins and Andrew S. Erickson, “Implications of China’s Military Evacuation of Citizens from Libya,” *China Brief*, March 11, 2011.

### **Chinese BRI Investments in Ports and Maritime Infrastructure—*Continued***

strategic operating environment in China's favor—often at the expense of the recipient country.”<sup>99</sup>

A report from CSIS concluded that the economic prospects for Chinese maritime infrastructure projects are mixed at best.<sup>100</sup> Regarding potential military benefits, the same report found that “in peacetime, these efforts will certainly expand Chinese influence in the region, possibly through access to port facilities to refuel or resupply naval vessels and in terms of antipiracy operations and familiarization with other regional militaries,” but in wartime, these Chinese outposts “will likely create [for China] as many vulnerabilities as opportunities in terms of protecting trade routes, bases, and ships.”<sup>101</sup>

### ***Expanding China's Geopolitical Influence***

China envisions BRI expanding Beijing's geopolitical influence across Asia, the Middle East, Africa, and Europe, and eventually to Latin America and the Caribbean.<sup>102</sup> Chinese leaders' public statements about China's strategic motivations for such expansive visions are purposefully murky. However, some Chinese strategists argue Beijing's “march west” across the Eurasian landmass—to use Peking University scholar Wang Jisi's phrase—will allow China to expand its strategic influence without provoking a confrontation with other major powers, namely the United States, over further expansion to China's east.<sup>103</sup> According to a review of Chinese-language BRI analyses by Joel Wuthnow of the National Defense University, a major school of thought argues “China can use the BRI to expand its strategic influence in Eurasia while avoiding direct competition with the United States.”<sup>104</sup> In BRI's early years, Chinese scholars regularly portrayed the initiative as a geopolitical response to the Obama Administration's “Rebalancing to Asia” policy.<sup>105</sup>

In addition, by tying BRI to existing international institutions and inventing new institutions such as the Belt and Road Forum and Asian Infrastructure Investment Bank (AIIB), China seeks to use BRI to carve out a larger role for itself within the broader latticework of international institutions and multiply BRI's impact. By doing so, Beijing aims to reshape the structure and norms of global governance to more closely reflect its interests and values. In his speech to the Belt and Road Forum, President Xi noted, “Important resolutions passed by the UN General Assembly and Security Council contain reference to [BRI].”<sup>106</sup> Chinese officials have successfully lobbied to incorporate BRI references or establish formal linkages with several additional UN organizations, including the UN Department of Economic and Social Affairs, the UN Development Program, and the World Health Organization.<sup>107</sup> State Councilor and Foreign Minister Wang Yi publicly linked BRI to the Shanghai Cooperation Organization (SCO) in a June 2017 speech.<sup>108</sup> Chinese official media have also compared BRI to the Group of 20, calling BRI “one of two major platforms in the world ... propelling the world economic development.”<sup>109</sup>

Beijing is also pushing for its dispute resolution processes to gain acceptance abroad. In June 2018, in response to the growing number of BRI-related disputes, China's Supreme People's Court launched two new courts based in Xi'an and Shenzhen to handle these cases.\* The courts offer parties a range of dispute resolution services—including mediation, arbitration, and litigation—and the courts' jurisdiction covers disputes between commercial investors, not disputes between states or between investors and states.<sup>110</sup> While the appointed judges are all from China's Supreme People's Court, the courts may allow certain international commercial mediation and arbitration institutions and an international commercial expert committee to participate in mediation and arbitration proceedings.<sup>111</sup> Chinese analysts argue the new international commercial courts are needed because the existing dispute settlement regime † can be too costly and time-consuming and fails to protect the interest of Chinese companies abroad.<sup>112</sup>

While commercial parties have the right to choose the venue for dispute resolution, Western analysts have expressed concerns that China may pressure parties to settle disputes in the new Chinese commercial courts or to have settlement in these courts written into the dispute settlement clauses of project contracts, which may disadvantage foreign firms.<sup>113</sup> The courts fall within China's legal system, which is not independent of the government and is therefore subject to interference from Chinese regulators and CCP officials.<sup>114</sup>

### BRI Coordination and Financing Mechanisms

China has created new coordination and financing mechanisms for BRI that improve Beijing's ability to align the initiative to support its broader national goals. In testimony to the Commission, Nadège Rolland, senior fellow at the National Bureau for Asian Research, described BRI as a "top-level plan [that] trickles down to all bureaucratic levels."<sup>115</sup> At the top level, BRI is overseen by the Leading Small Group on Advancing the Belt and Road, ‡ established in March 2015.<sup>116</sup> An office within the National Development and Reform Commission coordinates work related to the initiative with the Ministry of Commerce, Ministry of Foreign Affairs, and other relevant entities.<sup>117</sup> China's International Development Cooperation Agency, created in March 2018 as part of a major government reorganization, is expected to play a key role in supporting BRI; the agency is tasked with overseeing China's

\*The Shenzhen court will handle cases related to the Maritime Silk Road, while the Xi'an court will handle cases related to the land-based Silk Road Economic Belt. Yang Sheng, "China to Set up International Courts to Settle Belt and Road Disputes," *Global Times*, June 28, 2018; He Quanlin and Chen Xiaochen, "Belt and Road Requires New Global Dispute Regime," *Global Times*, February 1, 2018.

† Currently, companies can address commercial disputes through domestic courts, international arbitration institutions (e.g., the London Court of International Arbitration and the Hong Kong International Arbitration Center), or international commercial courts (e.g., the Singapore International Commercial Court and the Dubai International Finance Center Courts). Matthew S. Erie, "The China International Commercial Court: Prospects for Dispute Resolution for the Belt and Road Initiative," *American Society of International Law Insights*, August 31, 2018; Nicholas Lingard et al., "China Establishes International Commercial Courts to Handle Belt and Road Initiative Disputes," *Freshfields Bruckhaus Deringer*, July 20, 2018.

‡ Leading small groups are high-level CCP bodies that coordinate policy making across the Chinese bureaucracy. The Leading Small Group on Advancing the Belt and Road is in charge of guiding and coordinating BRI-related policies. Christopher Johnson, Scott Kennedy, and Mingda Qiu, "Xi's Signature Governance Innovation: The Rise of Leading Small Groups," *Center for Strategic and International Studies*, October 17, 2017.

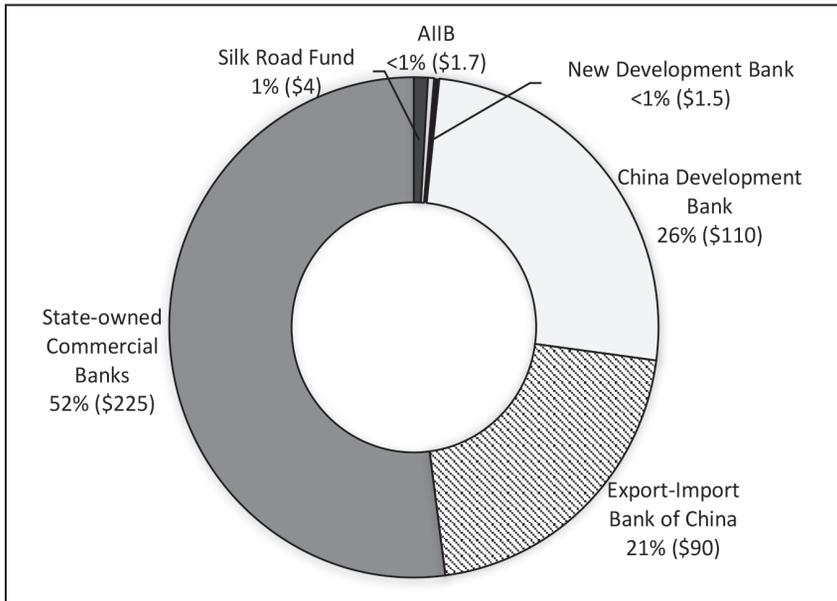
foreign aid program, and integrates the overseas aid responsibilities of foreign affairs and commerce ministries.<sup>118</sup>

Chinese provincial governments bear most of the responsibility for implementing BRI. Eager to capitalize on the trade and investment opportunities and central government funding tied to BRI, all of the country's 31 provincial-level regions have issued work plans on BRI.<sup>119</sup> Chinese provinces are using BRI to advance their interests, with the central government stepping in to mediate in cases where competition among provinces has proved counterproductive.<sup>120</sup>

China has marshaled considerable financial resources for BRI, most of which are provided through traditional state channels, while others are offered by new financial institutions created through Beijing's initiative, such as AIIB and the Silk Road Fund.<sup>121</sup> Analyzing BRI-related financing is challenging because the Chinese government does not release consistent, disaggregated statistics; private sources, likewise, are not comprehensive. However, it is possible to estimate the magnitude of BRI funding through Chinese government data. To date, China's policy banks and major state-owned commercial banks have shouldered the brunt of financing for BRI (see Figure 3). Beijing recognizes it cannot fund BRI alone and is encouraging foreign investors at both the government and private sector levels to help finance the initiative.<sup>122</sup> Private finance will be essential to meeting BRI's massive funding requirements, but private actors have been reluctant to invest because many of the initiative's planned projects lack commercial viability.<sup>123</sup>

**Figure 3: BRI Funding by Source**

(Outstanding loans or equity investments at year-end 2016, US\$ billions)



Source: Various.<sup>124</sup>

- *Chinese policy banks:* China Development Bank (CDB) and the Export-Import Bank of China, both Chinese policy banks,\* are major sources of finance for BRI projects involving Chinese companies. State-owned and noncommercial, they fund BRI projects through bilateral lending and can provide lower interest rates and longer-term loans than other Chinese banks—and also make it easier for Beijing to fund projects in line with its broader policy objectives.<sup>125</sup> CDB announced in 2015 that it would invest over \$890 billion for more than 900 projects in 60 countries over an unspecified period.<sup>126</sup> At China’s Belt and Road Forum in May 2017, CDB announced it would invest \$37 billion in BRI projects over the next three years.<sup>127</sup> At the end of 2017, CDB’s outstanding loans for BRI projects reached \$180 billion, while the Export-Import Bank of China’s outstanding BRI loans totaled \$110 billion.<sup>128</sup>
- *Chinese state-owned commercial banks:* China’s three largest state-owned commercial banks—the Industrial and Commercial Bank of China, Bank of China, and China Construction Bank—provided a total of \$225 billion in loans for more than 800 BRI projects by the end of 2016 (latest data available).<sup>129</sup>
- *Silk Road Fund:* The Silk Road Fund is a state-owned investment fund established in 2014 with \$40 billion in registered capital. About 65 percent of the fund’s capital comes from China’s State Administration of Foreign Exchange; 15 percent from the country’s sovereign wealth fund, China Investment Corporation; and the rest from the Export-Import Bank of China and CDB.<sup>130</sup> The fund’s chairman, Jin Qi, said in 2015 that the projects it backs need to be commercially sustainable, allowing the fund to “exit them once they come to market.”<sup>131</sup> By the end of 2016, the Silk Road Fund had committed \$4 billion in investments.<sup>132</sup>
- *Multilateral development banks:* Two China-led multilateral institutions, AIIB (established in 2015 with \$100 billion in initial capital) and the New Development Bank (NDB) (established in 2014 to support infrastructure development in BRICS† countries, with \$100 billion in starting capital) will play an important role in BRI funding, alongside traditional multilateral development banks. AIIB and NDB financing has been modest so far, but is expected to ramp up. AIIB extended \$2.5 billion in loans in 2017, up from \$1.7 billion in 2016, but plans to invest \$10 billion in 2018.<sup>133</sup> The NDB lent \$1.5 billion in 2016, and plans to lend \$2.5 billion in 2017 and \$4 billion in 2018.<sup>134</sup>

## Global Reactions and Competing Visions

Some countries welcome BRI in light of China’s sizable financial commitments, while others are wary of becoming economically de-

\*The Chinese government established three policy banks in 1994—CDB, the Export-Import Bank of China, and Agricultural Development Bank of China—to separate out government-directed spending from commercial banking. CDB and the Export-Import Bank of China facilitate public sector investment and outbound investment, while Agricultural Development Bank of China supports the development of China’s agricultural sector. Zhang Yuzhe and Han Wei, “China Steps up Supervision of Policy Lenders,” *Caixin*, August 29, 2017.

†BRICS refers to the informal grouping of five emerging economies: Brazil, Russia, India, China, and South Africa.

pendent on China.<sup>135</sup> Some BRI countries also sense an opportunity to play regional powers against one another to their benefit.<sup>136</sup> For example, Pakistan and Gulf countries could play China off the United States, Eastern European countries could play China off the EU, and Central Asian countries could play China off Russia.<sup>137</sup>

Major powers have supported BRI in principle, having a shared interest in promoting connectivity and stability in Eurasia, but remain concerned about the initiative's commercial feasibility, transparency, and environmental impacts, as well as its strategic implications for their political, economic, and security interests abroad. China has not adequately addressed concerns from some major economies—including the United States, the EU, Australia, India, and Japan—about whether BRI projects will conform to international standards on environmental and social protection, transparency, and fair competition.<sup>138</sup> In part driven by those concerns, major powers have started to advance their own competing connectivity initiatives as an alternative to BRI.

### ***Risky Business: Debt Sustainability of BRI Projects***

BRI raises important questions about the debt sustainability of the initiative within BRI countries. The key concern is that the lack of commercial terms behind BRI projects will leave countries with debt burdens that will hinder sound public investment and, more broadly, economic growth. China is lending in countries with low investment grades. The sovereign debt of 27 BRI countries is regarded as “junk” by the three main ratings agencies, while another 14 have no rating at all.<sup>139</sup> Some BRI countries lack the capacity to conduct thorough project assessments, and in countries that suffer from weak governance and corruption, local elites may seek to leverage BRI to fund pet projects and siphon off funds for personal gain.<sup>140</sup> There is also concern that debt problems will foster dependence on China that Beijing can exploit for strategic ends.<sup>141</sup>

Further compounding these concerns, China's lending practices often depart from international standards.<sup>142</sup> Most of China's state lending overseas is based on commercial, nonconcessional terms; according to Aid Data—a research lab at the College of William & Mary—only a fifth of China's development finance met the OECD Development Assistance Committee's criteria for official development assistance (ODA) between 2000 and 2014.\*† In addition, multilateral institutions and most bilateral development finance institutions disclose the financing terms for loans to sovereign governments; however, Chinese policy banks do not report their loans to individual countries—much less disclose the terms of their loans—making it difficult to assess the present value of the debt owed by a country to China.<sup>143</sup> Based on an

\*The OECD Development Assistance Committee defines ODA as finance provided by official agencies (1) “administered with the promotion of the economic development and the welfare of developing countries as its main objective” and (2) “is concessional in character and conveys a grant element of at least 25 percent (calculated at a rate of discount of 10 percent).” OECD, “Official Development Assistance—Definition and Coverage.”

†In comparison, between 2000 and 2014, 93 percent of official finance provided by the United States to other countries qualified as bilateral ODA, while 80.6 percent of official finance provided by OECD Development Assistance Committee countries as a whole qualified as ODA. During the same period, 35.6 percent of official finance flows from the World Bank qualified as ODA. Axel Dreher et al., “Aid, China, and Growth: Evidence from a New Global Development Finance Dataset,” Aid Data Working Paper, October 2017, 14.

analysis of press and International Monetary Fund (IMF) reports, the terms of Chinese policy banks' loans appear to vary widely, ranging from interest-free to commercial rates.\*<sup>144</sup> Finally, unlike other major international creditors, China does not formally participate in multilateral mechanisms to address sovereign debt problems or coordinate with other major creditors. China is an observer but not a member of the Paris Club, an informal group of major creditor countries that help negotiate the terms of sovereign debt restructuring in coordination with the IMF.<sup>145</sup>

A March 2018 report from the Center for Global Development assessed the current debt vulnerabilities of countries identified as potential BRI borrowers. Out of 23 countries determined to be significantly or highly vulnerable to debt distress, the authors identified eight countries "where BRI appears to create the potential for debt sustainability problems, and where China is a dominant creditor in the key position to address those problems" (see Table 2).<sup>†</sup>

Pakistan, one of the eight countries identified, is headed toward a balance of payments crisis, due in part to a surge in Chinese loans and imports of capital goods for CPEC‡ projects.§ As a result, Pakistan is expected to request an IMF bailout in the months following the July 2018 election of Imran Khan as the country's new prime minister.¶ Any loan from the IMF would likely require Pakistan's new government to disclose the financing terms of existing CPEC projects as well as include restrictions on public spending, which could curtail CPEC.<sup>146</sup> China has kept Pakistan afloat with short-term lending—providing \$4 billion in commercial loans in the fi-

\* Chinese policy banks provide a mix of financing overseas, including concessional and nonconcessional loans, preferential export buyer's credits, and export buyer's credits. Concessional loans are offered at subsidized interest rates (around 2 percent) generally with a 5-year grace period and 10-year repayment period, and are denominated in RMB. Nonconcessional loans are extended with a market-based interest rate. Preferential export buyer's credits are loans to foreign borrowers to finance their purchase of Chinese goods offered at interest rates on more generous terms than commercial rates, generally with a grace period from 3 to 6 years, with maturities between 8 and 12 years; they are denominated in foreign currency, typically U.S. dollars. Export buyer's credits are offered to foreign governments to purchase goods and services from Chinese companies. China-CELAC Forum, "Introduction of the Preferential Loans Announced to Latin American and Caribbean Countries," June 2, 2015; European Parliament Directorate-General for External Policies, "Export Finance Activities by the Chinese Government," 2011, 6–7; Deborah Brautigam and Jyhjong Hwang, "China-Africa Loan Database Research Guidebook," *SAIS China-Africa Research Initiative*, 6–7.

† The 23 countries are Afghanistan, Albania, Armenia, Belarus, Bhutan, Bosnia and Herzegovina, Cambodia, Djibouti, Egypt, Ethiopia, Iraq, Jordan, Kenya, Kyrgyzstan, Laos, Lebanon, the Maldives, Mongolia, Montenegro, Pakistan, Sri Lanka, Tajikistan, and Ukraine. John Hurley, Scott Morris, and Gailyn Portelance, "Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective," *Center for Global Development Policy Paper*, March 2018, 8, 11.

‡ CPEC, which envisions the construction of roads, ports, power plants, and other large-scale infrastructure projects across Pakistan, has been touted by Beijing as a "flagship project" of BRI and is estimated to cost \$62 billion. Drazen Jorgic, "Pakistan Dismisses U.S. Concerns about IMF Bailout and China," *Reuters*, August 1, 2018; *Xinhua*, "Belt and Road Initiative Reshaping Asia's International Relations: Report," April 8, 2018; Katharine Houreld, "China and Pakistan Launch Economic Corridor Worth \$46 Billion," *Reuters*, April 20, 2015.

§ At the end of June 2018, Pakistan's current account deficit, a broad measure of the imbalance between exports and imports, reached a record \$18 billion and the country's foreign currency reserves dropped to \$10 billion, an amount equivalent to less than two months of imports. Jeffrey Gettleman, "Imran Khan's First Test: Pakistan's Troubled Economy," *New York Times*, August 4, 2018; Salman Siddiqui, "Pakistan's Current Account Deficit Peaks at \$17.99 Billion," *Express Tribune*, July 20, 2018; Farhan Bokhari and Kiran and Kiran Stacey, "Pakistan Seeks More Loans from China to Avert Currency Crisis," *Financial Times*, July 5, 2018; International Monetary Fund, 2017 Article IV Consultation, IMF Country Report No. 17/212, July 2017, 4.

¶ Pakistan has received 12 bailouts from the IMF since the 1980s, the most recent of which was a \$6.7 billion assistance package in 2013. Faseeh Mangi, "Why Pakistan Is on the Road to Another IMF Bailout," *Bloomberg*, July 26, 2018; Jeremy Page and Saeed Shah, "China's Global Building Spree Runs into Trouble in Pakistan," *Wall Street Journal*, July 22, 2018.

nancial year ending June 2018—and is reported to have lent an additional \$2 billion in July 2018 to stabilize Pakistan’s dwindling foreign exchange reserves.<sup>147</sup>

Djibouti provides another instructive example. China has provided \$1.4 billion of funding for major infrastructure projects, equivalent to about 75 percent of Djibouti’s GDP.<sup>148</sup> Djibouti’s increasing indebtedness to China has raised concerns for the U.S. government that the Djiboutian government may hand over control of a strategic port to a Chinese-owned company, which would threaten U.S. national security interests, including major U.S. and allied military bases in the country.\*

**Table 2: Key Countries at Risk of Debt Distress from BRI**

Country	GDP (US\$ billions, 2016)	Public and publicly guaranteed debt† (US\$ billions, 2016; % of GDP)‡	BRI lending pipeline§ (US\$ billions)	World Governance Indicators-Rule of Law (Percentile rank among all countries, 2017)	Transparency International Corruption Perceptions Index (2017)¶
Djibouti	1.73	1.50 (87%)	1.46	16.8	31
Kyrgyzstan	6.55	4.07 (62%)	4.56	14.4	29
Laos	15.90	10.78 (68%)	5.47	20.7	29
Maldives	4.22	2.78 (66%)	1.11	36.5	33
Mongolia	10.95	9.59 (88%)	2.47	45.7	36
Montenegro	4.37	3.41 (78%)	1.54	53.9	46
Pakistan	278.91	195.24 (70%)	40.02	20.2	32
Tajikistan	6.95	2.91 (42%)	2.81	10.6	21

*Source:* John Hurley, Scott Morris, and Gailyn Portelance, “Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective,” *Center for Global Development Policy Paper*, March 2018, 28; Transparency International, “Corruption Perceptions Index 2017,” February 21, 2018; World Bank, “World Governance Indicators, 2018 Update,” September 21, 2018. <http://info.worldbank.org/governance/wgi/index.aspx#home>.

\*The port is significant because it serves as the main access point for U.S., French, and Japanese military bases in Djibouti, and because of its proximity to China’s only overseas military base. Josh Rogin, “Can the Trump Administration Stop China from Taking over a Key African Port,” *Washington Post*, March 7, 2018; Idrees Ali and Phil Stewart, “‘Significant’ Consequences if China Takes Key Port in Djibouti: U.S. General,” *Reuters*, March 6, 2018.

†Public and publicly guaranteed debt consists of long-term external obligations of public debtors and external obligations of private debtors that are guaranteed for repayment by a public entity.

‡A 2015 IMF working paper examining whether there is a tipping point for government debt ratios beyond which economic growth drops off significantly finds a statistically significant threshold effect in the case of countries with rising debt-to-GDP ratios above 50 to 60 percent. Alexander Chudik et al., “Is There a Debt-Threshold Effect on Output Growth?” *IMF Working Paper*, September 2015, 5.

§The Center for Global Development characterized a BRI pipeline project as “a project whose financing may not be captured by a country’s latest public figures, which we have through the end of 2016.” John Hurley, Scott Morris, and Gailyn Portelance, “Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective,” *Center for Global Development Policy Paper*, March 2018, 10.

¶Transparency International’s Corruption Perceptions Index ranks 180 countries and territories by their perceived levels of public sector corruption and uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.

A growing number of international stakeholders are sounding alarms over BRI's debt sustainability risks. In April 2018, IMF Managing Director Christine Lagarde warned that BRI-related infrastructure projects can "lead to problematic increase in debt, potentially limiting other spending as debt service rises, and creating balance of payment challenges."<sup>149</sup> Asian Development Bank President Takehiko Nakao echoed these concerns at the bank's annual conference in May, noting, "If countries borrow too much for certain infrastructure without seriously looking at the viability and feasibility, it will bring more trouble in repayment.... We should look at debt sustainability issues very seriously."<sup>150</sup>

International financial institutions and major creditor countries may be particularly concerned about BRI's debt sustainability risks because they have already spent billions of dollars in providing relief to heavily indebted countries through initiatives such as the IMF and World Bank's Heavily Indebted Poor Country (HIPC) initiative.\*<sup>151</sup> Six of the 36 countries that received debt reduction packages through the HIPC initiative are BRI countries: Afghanistan, Bolivia, Ethiopia, Guyana, Madagascar, and Senegal.<sup>152</sup>

An August 2018 letter from a bipartisan group of 16 U.S. senators expressed concern over bailout requests to the IMF from countries that have "accepted predatory Chinese infrastructure financing."<sup>153</sup> The letter detailed the "dangers of China's debt-trap diplomacy and its [BRI] to developing countries," calling on Treasury Secretary Steven Mnuchin and Secretary of State Mike Pompeo to work with U.S. partners to offer developing countries alternatives to Chinese investment and infrastructure financing.<sup>154</sup> According to the senators, "the goal for BRI is the creation of an economic world order ultimately dominated by China. It is imperative that the United States counters China's attempts to hold other countries financially hostage and force ransoms that further its geostrategic goals."<sup>155</sup> In a July 2018 interview, Secretary Pompeo warned that an IMF bailout for Pakistan should not provide funds to repay Chinese loans, saying, "There is no rationale for IMF tax dollars, and associated with that American dollars that are part of the IMF funding, for those to go to bail out Chinese bondholders or China itself."<sup>156</sup>

### ***Host Country Sovereignty Concerns***

As BRI projects proliferate, China's stake in the domestic politics of other countries will grow, further challenging China's long-espoused narrative of "noninterference" in other countries' affairs.<sup>157</sup> BRI could also expose China to political risk in host countries if projects have low quality standards, create unsustainable debt burdens, or funds get siphoned off by corrupt elites. In addition, Beijing could undermine its cooperative narratives about BRI in cases where China attempts to use its investments to coerce host countries into acquiescing to Chinese preferences.<sup>158</sup> China's rhetorical rejection of unequal diplomatic relationships will start to ring hollow if countries participating in BRI feel they are being treated like tributaries

\*The HIPC initiative was launched by the IMF and World Bank in 1996 to provide debt relief for heavily indebted poor countries. To date, debt reduction packages under the initiative have provided \$76 billion in debt service relief to 36 countries. International Monetary Fund, "Debt Relief under the Heavily Indebted Poor Countries (HIPC) Initiative," March 8, 2018.

rather than partners. Statements by government and political opposition figures in Sri Lanka regarding the Hambantota port project and in Burma regarding the Kyaukpyu port project and adjacent special economic zone provide early indicators of this backlash. For example, the *Financial Times* quoted one Burmese government official who worried that “if [Kyaukpyu] doesn’t do well, there is the risk of defaulting and becoming a Chinese-owned port.”<sup>159</sup>

### **Debt and Sovereignty as Political Issues in Malaysia’s Election**

BRI projects’ impacts on debt levels and sovereignty have become a controversial issue in domestic politics in some recipient countries. Chinese influence became a salient topic in Malaysia’s national elections this year, where now Prime Minister Mahathir Mohamed won a victory that surprised many observers.<sup>160</sup> During the campaign, Mr. Mahathir specifically connected Malaysia’s growing indebtedness to China with a potential loss of sovereignty, saying, “China comes with a lot of money and says you can borrow this money... But you must think, ‘How do I repay?’ Some countries see only the project and not the payment part of it. That’s how they lose chunks of their country. We don’t want that.”<sup>161</sup> That approach contrasted with the message of incumbent Prime Minister Najib Razak, who lost the election in part because he was seen as a cheerleader for Chinese investment and BRI.<sup>162</sup> After the election, the Mahathir-led government suspended tens of billions of China-linked projects pending review.<sup>163</sup> Still, Chinese economic heft in Malaysia and Southeast Asia overall will likely limit the degree to which Malaysia can assert its independence from Beijing.<sup>164</sup>

### **Competing Visions**

China’s expanding interests under BRI are generating friction and increasingly sharp criticism as Beijing encroaches on areas that other major powers consider to be their traditional spheres of influence.<sup>165</sup> At the same time, China does not have a monopoly on plans to facilitate global connectivity and trade. Other major powers have their own initiatives focused on bolstering economic growth and infrastructure development while maintaining or extending their geopolitical influence.<sup>166</sup> This section details how those powers are responding to BRI with their own competing visions.

#### *Japan*

Japan initially took a cautious stance toward BRI, but recently has signaled its willingness to participate in a limited capacity.<sup>167</sup> Japan’s shift is guided by pragmatic considerations of the initiative’s significance for regional development, and it views engagement as being necessary for building positive relations with China.<sup>168</sup> In July 2017, Japanese Prime Minister Shinzo Abe said Japan was willing to cooperate with BRI, provided the initiative “contribute[s] to regional and global peace and prosperity by adopting ideas held by all in the international community.”<sup>169</sup> So far, Japanese engage-

ment has been limited to private sector-led investment with financial support from the government.\*

At the same time, as Tobias Harris—economy, trade, and business fellow at the Sasakawa Peace Foundation USA—noted in his testimony to the Commission, Japan illustrates how “it is possible and even necessary for Asia’s wealthier democracies to pursue their own development strategies to help BRI members minimize their dependence on China and maximize their freedom.”<sup>170</sup> In response to BRI, Japan—a longtime infrastructure player in Asia with decades of experience investing in Southeast and Central Asia—has increased funding to expand “high-quality and sustainable infrastructure” in the region through its Partnership for Quality Infrastructure, launched in May 2015.† In line with the Association of Southeast Asian Nations’ (ASEAN) *Master Plan on ASEAN Connectivity 2025*, Japan is providing support for a number of new land and maritime corridors that would improve connectivity between the Bay of Bengal and the South China Sea.<sup>171</sup> Japan distinguishes its approach to building connectivity with its emphasis on the Ise-Shima Principles endorsed by the G7 in 2016, which include safety, reliability, transparency, social and environmental considerations, alignment with local development goals, and economic viability.<sup>172</sup>

Japan is also working with key partners to promote alternatives to China’s infrastructure development through BRI. In May 2017, Japan and India launched the Asia-Africa Growth Corridor, a joint initiative to build connectivity between Africa and the Pacific.‡ In November 2017, the U.S. Overseas Private Investment Corporation signed agreements with the Japan Bank for International Cooperation and Nippon Export and Investment Insurance to “offer high-quality United States-Japan infrastructure investment alternatives in the Indo-Pacific region.”<sup>173</sup> In July 2018, the United States, Japan, and Australia announced a trilateral partnership to mobilize investment for infrastructure projects in the Indo-Pacific region.<sup>174</sup>

Japan has responded to the strategic aspects of BRI by deepening security ties with countries in South and Southeast Asia. Japan agreed to a “Special Strategic and Global Partnership” with India in September 2014.<sup>175</sup> Tokyo has increased defense cooperation with

\*In December 2017, the Japanese government announced it would support BRI through financing public-private partnerships focused on the environmental sector, industrial modernization, and logistics. Japanese assistance will include loans through government-backed financial institutions to private Japanese and Chinese firms for projects in third-party BRI countries. In May 2018, Japan and China signed an MOU to establish a mechanism for promoting private economic cooperation in third countries. Official, Japan Ministry of Foreign Affairs, meeting with the Commission, Tokyo, May 25, 2018; Chris Gallagher, “Japan to Help Finance China’s Belt and Road Projects: Nikkei,” *Reuters*, December 5, 2017.

†The initiative will spend \$110 billion in Asia through 2020, half from Japan International Cooperation Agency and the Japan Bank for International Cooperation and half from the Asian Development Bank. In 2016, the initiative was expanded to \$200 billion globally (including Africa and the South Pacific). David Brewster, “A Little-Noticed Player Goes Big in the Indo-Pacific,” *War on the Rocks*, May 30, 2018; Official, Japan Ministry of Foreign Affairs, meeting with Commission, Tokyo, May 25, 2018; Masaaki Kameda, “Abe Announces \$110 Billion in Aid for ‘High-Quality’ Infrastructure in Asia,” *Japan Times*, May 22, 2015.

‡According to the initiative’s vision document, the Asia-Africa Growth Corridor will focus on four key areas: development and cooperation projects, quality infrastructure and digital and regulatory connectivity, capacity and skills enhancement, and people-to-people partnerships. Research and Information System for Developing Countries, Economic Research Institute for ASEAN and East Asia, and Japan External Trade Organization, “Asia Africa Growth Corridor: Partnership for Sustainable and Innovative Development: A Vision Document,” African Development Bank Meeting, Ahmedabad, India, May 22–26, 2017, 3–4.

India and helped finance strategic projects, such as upgrading civilian infrastructure in India's Andaman and Nicobar Islands.<sup>176</sup> Japan is also upping its security cooperation with Southeast Asian nations via its "Vientiane Vision" defense cooperation initiative and additional arms sales.<sup>177</sup>

### India

India faces intense strategic pressure from BRI, both on land and at sea, especially in the Indian Ocean.<sup>178</sup> New Delhi has been a strong critic of BRI, boycotted the May 2017 Belt and Road Forum, and does not allow BRI projects in India. However, New Delhi is a major contributor to AIIB and a founding member of the NDB.<sup>179</sup> Among India's central concerns about BRI is CPEC, given New Delhi's concern over Sino-Pakistani strategic cooperation and India's objections to BRI running through the disputed Kashmir region.<sup>180</sup> India has responded to the geopolitical challenge BRI presents by broadening the range and scope of its "Act East" policy.\* That policy aims to strengthen economic links between India and ASEAN countries, providing India's landlocked, underdeveloped northeast region better access to its southern ports and building new land corridors linking India to Thailand through Burma (e.g., the India-Myanmar-Thailand trilateral highway).<sup>181</sup>

India has also deepened security ties to the United States and Japan and shown a greater willingness to engage in the context of the quadrilateral or "Quad" grouping of Asian maritime democracies composed of India, Australia, Japan, and the United States.† The Quad is meant to coordinate on regional security issues in Asia in the context of the rise of China and India. Early discussions in the mid-2000s among the Quad countries fizzled as members disengaged in the face of objections from Beijing, but the idea has been revived in recent years as China has become newly assertive.<sup>182</sup> However, residual wariness about quadrilateral cooperation remains, as demonstrated by New Delhi's decision not to invite Australia to the 2018 Malabar exercises.‡ For his part, Indian President Narendra Modi has criticized BRI, most notably at the Shangri-La Dialogue in Singapore in June 2018, where he said:

*There are many connectivity initiatives in the region. If these have to succeed, we must not only build infrastructure, we must also build bridges of trust. And for that, these initiatives must be based on respect for sovereignty and territorial*

\*For additional background on China's relations with South Asia, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 1, "China and South Asia," in *2016 Annual Report to Congress*, November 2016, 314–344; Dhruva Jaishankar, "Actualizing East: India in a Multipolar Asia," *Institute of South Asian Studies, National University of Singapore*, May 23, 2017; Anubhav Gupta, "How Modi Is Broadening the Range and Scope of India's 'Act East' Policy," *World Politics Review*, June 11, 2018.

†The idea for what came to be known as the Quad was first proposed by Japanese Prime Minister Shinzo Abe in 2007. Emma Chanlett-Avery, "Japan, the Indo-Pacific, and the 'Quad,'" *Chicago Council on Global Affairs*, February 2018; Tanvi Madan, "The Rise, Fall, and Rebirth of the 'Quad,'" *War on the Rocks*, November 16, 2017.

‡The Malabar Exercises are annual trilateral exercises led by the United States, India, and Japan. The United States and India held the first installment in 1992, and Japan became a regular participant in 2015. The exercise enhances interoperability among the participating militaries and puts an emphasis on high-end warfighting skills, maritime superiority, and power projection. William McCann, "U.S., Japan Maritime Self-Defense Force, Indian Naval Forces Conclude Malabar 2018," *U.S. Navy News Service*, June 20, 2018; Emanuele Scimia, "Malabar 2018: India Deals a Blow to Australia and 'the Quad,'" *Asia Times*, May 1, 2018.

*integrity, consultation, good governance, transparency, viability and sustainability. They must empower nations, not place them under impossible debt burden. They must promote trade, not strategic competition.*<sup>183</sup>

## Europe

Europe has a shared interest in promoting connectivity and stability in Eurasia, and many European countries welcome BRI in principle.\* However, the major European states and the supranational EU remain concerned about BRI's commercial feasibility, transparency, and environmental impacts, as well as its strategic implications for the EU's economic, political, and security interests abroad.<sup>184</sup> (For more on China's relations with Europe, see Chapter 3, Section 2, "China's Relations with U.S. Allies and Partners.")

European states' varying interests in relation to China have at times hampered a unified response to BRI.<sup>185</sup> Chinese leaders pursue a strategy of engaging European countries bilaterally or in subregional groups.<sup>186</sup> Most significantly, Beijing created the 16+1 grouping made up of Central and Eastern European countries plus China.† That group includes several countries, such as Hungary and the Czech Republic, whose politics have become increasingly illiberal in recent years.<sup>187</sup> Only 11 of the 16 Central and Eastern European countries that participate in the 16+1 grouping are members of the EU. That fact has raised concerns in Brussels that BRI infrastructure projects could weaken adherence to the EU's exacting standards, both within the bloc itself and on the EU's periphery.<sup>188</sup>

In addition, some analysts have warned Beijing could use BRI projects to gain support for Chinese aims—such as softening the EU's stance on human rights or lifting the EU arms embargo imposed after the 1989 Tiananmen Massacre—within the EU's internal political bodies.<sup>189</sup> Analysts point to Greece in particular as a potential access and influence point for Chinese entry into Europe, given the major BRI investment in the port of Piraeus and China's cultivation of Greek officials and politicians.<sup>190</sup> China has also courted the United Kingdom by offering potential investments and trade agreements as London tries to formulate its post-Brexit foreign trade policies.<sup>191</sup>

In the face of these challenges to European interests and values, major European states are beginning to take a more skeptical approach to BRI.<sup>192</sup> As a 2017 report from the European Council on Foreign Relations concludes, "Europe is turning to realist engagement with China, getting over the mirage of cash from China."<sup>193</sup> French President Emmanuel Macron has staked out a leadership

\*The EU's diplomatic arm, the European External Action Service, has expressed support for BRI with certain conditions, saying, "We [EU member states] support cooperation with China on its 'One Belt, One Road' initiative on the basis of China fulfilling its declared aim of making it an open initiative which adheres to market rules, EU and international requirements and standards, and complements EU policies and projects, in order to deliver benefits for all parties concerned and in all the countries along the planned routes." Delegation of the European Union to China, "Belt and Road Forum—EU Common Messages," May 14, 2017; *World Politics Review*, "Will Europe Embrace China's 'One Belt, One Road' Vision?" May 5, 2017.

†Members of the 16+1 grouping include China, 11 EU Member States (Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia), and five non-EU countries (Albania, Bosnia and Herzegovina, Macedonia, Montenegro, and Serbia). China-Central and Eastern European Countries Cooperation, "6th Summit of Heads of Government of Central and Eastern European Countries and China," November 27, 2017; China's Ministry of Foreign Affairs, *The Budapest Guidelines for Cooperation between China and Central and Eastern European Countries*, November 28, 2017.

position among European heads of state by clearly laying out the terms to which China must adhere for BRI to be welcomed in Europe. During a state visit to China, President Macron said, “The ancient Silk Roads were never only Chinese ... they cannot be one-way.... These roads cannot be those of a new hegemony, which would transform those that they cross into vassals.”<sup>194</sup> In April 2018, 27 of 28 EU ambassadors to Beijing signed an internal EU report saying BRI “runs counter to the EU agenda for liberalizing trade and pushes the balance of power in favor of subsidized Chinese companies.”<sup>195</sup> In September 2018, the EU released its joint communication for promoting connectivity between Europe and Asia. EU High Representative for Foreign Affairs Federica Mogherini explained that Europe’s approach seeks to “establish stronger networks and strengthen partnerships for sustainable connectivity, across all sectors and based on a respect for common rules.”<sup>196</sup>

### *Russia*

China and Russia compete for influence in Central Asia through their respective regional projects.\* Beijing and Moscow have thus far managed the competitive aspects of their bilateral relations in order to pursue closer strategic ties.<sup>197</sup> Specifically, in May 2015 the pair agreed to align Russia’s trade connectivity initiative, the Eurasian Economic Union, with BRI’s overland component, the Silk Road Economic Belt.<sup>198</sup> However, Russia still worries about growing Chinese influence in Central and South Asia, especially as Russia’s regional security bloc, the Collective Security Treaty Organization, struggles with cohesion and effectiveness and China continues to make economic and political inroads in the region.<sup>199</sup>

## **Implications for the United States**

### ***Trump Administration Views of BRI***

Recent comments from senior Trump Administration officials suggest the Administration’s “free and open Indo-Pacific” framework for U.S. regional strategy toward Asia is at least in part a response to BRI.<sup>200</sup> In July 2018 remarks on “America’s Indo-Pacific Economic Vision,” Secretary Mike Pompeo said, “The United States is committed to connectivity that advances national sovereignty, regional integration, and trust. This occurs when infrastructure is physically secure, financially viable, and socially responsible.”<sup>201</sup> Those comments came as part of a larger U.S. policy rollout announcing “\$113 million in new U.S. initiatives to support foundational areas of the future: digital economy, energy, and infrastructure.”<sup>202</sup> In addition, on August 4, Secretary Pompeo announced \$300 million in U.S. security assistance to the region to strengthen maritime security, develop humanitarian assistance and peacekeeping capabilities, and enhance programs that counter transnational threats.<sup>203</sup>

An editorial in the authoritative *People’s Daily* responded to U.S. policy announcements by asserting that U.S. initiatives “won’t cripple” BRI and claiming “the main reason [behind U.S. concerns] may

\*For more on China’s relations with Central Asia, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 1, “China and Central Asia,” in *2015 Annual Report to Congress*, November 2015, 391–427; International Crisis Group, “Central Asia’s Silk Road Rivalries,” July 27, 2017.

be that imperialism is deeply rooted in Western countries' political thinking and they understand the era differently from emerging countries."<sup>204</sup> However, the same editorial also welcomed U.S. investments in the region in the service of economic development, which demonstrates the competing impulses behind BRI.

These Trump Administration actions build on earlier official statements. In October 2017, Secretary of Defense James Mattis commented on BRI, saying, "Regarding 'One Belt, One Road,' I think in a globalized world, there are many belts and many roads, and no one nation should put itself into a position of dictating 'One Belt, One Road.'"<sup>205</sup> Moreover, the Trump Administration's *National Security Strategy*, released in December 2017, states:

*The United States will encourage regional cooperation to maintain free and open seaways, transparent infrastructure financing practices, unimpeded commerce, and the peaceful resolution of disputes. We will pursue bilateral trade agreements on a fair and reciprocal basis. We will seek equal and reliable access for American exports. We will work with partners to build a network of states dedicated to free markets and protected from forces that would subvert their sovereignty. We will strengthen cooperation with allies on high-quality infrastructure.*<sup>206</sup>

### **U.S. Economic Interests**

The United States has a range of economic interests at stake, from commercial opportunities for U.S. companies to global open trade and financial systems.<sup>207</sup> U.S. companies see sizable BRI-related opportunities within China and beyond China's borders, despite the geopolitical, financial, and operational risks.<sup>208</sup> Chinese companies have been eager to partner with Western multinationals on BRI projects for their technical expertise, longer experience operating in international markets, and credibility.<sup>209</sup> According to a 2015 China-Britain Business Council report, initial BRI-related opportunities are in the infrastructure, logistics, advanced manufacturing, and financial and professional services sectors, while further secondary opportunities exist in the agriculture, food processing, e-commerce, education, and tourism sectors.<sup>210</sup>

Although Beijing has been careful to emphasize BRI's openness to foreign companies, the initiative does not provide a level playing field for U.S. and other foreign companies to compete with Chinese firms.<sup>211</sup> Most Chinese-financed BRI projects are not open tender and are awarded to Chinese contractors, relegating foreign companies to partnering with Chinese companies as subcontractors.<sup>212</sup> As Randal Phillips, managing partner at the Mintz Group, noted in his testimony to the Commission,

*There are ... quite a number of opportunities for foreign businesses to participate in the "best supporting actor" category.... The net effect thus far, and likely for the foreseeable future, is for [foreign] companies to play sub-contracting roles to leading Chinese enterprises, particularly in the services sector such as commercial insurance, consulting, logistics, technical services provision, etc.*<sup>213</sup>

Several major U.S. companies are participating in BRI projects (see Addendum II, “Select U.S. Firms Participating in BRI”). In 2016, General Electric received \$2.3 billion in orders of equipment from Chinese construction and engineering companies to install abroad, mostly in BRI countries.\* Caterpillar announced it has partnered with Chinese companies in BRI countries.<sup>214</sup> However, opportunities for foreign companies may dwindle in the long term as Chinese companies become more competitive in sectors currently dominated by Western multinationals (e.g., engineering, telecommunications, and logistics).<sup>215</sup> Moreover, to the extent that Beijing succeeds in exporting technical standards, BRI could create new barriers to U.S. trade and investment in BRI markets.<sup>216</sup>

### ***Contest for Political Influence***

BRI will provide China with a potent tool for political influence, albeit one with many potential pitfalls.<sup>217</sup> In response, the 2017 U.S. *National Security Strategy* called for constructing a realistic alternative to BRI that can help meet the demand for development and infrastructure financing in Asia, Europe, and Africa.<sup>218</sup> Beyond its concrete manifestations, BRI constitutes the leading edge of a more global Chinese foreign policy with ambitious aims to revise—if not replace—the U.S.-led liberal international order.<sup>219</sup> As Ms. Rolland explains, “BRI is also meant to serve the broader regional ambition of building a Sinocentric Eurasian order.”<sup>220</sup>

### ***Potential Future Security Challenges***

Although the PLA’s role in the initiative has yet to be fully developed, BRI could eventually pave the way for more ambitious PLA presence and operations across Eurasia and the Indian Ocean region.<sup>221</sup> Expanded PLA operations beyond China’s near abroad could theoretically contribute to stability in war-torn places in Central and South Asia and the Middle East.<sup>222</sup> To advance those objectives, Beijing envisions a military in the future that is more capable of protecting its far-flung economic and political interests. However, a larger and more capable Chinese military presence enabled by BRI could also exacerbate friction and fuel geopolitical competition with the United States or other regional powers.<sup>223</sup> A more globally engaged PLA could have the practical effect of expanding areas of U.S.-China military competition beyond East Asia, resulting in a more globe-spanning contest with the potential for linkages across and between theaters in the event of tensions or even conflict.<sup>224</sup>

\* In 2014, Chinese construction and engineering companies ordered \$400 million worth of equipment from General Electric to install overseas. Keith Bradsher, “U.S. Firms Want in on China’s Global ‘One Belt, One Road’ Spending,” *New York Times*, May 14, 2017.

## Addendum I: Countries Currently Participating in BRI

East Asia and Pacific (5)	Europe and Central Asia (31)	Latin America and the Caribbean (8)	Middle East and North Africa (17)	South Asia (7)	Southeast Asia (11)	Sub-Saharan Africa (5)
China Mongolia New Zealand Niue Papua New Guinea	Albania Armenia Austria Azerbaijan Belarus Bosnia and Herzegovina Bulgaria Croatia Czech Republic Estonia Georgia Greece Hungary Kazakhstan Kyrgyzstan Latvia Lithuania Macedonia Moldova Montenegro Poland Romania Russia Serbia Slovakia Slovenia Tajikistan Turkey Turkmenistan Ukraine Uzbekistan	Antigua and Barbuda Bolivia Costa Rica Guyana Trinidad and Tobago Panama Uruguay Venezuela	Bahrain Egypt Iran Iraq Israel Jordan Kuwait Lebanon Libya Morocco Oman Qatar Saudi Arabia Syria Tunisia United Arab Emirates Yemen	Afghanistan Bangladesh Bhutan Maldives Nepal Pakistan Sri Lanka	Brunei Burma Cambodia Indonesia Laos Malaysia Philippines Singapore Thailand Timor-Leste Vietnam	Djibouti Ethiopia Madagascar Rwanda Senegal

Notes: China describes BRI as an open initiative not limited by geography. In an April 2017 press conference China's Foreign Minister Wang Yi said China "has no intention of designating clear geographic boundaries for the Belt and Road.... The initiative is not a member's club." The above countries are based on a list of countries maintained by China's State Information Center's Belt and Road Portal that have signed MOUs with China to cooperate on BRI. They are grouped based on the World Bank's classification of geographic regions. *Xinhua*, "Full Text of President Xi's Speech at Opening of Belt and Road Forum," May 14, 2017; Wu Gang, "SOEs Lead Infrastructure Push in 1,700 'Belt and Road' Projects," *Caixin*, May 9, 2017.

Source: China's State Information Center, Belt and Road Portal, *International Cooperation—Profiles*. [https://eng.yidaiyilu.gov.cn/info/iList.jsp?cat\\_id=10076](https://eng.yidaiyilu.gov.cn/info/iList.jsp?cat_id=10076); *Xinhua*, "China Focus: Xi, Maduro Agree to Promote Sino-Venezuelan Ties to Higher Level," September 14, 2018; Embassy of the People's Republic of China in Costa Rica, *Costa Rica Signs with China the Belt and Road Initiative*, September 3, 2018; *CGTN*, "China, Djibouti Sign New Agreements under Belt and Road," September 2, 2018; Government of the Republic of Rwanda, *Rwanda and China Sign Multiple Agreements as President Xi Jinping Concludes His Visit*, July 23, 2018; Embassy of the People's Republic of China in New Zealand (Cook Islands, Niue), *China and Niue Sign Memorandum of Understanding on Cooperation within the Framework of the Silk Road and the 21st Century Maritime Silk Road*, July 27, 2018.

## Addendum II: Select U.S. Firms Participating in BRI

Firm	Participation
<b>AECOM</b> (Engineering, procurement, and construction [EPC])	<p><b>Partnerships in EPC:</b> In May 2017, AECOM signed an MOU with Chinese construction 3D printing company WinSun. Under the agreement, the companies will explore opportunities to collaborate on 3D printing for building design and construction projects, particularly in the Middle East, for a three-year period.*</p> <p>In January 2018, AECOM was selected by China Communications Construction Company to provide site supervision services for the stations, viaducts, tunnels, and depots of the East Coast Rail Link project in Malaysia.</p>
<b>Black &amp; Veatch</b> (EPC)	<p><b>Partnerships in EPC:</b> In October 2017, Black &amp; Veatch and China Tianchen Engineering Corporation (TCC) signed an MOU to cooperate on developing gas, chemical, and fertilizer infrastructure projects throughout Asia, including in Indonesia, Thailand, Vietnam, Singapore, Burma, Bangladesh, Pakistan, Kazakhstan, and Tajikistan.†</p>
<b>Caterpillar</b> (EPC)	<p><b>Supplying construction machinery:</b> In 2016, Caterpillar released a white paper on its “vision and commitment for the shared success of [BRI]” in which the company outlined potential areas of cooperation with Chinese companies in BRI countries, including partnering on infrastructure projects and providing project finance. In September 2017 Caterpillar CEO Jim Umpleby said the company “[is] working with Chinese SOEs in 20 [BRI] countries on projects ranging from roads, ports, mines and oil fields.” This includes supplying machinery, training, and maintenance services to China Communications Construction Company for the renovation of the Zhorbin-Bobruisk expressway in Belarus, which was completed in July 2016.</p> <p>In November 2017, Caterpillar and Chinese SOE China Energy Investment Corporation signed a five-year strategic cooperation framework agreement outlining future agreements for mining equipment sales and rentals, technology applications, and product support provided by Caterpillar.</p> <p><b>Financing:</b> Caterpillar is providing project finance for Chinese companies to boost BRI sales, according to company executives. The company does not disclose data for such lending.</p>
<b>Fluor</b> (EPC)	<p><b>Partnerships in EPC:</b> Lu Yaming, general manager of Fluor China, noted in a May 2017 interview with an energy industry publication that Fluor and a Chinese EPC company were recently awarded a project for a gas-fired power plant in the Middle East. “We’re also working on a project in Indonesia that has been fueled by [BRI] and we have a number of very exciting prospects in the pipeline in other countries. All of these projects have Chinese investment or use Chinese financing,” he said. Information on these projects is not available on the company’s website or in other news reports.</p>

\*AECOM’s move is part of a trend for large infrastructure firms to acquire specialist additive manufacturing technology. AECOM, “AECOM Signs Memorandum of Understanding with Winsun to Collaborate on 3D Printing for Building Design and Construction,” May 18, 2017; Global Construction Review, “Aecom Forms Alliance with Chinese 3D Printer WinSun,” May 19, 2017.

†TCC Vice President Deng Zhaojing said in the company’s press release, “Black & Veatch’s reputation and experience in the global contracting and oil and gas sectors will help TCC create compelling international EPC solutions for our clients. This partnership is one that will allow us to continue to expand our operations in other parts of the world in line with China’s One Belt, One Road Initiative.” Black & Veatch, “Black & Veatch and China’s TCC to Target Gas, Chemical and Fertilizer Projects,” October 12, 2017.

## Addendum II: Select U.S. Firms Participating in BRI—Continued

Firm	Participation
<b>Honeywell</b> (EPC)	<b>Partnerships in EPC:</b> In May 2017, Honeywell signed a partnership agreement with China's Wison Engineering Ltd. to jointly provide methanol-to-olefin technologies and EPC services to customers outside of China, particularly in countries included in BRI.*
<b>General Electric (GE)</b> (EPC)	<p><b>Supplying power equipment:</b> In 2016, GE received \$2.3 billion in orders for natural gas turbines and other power equipment from Chinese EPC firms to install overseas, including in Pakistan, Bangladesh, Kenya, and Laos. In 2014, GE received \$400 million in orders from Chinese firms for equipment to install overseas. According to GE China CEO Rachel Duan, "Africa is the market offering the greatest market potential for GE and Chinese EPC firms, followed by the Middle East, South Asia, Southeast Asia, and Latin America."</p> <p><b>Financing:</b> In November 2017, GE Energy Financial Services and China's Silk Road Fund signed a cooperation agreement to launch an energy infrastructure investment platform to invest in power grid, renewable energy, and oil and gas infrastructure in BRI countries. Separately, Jay Ireland, CEO of GE Africa, said in 2016 that the company had set up a \$1 billion infrastructure fund to help finance projects in Africa. According to Mr. Ireland, one-third of Chinese EPC companies' equipment orders with GE in 2016 were destined for projects in Africa.</p>
<b>Citigroup</b> (Financial services)	<p><b>Financial services:</b> Citigroup provides a range of financial services (i.e., mergers and acquisitions, cash management, trade finance, and hedging) to Chinese firms and multinational corporations operating in 58 BRI countries.</p> <p>In June 2015, Bank of China launched the first public bond issue to fund BRI projects, raising \$3.55 billion. Citigroup was one of four global financial services companies that led the deal alongside Bank of China. In April 2018, Citigroup signed MOUs with Bank of China and China Merchants Bank to strengthen cooperation on supporting clients' investments and projects related to BRI.</p>
<b>Goldman Sachs</b> (Financial services)	<b>Financing:</b> In September 2016, Goldman Sachs—along with Bank of China, DBS Bank, and Standard Chartered—formed a working group to support the development of a standardized "Silk Road bond" that can be traded internationally to help BRI countries tap a wider source of funds.

Source: Various;<sup>225</sup> compiled by Commission staff.

\*According to Honeywell's press release, "The agreement combines Honeywell UOP's advanced technologies with Wison's strong EPC service capability, allowing them to help customers further improve olefin production capacity while reducing energy consumption and production costs." Honeywell, "Wison Engineering to Collaborate with Honeywell UOP on International Methanol to Olefin Projects," May 25, 2017.

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## SECTION 2: CHINA'S RELATIONS WITH U.S. ALLIES AND PARTNERS

### Key Findings

- Beijing seeks to undermine U.S. alliances and partnerships in the Indo-Pacific to reorder the region to its advantage. China seeks a dominant role in Asia and views U.S. military alliances and influence as the primary obstacle to achieving this objective.
- China's relations with European countries have affected European unity with regard to China policy. On several occasions in recent years, the EU was unable to reach a consensus on human rights in China, or take a firm stance regarding Beijing's activities and claims in the South China Sea when certain governments deferred to Beijing's sensitivities on those issues. This trend could make transatlantic cooperation on China more difficult.
- Australia and New Zealand have been targets of extensive Chinese Communist Party influence operations, which have included political donations and the establishment of near-monopolies over local Chinese-language media. Canberra has responded vigorously with attention from then Prime Minister Turnbull and the passage or debate of several pieces of legislation regarding subversive foreign influence. There has been less high-level response from Wellington to these challenges, but there have been signs from the New Zealand government that concern regarding China is growing.
- Countries in Western Europe have been more resilient in the face of Beijing's efforts to influence policies and perceptions due to the strength of their democratic institutions and economies. However, some Central, Eastern, and Southern European countries have been more susceptible to Beijing's influence due to the relative weakness of their democratic institutions, economic challenges, and focused efforts by Beijing to divide them from the rest of the EU.

### Introduction

The United States maintains its economic, security, and diplomatic interests through a network of alliances and partnerships spanning the globe. Over the last few years, concerns have grown sharply in the governments and societies of a number of U.S. allied and partner countries in the Indo-Pacific—but also in Europe and elsewhere—over Beijing's efforts to influence policies and perceptions to be more favorable to its priorities. As China's comprehensive national power and clout have grown, Beijing has expanded and

diversified its toolbox for pursuing its national interests while it has sharpened and made more frequent use of its instruments of national power. At its core, Beijing's use of these instruments aims to undermine and subvert U.S. alliances and partnerships.

This section examines Beijing's objectives in its relations with U.S. allies and partners, the tools it uses to pursue these objectives, and the outcomes of and responses to Beijing's efforts. It draws from the Commission's April 2018 hearing on China's relations with U.S. allies and partners in Europe and the Indo-Pacific, open source research and analysis, the Commission's May 2018 research trip to Taiwan and Japan, and consultations with outside experts. This section's regional focus is primarily informed by the countries examined in the Commission's April 2018 hearing, and a country's lack of inclusion here should not be taken as implying its relationship with the United States is unimportant.

### **Recommendations**

The Commission recommends:

- Congress direct the Administration to strengthen cooperation between the United States and its allies and partners in Europe and the Indo-Pacific on shared economic and security interests and policies pertaining to China, including through the following measures:
  - Urge the Administration to engage in regular information sharing and joint monitoring of Chinese investment activities and to share best practices regarding screening of foreign investments with national security implications, including development of common standards for screening mechanisms.
  - Enhance consultations on mitigating the export of dual-use technology to China and identifying other foundational technologies essential for national security.
- Congress direct the U.S. Department of Justice to:
  - Examine the application of current U.S. laws, including the "Conspiracy against Rights" law, to prosecuting Chinese Communist Party affiliates who threaten, coerce, or otherwise intimidate U.S. residents.
  - Clarify that labels required by the Foreign Agents Registration Act on informational materials disseminated on behalf of foreign principals, such as *China Daily*, must appear prominently at the top of the first page of such materials.
- Congress direct the National Counterintelligence and Security Center to produce an unclassified annual report, with a classified annex, on the Chinese Communist Party's influence and propaganda activities in the United States.
- Congress direct the Administration to discuss in its engagements with the EU and NATO the implications of China's increasingly close military ties with Russia and growing importance to transatlantic security interests. Such discussions would include how Europe and NATO can promote the exchange of informa-

tion on common defense and other challenges posed by China and Russia, including both countries' influence operations.

### **Beijing's Objectives in Its Relations with U.S. Allies and Partners**

In recent years, Beijing has intensified its efforts using a wide range of tools to influence policies and perceptions around the world, often to the detriment of the United States and its relationships with important allied and partner countries. Although Beijing applies these tools to varying degrees in its relations with all countries, its efforts to target U.S. allies and partners may have particularly negative consequences for U.S. global security interests and the liberal international order. Jacqueline Deal, president of the Long Term Strategy Group, testified to the Commission that the liberal international order is "a set of institutions ... serving the interests of all participants and ... conducive to the maintenance of international peace," and that it "revolves around respect for the basic rights and equality of all countries under international law, the protection and promotion of free trade, and the use of juridical means to settle international disputes."<sup>1</sup> Although this order is designed to serve the interests of all parties, Beijing perceives it as unfairly dominated by the United States and biased against China, and seeks to use its newly acquired strength to change this situation.<sup>2</sup>

Beijing seeks to achieve the following in its engagement with U.S. allies and partners in Europe and the Indo-Pacific:

- **Undermine U.S. influence in the Indo-Pacific and reorder the region to China's advantage.**<sup>3</sup> China seeks a dominant role in Asia and views U.S. military alliances and influence as the primary obstacle to achieving this objective. Accordingly, China is pushing back on U.S. efforts to maintain and expand its network of partnerships in the region. Ankit Panda, adjunct senior fellow at the Federation of American Scientists, testified to the Commission in April 2018 that China sees itself as the "core" of Asia and intends to cement itself as Asia's primary hegemon by 2049.<sup>4</sup>
- **Acquire critical technologies and political influence in Europe.**<sup>5</sup> In its European investments, Beijing seeks to acquire critical dual-use technologies,\* technological expertise, and control over strategic infrastructure, as well as to gain European market access for Chinese companies and increase its political influence in targeted countries. This investment activity has advanced China's geopolitical and diplomatic interests in Europe while serving Beijing's goals to acquire key high-tech intellectual property, advance its military modernization, and provide input into its military-industrial complex.
- **Undermine the EU's ability to coordinate China policy.** China seeks to influence the policies of individual EU countries in China's favor, inhibit coordination between these countries on unified China policy, and discourage unified opposition to

\*The European Council's embargo on arms sales to China, which has been in effect since 1989, does not address dual-use technologies, only "military cooperation and ... arms." European Council, *Council of Ministers Declaration on China*, June 26–27, 1989.

China's interests. Thomas Wright, director of the Center on the United States and Europe at the Brookings Institution, and Thorsten Benner, director of the Germany-based Global Public Policy Institute, testified to the Commission that "China is interested in a stable—but pliant and fragmented—EU and the large and integrated European single market that underpins it. Properly managed, the Chinese Communist Party (CCP) leadership has concluded, parts of Europe can be a useful conduit to further its interests."<sup>6</sup>

- **Suppress criticism and promote positive views of the CCP.**<sup>7</sup> The CCP oversees a centralized and sophisticated effort in foreign countries to manipulate the discussion of issues important to Beijing through a variety of means. To achieve these goals, China has established Confucius Institutes; inserted propaganda into mainstream media; induced foreign entities, corporations, and media to self-censor; assisted scholars with views favorable to Beijing to dominate academic discussions; and used host country citizens as conduits to further spread and amplify Beijing's narrative.<sup>8</sup>
- **Advance the Belt and Road Initiative (BRI).** BRI promotes China's own model for international economic cooperation and uses Chinese state and commercial enterprises to advance its global objectives.<sup>9</sup> Dr. Wright and Mr. Benner testified to the Commission that the EU's participation in BRI lends legitimacy to the initiative as well as to China's other global political and economic activities (see Chapter 3, Section 1, "Belt and Road Initiative," for further discussion of BRI).<sup>10</sup>

### **Beijing's Influence Toolbox**

To achieve its national goals, Beijing employs a range of tactics to draw target countries away from the United States and into its orbit while subverting their ability and political will to oppose China.<sup>11</sup> Beijing's preferred tactics include large-scale, targeted investment; focused diplomatic engagement; economic punishment; "sharp power" and perception management; and other influence operations and "United Front" work co-opting, subverting, and neutralizing opponents.<sup>12</sup> Each of these tactics is detailed below, including examples of China's influence among key U.S. allies and partners, as well as these countries' responses—both successful and unsuccessful—to Beijing's efforts.

#### ***Large-Scale Investment: Potent Tool of Active and Passive Influence***

Beijing uses large-scale, targeted investment—including through loans and grants—in an attempt to influence perceptions and policy in U.S. allies and partners in Europe and the Indo-Pacific. In a report published in June 2018, the AidData research lab at the College of William and Mary identified financial diplomacy as one of Beijing's key tools to shape views of China among government officials and the public in East Asia and the Pacific. AidData estimated that of Beijing's "financial diplomacy"—which includes infrastructure investment, budget support, humanitarian assistance, and debt relief—95 percent of a total of more than \$48 billion in

East Asia and the Pacific between 2000 and 2016 was infrastructure investment.<sup>13</sup> Among U.S. allies and partners in the region, Beijing conducted no financial diplomacy in Australia, Japan, Singapore, and South Korea, and only a small amount in Thailand (\$15 million) and New Zealand (\$1 million).<sup>14</sup> Beijing conducted significantly more financial diplomacy with the Philippines (\$1.1 billion), Malaysia (\$13.4 billion), Indonesia (\$9 billion), Mongolia (\$2.3 billion), Fiji (\$900 million), Samoa (\$400 million), Nauru (\$300 million), Tonga (\$300 million), Brunei (\$200 million), and Timor Leste (\$100 million).<sup>15</sup>

After President Rodrigo Duterte took office in the Philippines in 2016, Beijing used investment to influence his approach to the dispute between the Philippines and China regarding the South China Sea, and to draw the Philippines away from its treaty ally, the United States. While China-Philippines relations were strained under former president Benigno Aquino, Jr., who took a firm stand on the Philippines' South China Sea claims, President Duterte suggested on the campaign trail that he would shelve the dispute in exchange for Chinese investment in infrastructure in the Philippines.<sup>16</sup> In October 2016, President Duterte visited Beijing, and during his trip the Philippine delegation signed \$15 billion in deals between Philippine and Chinese companies and \$9 billion in deals for loans for development projects, businesses, and infrastructure.<sup>17</sup> While in Beijing, President Duterte declared a defense and economic "separation" from the United States.<sup>18</sup> Nevertheless, U.S.-Philippines defense cooperation has continued as the Philippines has grown increasingly concerned over China's threatening activities in the South China Sea, and President Duterte has adopted much harsher rhetoric toward China in response to growing public clamor for him to assert Philippine sovereign rights.<sup>19</sup>

In Europe, Chinese investments in Greece—most notably including Beijing's investment in the port of Piraeus—have influenced Athens' response to China's claims and activities in the South China Sea and human rights abuses.<sup>20</sup> In 2016, the Greek government—together with the Croatian and Hungarian governments—advocated for the EU statement on the results of the international arbitration suit involving China's sovereignty claims and activities in the South China Sea to not include a direct reference to Beijing.<sup>21</sup> In 2017, Athens stymied an EU consensus by refusing to endorse an EU statement critical of China's human rights record in the UN Human Rights Council.<sup>22</sup>

Even the prospect of Chinese investment can influence policy in other countries. In the Czech Republic, President Miloš Zeman dramatically shifted Prague's approach to China, ostensibly in hopes of being rewarded by Beijing with Chinese investment. Before President Zeman took office in 2013, the Czech government was a vocal critic of Beijing's human rights abuses and strongly supportive of the Dalai Lama.<sup>23</sup> In 2015, the Chinese conglomerate CEFC China opened its new European headquarters in Prague, and Prime Minister Zeman hired Ye Jianming, the company's chairman, as an adviser.\*<sup>24</sup> CEFC China sponsors a think tank, also called CEFC, that

\*Mr. Ye said in a September 2016 interview that CEFC China "closely follows [China's] national strategies" and maps out its corporate strategy based on China's strategic priorities. Accord-

the Project 2049 Institute, a think tank in Washington, DC, assessed is a “political warfare platform affiliated with [the former General Political Department of the People’s Liberation Army] and the CCP propaganda and ideology system.”<sup>25</sup> Under President Zeman, the Czech foreign minister apologized for the previous government’s meetings with the Dalai Lama, and President Zeman said in Beijing that he had not come to “teach market economy or human rights.”<sup>26</sup> In 2016, when the Dalai Lama visited Prague for meetings with a deputy prime minister and deputy speakers of both houses of parliament, President Zeman and the two head speakers of parliament issued a joint statement in which they said the Czech government “respects the sovereignty and territorial integrity” of China.<sup>27</sup> President Zeman has also supported some of Beijing’s highest-profile initiatives, being the only Western leader to attend China’s major military parade in 2015 and praising the BRI, calling it the “most fascinating project of modern history.”<sup>28</sup>

Beijing does not have to explicitly use the influence it derives from its economic power to induce or pressure other countries to act in support of its positions on issues it deems sensitive. Some European countries have engaged in what the Global Public Policy Institute calls “pre-emptive obedience,” currying favor by adjusting their policies to meet Beijing’s expectations in hopes of securing economic gain, but in some cases also out of genuine political conviction.\*<sup>29</sup> For instance, according to Costas Douzinas, the head of the foreign affairs and defense committee in the Greek parliament, Beijing never asked Athens to oppose EU statements criticizing Beijing over the South China Sea or human rights.<sup>30</sup> He said, “If you’re down and someone slaps you and someone else gives you an alm ... when you can do something in return, whom will you help, the one who helped you or the one who slapped you?”<sup>31</sup> François Godement and Abigaël Vasselier of the European Council on Foreign Relations write, “In Central and Eastern Europe in particular, the comment is often heard that Chinese diplomats do not dictate, but that their interlocutors know well what to say—and what not to say.”<sup>32</sup> They explain that these European interlocutors “know that mentions of Taiwan, Tibet, human rights, and now the South China Sea can trigger a diplomatic crisis. A smoking gun of a Chinese diktat is seldom found, because it need not exist.”<sup>33</sup> Overall, EU unity on China policy has been significantly weakened by China’s influence in Europe, potentially making transatlantic cooperation on China more difficult.<sup>34</sup>

### *Investment Screening Mechanism under Discussion in Europe*

Chinese investments in Europe have recently sparked concern in some Western European countries over both the potential for do-

ing to Czech sinologist Martin Hála, “CEFC not only follows the PRC’s state policies closely, as Chairman Ye eloquently put it, but aligns itself with the most conservative elements in the CCP and [People’s Liberation Army].” Martin Hála, “CEFC: Economic Diplomacy with Chinese Characteristics: A Mysterious Company Paves the New Silk Road in Eastern Europe and Beyond,” *China Digital Times*, February 8, 2018; Scott Cendrowski, “The Unusual Journey of China’s Newest Oil Baron,” *Fortune*, September 28, 2016.

\*For example, Hungarian Prime Minister Viktor Orbán has championed building an “illiberal state on national foundations,” which is counter to the EU’s model of liberal democracy. He has endorsed Beijing’s rejection of universal values. Thorsten Benner et al., “Authoritarian Advance: Responding to China’s Growing Political Influence in Europe,” *Global Public Policy Institute and Mercator Institute for China Studies*, February 2018, 18.

mestic companies to lose their competitive advantages to Chinese companies through the latter's acquisition of strategic technologies, and the potential for investment to lead to increased political influence.<sup>35</sup> In 2016, annual Chinese foreign direct investment in Europe increased by 77 percent compared to 2015, reaching a total of \$37.2 billion.\*<sup>36</sup> In Germany, annual investment from China in 2016 increased nine-fold over 2015, and Chinese companies acquired 58 German companies, including robotics maker KUKA, that year.<sup>37</sup> Following a spate of acquisitions in Europe by Chinese companies, in 2017 the German, French, and Italian governments initiated discussions within the European Commission regarding the development of a screening mechanism for investment from outside the EU, a process that is still ongoing.<sup>38</sup> However, in October 2018, the new Italian government announced it did not support the previous administration's plan for a screening mechanism and was instead pursuing a memorandum of understanding with China to expand BRI-related investment in Italy's rail, airline, space, and culture sectors.<sup>39</sup> Michele Geraci, Italy's Undersecretary of State at the Ministry for Economic Development, told *Bloomberg* that Italy would seek to become China's "leading European Union partner in the [BRI]" while pursuing business with China "within the scope of [Italy's] existing alliances with the EU [and] NATO."<sup>40</sup>

### ***Diplomatic Engagement: High-Level Visits from the Pacific Islands to Central Europe***

Diplomatic engagement through official visits and meetings is another tool Beijing uses to influence policies in other countries, and often occurs in tandem with pledges of investment.<sup>41</sup> In their discussions with interlocutors from government, the private sector, civil society, and other groups in Fiji, Malaysia, and the Philippines, the authors of the AidData study found that "interviewees in all three case study countries felt strongly that China's elite-to-elite diplomacy (i.e., official visits) was one of the most potent tools for Beijing to cultivate close ties with political elites, make its priorities known, and persuade leaders to adopt these positions as their own."<sup>42</sup> Even relatively smaller Pacific countries such as Samoa, Papua New Guinea, Vanuatu, and Tonga—which from 2000 to 2016 each received \$300 million–\$400 million in financial diplomacy from China, much less than other countries the study addresses—each received more than one hundred official Chinese visits from 2000 to 2015.<sup>43</sup>

In addition to official bilateral visits, Beijing has attempted to influence policy in Europe through the "Cooperation between China and Central and Eastern European Countries" forum—also known as the "16+1" format—that it created in 2012 and that comprises China, 11 EU member countries, and five countries in varying states of EU accession.† Although the 16+1 initiative involves meetings attended by all participating countries, Czech sinologist Martin

\*Annual Chinese investment in the United States in 2016 totaled \$46.5 billion. Rhodium Group and National Committee on U.S.-China Relations, "The U.S.-China FDI Project."

†The 16+1 countries are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, and Slovenia, plus China. Cooperation between China and Central and Eastern European Countries, "Embassy."

Hála writes that in reality “it is a platform for sixteen bilateral relationships with Beijing, with China afforded an overwhelming advantage in each. Bilateral partnerships make it easier for China to bypass existing alliances and realign countries toward a new China-centric system.”<sup>44</sup> In effect, the 16+1 format allows Chinese politicians and businesspeople to go around the EU’s transparency and accountability mechanisms to make deals with European counterparts directly, which in turn reinforces these countries’ “oligarchic elements.”<sup>45</sup> The 16+1 initiative also incentivizes its participants to compete with each other to become Beijing’s preferred partner; for example, Prime Minister Zeman and Serbian politicians have made public statements boasting of their willingness to accommodate China.<sup>46</sup>

### *Signs of European Concern and Resilience*

In recent years, Western European and EU leaders have become concerned that the 16+1 initiative is intended to divide the EU to Beijing’s advantage.<sup>47</sup> In September 2017, then German Foreign Minister Sigmar Gabriel said, “If we do not succeed . . . in developing a single strategy towards China, then China will succeed in dividing Europe.”<sup>48</sup> He and other German officials have voiced concerns about Beijing’s activities and their potential to generate political influence in Europe and reshape the liberal international order.<sup>49</sup> In January 2018, French President Emmanuel Macron raised concerns that some European countries are now more open to China’s interests, even at the expense of European interests.<sup>50</sup>

Germany, like other countries in Western Europe, has been more resilient in the face of Beijing’s efforts to influence policies and perceptions due to the strength of both its democratic institutions and its economy.<sup>51</sup> In contrast, Christopher Walker, vice president for studies and analysis at the National Endowment for Democracy, testified to the Commission that many countries in Central and South-eastern Europe are “especially vulnerable” to Beijing’s influence activities “because the democratic roots in these societies are shallow.”<sup>52</sup> Despite Beijing’s pressure on EU countries to not criticize its human rights record or meet with the Dalai Lama—or at least the presence of economic incentives to refrain from doing so—Berlin has not become more accommodating of China on these and other similar issues.<sup>53</sup> For example, in 2017, the German government was one of 11 governments to sign a letter criticizing Beijing for the torture of Chinese lawyers and human rights activists,\* and in 2018 the German government successfully pushed for the release of Liu Xia, the widow of dissident and Nobel Laureate Liu Xiaobo, whom Beijing released from house arrest the day after Chinese Premier Li Keqiang met with Chancellor Angela Merkel in Germany.<sup>54</sup> Already a staunch supporter of human rights and the rule of law, “the German government raises criticism about human rights issues more frequently than in the past,” according to Mr. Godement and Ms. Vasselier.<sup>55</sup> At the same time, since 2017, Berlin and Beijing have found common cause in opposing the Trump Administration’s with-

\*The other ten countries were Australia, Belgium, Canada, the Czech Republic, Estonia, France, Japan, Sweden, Switzerland, and the United Kingdom.

drawal from the Paris Agreement on climate change and imposition of tariffs on imports from the EU and China.<sup>56</sup>

### ***Economic Punishment for Countries Opposing Beijing***

Beijing has used economic coercion as a tool to influence other countries' policies with increased frequency and to greater effect over the last decade. The mechanisms of economic coercion Beijing has deployed include export and import restrictions, reductions in outbound Chinese tourists, pressure on companies, and boycotts.<sup>57</sup> These tools of economic punishment are largely informal sanctions that are not publically announced, markedly contrasting with the U.S. government's formalized, public process and legal framework for sanctions.<sup>58</sup>

South Korea serves as a prominent example of Beijing's use of economic coercion in recent years. In 2016 and 2017, in response to South Korea's decision to install the U.S. terminal high altitude area defense (THAAD) missile defense system to counter the North Korean nuclear threat, the Chinese government launched an aggressive campaign of economic retaliation, blocking market access for South Korean goods and services in a range of sectors including entertainment, consumer products, and tourism.<sup>59</sup> Beijing also tacitly stoked consumer boycotts of South Korean products.<sup>60</sup> As a result, South Korean exports of food products to China fell 5.6 percent year-on-year in March 2017, Chinese tourists visiting South Korea in June 2017 dropped 60 percent compared to June 2016, and Chinese sales of South Korean carmakers Hyundai and Kia dropped 52 percent year-on-year in March 2017.<sup>61</sup> Beijing also carried out a targeted punishment campaign against the China operations of Lotte Group, the major South Korean conglomerate that agreed in November 2016 to swap one of its golf courses for a South Korean government-owned plot so the former could be used as the THAAD deployment site.<sup>62</sup> The following month, Chinese authorities launched an investigation of Lotte Group operations in Shanghai, Beijing, Shenyang, and Chengdu, and in March 2017, production at a chocolate factory jointly operated by Lotte Group and Hershey was suspended.<sup>63</sup> By early April 2017, Lotte Group reported that 75 of its 99 Lotte Marts in mainland China had been closed by Chinese regulators, ostensibly for safety violations.<sup>64</sup>

Beijing began its current efforts to more frequently and flexibly apply economic punishment as a policy tool in 2010. After the Japanese Coast Guard detained the captain of a Chinese fishing vessel in 2010, Beijing banned exports of rare earth elements to Japan, which was widely believed to be in retaliation for the detention.<sup>65</sup> Later that year, when the Norwegian Nobel Committee granted the Nobel Peace Prize to Liu Xiaobo, Beijing applied new import controls to Norwegian salmon.<sup>66</sup> In 2012, Beijing responded to tension in China-Philippines relations over maritime disputes by applying stricter quality standards to agricultural imports from the Philippines and issued a travel advisory for the Philippines that resulted in reduced tourism from China.<sup>67</sup> Since 2016, Beijing has responded to Tai-

\*Amy King and Shiro Armstrong of Australian National University wrote that there is evidence that the ban of rare earth minerals to Japan was part of a global ban that was decided before the fishing boat captain was detained. Amy King and Shiro Armstrong, "Did China Really Ban Rare Earth Metals Exports to Japan?" *East Asia Forum*, August 18, 2013.

wan President Tsai Ing-wen's unwillingness to explicitly endorse the "one China" formulation China insists on for positive cross-Strait relations with a range of coercive measures.\* Many of these have occurred in the economic realm, and include reducing the number of Chinese tourists and students going to Taiwan, blocking certain imports from Taiwan, and using a fine and allegations of food safety violations to pressure a Taiwan restaurant chain with operations in China to publicly state support for Beijing's position on cross-Strait relations.<sup>68</sup> Furthermore, after the Dalai Lama visited Mongolia in 2016, Beijing canceled negotiations over a loan to the Mongolian government.<sup>69</sup>

### *Targeted Countries Struggle to Respond*

The governments of countries that have contended with Chinese economic coercion in recent years have responded in various ways, including seeking recourse through the World Trade Organization (WTO), attempting to reset bilateral relations, making statements of apology and acknowledgement of China's sensitivities and policy positions, refusing to concede, and shifting policy when a new administration has taken power.

- Tokyo responded to China's ban on rare earth mineral exports by bringing a case, together with the EU and the United States, against China at the WTO.<sup>70</sup> The WTO Dispute Settlement Panel found in March 2014 that China failed to justify its restrictions as legitimate conservation or environmental protection measures, saying the export quotas were "designed to achieve industrial policy goals rather than conservation." China appealed the decision, but the WTO Appellate Body rejected its appeal that August.<sup>†71</sup> In January 2015, the Chinese government announced the end of restrictive quotas on exports of rare earth minerals; that May, it announced it had complied with the WTO ruling, but the United States disagreed that it had complied fully, and the two sides agreed to resolve the dispute in accordance with WTO procedures.<sup>72</sup>
- Oslo engaged in consultations with the WTO in response to Beijing's ban on imports of Norwegian salmon, but beginning in 2013 made various attempts to improve relations with Beijing.<sup>73</sup> In 2016, Oslo finally issued a statement that satisfied

\* Beijing insists that cross-Strait communication and talks be based on the "one China" principle. Taipei and Beijing endorsed the so-called "1992 Consensus"—a tacit understanding reached between representatives of Taiwan and China in 1992 that there is only "one China" and that effectively allowed each side to maintain its own interpretation of the meaning of "one China"—during the administration of President Tsai's predecessor, Ma Ying-jeou of the Chinese Nationalist Party (Kuomintang). President Tsai's party, the Democratic Progressive Party, fears that by endorsing the "1992 Consensus" Beijing could trap the party into accepting its interpretation of "one China," and as a principle rejects Beijing's insistence on preconditions for pursuing peace and stability in the Taiwan Strait. Joseph Wu, "Assessing the Outcomes and Implications of Taiwan's January 2016 Elections," Center for Strategic and International Studies, Washington, DC, January 19, 2016; *Focus Taiwan*, "United Daily News: DPP Should Accept '1992 Consensus,'" December 22, 2014; Richard C. Bush, "Taiwan's January 2016 Elections and Their Implications for Relations with China and the United States," *Brookings Institution*, December 2015, 5–6, 17.

† Following China's appeal, the United States also filed an appeal due to concerns regarding the Panel's decision to reject certain exhibits issued in support of its case. However, the United States' appeal was conditional, and since one of the conditions was not met, the Appellate Body did not rule on it. U.S.-China Economic and Security Review Commission, *2014 Annual Report to Congress*, November 2014, 64; Tom Miles, "China Loses Appeal of WTO Ruling on Exports of Rare Earths," *Reuters*, August 7, 2014.

Beijing, reiterating its “commitment to the one China policy,” and expressing that it “fully respects China’s sovereignty and territorial integrity” and “attaches high importance to China’s core interests and major concerns, will not support actions that undermine them, and will do its best to avoid any future damage to bilateral relations.”<sup>74</sup>

- Prior to President Duterte taking office in June 2016, Manila maintained its stance on its maritime disputes with China in the face of China’s reduction of agricultural imports from the Philippines and of Chinese tourists visiting the Philippines. President Duterte’s conciliatory stance toward China has since been rewarded by China lifting its travel advisory and agricultural export restrictions.<sup>75</sup> Since then, President Duterte’s stance has vacillated between flattery and sharp criticism of China.<sup>76</sup>
- President Tsai has not conceded to Beijing’s demand regarding the specific language of its “One China” formulation for cross-Strait relations, but has continued to pursue a cross-Strait policy of “maintaining the status quo.” The Taiwan government has carried out policies to increase the number of tourists from other Asian countries to offset the drop in tourists from China.<sup>77</sup>
- The long-term effects of China’s economic coercion of Mongolia are unclear. After initially resisting China’s punitive measures, Ulaanbaatar ultimately expressed regret over inviting the Dalai Lama to Mongolia and indicated it would not invite him again, but Mongolia’s subsequent leader then expressed interest in doing so.<sup>78</sup>
- Seoul remains committed to the deployment of THAAD, and it raised concerns with the WTO over China’s retaliation against South Korean economic interests, citing Chinese restrictions on the sale of baby formula and medical equipment.<sup>79</sup> However, it also consulted with China to produce an agreement that has become known as the “three no’s”—no additional THAAD deployments, no establishment of a trilateral military alliance with the United States and Japan, and no participation in the U.S. missile defense network—although there remains significant room for both sides to interpret the terms of the agreement.<sup>80</sup>

### ***“Sharp Power” and Perception Management***

Beijing uses a wide variety of what have been termed “sharp power” tools to shape public opinion and perceptions of the CCP, both to strengthen the stability of the CCP and to present China’s political and economic system as an alternative for other countries to emulate.<sup>81</sup> This approach includes funding conferences, providing inserts in newspapers of both state media articles and official statements from the Ministry of Foreign Affairs, and covertly influencing other countries’ Chinese-language media.<sup>82</sup> The goal of the CCP’s campaign to influence Chinese-language media is “to create favorable public opinion globally for [its] agenda,” according to Bill Bishop, editor of the widely read newsletter *Sinocism*.<sup>83</sup>

### Soft, Hard, and “Sharp” Power

In 2017, the National Endowment for Democracy proposed the term “sharp power” to describe how authoritarian regimes like China seek to undermine democratic institutions in other countries.<sup>84</sup> Many of these activities rely on neither coercive nor persuasive power—hard and soft power, respectively—because they aim not to influence the policies of states directly but rather to “pierce, penetrate, or perforate” their information environments.<sup>85</sup> These terms are further explained below.

- *Hard power*: Hard power is a country’s ability to openly force or coerce others into doing what it wants by either making threats or offering payment.<sup>86</sup> However, there are limits to what using hard power alone can achieve, and it does not always translate into influence.<sup>87</sup>
- *Soft power*: According to political scientist Joseph Nye, soft power—a country’s “ability to affect others by attraction and persuasion rather than through the hard power of coercion and payment”—relies on the positive appeal of culture, political ideals, policy, and civil society to shape other countries’ attitudes and preferences and create legitimacy for a country’s objectives.<sup>88</sup> Active participation in international diplomacy can also contribute to a country’s soft power.<sup>89</sup> Soft power alone cannot produce effective foreign policy, but when combined with hard power, it can be a force multiplier.<sup>90</sup> For example, Dr. Nye argues the United States’ Cold War-era strategy of simultaneously using its military to deter the Soviet Union while using its ideas to undercut Communism was a successful combination of hard and soft power, or “smart” power.<sup>91</sup>
- *Sharp power*: Authoritarian regimes use sharp power to exploit the open societies of democratic countries via investment in and programmatic support of international media, cultural organizations, think tanks, and universities, while suppressing liberalizing influences within their own countries.<sup>92</sup> This type of influence is neither openly coercive nor based on attraction; its goal is distraction, manipulation, and exacerbation of societal cleavages rather than presenting alternate ideas in a legitimate manner.<sup>93</sup> Authoritarian regimes that privilege state power over individual liberty and are hostile to freedom of expression and open debate use this approach to promote their favored political narratives and create conditions that are beneficial to their goals.<sup>94</sup> *El Economista* correspondent Juan Pablo Cardenal, a coauthor of the *Sharp Power* report, argued soft power is further distinct from sharp power in that it does not rely on a “state strategy of taking thousands of [foreigners] into the United States” to expose them to state propaganda, as China does, and soft power cultural institutes do not “forbid ... debates from taking place” on sensitive topics or restrict cultural events, as Confucius Institutes do.<sup>95</sup>

### *Media Pressure and Partnerships*

Beijing has used media engagement to spread propaganda and insinuate its messaging into legitimate media sources around the world.<sup>96</sup> Dr. Wright and Mr. Benner testified to the Commission that improving China's image through global media cooperation is one method Beijing uses to "[create] a more positive global perception of China and [present] its political as well as economic system as a viable alternative to liberal democracies" and "[make] the world safe [for] China's autocratic model."<sup>97</sup>

Beijing's media engagement strategy generally relies on cooperating with foreign media to disseminate state-run messaging with the goal of improving local perceptions of China and support for China's bilateral relationships. According to the Global Public Policy Institute, China's media engagement strategy in Europe includes using newspaper supplements to spread official views; promoting cooperation between Chinese state media and European media; and using the Chinese market to encourage self-censorship, since publishers and film studios consider access to the Chinese market to be vital.<sup>98</sup> The CCP's media engagement strategy in Latin America consists of a three-fold approach of developing the local presence of Chinese state media; establishing partnerships, content exchanges, and cooperation between Chinese state media and local media; and offering training opportunities for journalists.<sup>99</sup> Agreements China has signed with partners in Latin America have also emphasized the importance of media and communications exchanges in increasing support for their bilateral relationships.<sup>100</sup>

According to Christopher Walker, China disguises "state-directed projects as commercial media or grassroots associations [and uses] local actors as conduits for foreign propaganda or for tools of foreign manipulation."<sup>101</sup> The *Financial Times* reported that content from CCP-affiliated outlets is rebroadcast or republished in at least 200 nominally independent Chinese-language publications worldwide.<sup>102</sup> Beijing pursues arrangements such as providing the *China Watch* supplements from state-run *China Daily's* English edition to mainstream media sources in the United States, the United Kingdom, and Australia; in these arrangements, the respective publications have no editorial control over the Chinese content they publish.\*<sup>103</sup> In a potentially new type of partnership, *Politico* and the Hong Kong-based newspaper *South China Morning Post* established a content-sharing deal in May 2018 in which they publish each other's articles; according to Tammy Tam, chief editor at the *Post*, this partnership is "fundamentally different in nature" from the *China Watch*-style inserts,

\*In May 2016, six major agreements were signed between Chinese and Australian media organizations, which were "a victory for Chinese propaganda" according to John Fitzgerald, director of the Center for Social Impact Swinburne's Program for Asia-Pacific Social Investment and Philanthropy at Swinburne University, and Wanning Sun, professor of media and communication studies at the University of Technology Sydney. In October 2018, the *Australian Financial Review* and *Caixin Media* announced a new mutual content-sharing partnership. *Australian Financial Review*, "Financial Review Seals China Media Partnership," October 8, 2018; *Caixin*, "Content Partnership between Caixin Global and the Australian Financial Review," October 8, 2018; U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 470, 477; Cao Yin, "China Watch to Reach More Online Readers," *China Daily*, April 29, 2015.

and it would “absolutely” be impossible for a Mainland paper to enter into this sort of arrangement with foreign media.\*<sup>104</sup>

In addition to pursuing media distribution partnerships, the CCP has influenced Chinese-language media worldwide by either overtly or covertly buying them or trying to bankrupt them via denial of advertising revenue—and even by directly applying pressure regarding specific content—to control the information about China that audiences in target countries receive.<sup>105</sup> A 2015 Reuters investigation found that at least 33 radio stations in 14 countries, including the United States, were part of a network structured to obscure that its majority shareholder was state-run China Radio International; these stations broadcast content in English, Chinese, and local languages.<sup>106</sup> Yan Xia, chief editor of the independent Australian Chinese-language newspaper *Vision China Times*, wrote that Chinese immigration officials pressured a Beijing-based immigration agency to stop placing ads in his paper; Mr. Yan said Australian Chinese-language media are “under pressure to support [Chinese President and General Secretary of the CCP] Xi Jinping and Beijing’s foreign policy.”<sup>107</sup> In June 2018, Saxian Cao, the head of media affairs at the Chinese Embassy in Canberra, called the executive producer of Australia’s *60 Minutes* program, Kirsty Thompson, and reportedly expressed in an “aggressive, threatening, and loud” manner her opposition to a forthcoming report on China’s diplomatic, financial, and military influence in the South Pacific.<sup>108</sup> Claiming that *60 Minutes* had illegally filmed the exterior of the Chinese embassy in Vanuatu—which Ms. Thompson denied—Ms. Cao told Ms. Thompson to “take [the content] down” and demanded that there be “no more misconduct in the future.”<sup>109</sup> *60 Minutes* aired the footage regardless.

According to a study by the Czech think tank Association for International Affairs (AMO), “Chinese ownership [of media institutions] equals zero negative comments on the country,” raising concerns about future acquisitions of media companies by entities connected to Beijing.<sup>110</sup> The study found that although Czech media coverage of China was generally neutral or negative, ownership or co-ownership of local media by Chinese entities influenced coverage in China’s favor. For instance, after CEFC acquired *Tyden Weekly* and TV Barrandov—a Czech newspaper and television channel, respectively—their coverage of China became “exclusively positive.”<sup>111</sup>

\*Unlike the *China Watch* arrangements, *Politico* and the *Post* can each choose which of the other’s articles to share. Ms. Tam told the Commission that the two sides “do not anticipate ... asymmetry in the amount of content shared”; with the exceptions of currency conversion and certain style changes, neither paper can modify the other’s content, and there is no aspect of the arrangement concerning number, topic, or frequency of publication that is not symmetrical. The number of articles published by each under the arrangement between late May and late July 2018 appeared to be roughly equal. Marty Kady, editorial director of *Politico Pro* and manager of the *Post* partnership, told the Commission *Politico* decides which *Post* articles to publish “on a case-by-case basis” depending on “whether *Politico* readers will find [them] relevant, informative, and useful,” and according to Ms. Tam, the *Post* team chooses *Politico* articles based on what they believe will be “most informative” to their readers. *Politico*’s and the *Post*’s editorial teams suggest particular articles to each other, “but there is never an obligation to publish” them, according to Mr. Kady. Tammy Tam, Chief Editor, *South China Morning Post*, interview with Commission staff, July 27 and 30, 2018; Marty Kady, Editorial Director of *Politico Pro*, interview with Commission staff, July 26, 2018; *Politico*, “South China Morning Post”; *South China Morning Post*, “Politico”; John F. Harris and Carrie Budoff Brown, “Editor’s Note: A POLITICO Partnership in China,” *Politico*, May 22, 2018.

### *Anti-monopoly and Transparency Measures Show Some Promise*

A number of countries have introduced measures to directly or indirectly counter China's media engagement strategy. The AMO study argues that Slovakia's law prohibiting cross-media ownership\* could inspire other countries grappling with the strategic implications of China's media purchases.<sup>112</sup> Although this law does not address foreign ownership, it is designed to prevent concentration of media ownership, which can help prevent certain narratives from dominating media coverage, according to two authors of the AMO study.<sup>113</sup> A draft EU screening mechanism under consideration addresses media investments, but according to Ivana Karaskova, research fellow at AMO, the draft measure is not robust enough because it creates only a reporting procedure, not a regulatory framework.<sup>†</sup><sup>114</sup>

U.S. Members of Congress took several actions in 2018 to counter this type of media influence by China.<sup>115</sup> Senator Marco Rubio (R-FL) and his Congressional-Executive Commission on China co-chair Representative Chris Smith (R-NJ), along with co-sponsors, introduced companion bills in the Senate and House in June 2018 calling for the establishment of an interagency task force to compile an unclassified report on CCP influence operations targeting "the media and public opinion, civil society and academia, and members of the Chinese diaspora" in the United States and certain U.S. allies.<sup>116</sup> Representative Joe Wilson (R-SC) and Senators Rubio and Tom Cotton (R-AR) introduced legislation in March 2018, titled the Foreign Influence Transparency Act, which would require organizations that promote the political agendas of foreign governments to register as foreign agents‡ and would require universities to disclose certain donations and gifts from foreign sources.<sup>117</sup> Most significantly, the National Defense Authorization Act for 2019 seeks in several ways to coordinate the U.S. government response to malign foreign influence operations and campaigns, including specifically those conducted by China.§<sup>118</sup>

\*Slovakia's Law on Broadcasting and Retransmission is designed to ensure "plurality of information and transparency of ownership and personal relations in broadcasting," according to the law. It prohibits publishers of public periodicals that appear at least five times a week in at least half of the Slovak territory from also broadcasting multi-regionally or nationwide; restricts people and companies from being connected to broadcasters under certain conditions and requires the submission of documentation proving that such conditions are met; and allows individual broadcast programs to be received by no more than 50% of the total population. The law does not ban ownership of multiple print dailies or multiple broadcast media, however, nor does it encompass online media, and the council overseeing the law's enforcement cannot initiate legal proceedings based on the source of investment or ownership. Furthermore, although the council is formally independent, in reality it is "heavily politicized," according to Ivana Karaskova, research fellow at AMO. Ivana Karaskova, Research Fellow, Association for International Affairs, interview with Commission staff, July 31, 2018; Matej Šimalčík, Executive Director, Institute of Asian Studies, interview with Commission staff, July 30 and 31, 2018; Act on Broadcasting and Transmission (Slovakia), as amended by 2015, Part Ten; Commission of the European Communities, *Commission Staff Working Document: Media Pluralism in the Member States of the European Union*, January 16, 2007, 77.

†The draft measure includes "communications and media" in a definition of "critical and strategic infrastructure," and it contains an amendment allowing EU member states to consider, when evaluating the implications of a prospective investment, "on the grounds of security or public order, the potential effects on ... the plurality and independence of media." European Parliament, *On the Proposal for a Regulation of the European Parliament and of the Council Establishing a Framework for Screening of Foreign Direct Investments into the European Union*, June 5, 2018.

‡The Foreign Agents Registration Act of 1938 "requires persons acting as agents of foreign principals in a political or quasi-political capacity to make periodic public disclosure of their relationship with the foreign principal, as well as activities, receipts, and disbursements in support of those activities." U.S. Department of Justice, FARA: Foreign Agents Registration Act.

§The National Defense Authorization Act for 2019 defines "malign foreign influence operations and campaigns" as "the coordinated, direct, or indirect application of national diplomatic, infor-

### ***Co-opting and Subverting Opponents***

Beyond gaining control over and influencing foreign media outlets, China seeks to alter other countries' policies toward China by carrying out a range of other influence operations to co-opt, subvert, and neutralize voices critical of Beijing. An important method Beijing employs in its influence operations is the outsourcing of its messaging to citizens of targeted countries, in part because it believes foreigners are more likely to accept propaganda if it appears to come from non-Chinese sources.<sup>119</sup> China hand-picks foreign elites to bring to China and cultivate, and those targeted are often unaware that their Chinese interlocutors are connected to the Chinese state.<sup>120</sup> Only academics are often fully aware of who their Chinese interlocutors are, according to *El Economista* correspondent Juan Pablo Cardenal, and they are generally aware of what the red lines are and will not cross them for fear of losing access to their peers in China.\*<sup>121</sup> Chinese interlocutors are mainly CCP and Chinese government officials, academics, intelligence operatives, and members of Chinese "friendship associations," who are usually CCP elites who understand China's foreign policy goals and have received training for managing foreigners.<sup>122</sup>

#### **CCP Influence Operations and the United Front**

In addition to traditional diplomacy and influence through known and declared official channels, such as the Ministry of Foreign Affairs, the CCP also advocates for its interests through the use of "United Front" work, a strategy the Central Intelligence Agency assessed is designed for "controlling, mobilizing, and utilizing" non-CCP entities to serve CCP goals.<sup>123</sup> The United Front strategy leverages propaganda, espionage, perception management, lobbying through "friendship associations," political contributions, and funding academic institutions to create support for the CCP.<sup>124</sup> According to Peter Mattis, research fellow in China studies at the Victims of Communism Memorial Foundation, these types of influence operations are "a routine part of the CCP's day-

mational, military, economic, business, corruption, educational, and other capabilities by hostile foreign powers to affect attitudes, behaviors, decisions, or outcomes within the United States." It requires the president to designate a National Security Council staffer responsible for interagency coordination in combating malign foreign influence and requires a report outlining a strategy for doing so; it directs the president to submit to Congress a report detailing a whole-of-government strategy regarding China including strategic assessments of and responses to, among other factors, China's "use of political influence, information operations, censorship, and propaganda to undermine democratic institutions and processes, and the freedoms of speech, expression, press, and academic thought;" and it directs the Department of Defense to add a section in its Annual Report on Military and Security Developments Involving the People's Republic of China addressing China's "efforts ... to influence the media, cultural institutions, business, and academic and policy communities of the United States to be more favorable to its security and military strategy and objectives" as well as China's use of "nonmilitary tools in other countries, including ... information operations." It also prohibits Department of Defense funds from being used for Chinese language instruction by Confucius Institutes. John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, 2018.

\*According to an August 2018 study based on a survey of more than 500 academics who research China, within the last decade, 5.1 percent of the respondents who were not Chinese citizens reported having had some trouble getting a visa to China; 1.2 percent reported being denied a specific visa request; and 2.1 percent reported believing they had been formally banned from China for an extended period of time. The study's authors argue that "problems of access to China itself, access to subjects and materials, and being subject to surveillance/monitoring are common enough to be of concern." Sheena Chestnut Greitens and Rory Truex, "Repressive Experiences among China Scholars: New Evidence from Survey Data," August 1, 2018, 2, 6-7.

### CCP Influence Operations and the United Front— *Continued*

to-day operations.... The United Front and propaganda parts of the CCP are among the oldest, continuously running elements of the party.”<sup>125</sup> The United Front Work Department (UFWD)\* coordinates United Front work at the operational level according to the broader United Front strategy set by the Chinese People’s Political Consultative Conference (CPPCC), a coordinating body led by a member of the Party’s Politburo Standing Committee that brings together representatives of China’s other interest groups under the CCP’s overall leadership.<sup>126</sup>

President Xi has increased emphasis on United Front work since he assumed office, which has resulted in an increase in UFWD officials assigned to top CCP and government posts, adding roughly 40,000 new cadres to its ranks in the first few years after he became president.<sup>127</sup> According to Gerry Groot, senior lecturer at the University of Adelaide, most of the new UFWD cadres are tasked with United Front work within China, though Beijing has also strengthened its overseas United Front work, with almost all Chinese embassies now including personnel working with the UFWD.<sup>128</sup> The Center for Strategic and Budgetary Assessments, a nonpartisan think tank in Washington, DC, assessed in May 2018 that “[President] Xi is firmly committed to pouring resources into UFWD’s overseas activities.... It thus behooves Western policymakers to recognize that the United Front is a permanent instrument of the CCP’s foreign policy.”<sup>129</sup>

Recent official statements by Chinese leaders and in CCP documents show an increased emphasis on “overseas Chinese work” to influence the behavior and views of Chinese living abroad as part of the CCP’s broader United Front strategy. In his address to the 19th National Congress † of the CCP, President Xi declared the Party would “maintain extensive contacts with overseas Chinese nationals, returned Chinese, and their relatives and [will] unite them so that they can join [the Party’s] endeavors to revitalize the Chinese nation.”<sup>130</sup> Information in a 2014 UFWD teaching manual reviewed by the *Financial Times* further suggests an increased focus on United Front work targeting overseas Chinese, saying “the unity of Chinese at home requires the unity of the sons and daughters of Chinese abroad.”<sup>131</sup> A 2015 CCP Central Committee trial regulation ‡ said the primary mission of United Front work

\*The UFWD under the CCP Central Committee is responsible for domestic United Front work in China and for overseas United Front work targeting Chinese communities. For more information, see Alexander Bowe, “China’s Overseas United Front Work: Background and Implications for the United States,” *U.S.-China Economic and Security Review Commission*, August 24, 2018.

†At the National Party Congress, which occurs every five years, delegates set the CCP’s national policy goals and choose new top leaders. *Brookings Institution*, “China’s 19th Party Congress.”

‡Although it is a “trial” regulation, it nonetheless appears to be used as official guidance in provincial, city, and district-level UFWDs. Universities have also held study sessions on the regulation despite its trial status. In a “Top 10” list of major United Front events in 2015 posted by the official UFWD WeChat account, the promulgation of this trial regulation was second only to the CCP Central Committee’s Conference on United Front Work. Baoshan City United Front Work Department, “Concentrating the Will of the People, Assembling Power, Innovation and Reform — 2017 Baoshan United Front Work Summary,” August 2, 2018. Translation. <http://www.zyztb.gov.cn/tzdk/293143.jhtml>; CCP Central Committee United Front Work Department, “Guangzhou City Tianhe District Makes Solid Progress on Multiparty Cooperation: Highlights Brilliant, Results Clear,” July 9, 2018. Translation. <http://www.zyztb.gov.cn/tzcx/291102.jhtml>;

### CCP Influence Operations and the United Front— *Continued*

includes “guiding” overseas Chinese.\*<sup>132</sup> Organizations like Chinese Students and Scholars Associations (CSSAs) are active in carrying out overseas Chinese work consistent with the United Front strategy, and some have been shown to coordinate directly with the Chinese government, to be involved in the harassment of activists, and to have cooperated directly with Chinese security personnel.<sup>133</sup> According to then Wilson Center for International Scholars Schwarzman Fellow Anastasya Lloyd-Damnjanovic, “CSSA officers understand countering regime opponents as a core organizational responsibility.”†<sup>134</sup> China seeks to gain influence that is interwoven with sensitive issues such as ethnic, political, and national identity, making those who seek to identify the negative effects of such influence vulnerable to accusations of prejudice.

#### *Influencing China Policy in Australia, New Zealand, and Latin America*

In Australia, New Zealand, and other countries, Beijing seeks to suppress policies it finds unfavorable to China and to undermine these countries’ relationships with the United States by interfering in their political systems and turning economic reliance on China into political influence. This activity has been particularly pronounced in Australia and New Zealand.<sup>135</sup> Christopher Johnson, Freeman Chair in China Studies at the Center for Strategic and International Studies (CSIS), argues China likely sees New Zealand as a softer target than the United States for “cultivating people at the grassroots political levels of western democracies and helping them to reach positions of influence,” and may be “using it as a testing ground for future operations in other countries.”<sup>136</sup> CCP proxies have attempted to assume important positions in Australia to “influence the choices, direction, and loyalties of its targets by overcoming negative perceptions of CCP rule in China and promoting favorable

Tongji University United Front Work Department, “Chinese Communist Party’s United Front Work Regulation (Trial) Study,” June 17, 2016. Translation. <https://tzb.tongji.edu.cn/82/7e/c3405a33406/page.htm>; *United Front Newspeak*, “United Front Major Events—TOP 10,” January 5, 2016. Translation. <http://www.zyztb.gov.cn/tzb2010/uxwb/201601/51aa90eae1bd4c6bb4d2990bf06d25de.shtml>; Tianjin University, “Tianjin University Holds Lecture to Study ‘Chinese Communist Party’s United Front Work Regulation (Trial),’” November 16, 2015. Translation. <http://news.tju.edu.cn/info/1003/23835.htm>; Central United Front Work Department, “Guangdong Province Party Committee Standing Committee Studies the Spirit of the Central United Front Work Meeting,” May 25, 2015. Translation. <http://www.zyztb.gov.cn/tzb2010/xxgc/201505/02ff117fd1a470d93be3328088f730d.shtml>.

\*The CCP established its first organ responsible specifically for liaising with overseas Chinese communities in 1940; currently, the third bureau of the UFDW oversees United Front work targeting Hong Kong, Taiwan, Macau, and overseas Chinese. James Kynge, Lucy Hornby, and Jamil Anderlini, “Inside China’s Secret ‘Magic Weapon’ for Worldwide Influence,” *Financial Times*, October 26, 2017; James Jiann Hua To, *Qiaowu: Extra-Territorial Policies for the Overseas Chinese*, Brill Academic Publishers, 2014, 57.

†Not all CSSAs are politically active to the same degree, however. According to Ms. Lloyd-Damnjanovic, “Proximity to a consulate, the ambitions of individual officers, and the size of membership can all factor in to whether a given CSSA chapter is politically active. Consular control over the CSSAs may be overstated in some cases because of this variation.” Anastasya Lloyd-Damnjanovic, “A Preliminary Study of PRC Political Influence and Interference Activities in American Higher Education,” *Wilson Center for International Scholars*, August 2018, 24–25.

perceptions,” according to Clive Hamilton, professor of public ethics at Charles Sturt University in New South Wales, Australia, and his then research assistant, Alex Joske.<sup>137</sup> The United Front in Australia and New Zealand also works to co-opt “foreigners who can influence their governments’ decision makers and [build] the party’s legitimacy in their eyes,” according to Mr. Mattis.<sup>138</sup> A report resulting from a Canadian Security Intelligence Service academic workshop assessed that New Zealand is strategically important to Beijing due to its four votes in international fora,\* and the CCP views New Zealand as an exemplar of how it would like to be able to influence Australia, other Pacific countries, and Western countries more broadly.<sup>139</sup>

Mr. Mattis testified to the Commission in April 2018 that the CCP has gotten “very close to or inside the political core” of both Australia and New Zealand.<sup>140</sup> This influence has resulted in “the narrowing of Chinese voices, the CCP’s essential monopolization of the media outlets, the takeover of community organizations, and ... denying the rights of Chinese Australians and Chinese New Zealanders to ... freedom of association and ... speech.”<sup>141</sup> Only a few independent Chinese-Australian groups remain today, almost exclusively associated with strongly anti-CCP groups like Falun Gong.<sup>142</sup> Beijing has waged a concerted influence campaign in New Zealand, and the United Front has virtually dominated the Chinese diaspora there.<sup>143</sup> For example, a China-born New Zealand Member of Parliament, Yang Jian, spent 15 years in China’s military intelligence sector before naturalizing in New Zealand, and concealed his previous PLA affiliation on his permanent residency and employment applications.<sup>144</sup> In the early 2000s in Australia, individuals sympathetic to the CCP largely took over mainstream Chinese community and professional organizations; Dr. Hamilton, whose book on CCP influence in Australia was initially canceled by three separate publishers due to fears of potential lawsuits from Beijing, argues CCP officials “typically aim to guide ... rather than directly control” these organizations, though they are in many cases not overt CCP fronts.<sup>145</sup>

Beijing has applied the United Front strategy at scale elsewhere as well, including the cultivation of unofficial envoys to build goodwill for China.<sup>146</sup> For example, Beijing committed to train 1,000 young Latin American leaders by 2024 as part of its “Bridge to the Future” program to build links with future elites in academia, politics, business, media, society, and cultural fields.<sup>147</sup> According to the National Endowment for Democracy, this “training” amounts to

*free public-relations trips to China that follow a conveniently pro-[Chinese] government agenda ... such efforts in the media sector are central to the Chinese soft power strategy. Therefore, China’s intent to ‘train’ hundreds of Latin American journalists ... is probably best understood as a way of exposing influential opinion makers to Beijing’s propaganda.*<sup>148</sup>

\*In addition to its own vote in international fora, New Zealand is also responsible for the foreign and defense policies of the South Pacific territories of the Cook Islands, Niue, and Tokelau. Canadian Security Intelligence Service, “Rethinking Security: China and the Age of Strategic Rivalry,” May 2018, 77.

In addition to media training, organizations such as the China Association for International Friendly Contact actively foster people-to-people exchanges.<sup>149</sup> The Association focuses on establishing “close ties with government agencies, political parties, and prominent political and military figures” to introduce positive views of China’s policies to naïve intermediaries in target countries and thus outsource the CCP’s messaging, according to John Garnaut, who previously served as an adviser to former Prime Minister Turnbull.<sup>150</sup>

### *Purchasing Political Influence*

CCP-connected political donations have been effective in some countries permitting foreign donations, especially Australia and New Zealand. In both countries, individuals with ties to the United Front have been prolific donors to major political parties; in May 2018, Andrew Hastie—Chairman of Australia’s Parliamentary Joint Committee on Intelligence and Security—said in a Parliamentary address, “In Australia, it is clear that the [CCP] is working to covertly interfere with our media, our universities, and also influence our political processes and public debates.”<sup>151</sup> Mr. Hastie made this comment in the context of discussing Chau Chak Wing, a China-born Australian citizen who has made high-profile political donations.<sup>152</sup>

United Front work in Australia has attempted to “influence the choices, direction, and loyalties of its targets by overcoming negative perceptions of CCP rule in China and promoting favorable perceptions,” according to Professor Hamilton and Mr. Joske.<sup>153</sup> Both Australia and New Zealand have seen a sharp rise in political donations from CCP-affiliated entities—and even United Front and PLA affiliates holding office—raising concerns about interference by CCP proxies attempting to influence public debates and policy outcomes in these countries.<sup>154</sup> In 2015, the Australian Security Intelligence Organization (ASIO) warned the Liberal and Labor parties that Huang Xiangmo and Chau Chak Wing, prolific donors to Australian political parties, had “strong connections to the [CCP]” and that their donations “might come with strings attached.”<sup>155</sup> For example, Sam Dastyari—an Australian senator who, while standing next to Mr. Huang, had argued in favor of China’s position on territorial disputes in the South China Sea—ultimately resigned from Parliament after it was revealed he had warned Mr. Huang that the latter was likely being surveilled by Australian intelligence agencies.<sup>156</sup> Senator Dastyari had previously faced criticism for allowing a debt incurred by his office to be paid by Mr. Huang’s company.<sup>157</sup> The influence activities of these and other key individuals are further detailed below.

- Huang Xiangmo was the president of the Australian chapter of the China Council for the Promotion of Peaceful Reunification (CPPRC),\* an organization directly subordinate to the UFWD, from 2014 to 2017.<sup>158</sup> Mr. Huang is a permanent resident of

\*The CPPRC is now one of the most prominent groups claiming to represent Chinese diaspora communities and a leading organization seeking to mobilize international Chinese communities in support of Beijing’s policies. John Dotson, “The United Front Work Department in Action Abroad: A Profile of the Council for the Promotion of the Peaceful Reunification of China,” *China Brief*, February 13, 2018; China Council for the Promotion of Peaceful National Reunification, “Anti-Independence’ Reunification This Year,” September 28, 2016. Translation. [http://www.zhongguotongcuhui.org.cn/hnyw/201609/t20160928\\_11581794.html](http://www.zhongguotongcuhui.org.cn/hnyw/201609/t20160928_11581794.html).

Australia, and his donations—totaling approximately \$1.5 million since 2012, split between the Liberal and Labor parties, according to his spokesman—were legal under Australian law.<sup>159</sup>

- Chau Chak Wing, who has strong ties to the CCP,\* has also been prominent in United Front operations in Australia, both via donations and by influencing the formerly vibrant Chinese-language media landscape in Australia.<sup>160</sup> Dr. Chau has donated more than \$3 million between the Liberal and Labor parties since 2004 and \$35 million to Australian universities, and he has been linked to a \$148,000 bribe to then UN General Assembly President John Ashe.<sup>161</sup>
- Members of Parliament in New Zealand from both parties have raised money from organizations with links to the United Front and CCP.<sup>162</sup> For example, Dr. Yang Jian, the New Zealand Member of Parliament who worked in China's military intelligence sector, is an important National Party fundraiser among the Chinese diaspora in Auckland.<sup>163</sup>

*Canberra Responds Aggressively, Wellington Begins to Take Threat Seriously*

After ASIO and Australia's Department of the Prime Minister and Cabinet submitted a classified report finding that CCP influence operations had targeted all levels of Australian government and policymaking, the Australian government responded aggressively by introducing counterespionage and counterforeign influence legislation.<sup>164</sup> According to then Prime Minister Malcolm Turnbull, "[Australia's] system as a whole had not grasped the nature and magnitude of the threat."<sup>165</sup> In July 2017, then Prime Minister Turnbull announced the formation of the Department of Home Affairs—a new intelligence, law enforcement, and policy hub—which he described as “similar to the [UK's] Home Office arrangement—a federation ... of border and security agencies.”<sup>†</sup><sup>166</sup> When introducing counterespionage and counterforeign influence legislation in December 2017, then Prime Minister Turnbull explicitly singled out “covert, coercive, or corrupt” foreign influence activities as unacceptable, but he welcomed transparent engagement ties based on legitimate soft power; he argued Australia is open and optimistic, but not naïve.<sup>167</sup>

\*Dr. Chau has denied being a member of the CCP, but he is a member of the Guangdong Province chapter of the CPPCC. According to researcher James To, Guangdong Province is one of the most important provincial-level units for overseas Chinese work due to the large number of emigrants from Guangdong. Rebecca Trigger, “Chinese Businessman Subject of ASIO Warning Donated \$200,000 to WA Liberals,” *Australian Broadcasting Network*, June 10, 2017; China Federation of Overseas Returned Chinese Entrepreneurs, “Chau Chak Wing,” May 9, 2016. Translation. <http://www.qiaoshang.org/staticpages/ryhz/20160509/2993.html>; James Jiann Hua To, *Qiaowu: Extra-Territorial Policies for the Overseas Chinese*, Brill Academic Publishers, 2014, 85.

†The Department of Home Affairs comprises the central Department itself, the Australian Border Force, ASIO, the Australian Federal Police, the Australian Criminal Intelligence Commission, the Australian Transaction Reports and Analysis Center, and the Office of Transport Security of the Department of Infrastructure and Regional Development. According to Cat Barker and Stephen Fallon of Australia's Parliamentary Library Research Service—an organization analogous to the U.S. Congressional Research Service—unlike the U.S. Department of Homeland Security, the various agencies retain their statutory independence. Cat Barker and Stephen Fallon, “What We Know So Far about the New Home Affairs Portfolio: A Quick Guide,” *Parliamentary Library Research Service*, August 7, 2017, 1–2; David Clune, “Research Services and Parliamentary Libraries: Some Lessons from the New South Wales Experience,” *Australian Academic & Research Libraries* 27:3 (1996): 200–203.

Two pieces of legislation became law in June 2018, and a third bill designed to ban foreign political donations is currently in parliament.<sup>168</sup> The new laws, which then Prime Minister Turnbull called “the most important overhaul of [Australia’s] counterintelligence framework since the 1970s,” target foreign interference in politics, economic espionage, and theft of trade secrets; establish a public register of foreign lobbyists; and require notification of political donations from those on the register or who disburse funds on behalf of a foreign principal.<sup>169</sup> The first law, the Foreign Influence Transparency Scheme Act, established the public register; some media organizations opposed it due to its requirement for staff of foreign-owned companies to register with the government.\*<sup>170</sup> The second new law, the National Security Legislation Amendment (Espionage and Foreign Interference) Act 2018, criminalized covert, coercive, and corrupt actions on behalf of or in collaboration with foreign principals, and it broadened espionage laws to criminalize possessing or receiving sensitive information in addition to transmitting it; in response to concerns about criminalizing the work of reporters, officials amended it to ensure protections for journalists.†<sup>171</sup> In May 2018, Canberra also ordered the most significant review of its intelligence agencies in 40 years, which will “consider options for harmonizing and modernizing [Australian intelligence agencies’] legislative framework ... to ensure they operate with clear, coherent, and consistent powers, protections, and oversight,” according to the Office of the Attorney-General.<sup>172</sup> The review is expected to take 18 months.<sup>173</sup>

The latest counterforeign influence bill in Australia’s legislative response to revelations about CCP interference, the Electoral Legislation Amendment (Electoral Funding and Disclosure Reform)

\*The law established the Foreign Influence Transparency Scheme, which is based in part on the U.S. Foreign Agents Registration Act. People who carry out certain types of activities on behalf of a foreign principal—or who agree to carry out such work, regardless of whether they actually carry it out—may, with some exceptions, be liable to register under the scheme. Registrable activities include parliamentary and general political lobbying in Australia for political or governmental influence on behalf of some kinds of foreign principals; communications or disbursement activities in Australia for political or governmental influence on behalf of any foreign principal; and any activity undertaken by a former Cabinet Minister or recent designated position holder on behalf of a foreign principal. Designated position holders include Ministers, Members of Parliament, some Parliamentary staff, Agency heads and deputy heads (and equivalent offices), and Ambassadors or High Commissioners stationed outside Australia. For the purposes of registration, a company counts as a “foreign government related entity” if a foreign principal holds more than 15 percent of its issued capital share or voting power; if a foreign principal can appoint 20 percent or more of the company’s directors; if the company’s directors are “accustomed, or under an obligation ... to act in accordance with the directions, instructions, or wishes of the foreign principal”; or if a foreign principal can “exercise, in any other way, total or substantial control” over the company. Foreign Influence Transparency Scheme Act 2018 (Australia), 2018, Part 1, Division 1, 4; Part 1, Division 2, 10, “Designated Position Holder,” “Foreign Government Related Entity”; Part 2, Division 3, 20–23; Part 2, Division 4, 24–30; Parliament of the Commonwealth of Australia, *Foreign Influence Transparency Scheme Bill 2017 and Foreign Influence Transparency Scheme (Charges Imposition) Bill 2017*, 2018.

†The Act specifies that it is a valid defense against charges of handling or communicating sensitive information if the person in question “communicated, removed, held, or otherwise dealt with the relevant information in the person’s capacity as a person engaged in the business of reporting news, presenting current affairs, or expressing editorial or other content in news media, and ... at that time, the person reasonably believed that ... that conduct was in the public interest ... or ... was, at that time, a member of the administrative staff of an entity ... engaged in the business of reporting news, presenting current affairs, or expressing editorial or other content in news media; and ... acted under the direction of a journalist, editor or lawyer who was also a member of the staff of the entity, and who reasonably believed that engaging in that conduct was in the public interest.” The defendant “bears an evidential burden” in this matter. National Security Legislation Amendment (Espionage and Foreign Interference) Act 2018 (Australia), Part 5.6, Division 122, Section 122.5 (6) a–b.

Bill 2017, is designed to prohibit donations from foreign governments and state-owned enterprises to finance public debate, and it will require reporting on certain other donations.\*<sup>174</sup> Some have expressed concerns that the bill's prohibition of political advocacy is too broad, however, and could threaten advocacy by civil society groups; the Australian Parliament's Joint Standing Committee on Electoral Matters issued an advisory report in April 2018 recommending, among other things, that the government modify the bill to specifically focus on political expenditures intended to "influence voters to take specific action as voters, so as not to capture non-political issue advocacy."<sup>175</sup>

New Zealand has seen less high-level response to CCP efforts to influence and interfere in the country, but there have been some signs of a hardening of its stance toward Beijing.<sup>176</sup> Primrose Riordan, political reporter at *The Australian*, told the Commission in September 2018 that New Zealand Prime Minister Jacinda Ardern's administration "has taken a harder line on China than the previous government."<sup>177</sup> In response to the report resulting from the Canadian Security and Intelligence Service's academic workshop, New Zealand Member of Parliament Andrew Little—who oversees the country's intelligence agencies—said, "The so-called warnings ... were interesting, but the underlying proposition of the question is that nothing here is happening."<sup>178</sup> However, Amy Searight, senior adviser and director of the Southeast Asia Program at CSIS, noted in her testimony to the Commission that within the New Zealand government "the bureaucratic level is really turning on China and sees its connection with the United States and Australia as really significant in that sharpening of their policies [and] thinking about China."<sup>179</sup> New Zealand's new Strategic Defense Policy Statement, released in July 2018, praised Beijing's "increasing contributions to the international order," but was uncharacteristically critical of China's regional assertiveness, saying that it "has at times raised tensions with neighboring states and with the United States."<sup>†180</sup> The report also no longer refers to China as an "important strategic partner," as New Zealand did in its 2016 defense white paper.<sup>181</sup> According to then Acting New Zealand Prime Minister Winston Peters, China lodged an official complaint to New Zealand's ambassador about the new report.<sup>182</sup>

After an August 2018 meeting in Queensland, Australia between ministers of the Five Eyes intelligence-sharing partnership member countries (the United States, Canada, the UK, Australia, and New Zealand), the group issued a statement condemning foreign interference and announced they had agreed to establish a mechanism

\*The bill is designed to "promote the ... integrity of the Australian electoral process by reducing the risk of foreign persons and entities exerting (or being perceived to exert) undue or improper influence in the outcomes of elections ... by restricting ... political donations made by foreign persons or entities that do not have a legitimate connection to Australia." In its current form, this includes donors who are "a body politic of a foreign country; or ... of a part of a country," a part of such a body politic, or a foreign public enterprise. The bill is currently before the Australian Senate. Electoral Legislation Amendment (Electoral Funding and Disclosure Reform) Bill 2017 (Australia), 287AA 3; 302C, 1–2.

†For example, the policy statement says China "has not consistently adopted the governance and values championed by the [international] order's leaders," that it "holds views on human rights and freedom of information that stand in contrast to those that prevail in New Zealand," and that it is "determined not to engage with" the international tribunal that ruled against China's South China Sea territorial claims in 2016. New Zealand Ministry of Defense, *Strategic Defense Policy Statement 2018*, July 2018, 17.

for sharing information on confronting this challenge, which demonstrates that the group is now taking the matter seriously.\*<sup>183</sup> The joint statement criticized “the coercive, deceptive, and clandestine activities of foreign governments, actors, and their proxies to sow discord, manipulate public discourse, bias the development of policy, or disrupt markets for the purpose of undermining our nations and our allies.”<sup>184</sup> Most significantly, the member countries agreed to coordinate their responses and attribution in the case of “severe foreign interference incident[s],” indicating a shared willingness to name and shame countries responsible.<sup>185</sup>

### **Beijing’s Multifaceted Pressure Campaign against Taiwan**

Beijing seeks to promote eventual cross-Strait unification with Taiwan, a key U.S. partner, and in recent years it has intensified its coercive efforts to achieve this goal.<sup>186</sup> Since the election of President Tsai, Beijing has sought to influence the course of cross-Strait relations through additional pressure, local-level engagement, economic inducements, and subversive activities.<sup>187</sup> Beijing’s campaign to influence policy and perceptions and interfere in society in Taiwan is China’s most multifaceted and aggressive of this type anywhere in the world. For decades, Taiwan has faced coercion and efforts to influence policies and perceptions from Beijing.† Moreover, Taiwan’s main opposition party, the Kuomintang, was the original target of CCP United Front work beginning during the former’s rule in China, and Taiwan has long been and remains United Front work’s primary focus.<sup>188</sup> The measures Beijing has employed to influence Taiwan during the Tsai Administration include:

- Suspending official and semiofficial cross-Strait communication and meetings;
- Applying economic coercion through reducing the number of Chinese group tours to Taiwan and some partners of Taiwan, and reducing the number of Chinese students whom it allows to study in Taiwan;
- Conducting United Front work, including by continuing its outreach to politicians at the party and local government levels and announcing new measures to incentivize Taiwan citizens to travel, study, or work in China;
- Influencing protests and using social media and other online tools to spread disinformation;
- Enticing Taiwan’s official diplomatic partners to break ties and putting pressure on Taiwan’s presence in countries with which it has unofficial relations;

\*The joint statement also addressed cooperation on supporting efforts to combat illicit finance, the ability of intelligence and law enforcement agencies to lawfully access encrypted data and communications, and sharing criminal and law enforcement information. Quintet Meeting of Attorneys-General, “Official Communiqué,” August 31, 2018, 2–3.

†For example, Beijing has long exerted influence over many international organizations to limit Taiwan’s participation. In addition, China’s military modernization program, which is directed primarily at deterring Taiwan and preparing for Taiwan-related contingencies, has continued unabated regardless of Beijing’s perspective on the administration in Taipei.

### **Beijing's Multifaceted Pressure Campaign against Taiwan—*Continued***

- Blocking Taiwan's participation in certain international fora in which it could participate in the past;
- Expanding and intensifying the training activities of the Chinese military near Taiwan;
- Unilaterally expanding a commercial flight route near the median line of the Taiwan Strait without consulting with Taipei; and
- Pressuring foreign companies to change the way they characterize Taiwan on their websites and products.

(See Chapter 3, Section 3, "China and Taiwan," for more information on Beijing's efforts to coerce Taiwan.)

### **Implications for the United States**

Beijing's efforts to influence policies and perceptions abroad have significant implications for U.S. alliances and partnerships—one of the United States' greatest strengths—and more broadly for the durability of the liberal international order, which the United States played a major role in creating and upholding. Beijing seeks to undermine U.S. alliances and partnerships in the Indo-Pacific and Europe, and, if successful, these efforts could serve to fundamentally weaken the United States' ability to support democracy and international law.<sup>189</sup> Beijing's efforts to shape these governments' policies have implications for a unified stance between the United States and its allies and partners on various aspects of the international order. This challenge has been evident in Europe as the EU has proven unable several times in recent years to reach a consensus on human rights in China and was unable to take a firm stance on Beijing's activities and claims in the South China Sea, due to obstruction by governments that deferred to Beijing's sensitivities on those issues.<sup>190</sup>

U.S. allies and partners also offer insights for the United States regarding the nature of the challenges presented by Beijing, how those challenges might evolve, and how the U.S. government might respond. In addition, the CCP may be testing certain approaches in other countries before deploying them in the United States. Mr. Walker told the Commission in April 2018 that "given the complex and multifaceted character of Beijing's influence activities, such learning between and among democracies is critical for accelerating responses that are at once effective and consistent with liberal democratic standards."<sup>191</sup> The growing concern about these challenges in the United States, as well as U.S. allied and partner countries, therefore presents an opportunity for cooperation.<sup>192</sup>

It is important for U.S. policymakers to both pay attention to the CCP's efforts to influence policies and perceptions and to precisely frame this issue. Simplistically framing the debate over CCP influence operations as "Chinese influence" risks further stoking nationalism in China and granting the CCP an additional tool to use

against the United States in the form of claiming to defend U.S. citizens of Chinese heritage from racism; the CCP works assiduously to frame public opinion in the United States and elsewhere, including making exaggerated claims of racism.<sup>193</sup> Peter Mattis argued in his testimony to the Commission that “there is no solution to CCP interference that does not involve the overseas Chinese communities in the United States and elsewhere.... Their cooperation and goodwill are essential.”<sup>194</sup>

It is also important to differentiate illegitimate influence and coercion from legitimate forms of engagement. For example, when introducing Australia’s new anti-foreign influence legislation in December 2017, then Prime Minister Turnbull explicitly singled out “covert, coercive, or corrupt” foreign influence activities as unacceptable, but he welcomed transparent engagement ties based on legitimate soft power.<sup>195</sup> Finally, Bill Bishop, editor of the widely read *Sinocism* newsletter, told the Commission in March 2018 that it is “vital” to engage in this analysis, albeit with precision, because while CCP influence operations in the United States may not currently be very effective, the United States should not ignore the “nodes and networks” the CCP is setting up for potential future use.<sup>196</sup>

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## SECTION 3: CHINA AND TAIWAN

### Key Findings

- Taiwan President Tsai Ing-wen continues to pursue a cross-Strait policy of maintaining the status quo in the face of actions by Beijing that have increased pressure on Taiwan and instability in the Strait. Over the past year, Beijing increased actions to pressure and isolate Taiwan, while advancing unilateral efforts to deepen cross-Strait economic and social integration, including actions that Taiwan viewed as threatening to its sovereignty. To these ends, Beijing enticed three of Taiwan's diplomatic partners to terminate official relations with Taiwan, pressured U.S. and other foreign companies to identify Taiwan as part of the People's Republic of China (PRC) on their websites, and treated Taiwan as PRC-governed territory by unilaterally activating new flight routes near the island.
- China is also intensifying its political warfare activities in Taiwan. Beijing has employed a variety of tactics seeking to undermine Taiwan's democracy, and the Tsai Administration, in particular including supporting opposition political parties and spreading disinformation using social media and other online tools.
- The threat to Taiwan from China's military posture and modernization continues to grow, and Beijing has increased coercive military activities to intimidate Taipei. In response, Taiwan has taken initial, but significant, steps to enhance its defensive capabilities by adopting a new defense strategy, increasing its emphasis on asymmetric capabilities, and increasing procurement from its domestic defense industries and the United States. It also continues its decade-long transition to an all-volunteer force.
- As part of a strategy of "resolute defense, multi-layered deterrence" introduced by the Tsai Administration, Taiwan's new Overall Defense Concept aims to exploit Chinese military vulnerabilities and capitalize on Taiwan's defensive strengths by focusing on three areas: (1) preservation of warfighting capability, (2) pursuing decisive victory in the littoral area, and (3) annihilating the enemy on the beach. However, the success of the new strategy faces a major challenge from the scale and speed of China's People's Liberation Army's continued growth.
- Taiwan remains reliant on China as its largest trading partner and destination for foreign investment, making it vulnerable to economic coercion and political pressure from Beijing. President Tsai has prioritized several domestic initiatives—including the "5+2" Innovative Industries program and Forward-looking In-

frastructure Program—to strengthen key engines of Taiwan’s economy and spur innovation and job creation. Meanwhile, Taiwan continues to pursue the New Southbound Policy to diversify its economic ties in South and Southeast Asia and reduce its reliance on the Chinese economy.

- U.S.-Taiwan relations are strong, with the unanimous passage and presidential signing of the Taiwan Travel Act, a public visit to Taiwan by a senior official from the U.S. Department of State’s Bureau of East Asian and Pacific Affairs, and the dedication of the American Institute in Taiwan’s new office complex in Taipei. Although Taiwan continues to prioritize economic relations with the United States, discussions over longstanding issues in the relationship (such as beef and pork market access restrictions) remain stalled.

### **Recommendations**

The Commission recommends:

- Congress direct the Office of the U.S. Trade Representative to resume meetings under the U.S.-Taiwan Trade and Investment Framework Agreement in 2019 and to identify enhanced negotiating procedures to resolve outstanding issues.
- Congress direct the Administration to produce an interagency report on a whole-of-government strategy for supporting Taiwan’s engagement with the international community, including consideration of, but not limited to, the following actions:
  - Explore opportunities for providing proactive development and security assistance to Taiwan’s diplomatic partners in an effort to encourage them to maintain ties with Taipei.
  - Identify adjustments the United States could take in its relations with Taiwan in response to Beijing altering the cross-strait status quo and taking coercive action to pressure Taipei.
  - Discuss cross-strait relations and U.S. policy regarding Taiwan in meetings with U.S. allied and partner governments and support an expansion of commercial, cultural, and other exchanges between Taiwan and those countries.
  - Establish a high-level bilateral U.S.-Taiwan development dialogue to encourage Taiwan’s role in promoting sustainable global development.
  - Identify key international organizations that would benefit from Taiwan’s expertise and participation, and focus high-level U.S. advocacy efforts to secure Taiwan’s membership or participation in these organizations.
- Congress consider amending antiboycott laws under the Export Administration Act or pass new legislation to prohibit U.S. companies from complying with China’s efforts to apply pressure on Taiwan. Such legislation could include measures authorizing reciprocal sanctions on Chinese entities in the event of Chinese government retaliation against U.S. companies.

- Congress direct the U.S. Department of Defense to support the implementation of Taiwan's new Overall Defense Concept and take actions that support Taiwan's ability to maintain a sufficient self-defense capability by including Taiwan military personnel as participants or observers in U.S. and U.S.-led multilateral military exercises; conducting regular high-level exchanges of military planning and other advisory personnel pursuant to the Taiwan Travel Act; and considering the potential for assisting Taiwan with the creative acquisition of critical defense articles, including through coproduction of defense technology between U.S. and Taiwan companies.
- Congress consider raising the threshold of congressional notification on sales of defense articles and services to Taiwan to those set for major U.S. allies, and terminating any requirement to provide notification of maintenance and sustainment of Taiwan's existing capabilities.
- Congress express support for the Tsai Administration's approach to maintaining the status quo in the Taiwan Strait.

## Introduction

Following the election of President Tsai Ing-wen of the Democratic Progressive Party (DPP) in 2016,\* Beijing has dramatically increased its coercion against Taiwan. A major reason for China's increased coercive efforts is the DPP administration's unwillingness to explicitly endorse the exact verbiage of the "one China" formulation† that Beijing demands for maintaining cross-strait relations, despite President Tsai's use of another framework that includes a number of elements that contain the idea of "one China."<sup>1</sup> As part of this framework, during her inaugural address President Tsai said her administration would conduct cross-strait affairs "in accordance with the Republic of China Constitution [and] the Act Governing Relations Between the People of the Taiwan Area and the Mainland Area,"‡ while recognizing and praising the benefits of the two sides' historical efforts to set aside differences and find common ground.<sup>2</sup> Since her inauguration, President Tsai has persisted in seeking to maintain stability in cross-strait relations and rejecting a "return to the old path of confrontation."<sup>3</sup> She has followed a cross-strait policy of maintaining the status quo, pursuing neither formal in-

\* President Tsai is also the chairperson of the DPP. In 1991, the DPP adopted a clause to its charter that called for formal independence and the establishment of the Republic of Taiwan, but this clause was obviated by the DPP's 1999 "Resolution on Taiwan's Future" that states that Taiwan is already a "sovereign and independent country." Dafydd J. Fell, "Parties and Party Systems," in Gunter Schubert, ed. *Routledge Handbook of Contemporary Taiwan*, Routledge, 2017; J. Michael Cole, "To Freeze or Not to Freeze: The DPP's 'Independence Clause,'" *Diplomat*, July 23, 2014.

† Beijing insists that cross-strait communication and talks be based on the "one China" principle. Taipei and Beijing endorsed the so-called "1992 Consensus"—a tacit understanding reached between representatives of Taiwan and China in 1992 that there is only "one China" and that effectively allowed each side to maintain its own interpretation of the meaning of "one China"—during the administration of President Tsai's predecessor, Ma Ying-jeou of the Chinese Nationalist Party (Kuomintang). The DPP fears that by endorsing the "1992 Consensus" Beijing could trap the party into accepting its interpretation of "one China," and as a principle rejects Beijing's insistence on preconditions for pursuing peace and stability in the Taiwan Strait. J. Michael Cole, "Who's to Blame for the '1992 Consensus' Impasse?" *Taiwan Sentinel*, March 9, 2018; Richard C. Bush, "Taiwan's January 2016 Elections and Their Implications for Relations with China and the United States," *Brookings Institution*, December 2015, 5–6, 17.

‡ This law—which was passed in 1982 and has been amended many times—pertains to travel, employment, marriage, and other legal matters.

dependence for Taiwan nor unification of Taiwan and China, and has repeatedly demonstrated goodwill toward Beijing and sought to reassure her counterparts across the Taiwan Strait.<sup>4</sup> During a May 2018 meeting with the Commission in Taiwan, one Taiwan government official stated that Taipei has “strategic tenacity.” The official explained that Taipei will “maintain a predictable policy” and not provoke Beijing.<sup>5</sup>

In contrast, Beijing has taken significant actions to alter the status quo in the Taiwan Strait and advance its broader goal of eventual cross-Strait unification. The coercive measures Beijing is employing against Taiwan include suspending official and semi-official cross-Strait communication and meetings,\* and the use of economic pressure such as reducing Chinese tourism to Taiwan. Additionally, Beijing has ended the cross-Strait “diplomatic truce” and returned to enticing Taiwan’s remaining diplomatic partners to cut off official relations with Taiwan, put pressure on Taiwan’s presence in countries with which it has unofficial relations, and intervened in the repatriation of Taiwan citizens from abroad. In the latter case, Beijing demanded that Taiwan citizens accused of telecommunications fraud in countries with which Taiwan does not have diplomatic relations be sent to China, and refused to honor Taipei’s request that they be sent to Taiwan.<sup>6</sup> Other coercive measures Beijing has taken include blocking Taiwan’s participation in certain international fora in which it could previously participate, pressuring U.S. and other foreign companies to change the way they characterize Taiwan on their websites and products, and expanding and intensifying Chinese military training activities near Taiwan.

As Beijing has reduced contact with and sought to isolate President Tsai and her administration, who Beijing views as seeking independence through both formal and “soft” means,† it has continued its outreach to opposition politicians at the party and local government levels as a way to constrain the DPP and promote China’s preferred cross-Strait policy. Beijing’s approach also includes efforts to undermine Taiwan’s democracy through collaboration with various individuals and groups in Taiwan, such as organizations that support cross-Strait unification, and spreading disinformation through social media and other online tools.‡

To respond to Beijing’s increasing pressure, President Tsai has continued her efforts to pursue economic growth, find new markets and trade partnerships, and support new innovative and job-creating industries. Simultaneously, Taiwan is seeking to enhance its defensive capabilities to counter China’s military coercion. To aid in these efforts, Taiwan is looking to strengthen its partnership with the United States.

\*A Taiwan official told the Commission during its trip to Taiwan in May 2018 that there continues to be Track 1.5 and Track 2 contact between the two sides. Taiwan official, meeting with Commission, Taipei, Taiwan, May 22, 2018.

†“Soft” independence refers to the Chinese government’s suspicion that certain developments in Taiwan, such as changes to history text books and other actions to emphasize Taiwan’s uniqueness, may strengthen the view of people in Taiwan that they are historically and culturally distinct from China. *Xinhua*, “Taiwan Affairs Office: For the DPP, the Only Way out on Cross-Strait Relations Is By Abandoning Taiwan Independence,” June 28, 2017. Translation. [http://www.xinhuanet.com/2017-06/28/c\\_1121227430.htm](http://www.xinhuanet.com/2017-06/28/c_1121227430.htm).

‡For more information about these developments see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 371–413.

This section explores recent developments in cross-Strait relations, cross-Strait trade and investment, Taiwan's international engagement, the cross-Strait military balance, and U.S.-Taiwan relations. It is based on consultations with experts on Taiwan and cross-Strait relations, the Commission's fact-finding trip to Taiwan in May 2018, and open source research and analysis.

### **Beijing Formalizes Increasingly Hardline Policy**

In his remarks on Taiwan at the 19th National Congress of the Chinese Communist Party (CCP) held in October 2017, Chinese President and General Secretary of the CCP Xi Jinping signaled that the hardline approach the CCP has taken toward Taiwan and cross-Strait unification in recent years had become official policy. Linking together and expanding on some of the most forceful language any of his predecessors had used at previous CCP congresses, including during earlier periods of elevated cross-Strait tensions, President Xi declared:<sup>7</sup>

*We have firm will, full confidence, and sufficient capability to defeat any form of Taiwan independence secession plot. We will never allow any person, any organization, or any political party to split any part of Chinese territory from China at any time or in any form.*<sup>8</sup>

Furthermore, President Xi did not directly mention either of his immediate predecessors' ideological contributions to China's cross-Strait policy, signaling that he is increasingly confident in reshaping cross-Strait relations along his own lines. In their policy remarks, then Presidents Jiang Zemin and Hu Jintao had included relatively conciliatory language on Taiwan's engagement with the international community and what Beijing would grant Taiwan in a future unification arrangement.\*<sup>9</sup> The new language used by President Xi suggests that while China may continue efforts to develop cross-Strait economic and social ties, its overall approach has become more intolerant of any opposition from Taipei on the terms of cross-Strait relations and eventual unification dictated by Beijing. Moreover, China's policy appears to reflect a shift from focusing on deterring Taiwan from seeking de jure independence, and a patient stance toward unification, to actively pushing toward unification.<sup>10</sup>

The formalization of a more uncompromising cross-Strait policy at the 19th Party Congress is even more concerning in light of the sense of urgency and militarized nature of the approach Beijing has taken toward Taipei since President Xi assumed office, and which has intensified since President Tsai's election in 2016. In 2013, for example, long before President Tsai was elected, President Xi publicly stated that "the longstanding political differences between the two sides of the Strait ... must not be passed down from generation to generation."<sup>11</sup> This statement went beyond what other Chinese leaders have said about the urgency of resolving cross-Strait political differences and suggests President Xi may feel a personal

\*The omission may be due to a combination of reasons, including the reported rift between President Xi and former President Jiang. David G. Brown, "CCP Congress Report: Goodbye to Jiang's Eight Points?" *Global Taiwan Institute*, December 13, 2017; Richard C. Bush, "What Xi Jinping Said about Taiwan at the 19th Party Congress," *Brookings Institution*, October 19, 2017.

responsibility to make significant headway toward advancing unification between the two sides.

China has also increased the use of military intimidation against Taiwan under President Xi's administration. In 2013, the People's Liberation Army (PLA) conducted a major amphibious assault exercise in the then Nanjing Military Region across from Taiwan after having refrained from carrying out these types of provocative training events during much of the Hu Jintao era.<sup>12</sup> Bonnie S. Glaser, director of the Center for Strategic and International Studies' China Power Project, writes that "between 2006 and 2012, it is difficult to find exercises overtly and explicitly aimed at intimidating Taiwan."<sup>13</sup> In 2015, still during the term of President Tsai's predecessor, Ma Ying-jeou of the Chinese Nationalist Party (Kuomintang), China broadcast footage of a military exercise where the PLA practiced storming a mock-up of Taiwan's Presidential Palace in Taipei.<sup>14</sup> Since this time, PLA exercises and other training activities targeting Taiwan have expanded and intensified, suggesting Beijing may now be more willing to countenance the threat of military force against Taiwan to achieve its political objectives.

### **The Struggle for Taiwan's International Space**

#### ***Beijing Steps up Efforts to Restrict Taiwan's Participation in the International Community***

While Beijing has pursued a more uncompromising cross-Strait policy since President Xi assumed office, its efforts to compress Taiwan's international space by undermining Taipei's efforts to participate in the international community accelerated and intensified in 2018, as Beijing took significant new steps in the following areas.

*Ending the cross-Strait "diplomatic truce":* Beijing has long sought to cut off Taiwan's ability to independently access the community of nations as a peer to other states, seeking to force others to treat Taiwan as a sub-sovereign part of Beijing's China. Beijing has pursued the goal of reducing or removing Taiwan's space in the international community with varying degrees of aggressiveness. During the Ma Administration (2008–2016), China paused its efforts to poach Taiwan's diplomatic partners, as a reward for Ma's cross-Strait policy, which Beijing saw as more in line with its views. However, since President Tsai was elected, Beijing has ended its tacit "diplomatic truce" with Taipei, resuming its campaign of eliminating Taiwan's diplomatic partners. Beijing has returned to pursuing deals to entice the few remaining states who recognize the government on Taiwan as an independent sovereign state, the Republic of China (ROC)—Taiwan's official name. These deals require governments to drop recognition of Taipei as the ROC and recognize Beijing as the sole legal government of China, including a statement with some formulation of Beijing's "One China Principle" that implies Taiwan is under Beijing's sovereignty.<sup>15</sup>

Since President Tsai's election, Beijing has established relations with six countries that broke ties with Taipei.\* In 2018 alone, the

\*These countries are The Gambia, Sao Tome and Principe, Panama, the Dominican Republic, Burkina Faso, and El Salvador. The Gambia broke ties with Taiwan in 2013, and it appears Bei-

Dominican Republic, Burkina Faso, and El Salvador broke with Taiwan and established diplomatic relations with China.<sup>16</sup> In an example of Beijing resuming efforts to entice countries to break ties with Taiwan, an unnamed Taiwan official said that Beijing offered the Dominican Republic financial assistance, low-interest loans, and investments worth at least \$3.1 billion in exchange for breaking ties with Taiwan and establishing ties with China.<sup>17</sup>

After the Dominican Republic, Burkina Faso, and El Salvador established diplomatic relations with China, there are 17 countries that still maintain diplomatic relations with Taiwan.\* However, concerns are now growing that other countries will follow suit in severing their diplomatic ties. For example, in September 2018, Beijing and the Vatican reached a provisional agreement on the appointment of bishops—one of the longstanding areas of disagreement that the two sides have been seeking to address through talks for years—which could set the conditions for the Vatican to switch diplomatic recognition.<sup>18</sup> A resolution of these issues puts Taiwan's relations with the Holy See at risk.

Although recognition by other states is widely viewed as a component of state sovereignty, the importance of the total number of countries that recognize the Republic of China (Taiwan) is an open question.<sup>19</sup> Symbolically, these relationships confer legitimacy on Taiwan's position on the world stage in the face of marginalization by Beijing.<sup>20</sup> Practically, their advocacy for Taiwan's participation in international organizations helps Taiwan in its pursuit of greater international space.<sup>21</sup> However, Taiwan almost certainly gains more from its unofficial relations† with countries that have extensive international influence than it gains from official diplomatic relationships.‡ Even without formal diplomatic relations, a country like the United States can promote expanded opportunities for Taiwan to participate in the international community and support Taiwan in other ways.<sup>22</sup>

*Continuing to block Taiwan's participation in international fora:* For the second year in a row, Beijing prevented the Taiwan government from participating as an observer in the UN World Health Assembly; previously, Taipei received an invitation each year between 2009 and 2016.<sup>23</sup> Since April 2016, Taiwan officials and citizens have been prevented from participating in numerous international fora in which they participated in preceding years.<sup>24</sup>

Although Beijing has increased its pressure on Taiwan's presence in certain international fora since President Tsai's election, Taiwan has long been unable to participate in many other inter-

jing did not entice or pressure The Gambia to do so. Richard C. Bush, "China's Gambia Gambit and What It Means for Taiwan," *Brookings Institution*, March 22, 2016; Angela Tsai and Scully Hsiao, "Gambian Aid Request Linked to Broken Ties with Taiwan: Minister," *Central News Agency (Taiwan)*, November 25, 2013.

\*Taiwan has diplomatic relations with Belize, Guatemala, Haiti, the Holy See, Honduras, Kiribati, the Marshall Islands, Nauru, Nicaragua, Palau, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Solomon Islands, eSwatini (Swaziland), and Tuvalu. Taiwan's Ministry of Foreign Affairs, *Diplomatic Allies*. <https://www.mofa.gov.tw/en/AlliesIndex.aspx?n=DF6F8F246049F8D6&sms=A76B7230ADF29736>.

†Countries with unofficial relations do not have embassies led by officials with the title of ambassador on each other's territory, and have limitations on the interactions between their governments.

‡Examples of such countries include Australia, Canada, Germany, India, Japan, and the United States.

national meetings and organizations, such as the International Criminal Police Organization (INTERPOL) and most meetings of the UN Framework Convention on Climate Change.\*<sup>25</sup> According to Taiwan's Ministry of Foreign Affairs, between 2009 and 2017, the World Health Organization only granted Taiwan access to 46 of the 154 technical meetings to which it applied to attend.<sup>26</sup> Notably, INTERPOL's most recent president was Meng Hongwei, China's vice minister of public security. He was elected at the general assembly in November 2016.<sup>27</sup> (For more information see Chapter 2, Section 1, "Year in Review: Security and Foreign Affairs.")

*Pressuring foreign companies to change references to Taiwan and Taiwan companies to support Beijing:* Since January 2018, Beijing has pressured numerous foreign companies, including several U.S. corporations, to change the way they categorized or depicted Taiwan on their customer service literature, websites, or products. Beginning January 11, the Shanghai branch of the Cyberspace Administration of China shut down Marriott's Chinese website for a week as punishment for listing Taiwan as well as Hong Kong, Macau, and Tibet as separate from China on a questionnaire for customers.<sup>28</sup> It also ordered companies Zara and Medtronic to apologize for their characterization of Taiwan on their websites after Zara included Taiwan in a list of countries and Medtronic listed Taiwan as "Republic of China (Taiwan)."<sup>29</sup>

On January 12, China's Civil Aviation Administration announced it had ordered Delta Airlines to change its inclusion of Taiwan on a list of countries on the airline's website and issue a public apology. The agency also announced it would demand that all foreign airlines with flights to China inspect all information for customers, such as websites and apps, and to "strictly follow China's laws and regulations."<sup>30</sup> Later, the agency demanded that 44 foreign airlines change their designation of Taiwan to indicate that Taiwan is part of China by July 25; as of August, all but three had done so.<sup>31</sup> Those airlines (American Airlines, Delta Airlines, and United Airlines), all U.S.-based, have changed the designation from "Taipei, Taiwan" to "Taipei," but have not added "China" after it as Beijing demanded.<sup>32</sup>

In another case, President Tsai's August 2018 visit to a branch of Taiwan bakery chain 85C in Los Angeles, during which an employee asked her to sign a pillow, incurred a harsh reaction in China.

\* In March 2016, then President Barack Obama signed a bill (S.2426) that mandated the Secretary of State report to Congress within 90 days on the U.S. government's strategy for supporting Taiwan's participation in INTERPOL as an observer. The U.S. Department of State submitted this report in June 2016. Despite the U.S. government's efforts, INTERPOL turned down Taiwan's request to attend its November 2016 general assembly meeting as an observer. Since Taiwan is not a member of INTERPOL, it does not have access to the organization's I-24/7 global police communication system. This system enables law enforcement agencies to share urgent information and access INTERPOL's criminal databases, which include information on suspected criminals and lost or stolen travel documents, among other things. J. Michael Cole, "Interpol Puts China Ahead of Public Safety as Taipei Readies to Host 2017 Universiade," *Taiwan Sentinel*, August 15, 2017; INTERPOL, "Data Exchange," <https://www.interpol.int/INTERPOL-expertise/Data-exchange/I-24-7>; *Central News Agency*, "Obama Inks Taiwan INTERPOL Bid Bill," *China Post*, March 20, 2016; Executive Communication EC5932, 114th Cong., 2nd Sess., June 28, 2016; *Central News Agency*, "Taiwan Barred from Interpol Assembly," November 6, 2016; Bonnie S. Glaser and Jacqueline Vitello, "Taiwan's Marginalized Role in International Security: Paying a Price," *Center for Strategic and International Studies*, January 2015, 3.

† Airlines that complied with Beijing's demand include Air Canada, Asiana Airlines, British Airways, Finnair, Lufthansa, and Philippine Airlines. Erika Kinetz, "Airlines Switching to 'Taiwan, China' despite White House's Rejection of 'Orwellian Nonsense'—but U.S. Carriers Hold out," *Associated Press*, May 22, 2018.

Although it is unclear whether the Chinese government had a role, the response included outrage and calls for a boycott by Chinese netizens, some Chinese e-commerce companies notifying partners that they should remove 85C from their sites, and an article in the *Global Times* denouncing the chain.<sup>33</sup>

*Pressuring unofficial diplomatic partners:* Two more countries—Jordan and Papua New Guinea—downgraded their unofficial relations with Taiwan in 2018 due, according to Taiwan’s Ministry of Foreign Affairs, to pressure from Beijing. In February, Taiwan announced that the Papua New Guinean government ordered Taiwan’s representative office in Port Moresby to remove “Republic of China (on Taiwan)” from its name and to remove consular license plates from its cars.<sup>34</sup> Then, in April, the Ministry said the Jordanian government requested the Taiwan representative office in Amman change its name from the “Commercial Office of the Republic of China (Taiwan)” to the “Taipei Economic and Cultural Office.”<sup>35</sup> Since 2017, the governments of all six countries in which the name of Taiwan’s representative office includes “Taiwan,” “Republic of China”, or “ROC” have requested the office change these parts of the name to “Taipei.”\*<sup>36</sup>

*Restricting Chinese tourism to Taiwan’s diplomatic partners:* Beijing has used travel bans to punish Taiwan’s diplomatic allies and incentivize them to switch ties to China.<sup>37</sup> In November 2017, China’s National Tourism Administration banned Chinese tourist companies from offering group tours † to Palau and the Vatican, two of Taiwan’s diplomatic partners.<sup>38</sup> The ban came two days after Taiwan and Palau announced they would be increasing the number of direct flights between them.‡

*Treating Taiwan as Chinese territory through unilateral activation of new flight routes:* In January 2018, Beijing expanded use of the M503 commercial air route § near the median line of the Taiwan Strait to allow northbound traffic, and opened three extension routes near some of Taiwan’s outlying islands, without consulting with Taipei—treating Taiwan as a subordinate entity rather than a separately administered area.<sup>39</sup> Previously, in 2015, Beijing attempted to open the M503 route and the extension routes unilaterally, but later engaged in negotiations with Taipei and agreed to only allow southbound flights on M503.<sup>40</sup>

\*These countries are Bahrain, Ecuador, Jordan, Nigeria, Papua New Guinea, and the United Arab Emirates. Taiwan’s representative office in the United States is called the Taipei Economic and Cultural Representative Office in the United States. Ku Chuan and Kuan-lin Liu, “Taiwan Office in Jordan to Be Renamed under Pressure from China: MOFA,” *Focus Taiwan*, April 28, 2018.

†In 2017, around 44 percent of Chinese tourists abroad travelled as part of a tour group. Chinese tourists made 129 million outbound trips total in 2017. China National Tourism Administration, “2017 China Outbound Tourism Travel Report,” January 30, 2018, 2. <https://www.chinatravelnews.com/images/201802/fc66f776a9111201.pdf>.

‡For more information on Taiwan and the Pacific Islands region, see Ethan Meick, Michelle Ker, and Han May Chan, “China’s Engagement in the Pacific Islands: Implications for the United States,” *U.S.-China Economic and Security Review Commission*, June 14, 2018.

§The International Civil Aviation Organization defines an air traffic services route as “a specific route designed for the channeling the flow of traffic as necessary for the provision of air traffic services.” The organization states that “changes to an [air traffic services route network] should be made only after they have been coordinated with all parties concerned.” International Civil Aviation Organization, “Air Traffic Services Planning Manual,” 1984.

### **Hong Kong: Views from Taiwan**

Some observers in Taiwan, as well as the Taiwan government, are concerned about the fate of freedom and democracy in Hong Kong.<sup>41</sup> Broadly, the idea of adopting Hong Kong's "one country, two systems"\* framework—Beijing's stated framework for cross-strait unification—as a model for Taiwan has long been unpopular among the Taiwan public. However, developments in Hong Kong have intensified the Taiwan public's opposition to Chinese rule and the "one country, two systems" framework.<sup>42</sup> In 2017, around the 20th anniversary of Hong Kong's handover from the United Kingdom to China, Chen-Shen Yen, an international relations researcher at Taiwan's National Chengchi University, told CNBC, "The Hong Kong experience provided a glimpse of what might happen to Taiwan should the 'One Country, Two Systems' formula apply (to Taiwan). So far, it is not very optimistic."<sup>43</sup> The erosion of Hong Kong's autonomy in recent years casts further doubt on whether Beijing would abide by any agreement to protect political and civil liberties in Taiwan.<sup>44</sup> (See Chapter 3, Section 4, "China and Hong Kong," for more information on developments in Hong Kong.)

### ***Taiwan's Efforts to Expand Unofficial Partnerships***

Despite Beijing's efforts to constrict Taiwan's international space, Taipei continues to pursue greater participation in the international community through official diplomatic relations, efforts to expand involvement in international organizations, and initiatives to strengthen economic and unofficial diplomatic partnerships with other countries.

Among the Tsai Administration's foreign policy priorities has been enhancing unofficial relations with like-minded countries. In addition to the United States, Taipei has undertaken significant efforts to strengthen ties with Japan. These efforts include establishing a dialogue on maritime cooperation and deepening cooperation between Taiwan and Japanese think tanks.<sup>45</sup> Another notable development was the visit to Taiwan in March 2017 by Jiro Akama, Japan's senior vice minister of internal affairs and communications, to promote Japan as a tourist destination. Vice Minister Akama was the highest level Japanese official to visit Taiwan since the termination of the two sides' official diplomatic ties in 1972.<sup>46</sup> According to Satoru Mori, professor at Hosei University, the two countries are also trying to integrate Taiwan's New Southbound Policy and Japan's Free and Open Indo-Pacific Policy.<sup>47</sup> Furthermore, Tokyo recently elevated the name of its representative office in Taiwan from the "Interchange Association, Japan" to the "Japan-Taiwan Exchange Association."<sup>48</sup>

Taipei's efforts to enhance unofficial ties with Japan and other like-minded countries are growing in response to Beijing's coercive

\*The "one country, two systems" framework is a policy measure adopted by the People's Republic of China following the establishment of Hong Kong and Macau as Special Administrative Regions. The system grants Hong Kong and Macau the right to self-govern their economies and political systems to a certain extent, excluding foreign affairs and defense.

measures. Following Burkina Faso's severing of official diplomatic ties with Taiwan, President Tsai said, "We will simply redouble our resolve and continue to engage with the world, and continue establishing more and more substantive, economic and security partnerships with like-minded countries to garner the international community's acknowledgement and support."<sup>49</sup> In June 2018, as an example of these growing efforts, Taiwan Minister of Foreign Affairs Joseph Wu called for a security dialogue between Japan and Taiwan.<sup>50</sup>

Taiwan is also enhancing cooperation with India, including in the security realm. In September 2018, *Reuters* reported that senior Indian military officers regularly visit Taiwan, and Taipei has stationed an unofficial military attaché in its representative office in New Delhi. According to Reuters, an unnamed Indian source reported that India is interested in information on Chinese military deployments, saying, "We are dependent on Taiwan because they are watching the Chinese."<sup>51</sup>

#### *U.S.-Taiwan Unofficial Ties*

The Taiwan government has been appreciative of the steps taken by the U.S. government to strengthen U.S.-Taiwan ties, yet it also fears that the Trump Administration could use Taiwan as a bargaining chip in its relationship with Beijing.<sup>52</sup> For its part, Beijing believes that the Trump Administration's actions in support of Taiwan are efforts to pressure Beijing to make concessions, in particular on issues in the U.S.-China trade relationship.<sup>53</sup>

*U.S. pushback on Beijing's actions:* The U.S. Department of State and the American Institute in Taiwan (AIT)\* expressed concern about Beijing's expansion of flight route M503 in the Taiwan Strait without consultation with Taipei; the increase in activities by the Chinese military around Taiwan; and China's establishment of diplomatic relations with the Dominican Republic, Burkina Faso, and El Salvador.<sup>54</sup> In remarks in May 2018, AIT Chairman James Moriarty said, "Let me underscore that Beijing's efforts to alter the status quo are unhelpful and do not contribute to regional stability.... The United States urges China to work to restore productive dialogue and to avoid further escalatory or destabilizing moves."<sup>55</sup> Furthermore, in response to China's Civil Aviation Administration's letter to foreign airlines regarding their categorization or depiction of Taiwan on their websites, the White House issued a press statement in which it decried Beijing's demands as "Orwellian nonsense."<sup>56</sup> Then, following El Salvador's break with Taiwan, the White House said, "The El Salvadoran government's receptiveness to China's apparent interference in the domestic politics of a Western Hemisphere country is of grave concern to the United States, and will result in a reevaluation of our relationship with El Salvador."<sup>57</sup> In September, the State Department called the U.S. chiefs of mission in the Dominican Republic, El Salvador, and Panama back to the United States for "consultations related to recent decisions to no longer recognize Taiwan," and to engage in discussion with other U.S. officials on

\* Congress created AIT, a nonprofit, private corporation, through the Taiwan Relations Act of 1979 to conduct relations between the United States and Taiwan. American Institute in Taiwan, "Policy and History." <https://www.ait.org.tw/our-relationship/policy-history/>.

“ways in which the United States can support strong, independent, democratic institutions and economies throughout Central America and the Caribbean.”<sup>58</sup>

*High-level visits:* In March 2018, President Trump signed the Taiwan Travel Act into law after it was unanimously passed by both chambers of Congress.<sup>59</sup> The act states that the U.S. government should allow visits to Taiwan by officials at all levels and visits to the United States by high-level Taiwan officials.<sup>60</sup> While the U.S. government has sent officials up to cabinet level to Taiwan, the general practice has been to limit routine visits to Taiwan to mid- or lower-level U.S. officials and senior U.S. officials who have typically held an economic, cultural, or technical focus. Visits to the Washington, DC area by senior Taiwan officials have been limited.<sup>61</sup> Although the Taiwan Travel Act is nonbinding, its passage and signing by President Trump have strong symbolic significance.

Deputy Assistant Secretary of State in the Bureau of East Asian and Pacific Affairs (EAP) Alex N. Wong, who has been the Department’s lead on the Indo-Pacific strategy, visited Taiwan several days after the signing of the Taiwan Travel Act. In addition to meeting with Taiwan officials—as other EAP officials have done quietly—Mr. Wong’s visit was publicized, and he delivered a public address at an event hosted by the American Chamber of Commerce in Taipei. President Tsai also spoke at the event.<sup>62</sup> The visit was significant in that past senior State Department officials who visited Taiwan were typically from bureaus with an economic, rather than a political or security, focus. The publicized nature of the event was also unusual.<sup>63</sup> In addition to announcing Mr. Wong’s visit, AIT published the text of his address at the American Chamber of Commerce event on its website.<sup>64</sup> Although Deputy Assistant Secretary Wong’s visit shortly followed the signing of the Taiwan Travel Act, it appears to have been planned well before the legislation was signed.<sup>65</sup>

*President Tsai’s U.S. transits reflect strengthening U.S.-Taiwan ties:* In August 2018, on her way to and from Paraguay and Belize, President Tsai transited in Los Angeles and Houston. During those transits, she became the first sitting Taiwan president to visit a U.S. federal government agency (the National Aeronautics and Space Administration’s Lyndon B. Johnson Space Center) and a Taiwan representative office in the United States (the Taipei Economic and Cultural Office’s Culture Center in Los Angeles).<sup>66</sup> While in Los Angeles, she also delivered public remarks at the Ronald Reagan Presidential Library, the first time a Taiwan president has spoken publicly in the United States in 15 years.<sup>67</sup>

*Global Cooperation and Training Framework enters third year:* The most recent event in the Global Cooperation and Training Framework was held in August 2018, when the U.S. and Taiwan governments held a workshop on transnational crime and forensic science.<sup>68</sup> The framework, which the two countries established in June 2015, allows the United States and Taiwan to jointly train experts from the Asia Pacific in areas such as public health, energy, the digital economy, the empowerment of women, and humanitarian assistance and disaster relief.<sup>69</sup> During a visit to Taiwan in April 2017, Chairman Moriarty said, “We consider [the Global Coopera-

tion and Training Framework] one of the signature programs in the U.S.-Taiwan relationship, built on our long history of strong cooperation.”<sup>70</sup>

*AIT dedicates new office complex:* In June 2018, AIT dedicated a new office complex in Taipei. Assistant Secretary of State for Educational and Cultural Affairs Marie Royce attended the ceremony and, in her public remarks about the complex, said, “I also want to acknowledge that it represents much more than steel and glass and concrete. The new office complex is a symbol of the strength and vibrancy of the U.S.-Taiwan partnership in the 21st century.”<sup>71</sup>

*Taiwan and the free and open Indo-Pacific strategy:* At the Asia-Pacific Economic Cooperation summit in Vietnam in November 2017, President Trump announced his administration’s policy of promoting a “free and open Indo-Pacific.”<sup>72</sup> Since then, the Trump Administration has begun to elaborate on the concept.<sup>73</sup> In his remarks in Taiwan, Deputy Assistant Secretary Wong explained that Taiwan is strengthening the rules-based order—part of the Administration’s concept—by enhancing its legal and regulatory environment and by building relations with other countries in the region through the New Southbound Policy.<sup>74</sup> In a speech in July 2018, Assistant Secretary of Defense for Asian and Pacific Security Affairs Randall Schriver said, “We do believe Taiwan is a partner in promoting a free and open Indo-Pacific and can make valuable contributions.”<sup>75</sup> Taiwan officials, including President Tsai, have expressed their willingness to play a role in the strategy.<sup>76</sup>

### **Economics and Trade**

Since coming into office, President Tsai has sought to accelerate Taiwan’s economic growth while diversifying trade and economic ties away from an overreliance on China. To achieve these objectives, the Tsai Administration has prioritized efforts to spur innovation in key domestic industries such as green energy, smart machinery, and biotechnology; reform Taiwan’s labor, pension, and judicial systems; and support increased wages and new opportunities for younger workers.<sup>77</sup> Yet even as Taiwan’s economic growth has accelerated due to strong domestic consumption and increased exports, political opposition continues to hinder many of these reform objectives.

In 2017, Taiwan’s gross domestic product (GDP) increased 2.9 percent year-on-year, up from 1.4 percent growth in 2016 and 0.8 percent in 2015.<sup>78</sup> In the first and second quarters of 2018, Taiwan’s GDP expanded 3.1 percent and 3.3 percent year-on-year, respectively, with official government estimates forecasting 2.7 percent year-end growth.<sup>79</sup> Economic growth has been buoyed by domestic demand (increasing around 2.6 percent year-on-year in the first half of the year) and exports (increasing around 6.5 percent year-on-year in the first half of the year).<sup>80</sup> Consumption activity was primarily fueled by increased spending on transportation, recreation and culture activities, and financial services, while export growth was

\* Previously, both the Australian and Japanese governments had re-framed the Asia Pacific region in their policies as the Indo-Pacific region. J. Michael Cole, “How Does Taiwan Fit into the Free and Open Indo-Pacific?” *Diplomat*, May 2018; Mark Landler, “Trump Heads to Asia with an Ambitious Agenda but Little to Offer,” *New York Times*, November 2, 2017.

largely due to increased foreign demand for electronic components and machinery.<sup>81</sup>

Taiwan's improved economic growth figures—as well as recent legislative achievements—have not led to increased employment, but have led to modest improvements in wages. In August 2018, Taiwan's unemployment rate averaged 3.87 percent, up from 3.76 percent at the beginning of the year.<sup>82</sup> Unemployment remains particularly high among younger workers; as of August 2018, 12.8 percent of workers aged 20 to 24 years were unable to find jobs, up from 11.8 percent at the beginning of the year.<sup>83</sup> Meanwhile, wage growth has accelerated following a decision in September 2017 to raise Taiwan's monthly minimum wage 4.7 percent to \$730.<sup>84</sup> Between January and July 2018, regular employee earnings increased 2.6 percent compared to the same period in 2017.<sup>85</sup> In 2017, wages increased only 1.8 percent year-on-year.<sup>86</sup>

Improved economic growth has not lessened opposition to many of President Tsai's proposed reforms. The Labor Standard Reform Act,\* which came into effect in March 2018, did not fully satisfy either the business community or labor advocates.<sup>87</sup> Similarly, discussions over pension reform remain fraught, with a deeply entrenched constituency—namely from teachers, civil servants, and military veterans, who had generous pension provisions under the previous law—protesting against the policy.<sup>88</sup> However, a majority of Taiwan's public (64 percent, according to one poll conducted in June 2018) has indicated support for reforming the pension system, which remains one of the most generous in the world despite growing pressures from demographic aging.<sup>89</sup> Taiwan government data indicate that without reform such generous pensions may be unsustainable, with pensions for civil servants estimated to default by 2030, teachers by 2031, and other workers by 2048.<sup>90</sup> In June 2017, Taiwan legislators passed a bill reducing the stipends of civil servants, and in June 2018 passed a bill cutting military veterans' pensions.<sup>91</sup> Both bills came into effect on July 1, 2018.† The unpopularity of President Tsai's economic reform proposals has contributed to a fall in her overall approval rating, which dropped to 33 percent in June 2018.<sup>92</sup>

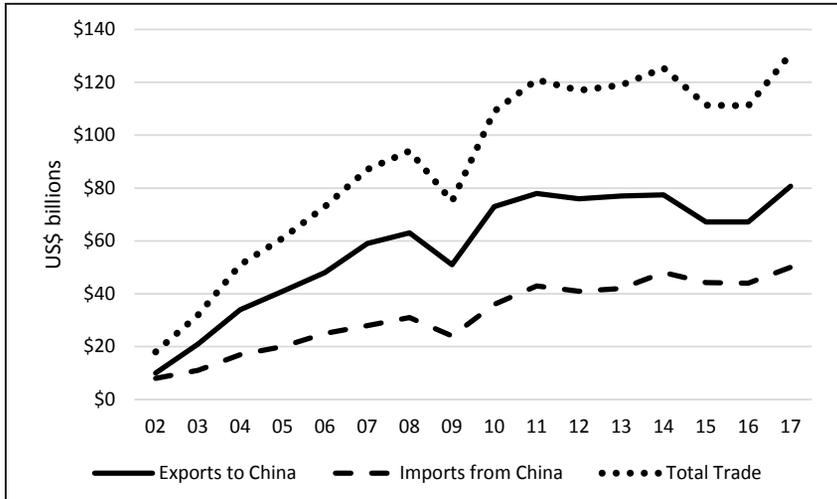
### ***Cross-Strait Trade and Investment***

Taiwan continues to rely on trade with China as a key driver of its economy: China is Taiwan's largest trading partner, export market, and source of imports.<sup>93</sup> As seen in Figure 1, cross-Strait goods trade totaled \$130.8 billion in 2017—a 17.6 percent increase compared to 2016 levels—accounting for 23.8 percent of Taiwan's total goods trade.<sup>94</sup> Through the first seven months of 2018, Taiwan exported \$49.2 billion worth of goods to China (up 14.7 percent from the same period in 2017) and imported \$30.8 billion (up 12.5 percent year-on-year).<sup>95</sup>

\*The Labor Standard Reform Act created a five-day work week (from a six-day work week) for most industries and allowed workers in Taiwan to exercise greater flexibility arranging work times, paid time off, and overtime. Taiwan's Ministry of Labor, *Labor Standards Act*. <https://laws.mol.gov.tw/Eng/index.aspx>.

† Under the new pension system, senior military veterans' monthly stipend will be reduced by more than 20 percent over the next decade, while the 18 percent annual interest on civil servants' savings will be gradually phased out. *South China Morning Post*, "Taiwan Passes Bill to Cut Veterans' Pensions That Sparked Violent Protests," June 21, 2018; *Reuters*, "Taiwan Cuts 18 Pct Interest in Civil Service Pension Reform Bill," June 27, 2018.

Figure 1: Taiwan's Trade with China, 2002–2017



Source: Taiwan's Bureau of Foreign Trade, *Trade Statistics*. <http://cus93.trade.gov.tw/FSCE000F/FSCE000F>.

Much like in previous years, Taiwan's top trade products with China were primarily circuit products and other electrical devices. In 2017, Taiwan's largest exports to China were electric circuits (\$24 billion), liquid crystal display (LCD) devices (\$6 billion), and television and radio parts (\$3.2 billion).<sup>96</sup> Taiwan's top imports from China consisted of electric circuits (\$9.5 billion), telephones (\$4.1 billion), and machine parts (\$2.4 billion).<sup>97</sup>

China remains Taiwan's top destination for foreign direct investment (FDI), although investment flows have declined in recent years amid Taiwan's efforts to diversify economic ties (for more on Taiwan's efforts to diversify its economic ties through the New Southbound Policy, see "Taiwan's Economic Growth Initiatives," later in this section).<sup>98</sup> In 2017, Taiwan invested \$9.2 billion in China, down 15.7 percent from 2015 levels, but still comprising 44.4 percent of Taiwan's total outbound investments.<sup>99</sup> Electronic parts manufacturing made up the largest share (20.7 percent) of Taiwan's approved FDI in China in 2017, while nonmetal manufacturing (12.2 percent) and financial services and insurance (11.6 percent) accounted for the second- and third-largest shares, respectively.<sup>100</sup> From January to August 2018, Taiwan invested \$6 billion in China, a decline of 1 percent from the same period in 2017.<sup>101</sup>

Meanwhile, Chinese FDI in Taiwan increased from \$247.6 million in 2016 to \$265.7 million in 2017.<sup>102</sup> Through the first eight months of 2018, Chinese FDI in Taiwan reached \$152.6 million, a decline of 9 percent compared to the same period in 2017.<sup>103</sup>

### ***Chinese Economic Coercion***

Due to China's outsized influence on Taiwan's economy, Beijing's policies can have a significant impact on Taiwan's economic development. For instance, recent policy decisions by the Chinese government have contributed to reduced Chinese tourism to Taiwan and

led top experts and businesses to leave Taiwan for more lucrative opportunities in China.

*Reducing tourism to Taiwan:* In 2017, the Tourism Bureau in Taiwan's Ministry of Transportation and Communications reported that the number of visitors to Taiwan from China dropped 22 percent year-on-year after declining 16 percent year-on-year in 2016.<sup>104</sup> The decline is due in part to a 2016 change in Chinese travel laws, which requires leaders of Taiwan-bound tour groups to obtain a special license.<sup>105</sup> In 2017, China also reduced the number of Chinese students permitted to study in Taiwan by half, approving only 1,000 applications for the 2017–2018 academic year (down from 2,136 the previous year).<sup>106</sup> Although Taiwan still saw a record number of international visitors in 2017 (with more than 10.7 million tourists coming from around the world), the declining number of visitors from China has impacted profits in Taiwan's tourism industry.<sup>107</sup>

In 2015, Chinese tourists in Taiwan spent an average of \$228 per day (the second-highest daily expenditure behind tourists from Japan).<sup>108</sup> After the new travel regulations were implemented, Chinese tourists' daily expenditures dropped to \$208 per day in 2016 and \$184 per day in 2017.<sup>109</sup> In particular, Chinese tourists' average daily spending on retail and shopping in Taiwan has declined, dropping from \$157 per day in 2015 to \$136 per day in 2016.<sup>110</sup>

Many local Taiwan businesses and shops only receive a fraction of the total money spent by Chinese tourists because most of the spending goes to the Chinese tour organizers.<sup>111</sup> Although this has lessened the economic impact of the decline in tourism from China, Taiwan shopkeepers and other tourism-related businesses still feel the effects of Beijing's new tour group regulations. In 2016, some 20,000 tourism sector workers staged a protest demanding Taiwan's government make efforts to boost tourism in response to reduced tourism from China.<sup>112</sup>

*Attracting workers from Taiwan:* In February 2018, the Chinese government unveiled a package of 31 "incentives" to attract workers and students from Taiwan, including tax breaks and subsidies for high-tech companies, research grants for academics, and promises to allow Taiwan companies to bid for government infrastructure projects.<sup>113</sup> The academic community in Taiwan characterizes these efforts as an attempt to "dig out [Taiwan's] roots."<sup>114</sup> Even before the 31 incentives plan, many workers from Taiwan were pursuing opportunities in China. In 2015, 58 percent (420,000 people) of all people from Taiwan working abroad were based in China.<sup>115</sup> The exodus of talent creates another source of pressure Beijing can impose against Taipei as it threatens to hollow out Taiwan's economy.<sup>116</sup> On a Commission trip to Taipei, Kristy Hsu, director of the Taiwan ASEAN Studies Center, indicated that the 31 incentives alone will have limited impact on Taiwan's economy. However, if China further increases incentives for Taiwan citizens and businesses to relocate to China, it could have a real impact on Taiwan's ability to retain talent.<sup>117</sup> Beijing continues to encourage Taiwan citizens to work or study in China.\* In August, the Chinese government removed

\*These policies apply to citizens of Hong Kong and Macau as well. China's State Council, *Office of the State Council Notification of the Issuing of the "Law on the Hong Kong, Macau, Taiwan Citizens Residence Card Application and Issuance Law,"* August 19, 2018. Translation.

a policy requiring Taiwan citizens to hold a permit to work in China.<sup>118</sup> Effective September 2018, Taiwan citizens who are working or studying in China can also apply for a residence card that conveys benefits related to employment, insurance, housing, and travel.<sup>119</sup>

### **Chinese Firms Could Sideline Taiwan in Global ICT Supply Chains**

Taiwan's information and communication technology (ICT) firms are facing rising competition in global supply chains as a consequence of China's efforts to develop its own ICT industry. China aims to become a global leader in semiconductors by 2030 and uses government-backed funds such as the National Integrated Circuitry Investment Fund—which has raised \$41 billion to date—to support the development of its ICT industry.<sup>120</sup> Although Taiwan still holds an edge in precision manufacturing and cutting-edge ICT, Chinese investments in the industry could lead Taiwan firms' share of the market to decline.<sup>121</sup> To date, however, these fears have not been realized; in 2017, Taiwan's industry revenue increased to \$81 billion, up 0.5 percent from 2016, and is expected to reach \$85.8 billion in 2018.<sup>122</sup>

Although growing competition with Taiwan's ICT firms is a natural consequence—rather than intent—of China's technological development, Chinese firms are also resorting to coercive measures to gain technological know-how from Taiwan firms.<sup>123</sup> In a meeting with the Commission, John Deng, Minister without Portfolio in the Taiwan government and Taiwan's lead trade official, said “China still comes to Taiwan to steal our talent and intellectual property,” especially in the semiconductor industry.<sup>124</sup> Taiwan's Trade Secrets Act was amended in 2013 to address trade secret theft by China,\* but Minister Deng indicates the law's increased penalties still have not deterred Chinese actors.<sup>125</sup>

### ***Taiwan's Economic Growth Initiatives***

Taipei has prioritized economic initiatives aimed at strengthening key engines of its economy and diversifying its economic and trade partnerships beyond China. At home, Taiwan is pursuing its “5+2” Innovative Industries program to create new, profitable businesses in key economic sectors, and a Forward-looking Infrastructure Program to develop the infrastructure needed to ensure stable energy supplies and attract top-level talent.<sup>126</sup> Abroad, Taiwan prioritizes the New Southbound Policy, which is aimed at diversifying Taiwan's economic ties beyond China to countries in Asia and Oceania.<sup>127</sup>

*“5+2” Innovative Industries program:* Taiwan is attempting to shift its industrial base away from manufacturing and toward high-value-added, innovative, and service-oriented businesses that will spur job creation.<sup>128</sup> Under the “5+2” Innovative Industries program,

\*Taiwan's Trade Secrets Act was amended to increase fines and prison terms for violators involved in the misappropriation and delivery of trade secrets to overseas countries. Taiwan's Ministry of Economic Affairs, *Trade Secrets Act*, January 30, 2013. <https://www.tipo.gov.tw/ct.aspx?Item=253062&ctNode=7114&mp=2>.

Taiwan is seeking to develop five pillar industries (green energy, defense, the Internet of Things, biotechnology, and smart precision machinery) and two auxiliary sectors (high-value agriculture and the “circular economy”<sup>\*</sup>).<sup>129</sup> The initiative is backed by Taiwan’s Industrial Innovation and Transformation Fund, which will invest \$3.3 billion to develop new technologies and promote innovation in pillar industries.<sup>130</sup> According to Roy Lee, deputy executive director at the Taiwan World Trade Organization Center and Regional Trade Agreement Center, the initiative is also aimed at creating local ecosystems to encourage Taiwan companies to stay in Taiwan rather than moving facilities to China.<sup>131</sup>

To date, the “5+2” program has focused on investments in artificial intelligence (AI), with the government approving a plan in January 2018 to invest \$1.2 billion over the next four years in AI. Under the plan, funds will be dedicated toward fostering and recruiting top AI talent, creating an international AI innovation center, and promoting new regulations to facilitate AI testing and verification.<sup>132</sup> As part of the program, Taiwan’s Ministry of Economic Affairs is also working with the Ministry of Finance to provide tax incentives to help small and medium firms incorporate digital production systems into their facilities.<sup>133</sup>

*Forward-looking Infrastructure Program:* The program, which began in July 2017, is aimed at improving Taiwan’s infrastructure over the next 30 years.<sup>134</sup> It includes \$13.9 billion in funding over the first four years for the development of eight areas: railway projects, water environments, green energy infrastructure, digital infrastructure, regional development, child care facilities, agriculture, and human resources infrastructure.<sup>135</sup> The program seeks to enhance the efficiency of resource allocation, spur innovation, and create a more competitive business environment.<sup>136</sup>

*New Southbound Policy:* Taiwan’s government is seeking to reduce Taiwan’s reliance on China by expanding economic, educational, and cultural ties with ASEAN countries, Australia, New Zealand, and seven South Asian countries.<sup>†</sup><sup>137</sup> Under the New Southbound Policy, “Taiwan desks” will be opened in target countries and overseen by Taiwan’s Ministry of Economic Affairs to coordinate local resources and cluster Taiwan investors abroad.<sup>138</sup> The policy also creates special loans for exports under Taiwan’s Export-Import Bank, increases branches of Taiwan banks in target countries, and promotes technology collaboration and agricultural technology assistance abroad.<sup>139</sup> To further integrate Taiwan with target countries, the New Southbound Policy also prioritizes forming and updating bilateral investment agreements.<sup>140</sup> Ms. Hsu explained to the Commission that the policy prioritizes soft power diplomacy, with the Taiwan government allocating resources to programs that promote tourism, attract foreign students, and promote think tank exchanges.<sup>141</sup>

<sup>\*</sup>A circular economy is a closed supply chain allowing for natural resource use while reducing pollution, avoiding resource constraints, and sustaining economic growth. Ying-Che Hsieh et al., “Governing a Sustainable Business Ecosystem in Taiwan’s Circular Economy: The Story of Spring Pool Glass,” *National Tsing Hua University*, June 20, 2017, 4.

<sup>†</sup>The other countries are India, Pakistan, Bangladesh, Nepal, Sri Lanka, the Maldives, and Bhutan. Taiwan’s Bureau of Foreign Trade, “New Southbound Policy.” <https://www.newsouthboundpolicy.tw/English/PageDetail.aspx?id=654f4ea7-71c6-404b-b623-acda8cb611ff&pageType=SouthAsia>.

To date, the New Southbound Policy has led to mixed results fostering increased trade between Taiwan and target countries (see Table 1). A 2018 study by the National Bureau of Asian Research found that in 2016 (the first year of the policy's implementation), Taiwan's outbound investment to seven ASEAN countries (Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) reached a record \$3.5 billion, versus \$9.1 billion invested in China. By comparison, Taiwan invested \$10.4 billion in China in 2015, while investments in the ASEAN countries totaled only \$2.6 billion.<sup>142</sup> Target countries' tourism to Taiwan also increased; in 2017, the number of visitors to Taiwan from Southeast Asia was up 29.4 percent year-on-year (2.1 million visitors), and the number of visitors from Australia and New Zealand was up 9.9 percent year-on-year (105,000 visitors).<sup>143</sup>

Taiwan's total trade with ASEAN countries\* reached \$86.1 billion in 2017, lower than 2013 (\$88.2 billion) and 2014 (\$91.3 billion).<sup>144</sup> Through the first seven months of 2018, Taiwan's exports to ASEAN countries increased 6.1 percent compared to the same period in 2017.<sup>145</sup> Because increased investment is not creating a proportional increase in export orders for Taiwan businesses in ASEAN countries, Taipei may prioritize efforts to negotiate new economic cooperation agreements to boost trading volumes.<sup>146</sup>

**Table 1: Taiwan Share of Global Trade and Investment Ties with Select Partners, 2010–July 2018**

	Total Trade		Investment	
	With China	With Select Partners	Outbound to China	Outbound to Select Partners
<b>2010</b>	21%	17%	84%	6%
<b>2011</b>	21%	18%	80%	7%
<b>2012</b>	21%	19%	61%	29%
<b>2013</b>	21%	19%	64%	24%
<b>2014</b>	22%	19%	58%	7%
<b>2015</b>	23%	18%	51%	16%
<b>2016</b>	23%	18%	44%	10%
<b>2017</b>	24%	19%	44%	17%
<b>2018</b>	24%	18%	44%	11%

*Note:* Select partners include Australia, India, Indonesia, Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.

*Source:* Taiwan's Bureau of Foreign Trade, *Trade Statistics*. <http://cus93.trade.gov.tw/FSCE000F/FSCE000F>; Taiwan's Ministry of Economic Affairs, Investment Commission, *Monthly Report (August 2018)*, September 2018.

\*ASEAN includes the aforementioned seven countries, as well as Brunei, Burma (Myanmar), and Laos.

### *U.S.-Taiwan Economic and Trade Relations*

In 2017, U.S.-Taiwan economic ties were defined primarily by the trading relationship, with overall goods trade increasing relative to 2016 levels on the strength of trade in electronic products. To foster increased engagement, Taiwan is seeking to expand ties with U.S. businesses, particularly in the technology sector. In June 2018, Taiwan sent the year's largest foreign delegation (comprising 120 representatives from 60 industries) to the U.S. government's annual SelectUSA Investment Summit promoting increased foreign investment in the United States.<sup>147</sup> Despite these positive developments, no progress has been made securing commitments on a few longstanding issues such as market access for U.S. pork and beef products.

According to U.S. Census data, bilateral goods trade between the United States and Taiwan totaled \$68.2 billion in 2017—an increase of 4.3 percent year-on-year—making Taiwan the United States' eleventh-largest trading partner.<sup>148</sup> In 2017, U.S. goods exports to Taiwan fell slightly to \$25.8 billion (down only 0.8 percent from 2016 levels), while U.S. imports from Taiwan increased 8.1 percent year-on-year to \$42.5 billion.<sup>149</sup> The leading U.S. exports to Taiwan were semiconductor and electronic components (\$3.8 billion), industrial machinery (\$3.6 billion), and aerospace products and parts (\$3 billion).<sup>150</sup> U.S. goods imports from Taiwan were led by semiconductor and electronic components (\$6.2 billion), telecommunications equipment (\$3.6 billion), and computer equipment (\$2.8 billion).<sup>151</sup>

The United States and Taiwan have deepened cooperation in high-tech industries in recent years, forging business and government connections in next-generation technologies. For example, in January 2018, Microsoft Corporation launched a \$33 million investment to create an AI research and development center in Taiwan. The center will collaborate with Taiwan's Ministry of Economic Affairs, Ministry of Science and Technology, and Ministry of Education to develop "intelligent input, audience intent recognition, and AI vertical industrial integration" technologies.<sup>152</sup> Taiwan's National Development Council also established an Asian Silicon Valley Development Agency in September 2016 to promote the growth of tech startups and connect them with firms in Silicon Valley and around the world.<sup>153</sup>

Taiwan and the United States continue to discuss bilateral economic issues primarily through the Trade and Investment Framework Agreement (TIFA) established in 1994.<sup>154</sup> However, progress on certain issues discussed in TIFA talks between the United States and Taiwan has been stalled for many years.<sup>155</sup> Outstanding issues in the U.S.-Taiwan economic relationship include intellectual property rights protection, trade barriers, and investment opportunities, as well as a decade-long dispute over U.S. pork and beef imports.<sup>156</sup> Intellectual property concerns center on online copyright infringement; a 2017 white paper by the American Chamber of Commerce in Taipei noted that pirated content is prevalent in Taiwan and highlighted the need for an improved legal framework to prosecute copyright infringers.<sup>157</sup>

The disputes over beef and pork center on Taiwan's unwillingness to fully open its pork and beef market to U.S. producers due to U.S. farmers' use of ractopamine, a feed additive that produces leaner

meat products.<sup>158</sup> Taiwan, along with the European Union and China, has banned the use of ractopamine due to health and food safety concerns.<sup>159</sup> U.S. policymakers and trade negotiators view Taiwan's ban on ractopamine as a protectionist measure, and have criticized the policy as being "not based upon science."<sup>160</sup> In 2012, Taiwan loosened some restrictions on residual levels of ractopamine in some U.S. beef imports, but continues to enforce a ban on certain U.S. beef products and all U.S. pork products.<sup>161</sup> A Taiwan government official told the Commission that U.S. pork products still do not meet Taiwan's health and food safety standards, indicating any breakthrough will require more dialogue between Taiwan and the United States.<sup>162</sup>

### Cross-Strait Military and Security Issues

The primary objective of China's military deployments and posture directed at Taiwan is to pressure Taipei into eventual unification with Beijing and, if that fails, to subjugate Taiwan through military action. Since Taiwan remains the PLA's "main strategic direction,"\* one of the principal objectives of China's military modernization program is to build the necessary force and prepare operational plans for a forceful takeover of the island.

#### *Increasing PLA Exercises to Intimidate Taipei*

The scope and frequency of PLA training activities near Taiwan have expanded and intensified in recent years. In addition to gathering intelligence and enhancing the PLA's preparations for Taiwan-related military contingencies, these activities are also intended to coerce Taiwan into agreeing to Beijing's preferred terms for cross-strait relations and eventual unification.<sup>163</sup> A Taiwan government official noted to the Commission in May 2018 that PLA exercises near to or targeting Taiwan are intended to influence Taiwan voters to not vote for the DPP. This official added that Beijing also seeks to "deter U.S. determination to rescue Taiwan."<sup>164</sup> These activities are primarily comprised of the following:

- *PLA Air Force training flights:* As part of a trend of increasing long-distance over-water training on China's periphery, the PLA Air Force has been conducting training flights near Taiwan. At

\*According to *The Science of Military Strategy*, an authoritative book published by the PLA's Academy of Military Science, strategic directions are determined by "the strategic objective ... to be accomplished, the degree and direction of threat to oneself, the strategic intentions of both sides, and the strategic situation and geographical conditions." China's 2015 defense white paper, which outlines China's national military strategy, calls for the PLA to prepare to respond to crises in multiple domains and geographic regions simultaneously, indicating there are multiple strategic directions that would be assigned to the PLA's theater commands. However, while theater commands are likely assigned primary and secondary strategic directions, Taiwan remains the primary strategic direction at the national level. U.S.-China Economic and Security Review Commission, *Hearing on Hotspots along China's Maritime Periphery*, written testimony of Mark R. Cozad, April 13, 2017; Luo Derong, "The Action Guideline for Armed Forces Building and Military Struggle Preparations - Several Points in the Understanding of the Military Strategic Guideline in the New Situation," *China Military Science*, January 1, 2017, 88-96. Translation; China's Ministry of National Defense, *Official English Transcript of PRC National Defense Ministry's News Conference*, February 25, 2016; *Xinhua*, "PLA Theater Command Party Committees: Fundamentally Follow President Xi's Instructions to Build a Joint Operations Command System," February 3, 2016. Translation; Wang Hongguang, "Wang Hongguang: Decisively Setting East China Sea as Our Primary Strategic Direction," *Sohu Junshi*, March 2, 2016. Translation; China's State Council Information Office, *China's Military Strategy*, May 2015; Shou Xiaosong, ed., *The Science of Military Strategy*, Military Science Press, 2013, 117, 119, 209, 221. Translation; Peng Guangqian and Yao Youzhi, eds., *The Science of Military Strategy*, Military Science Press, 2005, 168.

least twelve of these flights have occurred since November 2017 alone<sup>165</sup> (for a depiction of these flight routes, see map in Chapter 2, Section 1, “Year in Review: Security and Foreign Affairs”). These flights began with transits from China over the Bashi Channel (between Taiwan and the Philippines) and the Miyako Strait (to the northeast of Taiwan between the southwestern Japanese islands of Miyako and Okinawa) to the Western Pacific for the first time in 2015. A new flight path was established in November 2016 when PLA Air Force aircraft flew around Taiwan, first flying south of Taiwan over the Bashi Channel, then flying north, and returning to China over the Miyako Strait.<sup>166</sup> Since then, flights following this path or its reverse have become a regular occurrence.<sup>167</sup>

- *Aircraft carrier transits of the Taiwan Strait:* In 2018, China’s only operational aircraft carrier sailed through the Taiwan Strait twice as part of its training activities.<sup>168</sup> Following its commissioning, the carrier transited the strait for the first time in November 2013 and again the next month.<sup>169</sup> After not transiting the strait for several years, it did so three times in 2017.<sup>170</sup> It is worth noting that passing through the Taiwan Strait is the most direct route for the carrier to reach the South China Sea for training, and the carrier has stayed on China’s side of the center line.<sup>171</sup> Nonetheless, these transits carry significant symbolic meaning, particularly in the context of China’s actions on multiple fronts to pressure and intimidate Taiwan.
- *Exercises in the Taiwan Strait:* In April 2018, the PLA Navy held its first live-fire exercise in the Taiwan Strait since 2015.<sup>172</sup> In July, the PLA Navy conducted an amphibious landing exercise near the Taiwan island of Kinmen as part of an international amphibious landing competition that saw participation from Iran, Russia, Sudan, and Venezuela.<sup>173</sup>

### ***A Shifting Cross-Strait Military Balance***

As the Commission has noted in past reports, the cross-Strait military balance has shifted toward China and continues to shift even further in China’s direction.<sup>174</sup> The PLA possesses many quantitative and qualitative military advantages over the Taiwan military and is currently capable of conducting a range of military campaigns against Taiwan short of a full invasion of the island.

- *Missiles:* The PLA Rocket Force has approximately 1,200 short-range ballistic missiles and 200–500 ground-launched land-attack cruise missiles.\*<sup>175</sup> A preponderance of China’s short-range ballistic missiles is deployed across from Taiwan.<sup>176</sup> The primary purpose of the majority of these missiles is to intimidate Taiwan into submitting to Beijing’s political objectives and, if that fails, to force submission through a military campaign

\*Official U.S. and Taiwan estimates of China’s number of short-range ballistic missiles and land-attack cruise missiles vary. According to the Taiwan Ministry of National Defense’s August 2015 report on China’s military power for the Legislative Yuan, China has 1,700 ballistic and cruise missiles, and 1,500 of these missiles are deployed against Taiwan. U.S. Senate Armed Services Committee, *Hearing on Worldwide Threats*, written testimony of Vincent R. Stewart, February 26, 2015; Zhu Ming, “Ministry of National Defense: China Keeps 1,500 Missiles Deployed against Taiwan,” *Storm Media*, August 31, 2015. Translation. <http://www.storm.mg/article/63992>.

to destroy Taiwan's command and control infrastructure, radar sites, air defense, ports, and airfields.<sup>177</sup> Although it has not greatly expanded in size since the late 2000s, China's short-range ballistic missile arsenal has become more lethal with the introduction of new missile variants with improved accuracies and warheads.<sup>178</sup>

- **Aircraft:** The PLA Air Force and Navy have more than 2,000 combat aircraft, of which approximately 600 are modern.\*<sup>179</sup> Fewer than 330 of Taiwan's combat aircraft are modern.<sup>180</sup> As part of the PLA's efforts to further enhance the capabilities of its fleet of combat aircraft, the Su-35 fighter entered service with the PLA Air Force in 2018.<sup>181</sup> The Su-35, with its advanced avionics and targeting and passive electronically scanned array radar systems, will improve China's counter-air and strike capabilities.<sup>182</sup> China has received 14 Su-35s from Russia and will receive the remaining 10 that were ordered by the end of 2018.<sup>183</sup>
- **Ships:** The PLA Navy has more than 300 surface combatants, submarines, and missile-armed patrol craft, in addition to China's highly capable coast guard and maritime militia.<sup>184</sup> Taiwan, on the other hand, has 92 naval combatants, comprising four submarines—two of which are only used for training—and 88 surface ships.†<sup>185</sup> As China's efforts to improve its navy continue, its new ships are increasingly modern‡ and feature advanced weaponry making them capable of conducting operations in more than one warfare area. (See Chapter 2, Section 2, "China's Military Reorganization and Modernization: Implications for the United States," for more information on developments in Chinese military modernization.)

### ***Intensifying Political Warfare Efforts***

In addition to its military modernization and intimidation, Beijing is carrying out extensive United Front work§ and other political

\*"Modern" combat aircraft are defined as possessing advanced avionics and weapons systems. These aircraft include the J-10, J-11, JH-7, Su-27, Su-30, Su-35, and J-20. For more information on the Commission's definition of "modern" combat aircraft, see U.S.-China Economic and Security Review Commission, *2014 Annual Report to Congress*, November 2014, 309.

†Taiwan's coast guard is in the midst of a ten-year shipbuilding program that will bring its forces to 173 ships. Taiwan does not have a maritime militia. Mrityunjoy Mazumdar, "Taiwanese Coast Guard Launches OPV amid Ongoing Force Development Program," *Jane's Defence Weekly*, May 28, 2015.

‡In reference to China's submarine force, the term "modern" is used in this Report to describe a submarine capable of employing antiship cruise missiles. These include the SHANG nuclear attack submarine, SONG diesel attack submarine, KILO diesel attack submarine, and YUAN diesel air-independent power attack submarine. In reference to China's surface force, the term "modern" is used to describe multi-mission platforms with significant capabilities in at least two warfare areas. These include the following: LUZHOU guided missile destroyer (DDG), LUYANG I/II/III DDG, SOVREMENNYI III DDG, and JIANGKAI II guided missile frigate. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2010*, August 2010, 45.

§One means by which the CCP pursues its interests is the use of "United Front" work, a strategy the U.S. Central Intelligence Agency assessed is designed for "controlling, mobilizing, and utilizing" non-CCP entities to serve CCP goals. The United Front Work Department, which resides under the Chinese Communist Party Central Committee, is tasked with coordinating and implementing United Front work, but other entities such as the PLA, the Ministry of Foreign Affairs, and the Chinese People's Political Consultative Conference are also active in implementing United Front work abroad. Gerry Groot, "The United Front in an Age of Shared Destiny," *China Story*, 2014; Central Intelligence Agency, "The United Front in Communist China," May 1957, ii; Alexander Bowe, "The United Front Work Department: Background and Implications for the United States," *U.S.-China Economic and Security Review Commission*, August 24, 2018.

warfare activities against Taiwan, including supporting opposition political parties and spreading disinformation. These activities are intended to build alliances between individuals and groups within Taiwan and the CCP, and undermine the Tsai Administration and Taiwan's democracy in general.<sup>186</sup>

In August 2017, Peter Mattis, research fellow at the Victims of Communism Memorial Foundation, wrote that "Beijing's effort to shape or even destabilize [Taiwan] society itself through United Front work is intensifying. The aim, according to several [Taiwan] interlocutors, is to create a 'fake civil society' that can be used against Taiwan's democratic system."<sup>187</sup> He added that his "recent discussions in Taiwan indicate that covert Chinese activities have increased in scope, sophistication, and intensity. For the first time in many years, Taiwan's national security officials see change rather than continuity as a hallmark of Beijing's intelligence and subversive operations."<sup>188</sup> In his testimony to the Commission, Russell Hsiao, executive director of the Global Taiwan Institute, explained that CCP United Front work against Taiwan is focused on "10 constituencies that include grass-roots villages, youth, students, Chinese spouses, aboriginals, pro-China political parties and groups, religious organizations, distant relatives, fishermen's associations, and retired generals."<sup>189</sup>

In July 2017, Taiwan's *Liberty Times* reported, based on Taiwan government information, that "Chinese influence" was involved in protests and the spread of disinformation against the Tsai Administration's pension reforms.<sup>190</sup> In addition, that year there were several instances of individuals with ties to organized crime and pro-unification organizations protesting and even engaging in violence against individuals whose views run counter to Beijing's.<sup>191</sup> Furthermore, in 2017, J. Michael Cole, chief editor of the *Taiwan Sentinel* website, wrote that China "is now using bots, various social media (e.g., LINE, WeChat) and content farms (also known as content mills) to saturate Taiwan with pro-Beijing agitprop."<sup>192</sup>

### **Beijing's Espionage against Taiwan**

Beijing's aggressive intelligence activities against Taiwan pose a threat to Taiwan's security and to the security of U.S. military information and equipment to which Taiwan has access.<sup>193</sup> In June 2018, Taiwan prosecutors indicted the spokesperson of Taiwan's New Party and two executives of the party's youth wing on charges of attempting to obtain classified materials from active and retired Taiwan military personnel on behalf of the Chinese government.<sup>194</sup> William Stanton, former director of AIT and current director of Taiwan's National Tsinghua University's Center for Asia Policy, said in 2013 that cases of Chinese espionage against Taiwan "have been harmful not only because of the potential loss of unknown quantities of classified information, but also because their success and frequency serves to undermine U.S. confidence in security cooperation with Taiwan."<sup>195</sup> However, while recognizing Beijing's intelligence successes, David Major, former director of counterintelligence, intelligence, and security programs at the National Security Council, testified to the Com-

### **Beijing's Espionage against Taiwan—Continued**

mission in 2016 that “if the [United States] begins to slow down or stop the transfer of needed technology and information with Taiwan for fear of espionage loss then the PRC wins and Taiwan is doomed.”<sup>196</sup>

In the face of the Chinese espionage threat, the Taiwan government and military have implemented measures to impede Chinese intelligence activities. Mr. Mattis wrote in 2014 that “Taiwan has made several substantial efforts to improve security—including trip reporting and routine polygraphs for personnel with sensitive access as well as boosting its counterintelligence staff—and serious offenders can ... receive heavy prison sentences.”<sup>197</sup> The Taiwan government has recently begun requiring government personnel to receive government approval before transiting through an airport in China. Taiwan civil servants are already required to obtain approval before traveling to China.<sup>198</sup>

### **Taiwan Takes Steps to Enhance Security**

Faced with a growing threat from PLA modernization and Beijing's intensifying political warfare activities, Taipei has responded by taking a number of significant new steps to improve its ability to defend against a Chinese military attack and other threatening activities. Taiwan's recent efforts have included the following:

*Developing asymmetric capabilities and a new defense concept:* Taipei marked a fundamental departure from its previous defense strategies with the announcement of a new Overall Defense Concept, which operationalizes Taiwan's broader defense strategy, now described as “resolute defense, multi-layered deterrence.”\* Unveiled in December 2017, the new concept seeks to emphasize the development of asymmetric capabilities and tactics to capitalize on Taiwan's defensive advantages, enhance resilience, and exploit the weaknesses of the PLA. According to Taiwan's Ministry of Defense, the characteristics of the equipment it is seeking to support its new approach are “mobility, stealth, fast speed, low cost, abundance, minimum damage, and high effectiveness.”<sup>199</sup> The new strategy focuses on three areas: (1) preservation of warfighting capability, (2) pursuing decisive victory in the littoral area, and (3) annihilating the enemy on the beach.<sup>200</sup> Notably, the Taiwan military incorporated the concept into this year's Han Kuang exercise, Taiwan's most important annual military exercise. During the exercise, Taiwan integrated a number of new components, including Taiwan Coast Guard ships exercising together with the Taiwan Navy, embedding personnel from Taiwan technology companies in Taiwan Army units to operate unmanned aerial vehicles for surveillance and target acquisition, incorporating civilian construction personnel and equipment

\*Taiwan's 2017 *National Defense Report* defines “resolute defense, multi-layered deterrence” as “bringing to bear multi-domain joint capabilities to defend the homeland and deter the enemy from starting a war.” Under this strategy, if the enemy attempted to invade, the Taiwan military would “conduct multi-layered interception and joint firepower strikes to erode the enemy's operational force, break up the attack, and block enemy landing forces.” Taiwan's Ministry of National Defense, *National Defense Report 2017*, December 2017, 66–67.

into runway repair, and using civilian telecommunication technology to maintain command and control in the face of attacks.<sup>201</sup> In July 2018, Taiwan's Ministry of National Defense announced plans to introduce month-long training exercises involving all the military services once per quarter, which would mark an increase in training.<sup>202</sup>

*Increasing defense spending:* In August 2018, Taiwan's Executive Yuan submitted a budget to the Taiwan legislature that included an increase of approximately 4.3 percent for the defense budget.<sup>203</sup> To support implementation of the new defense concept, the 2019 budget includes a request to fund the acquisition of small fast-attack missile craft, which provide Taiwan with an important defensive advantage against a PLA naval blockade or amphibious assault.<sup>204</sup> Nevertheless, China's large defense expenditures are a major challenge for Taiwan, and China's official defense budget has now ballooned to a size about 15 times Taiwan's.<sup>205</sup> Even with robust spending, Taiwan cannot match China's defense budget, which places an even greater premium on Taiwan's development of asymmetric and effective defensive capabilities.\*

*Elevating Taiwan's defense industry:* A key pillar of the Tsai Administration's defense policy has been enhancing the government's support for Taiwan's defense industry with a focus on aerospace, shipbuilding, and cybersecurity. In May 2018, the Taiwan Defense Industry Development Association co-hosted the Taiwan-United States Defense Business Forum with the U.S.-Taiwan Business Council in Taiwan to explore opportunities for collaboration between Taiwan and U.S. defense companies.<sup>206</sup>

*Countering Beijing's interference and disinformation:* In September 2018, Taiwan's National Security Bureau publicly announced it had established a Big Data and Public Opinion Task Force in 2015 in concert with Taiwan's Ministry of Justice to monitor the spread of disinformation on social media, especially false news stories from the PRC that aim to manipulate public opinion in Taiwan.<sup>207</sup> Another measure Taipei has taken to counter PRC interference is to create webpages on government websites dedicated to dispelling rumors and countering false information.<sup>208</sup> Taipei is also conducting investigations of ties between Beijing and groups in Taiwan. In September 2017, the Taiwan government announced it was launching an investigation into alleged manipulation of organized crime groups in Taiwan by Beijing.<sup>209</sup>

### **Taiwan Military Modernization**

Taiwan has sought to enhance its military capabilities as part of its evolving defense strategy to defeat a PLA campaign targeting the island. Advanced antiship cruise missiles, air defense missiles, and fast attack and stealthy catamaran-style patrol ships are among the newest platforms and weapons systems Taiwan has produced. Some of the developments in Taiwan's procurement of domestic military equipment in 2018 include the following:

\* China's announced defense budget grew by double digits almost every year between 2005 and 2015. In contrast, Taiwan's announced defense budget stagnated during this period. For more information on China and Taiwan's defense budgets see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 508–509.

- *Missile corvette*: Taiwan is accelerating the production of the TUO CHIANG class of catamaran-style missile corvettes, the first of which was commissioned in March 2015.<sup>210</sup> Taiwan's Lung Teh Shipbuilding Co., Ltd., will build a total of 12 of these ships. Taiwan's Ministry of National Defense recently announced that 8 of the remaining 11 will be completed by 2025 rather than the original target window of 2030 to 2032.<sup>211</sup> The corvette has a reduced radar cross section, longer endurance, and better sea-keeping ability than Taiwan's other patrol ships.<sup>212</sup> The first corvette is equipped with antiship cruise missiles, two torpedo tubes, and a towed sonar array.<sup>213</sup> These features will enhance the lethality of Taiwan's anti-surface and antisubmarine forces in a potential cross-Strait conflict.<sup>214</sup>
- *Submarines*: Taipei is moving forward with a plan to produce diesel-electric submarines, but progress is slow. Taiwan is seeking foreign assistance with the supply of certain components.<sup>215\*</sup> In April 2018, Taiwan's Presidential Office confirmed that the State Department granted a marketing license allowing U.S. companies to conduct commercial briefings for entities involved in Taiwan's submarine program.<sup>216</sup> Taiwan's CSBC Corporation, which will build the submarines, estimates the first boat will enter the water in 2024.<sup>217</sup> Of Taiwan's four submarines, two are operational ZWAARDVIS class submarines (which were built by Dutch company RDM) and two are decommissioned U.S. Navy GUPPY class submarines used only for training.<sup>218</sup>
- *Advanced jet trainer*: Taiwan's Aerospace Industrial Development Corporation began assembly of a new advanced jet trainer for the Taiwan Air Force in June 2018, with the completion of a prototype scheduled for 2019.<sup>219</sup> The new trainers will replace Taiwan's aging AT-3 and F-5 E/F aircraft.<sup>220</sup>

Taiwan also seeks to enhance its military capabilities through the procurement of military platforms and weapons systems from overseas. Recent developments in Taiwan's military procurement from the United States include the following:

- *F-16 fighter upgrade*: † Taiwan's Aerospace Industrial Development Corporation, with U.S. assistance, is upgrading Taiwan's approximately 140 F-16 A/B fighter aircraft and is scheduled to complete work on the first four aircraft in 2018.<sup>221</sup> The most important part of the upgrade is the installation of active electronically scanned array scalable agile beam radar made by Northrop Grumman.<sup>222</sup> This radar, which is derived from the radar used by the U.S. F-22 and F-35 fighters, will enable Taiwan's F-16s to detect China's advanced combat aircraft at a greater range.<sup>223</sup>

\*In 2001, the United States approved Taiwan's request to purchase diesel-electric submarines via the foreign military sales process. However, the sale stalled for a number of reasons, including disagreements between Washington and Taipei over costs, gridlock in Taiwan's legislature over a special budget, and delays in Taiwan's commitment of funds. Furthermore, the United States has not built a diesel-electric submarine since the 1950s or operated one since 1990. Shirley A. Kan, "Taiwan: Major U.S. Arms Sales since 1990," *Congressional Research Service*, August 29, 2014, 11–15.

†In 2011, the U.S. government approved the upgrade of Taiwan's F-16 A/Bs instead of the sale of new F-16 C/Ds to Taiwan, which Taipei had sought. Shirley A. Kan, "Taiwan: Major U.S. Arms Sales since 1990," *Congressional Research Service*, August 29, 2014, 25.

- *Apache attack helicopters*: With the commissioning into service of the second of two squadrons in July 2018, all of Taiwan's 29 AH-64E Apache attack helicopters are now fully operational. Taiwan acquired 30 of these helicopters, which are made by Boeing, but one was destroyed in a crash during training.<sup>224</sup> The AH-64Es can simultaneously track 128 targets and identify the 16 most dangerous, and are each equipped with 16 Hellfire missiles.<sup>225</sup> They would support an effort to counter a PLA invasion force that was approaching or had already landed on Taiwan territory.
- *Anti-tank missiles*: In 2018, the U.S. and Taiwan governments agreed on the sale of 460 tube-launched, optically-tracked, wireless guided anti-tank missiles to Taiwan. With a range of 2.8 miles, these missiles would help the Taiwan Army defend against PLA hovercraft, amphibious landing vehicles, tanks, and mechanized infantry at a distance, broadening the use of these weapons from their standard deployment against tanks.<sup>226</sup>

### ***U.S.-Taiwan Security Cooperation***

U.S.-Taiwan security cooperation includes arms sales, training, advising, exchanges, and equipment maintenance. This partnership helps Taiwan enhance its ability to deter and, if necessary, defend against an attack from the Chinese military. Among other areas of training, the United States provides training to Taiwan military personnel with a broad range of military specialties, such as fighter pilots, special operations personnel, and rapid runway repair personnel.<sup>227</sup> In addition, Taiwan military personnel undergo education and training at U.S. military institutions.<sup>228</sup> Moreover, between 2008 and 2015, Taiwan was the 10th largest importer of U.S. military equipment.<sup>229</sup> In September, the State Department approved a potential sale to Taiwan of spare parts for various military aircraft and other related program and logistics support elements estimated to cost \$330 million.<sup>230</sup> The notification to Congress\* of a single foreign military sales order appears to be a policy shift from the practice of “bundling” multiple notifications of potential arms sales to Taiwan to be considered and announced as a single “arms package” decision. The practice of bundling has been criticized as delaying needed sales and complicating Taiwan’s defense budget planning cycles.<sup>231</sup> Addressing individual sales decisions as they arise is more in line with how the United States treats its other foreign security cooperation partners.<sup>232</sup>

The John S. McCain National Defense Authorization Act for Fiscal Year 2019 includes several provisions related to U.S.-Taiwan security cooperation, including directing the Secretary of Defense to conduct an assessment of Taiwan’s military forces and providing related recommendations. The act also includes a sense of Congress

\*The executive branch is required by law to notify Congress of potential arms sales through the foreign military sales process that meet or exceed the following values: \$14 million in “major defense equipment,” \$50 million in “defense articles and services,” and \$200 million in “design and construction services.” The threshold for notification of potential sales to Australia, Israel, Japan, NATO member countries, New Zealand, and South Korea is higher (\$25 million in major defense equipment, \$100 million in defense articles and services, and \$300 million in design and construction services). Paul K. Kerr, “Arms Sales: Congressional Review Process,” *Congressional Research Service*, July 25, 2017, 1.

on various aspects of security cooperation, such as arms sales, training and exercises, high-level exchanges, and a potential visit of a U.S. hospital ship to Taiwan.<sup>233</sup> Taiwan's Premier William Lai said he would welcome a potential joint exercise between the U.S. and Taiwan militaries.<sup>234</sup>

Military-to-military contacts between the United States and Taiwan are robust, although in general, State Department practice has limited visitors to Taiwan to mid- or lower-level U.S. personnel, and U.S. military observer delegations (such as those attending the Han Kuang exercise) are led by a retired general or flag officer.<sup>235</sup> The practice of limiting the highest rank of U.S. military personnel who can visit Taiwan to colonels and U.S. Navy captains (O6 level) prevents the most senior U.S. officers from gaining firsthand knowledge of the Taiwan military and the operational environment in a potential cross-Strait conflict.<sup>236</sup> Furthermore, the U.S. government has not invited Taiwan to the major U.S.-led Rim of the Pacific exercise, Red Flag air-to-air combat training exercise, or the cybersecurity exercise Cyber Storm.

### Implications for the United States

In the Taiwan Relations Act of 1979, Congress declared that “peace and stability in the [Western Pacific] area are in the political, security, and economic interests of the United States.”<sup>237</sup> The Taiwan Relations Act also makes clear that “the United States’ decision to establish diplomatic relations with the People’s Republic of China rests upon the expectation that the future of Taiwan will be determined by peaceful means.”<sup>238</sup> Further, the Act states that it is U.S. policy “to consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States.”<sup>239</sup>

Since that time, the United States has encouraged the development of a multi-party democracy in Taiwan and continued a policy of providing defensive arms and services to Taiwan. The credibility of U.S. foreign policy and security commitments is tied in part to U.S. support for Taiwan, especially as viewed by U.S. allies and partners throughout the Indo-Pacific. Furthermore, Taiwan’s continued existence as a friendly, democratic partner is of critical geostrategic importance to the United States, Japan, the Philippines, and other countries in the region. James R. Holmes, J.C. Wylie Chair of Maritime Strategy at the U.S. Naval War College, writes that if China were to control Taiwan it

*would extend the Chinese reach eastward into the Western Pacific; turn the southern flanks of Japan and South Korea, giving Beijing newfound geostrategic leverage; enable [PLA Navy] warships to command the northern rim of the South China Sea and also project power to the Luzon Strait and elsewhere in the northern reaches of that expanse.*<sup>240</sup>

PLA writings attest to the importance of Taiwan to China’s broader geostrategic ambitions.<sup>241</sup> The PLA’s calculations on the importance of Taiwan to China’s military posture was revealed in the

seminal 2001 edition of its renowned publication, *The Science of Military Strategy*, which states,

*If Taiwan should be alienated from the mainland, not only our natural maritime defense system would lose its depth, opening a sea gateway to outside forces, but also a large area of water territory would fall into the hands of others. [...] What's more, our line of foreign trade and transportation which is vital to China's opening up and economic development will be exposed to the surveillance and threats of separatists and enemy forces and China will forever be locked to the west side of the first chain of islands in the West Pacific.*<sup>242</sup>

The PLA, as well as China's highest-ranking civilian leaders, almost certainly continue to maintain this view.

In sum, the threat China's military modernization poses to Taiwan's continued existence as a vibrant democracy and important U.S. security and economic partner presents fundamental challenges not only to the success of democracy in the Indo-Pacific, but to the security of U.S. treaty allies throughout the region. The steady improvements in China's military capabilities enhance Beijing's ability to use the threat of military force to coerce Taipei into making political concessions. The shift in the military balance underscores the importance of U.S. arms sales to Taiwan, U.S.-Taiwan military exchanges, and other areas of security cooperation.

In the economic realm, Taiwan has experienced increased economic growth and gradual improvements in employment and wages while tackling difficult issues such as labor standards and pension reforms. However, Taiwan's economy remains overly reliant on China, making it susceptible to economic intimidation and pressure campaigns carried out by the Chinese government. Taiwan businesses operating in China also continue to be faced with the ever-present threat of retaliation by Beijing if they do not explicitly endorse the "1992 Consensus."

To address these vulnerabilities, Taipei has worked to diversify its trade and investment ties away from Beijing through the New Southbound Policy and other domestic economic initiatives. Moreover, the United States and Taiwan continue to cooperate on mutually beneficial economic projects—particularly in advanced technology industries like AI—through corporate partnerships and joint research centers. Taiwan is the United States' eleventh-largest trading partner, while the United States is Taiwan's second-largest trade partner, signaling the enduring importance of U.S.-Taiwan economic ties. Taiwan's government continues to recognize the importance of furthering Taiwan's economic relationship with the United States, as increased trade and investment offer benefits both for Taiwan's development and U.S. economic interests.

Working with Taiwan to solve international problems and supporting Taiwan's participation in the international community benefits the United States in many ways. Taiwan's robust civil society and technology sector and its vast expertise and experience in areas such as disaster response and relief make it a strong partner for the United States. Taiwan also has much to contribute in other

areas, such as aviation safety, combating the spread of infectious diseases, environmental protection, and law enforcement and fighting transnational crime.<sup>243</sup> Furthermore, Taiwan's inability to access information from international organizations such as the World Health Organization, INTERPOL, and the International Civil Aviation Organization creates global health, security, and aviation safety risks.<sup>244</sup>

Taiwan has long contended with Beijing's efforts to influence its policies, and is the target of an intensifying political warfare campaign in an attempt by Beijing to undermine its democracy. The United States and the rest of the world have much to learn from Taiwan about CCP influence and interference in democracies. Finally, Taiwan, with its robust democracy and free-market economy, is a model for other countries and a natural partner for the United States in its free and open Indo-Pacific strategy. A vibrant Taiwan and a strong, multi-dimensional U.S.-Taiwan partnership are of intrinsic value to the United States.

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## SECTION 4: CHINA AND HONG KONG

### Key Findings

- Beijing's statements and legislative actions continue to run counter to China's promise to uphold Hong Kong's "high degree of autonomy." At the 13th National People's Congress in March 2018, China's legislative body passed an amendment to its constitution waiving presidential term limits, allowing Chinese President and General Secretary of the Chinese Communist Party Xi Jinping to serve beyond two five-year terms. Given the steady erosion of Hong Kong's autonomy under President Xi's leadership, the move has alarmed the territory's prodemocracy legislators, civil society groups, and legal community.
- In a troubling case of Beijing's direct involvement in U.S.-Hong Kong affairs that went against Beijing's commitments under the "one country, two systems" policy, the Hong Kong government rejected a U.S. fugitive surrender request at Beijing's insistence for the first time since the 1997 handover of Hong Kong from the United Kingdom. Beijing also denied a U.S. Navy ship a routine port call in Hong Kong for the first time in two years.
- In 2018, challenges to freedom of speech and assembly in Hong Kong continue to increase as Beijing and the Hong Kong government closed down the political space for prodemocracy activists to express discontent. For the first time, the Hong Kong government banned a political party (the Hong Kong National Party, which advocates for Hong Kong's independence from China), raising concerns that it may lead to the passage of national security legislation that would allow the government to further silence prodemocracy organizations and supporters. The Hong Kong government also denied a visa renewal to the vice president of the Hong Kong Foreign Correspondents' Club without explanation; observers believe the denial was in retaliation for the club's August 2018 event hosting the head of the Hong Kong National Party. Self-censorship has become increasingly prevalent in Hong Kong among journalists and media organizations due to mainland China's rising presence in the territory.
- China's central government took additional steps toward undermining Hong Kong's legal autonomy. For example, Beijing facilitated a controversial rail terminal project that for the first time institutes mainland law in a small portion of the territory. Beijing also passed a National Anthem Law that makes disrespecting China's national anthem a criminal offense, and compelled Hong Kong to pass similar legislation.

- Beijing and the Hong Kong government's harsh criticism and attempted silencing of a prominent Hong Kong academic for expressing his views on potential futures for the territory marked an expanded effort to prevent the open discussion of ideas. The response also raised fears among prodemocracy advocates and academics that freedom of speech is increasingly at risk.
- Hong Kong continues on the path of greater economic integration with the Mainland. The Hong Kong government has sought to position Hong Kong as a regional hub for China's Belt and Road Initiative and a key node of the Guangdong-Hong Kong-Macau Greater Bay Area integration project, Beijing's plan to establish a globally competitive advanced manufacturing, finance, and technology center.

### Recommendations

The Commission recommends:

- Congress direct the U.S. Department of Commerce and other relevant government agencies to prepare an unclassified public report, with a classified annex, examining and assessing the adequacy of U.S. export control policy for dual-use technology as it relates to U.S. treatment of Hong Kong and China as separate customs areas.
- Congressional interparliamentary groups engage parliamentarians from the United Kingdom, EU, and Taiwan in a biennial review of China's adherence to the Basic Law, with specific attention to rule of law, freedom of speech and assembly, and press freedom, and issue a report based on its findings after each review.
- Members of Congress participate in congressional delegations to Hong Kong and meet with Hong Kong officials, prodemocracy legislators, civil society, and business representatives in the territory and when they visit the United States. In meetings with Hong Kong and Chinese officials, they should raise concerns about Beijing's adherence to the "one country, two systems" policy and China's promise to allow Hong Kong a "high degree of autonomy." They should also continue to express support for freedom of expression and rule of law in Hong Kong.

### Introduction

Since the 19th National Congress of the Chinese Communist Party (CCP) convened in October 2017—during which Beijing emphasized the CCP's control over Hong Kong—China has further curbed the territory's autonomy and freedoms guaranteed under the "one country, two systems" policy\* and the Basic Law, Hong Kong's

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\*The "one country, two systems" policy, which has guided Beijing's relationship with Hong Kong since 1997, is a measure the People's Republic of China adopted following the establishment of Hong Kong and Macau as Special Administrative Regions. The framework grants Hong Kong and Macau the right to self-govern their economies and political systems to a certain extent, excluding foreign affairs and defense. Beijing has promised the policy will remain intact until 2047. China's State Council Information Office, *The Practice of the "One Country, Two Systems" Policy in the Hong Kong Special Administrative Region*, June 10, 2014.

mini constitution.\* Beijing's promise to allow Hong Kong a "high degree of autonomy" under this policy is due to end in 2047, and Hong Kong democratic activists are urgently demanding that China keep its commitments. However, the CCP interprets such demands as stemming from "separatist forces" bent on derailing the peaceful integration of Hong Kong with the Mainland under the CCP's authority. Beijing has also been increasingly assertive in obstructing, suppressing, and silencing Hong Kong's prodemocracy legislators and civil society groups.

China's encroachment on the territory's political system, rule of law, and freedom of expression is moving Hong Kong closer to becoming more like any another Chinese city rather than a special administrative region with a "high degree of autonomy." Moreover, Beijing is degrading the territory's democratic institutions of free speech and rule of law that make it a valuable partner for the United States and an important international financial hub. Beijing's increasingly assertive behavior toward Hong Kong, in words and in actions, has negative implications for the interests of the United States and its allies and partners in the Indo-Pacific.

This section examines Hong Kong's recent political developments, its weakening rule of law and freedom of expression, economic relations with mainland China, and the implications of these developments for the United States. It is based on consultations with U.S. and foreign nongovernmental experts and open source research and analysis.

## Hong Kong Political Developments

Since Chinese President and General Secretary of the CCP Xi Jinping took office in 2012, Beijing has ramped up its interference in Hong Kong's affairs using various tools and practices, including implementing legal and economic measures, encouraging self-censorship, and manipulating Hong Kong's political system.† Through these methods, Beijing has steadily degraded Hong Kong's "high degree of autonomy" as guaranteed under the Basic Law. Following the Occupy Central prodemocracy protests in 2014, Beijing has continued to deny Hong Kong citizens the right to elect their chief executive by way of universal suffrage as promised under the Basic Law.‡ Under the Xi Administration's watch, China has engaged in illegal cross-border law enforcement and the apparent abduc-

\*In 1990, China's NPC adopted the Basic Law for Hong Kong, which was then introduced following the handover of Hong Kong to China on July 1, 1997. Macau, the other special administrative region of the People's Republic of China, has a similar provision in its Basic Law and it passed and adopted related legislation in 2009. Congressional-Executive Commission on China, *Macau Special Administrative Region National Security Law*, July 20, 2009; The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China, *Chapter II: Relationship between the Central Authorities and the Hong Kong Special Administrative Region, Article 23* (Adopted at the Third Session of the Seventh National People's Congress on April 4, 1990).

†For a brief overview of each of these tools, see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 439.

‡The Occupy movement (also referred to as Occupy Central with Love and Peace, the "Umbrella Movement," or the "Umbrella Revolution") advocated for true universal suffrage according to international standards in future Hong Kong elections. The largely nonviolent protests lasted 79 days and concluded in December 2014, but the prodemocracy activists' proposals were rebuffed. For more information on the 2014 prodemocracy protests and the subsequent decisions by the Hong Kong and mainland governments on electoral reform, see U.S.-China Economic and Security Review Commission, *2014 Annual Report to Congress*, November 2014, 523–527; U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 534–536.

tions of Hong Kong booksellers banned in the Mainland.<sup>1</sup> Beijing has also extended its reach into the Legislative Council (LegCo), Hong Kong's legislature. China's National People's Congress (NPC) Standing Committee's interpretation of the Basic Law in 2016 resulted in new legal requirements for determining LegCo candidates' ability to run for office; this requirement is heavily biased toward pro-Beijing (also called pro-establishment) candidates, as it involves judging whether candidates will follow the Basic Law and "bear allegiance to the Hong Kong Special Administrative Region of the People's Republic of China." The interpretation also instituted new standards for elected candidates' oath of office before serving in the legislature.\*<sup>2</sup>

At China's annual legislative session in March 2018, the 13th NPC † passed an amendment to China's constitution waiving presidential term limits, allowing President Xi to serve beyond two five-year terms.<sup>3</sup> Given the steady erosion of the territory's democratic freedoms under President Xi's watch, the move created a chill among Hong Kong prodemocracy (also called pandemocratic) legislators, ‡ civil society groups, and the legal community.<sup>4</sup> Former Hong Kong Chief Secretary for Administration Anson Chan Fang On-sang—who served as Hong Kong's most senior government official below the chief executive from 1993–2001, just before and after the 1997 handover of Hong Kong to China—said,

*I fear that with the institutional safeguard [of term limits] removed and the fact that [President Xi] can serve indefinitely, he will tighten his grip over Hong Kong and continue to undermine the rule of law, our core values and way of life. Universal suffrage will recede even further into the future.*<sup>5</sup>

### ***Beijing's High-Level Political Pressure on Hong Kong Escalates***

High-level CCP and central government officials' statements and omissions of certain language in work reports during two recent important meetings signaled an increased emphasis on Beijing's political control over the territory.

- *19th National Congress of the CCP:* The 19th Party Congress work report highlighted the need to understand and protect China's "comprehensive jurisdiction" over Hong Kong, marking Beijing's highest-level use of the term in recent years.<sup>6</sup> The term "comprehensive jurisdiction" was first used in Beijing's 2014 white paper on the "one country, two systems" policy, causing much consternation among prodemocracy advocates at the

\*For more information on Beijing's interpretation of the Basic Law concerning oaths and legislative candidates, see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 418–421.

†The NPC is widely viewed as a rubber stamp legislature for policies predetermined by the CCP. The 13th NPC comprises 73 percent CCP delegates, while the other delegates are divided between the eight "democratic" parties and those unaffiliated with a party (for practical matters, subordinate to the CCP). Nonetheless, content of work reports can provide important indicators of the near-term political and economic priorities of China's senior leadership. *NPC Observer*, "Exclusive: Demographics of the 13th NPC (UPDATED)," March 11, 2018; *Economist*, "What Makes a Rubber Stamp?" March 5, 2012; *BBC*, "How China Is Ruled."

‡In this section, "prodemocracy" is defined broadly as Hong Kong supporters of preserving the territory's democratic freedoms, while "pandemocratic" is defined as LegCo members who have a spectrum of views within the prodemocracy camp.

time.<sup>7</sup> According to Zhang Xiaoming, director of the State Council's Hong Kong and Macau Affairs Office, the term's use was directed at a "very small number of people" who "resist or reject" Beijing's authority to exercise its power and openly challenge the "one China" principle.<sup>8</sup> Suzanne Pepper, Hong Kong-based American writer and close observer of Hong Kong politics, assesses the "comprehensive jurisdiction" concept is "meant to impress upon all concerned that Hong Kong enjoys only as much autonomy as Beijing is willing to grant."<sup>9</sup> This is an underlying message Beijing has worked to reinforce in recent years as it extends its reach into the territory's political life.

- *13th National People's Congress*: Hong Kong legislators and prodemocracy advocates perceived the omission of certain language in important reports of the 13th NPC as a purposeful signal to degrade Hong Kong's autonomy. In his annual work report to China's legislature, Chinese Premier Li Keqiang omitted the phrases "Hong Kong people governing Hong Kong" and "high degree of autonomy," which were both mentioned in 2017.<sup>10</sup> In addition, then Politburo Standing Committee member and Chinese People's Political Consultative Conference (CPPCC) Chairperson Yu Zhengsheng left out the term "one country, two systems" in his work report.<sup>11</sup> This marked the first time since 2015 this term was left out of such a work report.<sup>12</sup> While Chinese officials and pro-establishment Hong Kong lawmakers dismissed the omissions as not signaling any changes in the Mainland's thinking on its ties with Hong Kong, pandemocrats, political observers, and rights activists in the territory expressed alarm.<sup>13</sup> Pandemocratic lawmaker Andrew Wan said,

*If words are missing from the work reports for the CP-PCC and the NPC, this doesn't happen accidentally. This is a warning signal ... telling us that the high degree of autonomy of Hong Kong people in administering [the territory] is now less important to the central government than it was.*<sup>14</sup>

### ***LegCo By-Election Further Constrains Prodemocracy Political Voices***

In March 2018, Hong Kong held a LegCo by-election to fill seats previously occupied by four of the six elected pandemocratic legislators who had their seats vacated for deviating from the official script of their oath of office.\* The by-election involved continued political interference from the Hong Kong authorities and resulted in further disillusionment among prodemocracy political parties and post-Occupy activist groups. In the lead-up to the by-election, Hong Kong election officials barred three pandemocrats from running, including heavily favored Demosistō candidate Agnes Chow Ting, who sought

\*Following the 2016 LegCo election, when the elected legislators recited their oaths of office, some deviated from the official script of the oath of office to express their views and policies, as had been done in the past. Two were supporters of independence for Hong Kong, used profanity, and displayed pro-independence banners. They were subsequently barred from retaking their oaths and eventually had their seats vacated from LegCo. For more information on the controversy, see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 418–421.

to retake then Demosistō Chairman Nathan Law Kwun-chung's vacated seat.<sup>15</sup> The stated reason for banning Ms. Chow's candidacy was her support (and that of her party) for "self-determination"—the idea that Hong Kong citizens should have a choice over their future in 2047. Beijing instituted legal requirements in late 2016 that set preconditions for all LegCo candidates requiring they uphold the Basic Law and pledge allegiance to China.<sup>16</sup> Observers across Hong Kong civil society, foreign democracy advocates, and foreign governments expressed their concerns about Hong Kong's constrained political rights and the erosion of freedom of expression in the territory.<sup>17</sup>

The decision to ban Ms. Chow effectively ended the legislative ambitions of Demosistō, one of the most prominent post-Occupy political parties composed of former student protest leaders, including its secretary general, Joshua Wong Chi-fung. In May 2018, then Chairman Law stepped down from his position to take a break from politics.<sup>18</sup> His replacement, Ivan Lam Long-yin, said instead of fielding candidates for LegCo the group would focus its energy on social activism, targeting pending national security legislation outlined in Article 23 of the Basic Law, which Beijing requires LegCo to eventually pass.<sup>19</sup> Prodemocracy advocates fear passage of the controversial and long-delayed legislation would further degrade the territory's autonomy.<sup>20</sup>

The 2018 by-election resulted in the prodemocracy camp regaining only two of the four seats that originally belonged to pandemic legislators prior to the oath controversy. Edward Yiu Chung-yim, one of the six LegCo members who had his seat vacated,\* lost to pro-establishment opposition by just over 1 percent of the vote.<sup>21</sup> Some observers asserted that lower voter enthusiasm and lack of robust campaigning, among other factors, were at play in the pandemic democrats' loss of one of the two geographic constituency seats.<sup>22</sup> Nonetheless, the results undermined the prodemocracy camp's bid to demonstrate Hong Kong's rejection of Beijing's interference in the territory's political system, and solidifying the pro-establishment group's filibuster-proof advantage among the geographical constituency seats (with pro-establishment legislators now holding 17 seats to the 16 seats held by pandemic democrats).†<sup>23</sup> This advantage allows the pro-Beijing camp to push through legislative rules and actions it favors, including priorities mainland leadership have long pressed Hong Kong to implement, such as Article 23 and "patriotic" education.‡

\*LegCo is composed of 40 seats elected directly by Hong Kong voters—35 in the geographic constituency and 5 through the District Council—and 30 functional constituency seats picked by electors composed of business groups and a variety of interest groups and organizations.

†For a motion, bill, or amendment to proceed in LegCo, it requires majority support from both the geographic and functional constituencies. In the functional constituency, the pro-establishment bloc has 21 seats, while the pandemic democrats have 9. With one pandemic democrat still appealing his vacated seat and an additional by-election pending in November 2018 to replace one of the other vacated seats, LegCo consists of 42 in the pro-establishment camp and 26 in the prodemocracy camp. Alvin Lum, "Disqualified Lawmaker Lau Siu-lai Calls for Democrats to Show Unity as Hong Kong By-Election Is Set for November 25," *South China Morning Post*, June 27, 2018; Kris Cheng, "Hong Kong Democrats Win 2 of 4 Seats in Legislative By-Election, as Ousted Lawmaker Edward Yiu Fails to Regain Seat," *Hong Kong Free Press*, March 12, 2018.

‡In an attempt to strengthen Chinese identity in Hong Kong, Beijing has called for more "patriotic" education, including a national curriculum that is supportive of the CCP's views. In 2012, the Hong Kong government tried to implement a national education program for all public schools, but withdrew the plan following protests and opposition. Peace Chiu, "Is Chinese Nation-

### **Article 23 of the Basic Law: Fears Mounting over Controversial Measure**

Article 23 of Hong Kong's Basic Law states:

*The Hong Kong Special Administrative Region shall enact laws on its own to prohibit any act of treason, secession, sedition, subversion against the Central People's Government, or theft of state secrets, to prohibit foreign political organizations or bodies from conducting political activities in the Region, and to prohibit political organizations or bodies of the Region from establishing ties with foreign political organizations or bodies.<sup>24</sup>*

Since late 2017, mainland officials have repeatedly pressured the Hong Kong government to implement Article 23,<sup>25</sup> prompting growing concerns among prodemocracy supporters.<sup>26</sup> In 2003, the last time the Hong Kong authorities moved forward such a bill, close to 500,000 people marched in opposition to the proposed legislation, which led to its shelving due to insufficient support.<sup>27</sup> Should LegCo pass related legislation, it could grant the Hong Kong government broad power to detain or prosecute individuals deemed a threat to Beijing and shut down any non-governmental organization (NGO) or body with foreign ties.

### ***Banning of Political Party Raises Concerns***

In September 2018, the Hong Kong government for the first time banned a political organization, the Hong Kong National Party.<sup>28</sup> The party is a fringe pro-independence organization formed in 2016, and has few supporters.\* The territory's law enforcement found the party's statements could motivate supporters to "cause violence and public disorder" and that its actions violated the Societies Ordinance, an obscure colonial-era law.<sup>29</sup> Beijing previously altered the ordinance in 1997 to allow for banning any civil society organization on "national security" grounds, and it had not been used since the handover of Hong Kong to China.<sup>30</sup> In response to the decision, Beijing and pro-establishment lawmakers applauded it, while the United States, the United Kingdom, and EU issued statements expressing their concerns with the move.<sup>31</sup> A spokesperson for the U.S. Consulate in Hong Kong said, "The decision of the Hong Kong government to ban a political party is inconsistent with [the] important shared values ... [of] freedom of expression and association."<sup>32</sup> According to Jason Y. Ng, a columnist and member of the Progressive Lawyers Group (a Hong Kong organization promoting democracy and rule of law), Beijing may be "[testing] the temperature of the public to see how they would react to legislation being enacted based on national security grounds" as a precursor to Article 23 legislation.<sup>33</sup> After the proposed ban announcement in July 2018, over 60 Hong Kong civil

al Education Set to Make a Comeback in Hong Kong? It's Not If, but How, Experts Say," *South China Morning Post*, August 4, 2017.

\*Andy Chan Ho-tin, founder and convener of the party, tried to run for a seat in the 2016 Leg-Co elections, but the Electoral Affairs Commission invalidated his candidacy due to his pro-independence views. Emily Tsang and Elizabeth Cheung, "Hong Kong National Party Convener Disqualified from Running in Legislative Council Polls," *South China Morning Post*, July 30, 2016.

society groups signed a petition criticizing the move as violating freedom of association.<sup>34</sup>

Following the early August 2018 announcement that the Hong Kong Foreign Correspondents' Club, a prominent journalist association, would host a speech several weeks later by Andy Chan, founder and convener of the Hong Kong National Party, Beijing executed an ultimately unsuccessful pressure campaign to compel the club to cancel the talk.<sup>35</sup> China's Ministry of Foreign Affairs, Hong Kong Chief Executive Carrie Lam, and former Chief Executive Leung Chun-ying (2012–2017)—now vice chairman of Beijing's top advisory body, the CPPCC—denounced the club's decision to host Mr. Chan.<sup>36</sup> Vice Chairman Leung wrote a series of Facebook posts condemning the move, suggesting the association probably would not “draw any line against [inviting] criminals and terrorists,” and implying the Hong Kong government should consider evicting the club from their property.<sup>37</sup> The club stated that it regularly hosts speakers with differing views and stressed the importance of allowing open debate in Hong Kong, which safeguards freedom of speech.<sup>38</sup> Despite the public criticisms of the club, the event went ahead as scheduled,\* but faced forceful denunciations by Beijing and the Hong Kong government.<sup>39</sup> The significant pressure campaign led by Beijing raised concerns among Hong Kong prodemocracy organizations and international journalist groups about the growing threat to freedom of speech in the territory.<sup>40</sup>

### **Rule of Law at Risk**

Under Article 18 of the Basic Law, Hong Kong is guaranteed the ability to maintain and enforce local law separate from those governing mainland China.<sup>41</sup> However, in recent years, Beijing has continued to apply pressure on Hong Kong's legal autonomy, drawing concerns among the territory's legal community and prodemocracy advocates. This trend could create a disturbing precedent for future, farther-reaching measures moving rule of law in Hong Kong closer to that applied in the Mainland.

### ***Hong Kong Train Terminal Co-Location Project Draws Concerns***

In July 2017, the Hong Kong government announced a proposal for implementing Hong Kong and mainland China customs, immigration, and quarantine procedures at a new terminal under construction that would serve as a high-speed rail link connecting Hong Kong with the neighboring mainland cities of Shenzhen and Guangzhou in Guangdong Province. The proposal included allowing mainland security agents to enforce laws that apply to mainland China in part of the terminal that is inside Hong Kong and under Hong Kong jurisdiction. This area would be designated the “Mainland Port Area,” comprising about one-quarter of the terminal.<sup>42</sup> In this segment of the terminal, for example, a person could be charged with “undermining public order” and face up to five years in a mainland prison, despite Hong Kong law having no comparable

\*Public television broadcaster RTHK decided not to broadcast the event, citing concerns about providing a public platform for a supporter of Hong Kong independence. Rights groups asserted that RTHK was complicit in self-censorship. Phoenix Un, “RTHK Banned from Live Broadcasting FCC Speech,” August 10, 2018.

provisions.<sup>43</sup> After the project was introduced, the Hong Kong legal community, pandemocrats in LegCo, and prodemocracy groups expressed their concerns, including those regarding potential breaches of “one country, two systems” and the possibility that mainland law could be enforced more widely in Hong Kong in the future.<sup>44</sup>

Despite vocal opposition, Beijing, the Hong Kong government, and pro-establishment legislators pushed forward with the proposal. In late 2017, the mainland and Hong Kong governments signed an agreement on the project, and the NPC Standing Committee adopted a decision to approve the agreement confirming the project was consistent with Beijing’s constitution and the Basic Law.<sup>45</sup> In response, Martin Lee Chu-ming, barrister and former member of the Basic Law Drafting Committee, said, “You cannot allow any area within [Hong Kong] to be an exception [to Article 18 of the Basic Law] because the protection promised to Hong Kong people is everywhere within the [territory].”<sup>46</sup> The Hong Kong Bar Association said the NPC’s decision is the “most retrograde step to date in the implementation of the Basic Law and severely undermines public confidence in ‘one country, two systems’ and the rule of law in [Hong Kong].”<sup>47</sup> In June 2018, pro-Beijing lawmakers passed a bill through LegCo clearing the final hurdle for approving the project.<sup>48</sup> To pass the legislation, lawmakers used tactics that had not been previously employed, which further constrained the democratic legislative process and generated fear that these tactics could be used to pass future controversial legislation.\* In September 2018, Beijing and Hong Kong officially commissioned the Mainland Port Area, and the terminal began operations.<sup>49</sup>

### ***Beijing Passes National Anthem Law***

In September 2017, the NPC Standing Committee passed a National Anthem Law, allowing the authorities to detain individuals up to 15 days or hold them criminally liable for disrespecting China’s national anthem. In November 2017, the lawmaking body increased the maximum punishment to three years imprisonment.<sup>50</sup> The NPC Standing Committee also passed a change to the Basic Law, requiring Hong Kong to pass its own similar legislation and decide on a punishment for violating the law.<sup>51</sup> Since the Occupy protests, Hong Kong fans have regularly booed China’s national anthem—which is also Hong Kong’s—at the territory’s international soccer matches in protest of Beijing.<sup>52</sup> In response to the Anthem Law amendment, 38 Hong Kong civil society groups and political parties issued a joint statement urging the Hong Kong government to withdraw consideration of a legislative outline in LegCo for a similar law in Hong Kong. The letter stated, “The National Anthem Law imposes an ideology on Hong Kong citizens by requiring them to respect the national anthem to an extent that will ‘promote patriotism; and to cultivate and practice the core values of socialism.’ This clearly violates freedom of thought.”<sup>53</sup>

\*The pro-establishment lawmakers submitted a bill with limited details, ensured pro-Beijing members had full control of the committee overseeing the bill’s passage, restricted debate and cut amendments proposed by prodemocracy members, and barred protesting pandemocrats from key meetings. Critics fear similar tactics could be used in passing Article 23 and patriotic education legislation. Kris Cheng, “Explainer: How Hong Kong’s Controversial Rail Link Law Was Pushed through Using Four Unprecedented Tactics,” *Hong Kong Free Press*, June 16, 2018.

### Update on Hong Kong Booksellers Detained in 2015

In 2015, mainland agents apparently abducted five Hong Kong sellers of political gossip books connected to Causeway Bay Books that were banned in mainland China, causing alarm across Hong Kong that continues to reverberate in the territory. One of the incidents reportedly involved Beijing engaging in illegal cross-border law enforcement, which disregards Article 22 of the Basic Law maintaining that only Hong Kong's law enforcement agencies may enforce laws and take related actions within the territory. Lam Wing-kee—one of the booksellers who escaped Beijing's custody after months of detention in the Mainland—had planned to reopen Causeway Bay Books in September 2018 in Taiwan to raise awareness of the CCP's growing control over Hong Kong and its rising influence in Taiwan, but he says he has encountered interference from China.\*<sup>54</sup>

While four of the booksellers have been released, one of them—Gui Minhai, a Swedish national—remains in custody in the Mainland after going missing in October 2015 from his Thailand vacation home.<sup>55</sup> In October 2017, mainland authorities apparently released Mr. Gui after he served a two-year sentence for an alleged 2003 drunken driving death in mainland China, but he remained in the Mainland and was forced to report to law enforcement regularly.<sup>56</sup> Then, in January 2018, as Swedish consular officers accompanied Mr. Gui on a train to Beijing for medical tests at the Swedish Embassy, plainclothes police officers boarded the train and took him away.† In response, Swedish Foreign Minister Margot Wallström said the incident was “in contravention of basic international rules on consular support” and demanded Mr. Gui's release.<sup>57</sup> The U.S. Department of State also issued a statement “call[ing] on Chinese authorities to explain the reasons and legal basis for Mr. Gui's arrest and detention, disclose his whereabouts, and allow him freedom of movement and the freedom to leave China.”<sup>58</sup>

### Declining Freedom of Expression

All Hong Kong residents are guaranteed civil liberties under Chapter III of the Basic Law—freedom of speech, assembly, and the press, as well as academic freedom.<sup>59</sup> Since President Xi took office, challenges to these freedoms have continued to increase as Beijing seeks to move the territory closer to the Mainland. During Carrie Lam's tenure as Hong Kong Chief Executive, which began in July 2017, further curbs on Hong Kong civil society and prodemocracy voices have resulted in persistent challenges to freedom of expression, speech, and assembly.

\* In August 2018, Mr. Lam told Taiwan media that his Taiwan and Hong Kong investors withdrew their funding for the bookstore, which he contends was due to Beijing's interference. Zhong Lihua, “Red Influence Blocks, Hong Kong's Causeway Bay Bookstore Opening in Taipei Is Halted,” *Liberty Times*, August 9, 2018. Translation. <http://news.ltn.com.tw/news/focus/paper/1223047>.

† Chinese officials reportedly told Swedish diplomats that Mr. Gui “was suspected of sharing secret information with Swedish diplomats and of meeting them illegally.” Chris Buckley, “Chinese Police Seize Publisher from Train in Front of Diplomats,” *New York Times*, January 22, 2018.

### *Prodemocracy Activists and Civil Society Face Mounting Legal Challenges*

Increasing constraints on prodemocracy activists are tightening space to express discontent with Beijing and the Hong Kong government. According to Hong Kong activist and writer Kong Tsung-gan, as of October 2018, the Hong Kong government has, since the 2014 Occupy protests, brought 45 legal cases against 29 prodemocracy leaders, including legislators and activists holding top positions in prodemocracy organizations.<sup>60</sup> Most of the cases have been initiated since late 2016, prompting concern from Hong Kong observers and rights organizations about a targeted campaign designed to silence activists.\*<sup>61</sup> In August 2017, Joshua Wong, Nathan Law, and Alex Chow Yong-kang (student leaders during the Occupy protests) were jailed for their role in the protests.†<sup>62</sup> All three appealed their sentences, and the Hong Kong Court of Final Appeal granted them leave to appeal and bail pending appeal after several months in jail.<sup>63</sup>

In February 2018, Messrs. Wong, Law, and Chow won their appeal, and the Court of Final Appeal nullified their jail terms (while reinstating their non-custodial sentences), technically allowing the three to run for a LegCo seat in the future.‡<sup>64</sup> However, the court set an important precedent with its judgment that has significant repercussions for future criminal cases involving protestors and acts of civil disobedience. The judges agreed with the lower court's ruling that convictions of unlawful assembly involving violence, even at the low end, should receive prison sentences.<sup>65</sup> Further, the judges said the argument that any sentence should be lenient due to acts of civil disobedience carried "little (if any) weight" when the acts broke criminal law and involved violence (which they said, by definition, was not "civil disobedience").<sup>66</sup> Mr. Wong called the ruling "a harsh judgment," and Mr. Law said that "Hong Kong's democratic movement has lost a battle."<sup>67</sup> Meanwhile, senior counsel and member of the Hong Kong government's cabinet Ronny Tong Ka-wah said, "[The judgment makes clear that] when those who exercise their freedom use violence, no matter how noble their intentions are, that can no longer be a mitigating factor."<sup>68</sup> According to prodemocracy advocates, the judgment could have a chilling effect on future protests and pose challenges for freedom of assembly and civil disobedience, which many view as key components of Hong Kong's political life.<sup>69</sup>

The June 2018 sentencing of Hong Kong prodemocracy and once pro-independence activist Edward Leung Tin-kei to six years in prison for his involvement in the 2016 Mong Kok clash with police also

\*For more information on the arrests of prodemocracy legislators and activists in 2017, see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 428–429.

†Joshua Wong has faced a de facto travel ban since January 2018, when his passport was confiscated following his three-month prison sentence for "contempt of court" stemming from the Occupy protests. In September 2018, the Hong Kong High Court denied his request to review his bail conditions, preventing Mr. Wong from regaining his passport until his hearing for the case in April 2019. *Radio Free Asia*, "Activist Joshua Wong Banned from Travel, Four Years after Democracy Movement Began," September 28, 2018.

‡Under Hong Kong law, individuals convicted and sentenced to jail for longer than three months are banned from seeking public office for five years. Jasmine Siu, "Joshua Wong Seeks to Change Hong Kong Laws that Ban Former Convicts from Elections for Five Years," *South China Morning Post*, November 14, 2017.

has troubling implications for freedom of assembly in the territory.<sup>70</sup> Mr. Leung was convicted of one count of rioting, a common law offense that was codified by the former 1970 Public Order Ordinance when Hong Kong was under British rule.<sup>71</sup> Lord Chris Patten, the last British governor of the territory before the 1997 handover of Hong Kong to China, tried to reform the ordinance because it contains vague language concerning rioting offenses and does not conform to UN standards on human rights.<sup>72</sup> After the ruling against Mr. Leung, Lord Patten said, “It is disappointing to see that the legislation is now being used politically to place extreme sentences on the pan-democrats and other activists.”<sup>73</sup>

### ***Press Freedom under Duress***

In a chilling development for press freedom, in October 2018 the Hong Kong government denied the visa renewal of *Financial Times* journalist Victor Mallet without explanation—reportedly the first such expulsion of a foreign journalist since the handover of Hong Kong to China.<sup>74</sup> Mr. Mallet, who serves as the vice president of the Hong Kong Foreign Correspondents’ Club, chaired the controversial event in August 2018 with Mr. Chan, the founder of the pro-independence Hong Kong National Party, which Beijing and the Hong Kong government had pressured the club to cancel.<sup>75</sup> Many journalists and human rights groups believe Mr. Mallet’s visa denial was in retribution for the event. Maya Wang, a senior China researcher for Human Rights Watch, said, “This is unprecedented. We expect foreign journalists to have this kind of visa rejection happen in China, but it has never happened in Hong Kong because Hong Kong has a tradition until recent years of respect for free speech.”<sup>76</sup> Indicating the broader significance of the decision, the American Chamber of Commerce in Hong Kong issued a formal statement that said,

*[The move] sends a worrying signal. Without free press, capital markets cannot properly function, and business and trade cannot be reliably conducted. Any effort to curtail press freedom in Hong Kong could damage Hong Kong’s competitiveness as a leading financial and trading center.*<sup>77</sup>

While press freedom is protected in the Basic Law, nonprofit watchdog organization Reporters Without Borders and Hong Kong journalists observed Beijing’s increased interference in Hong Kong media, continuing a trend that has accelerated under President Xi. However, these observers disagreed slightly on the trajectory of overall press freedom in the territory.

- *Reporters Without Borders*: According to Reporters Without Borders’ 2018 World Press Freedom Index, Hong Kong improved three places to 70th out of 180 countries and territories measured (with 180 representing the place with the least press freedom).<sup>78</sup> The reasoning for the organization’s assessment was the growth of independent online media outlets and the Hong Kong government’s allowance of these organizations to attend government press conferences and official events. Despite the improved ranking, Reporters Without Borders noted growing interference by Beijing and increased difficulty in covering stories on governance.<sup>79</sup>

- *Hong Kong Journalists Association*: In 2017, the Hong Kong Journalists Association's annual survey on press freedom in Hong Kong found the public's perception dropped to a new low of 47.1 (out of 100) since it began conducting the surveys in 2013.<sup>80</sup> The NGO, which was formed to enhance press freedom and improve working conditions for local journalists in Hong Kong, reported that 70 percent of journalists in its poll believed press freedom had declined compared to the previous year.<sup>81</sup> Polling data from the general public and journalist respondents indicated a perceived increase in pressure from Beijing as damaging to press freedom in the territory.<sup>82</sup>

### *Politically Motivated Self-Censorship*

According to the Hong Kong Journalists Association, self-censorship remains a significant problem for journalists. In its 2017 survey, the association found that self-censorship was the most important factor in journalists' assessment of media freedom in the territory.<sup>83</sup> In December 2017, Hong Kong media outlet HK01 published two reports using newly released UK declassified documents about the 1989 Tiananmen Square massacre, but quickly removed the articles from its website and later reposted them with content altered.<sup>84</sup> The Hong Kong Journalists Association issued a statement that said, "[The organization] is extremely concerned that the suspension of publication of the reports is tantamount to self-censorship in view of political sensitivity."<sup>85</sup> The watchdog organization also found that a second set of reports was planned for the following day, but they were not published.<sup>86</sup> In response, HK01 denied the allegations, stating the removal of the initial articles was due to editorial problems and accusing the watchdog of interference in its editorial independence.<sup>87</sup>

### *Academic Freedom*

In recent years, Hong Kong universities and secondary schools have been under growing pressure from Beijing to avoid discussions touching on Hong Kong independence and to institute patriotic education.<sup>88</sup> In 2018, Beijing and the Hong Kong government demonstrated an expanded effort to silence the open discussion of ideas and raised fears among observers that freedom of speech is under mounting threats.<sup>89</sup>

In March 2018, Hong Kong University professor and one of the Occupy movement protest leaders Benny Tai Yiu-ting, speaking at a forum in Taiwan, said Hong Kong could consider independence or join a federation or confederation of Chinese states if China were to democratize in the future.<sup>90</sup> In response, the Hong Kong government, pro-Beijing LegCo members, and mainland China launched a public campaign criticizing Professor Tai's comments.<sup>91</sup> A Hong Kong government spokesperson said, "[We are] shocked by the remarks made by [Professor Tai] that Hong Kong could consider becoming an independent state, and strongly condemn such remarks."<sup>92</sup> The spokesperson also said that "any advocacy of 'Hong Kong independence' runs against 'One Country, Two Systems' and the Basic Law as well as the overall and long-term interest of society of Hong Kong."<sup>93</sup> Mainland China's Hong Kong and Macau Affairs Office spokesperson supported the Hong Kong government's denunciation of Professor Tai's remarks and

said that “some in Hong Kong were colluding with outside forces and openly promoting independence. They are trying to split the country in violation of Hong Kong’s Basic Law ... and are challenging the bottom line of ‘one country, two systems.’”<sup>94</sup> Hours after Beijing’s official response, 41 pro-establishment LegCo members issued a joint statement denouncing Professor Tai’s remarks.<sup>95</sup>

Rights advocates in Hong Kong said the pressure campaign waged against Professor Tai showed that academic freedom and freedom of expression in the territory were under increased threat and could lead to further self-censorship. In the view of the Hong Kong-based rights group Scholars’ Alliance for Academic Freedom, “[T]his incident is a blatant violation of citizens’ rights and freedoms which must be strongly protected and respected in order for Hong Kong to remain a free and open society.”<sup>96</sup> Some scholars, along with Professor Tai, fear the incident could prompt mainland and Hong Kong authorities to push forward on passing Article 23.<sup>97</sup> Although Hong Kong government officials denied the speculation, mainland officials and Chinese state-run media commentaries suggested the need for Hong Kong to pass the national security law.<sup>98</sup> Professor Tai said,

*If the new baseline now is that even if it may not involve violence, even if it may not involve other criminal actions, just merely speech will be sufficient for people to have [committed] those offenses, then that would be something [the] Hong Kong people must seriously consider.*<sup>99</sup>

### **Taiwan Scholars Barred from Traveling to Hong Kong**

Since the major 2014 prodemocracy protests in Hong Kong (Occupy Central) and Taiwan (Sunflower Movement), both sides have seen increased sharing of ideas among democracy activists to counter Beijing’s rising pressure. However, growing numbers of Taiwan activists and lawmakers have been barred from entering Hong Kong in recent years, particularly around sensitive events, a trend that seems to be expanding to include scholars.<sup>100</sup> In December 2017, Wu Rwei-ren and Wu Jieh-min, academics critical of Beijing based at the Taiwan think tank Academia Sinica, were due to speak at a conference in Hong Kong but had their visa applications denied.\* Dr. Wu Rwei-ren asserts Beijing is seeking to block dialogue between Taiwan and Hong Kong political groups “to isolate its civil society and render it helpless.”<sup>101</sup> Since Taiwan President Tsai Ing-wen took office in 2016, Beijing has been increasingly sensitive to exchanges between Hong Kong and Taiwan activists.<sup>102</sup> Beijing fears collusion between “separatist forces” in Taiwan and Hong Kong that could seek independence and violate China’s national sovereignty.<sup>103</sup> (China’s relations with Taiwan are discussed in greater detail in Chapter 3, Section 3, “China and Taiwan.”)

\*The barring of these academics came in the wake of Hong Kong’s refusal in October 2017 to allow UK Conservative Party activist and deputy chair of its human rights commission Benedict Rogers to enter the territory for an unofficial visit. Since then, the Hong Kong authorities have denied entry to the territory to other foreign politicians and civil society groups that support Hong Kong pro-democracy activists. Kris Cheng, “Hong Kong Denies Entry to Japanese City Councilor Months after Beijing Attacked Him for Supporting Democrat,” *Hong Kong Free Press*, August 10, 2018; Kris Cheng, “Hong Kong Bars UK Conservative Party Activist Benedict Rogers from Entering City,” *Hong Kong Free Press*, October 11, 2017.

## Economic Relations with Mainland China

Hong Kong remains important to Beijing as an economic conduit to the rest of the world and as a testing ground for financial reforms.<sup>104</sup> China's general respect for the independence of Hong Kong's financial and commercial sector suggests Beijing may now only feel the need to apply its "one country, two systems" formulation to Hong Kong's economic sphere. For decades, Hong Kong's economic dynamism and commercial rule of law have ensured its status as a global financial hub and the leading gateway to China.\* According to the Global Financial Center Index, Hong Kong is the third-leading global financial center after London and New York.† In 2017, 3,752 multinational companies had regional headquarters or regional offices in Hong Kong, of which 76 percent were responsible for business in mainland China.<sup>105</sup>

In 2017, Hong Kong's gross domestic product (GDP) grew 3.8 percent in real terms, up from 2.2 percent in 2016, spurred by robust domestic demand and a strong external environment.<sup>106</sup> In the second quarter of 2018, Hong Kong's economy grew 3.5 percent from a year ago, down from 4.6 percent in the first quarter.<sup>107</sup> The Hong Kong government forecasts GDP growth between 3 and 4 percent for 2018.<sup>108</sup> Strong domestic demand and a recovery in tourist arrivals should continue to support growth in 2018, although growth is expected to moderate amid rising trade tensions between the United States and mainland China and higher interest rates.<sup>109</sup> Hong Kong's economy is highly dependent on international trade‡ and finance and is increasingly integrated with the Mainland through trade, investment, financial, and tourism links.§

### Trade and Investment Links

Mainland China has been Hong Kong's largest trading partner since 1985, accounting for 50 percent of total trade in 2017.<sup>110</sup> Hong Kong is mainland China's third-largest trading partner (after the United States and Japan), accounting for 7 percent of China's total trade in 2017.<sup>111</sup> Hong Kong is also a key intermediary for China's trade with the rest of the world. According to Hong Kong government statistics for 2017, 58 percent of Hong Kong re-exports

\*For the 24th successive year, Hong Kong remained the world's freest economy based on the strength of its rule of law, regulatory efficiency, economic openness, and government size, according to an index prepared by the Heritage Foundation. According to the Switzerland-based International Institute for Management Development's 2018 world competitiveness ranking, Hong Kong placed second among the world's most competitive economies, behind the United States and ahead of Singapore. In 2018, Hong Kong ranked fifth in the World Bank's ease of doing business index, behind South Korea and ahead of the United States. Heritage Foundation, "2018 Index of Economic Freedom: Hong Kong," 2018; IMD, "The United States Overtakes Hong Kong at First Place among the World's Most Competitive Economies," May 2018; World Bank, "Doing Business 2018: Reforming to Create Jobs," October 31, 2017, 4.

†The Global Financial Centers Index is a biannual ranking of the competitiveness of financial centers published by London-based commercial think tank Z/Yen Group and the China Development Institute, a Shenzhen-based think tank. The ranking is based on five factors of competitiveness: business environment, human capital, infrastructure, financial sector development, and reputation. China Development Institute and Z/Yen Group, "The Global Financial Centers Index 23," March 2018, 4, 8.

‡The value of total goods and services trade for Hong Kong was 375 percent of GDP in 2017, compared to 38 percent for mainland China. World Bank, "Trade (% of GDP)." <https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS>.

§Although Hong Kong is part of China, it has separate legal structures and is treated as "overseas" for the purposes of most regulations governing the ability of mainland Chinese to travel, transfer funds, and conduct other transactions. Hong Kong Trade Development Council, "Economic and Trade Information on Hong Kong," June 14, 2018.

(i.e., goods imported and then exported in the same state as previously imported) were from mainland China and 54 percent were destined for mainland China.<sup>112</sup>

According to UN data, in 2017 Hong Kong received over \$104 billion in foreign direct investment (FDI), making Hong Kong the second-largest recipient of FDI in Asia after China (\$136 billion).<sup>113</sup> These inflows are seldom destined solely for Hong Kong, as many foreign investors use Hong Kong as a transit point into China. Consequently, Hong Kong has consistently been China's largest source of FDI, with cumulative inflows from Hong Kong totaling \$1 trillion at the end of 2017, or 53.2 percent of all inflows.<sup>114</sup> In turn, mainland China was Hong Kong's second-largest source of FDI (after the British Virgin Islands) at the end of 2016, accounting for about 26 percent, or \$418 billion, of the total stock of Hong Kong's FDI that year.<sup>115</sup>

### **Financial Links**

Hong Kong has been the main conduit for Beijing's moves to increase foreign access to its financial markets, notably with the July 2017 launch of the China-Hong Kong Bond Connect—which allows international investors access to China's bond market via Hong Kong—and the launch of the Shenzhen-Hong Kong Stock Connect and Shanghai-Hong Kong Stock Connect in 2016 and 2014, respectively.\*

Over the past year, Beijing has moved to expand trading through the stock connects in preparation for global index publisher MSCI's two-stage inclusion of Chinese large-cap stocks in its emerging markets index in June and September 2018, which is expected to draw more foreign capital into China's equity markets.<sup>116</sup> In April 2018, mainland China's securities regulator announced it would quadruple daily quotas for both the Shanghai and Shenzhen stock connects.† However, market reactions to the expansion have been muted as bilateral capital inflows depend on the profitability of each respective equity market; before the trading quota expansion, only a small fraction of daily quotas was used.<sup>117</sup> In July 2018, investors used an average of just 1.7 percent of the daily quota for northbound trading of the two stock connects, while 1.3 percent was used for southbound trading.<sup>118</sup>

At present, the Bond Connect only allows for northbound trading, which means foreign investors can purchase Chinese bonds via Hong Kong, but Chinese investors cannot access the Hong Kong bond market under this channel.‡ Aggregate flows from this chan-

\*For more on the Shenzhen-Hong Kong Stock Connect and China-Hong Kong Bond Connect, see U.S.-China Economic and Security Review Commission, *2017 Annual Report to Congress*, November 2017, 437–438. For more on the Shanghai-Hong Kong Stock Connect, see U.S.-China Economic and Security Review Commission, *2016 Annual Report to Congress*, November 2016, 421–422.

†The daily quota of mainland China-listed shares that can be bought in Hong Kong via the Shanghai and Shenzhen stock connect schemes was boosted to \$7.9 billion (RMB 52 billion) each, from \$2 billion (RMB 13 billion). Daily southbound quotas were increased to \$6.3 billion (RMB 42 billion), up from \$1.6 billion (RMB 10.5 billion). *Reuters*, “China to Sharply Boost Daily Stock Connect Quotas from May 1,” April 10, 2018; Emma Dunkley, “China Boosts Mainland-Hong Kong Stock Connect Quotas,” *Financial Times*, April 11, 2018.

‡At the launch ceremony for the Bond Connect in July 2017, People's Bank of China Deputy Governor Pan Gongsheng and Hong Kong Exchange Chief Executive Charles Li Xiaojia both said southbound trading would be introduced when there is sufficient market demand, but did not provide a timeline. Hong Kong's bond market has been challenged by low interest rates and bond

nel have been limited and small relative to the size of China's bond market.<sup>119</sup> China attracted \$52 billion (renminbi [RMB] 346 billion) in foreign funds into its domestic bond market in 2017, a 41 percent increase from 2016, according to People's Bank of China data; about one-third of inflows since July 2017 came through the Bond Connect.\*<sup>120</sup> As of July 2018, foreign investors held \$204 billion (RMB 1.35 trillion) in onshore Chinese bonds, less than 2 percent of the total market.<sup>121</sup>

Hong Kong remains the world's largest offshore RMB clearing center: according to global payments processing network SWIFT, Hong Kong's share of global RMB payments exceeded 70 percent in 2017.<sup>122</sup> Hong Kong's status as an offshore RMB center has been bolstered by the launch of the China-Hong Kong Bond Connect and by an expansion of Hong Kong's RMB Qualified Foreign Institutional Investor quota,† which allows foreign investors to participate further in China's bond and equity markets through Hong Kong.<sup>123</sup> Additionally, increased regional and international cooperation under the Belt and Road Initiative (BRI) is expected to boost the role Hong Kong plays in the offshore RMB business.<sup>124</sup>

Finally, Hong Kong is one of the top global initial public offering (IPO) markets. The Hong Kong stock exchange came in third place (behind New York and Shanghai) based on listing proceeds, raising \$16.3 billion through 161 new listings in 2017.<sup>125</sup> In April 2018, in a bid to enhance Hong Kong's competitiveness for technology and other new economy company listings, the Hong Kong Exchanges and Clearing changed its listing rules to allow biotech companies without revenue and companies with share structures providing weighted voting rights to list; the Hong Kong bourse has long been dominated by financial and property sector listings.‡<sup>126</sup> The decision to allow the listing of pre-revenue biotech companies is aimed at attracting early-stage biotech firms.§<sup>127</sup>

Weighted voting rights structures allow companies with multiple classes of stocks to raise capital.¶ The structure is favored by technology companies like Facebook and Google as they allow founders and management to maintain control of the company even after a public listing.<sup>128</sup> Many technology companies—including, most no-

yields. Invesco, "Bond Connect: Linking China's Onshore and Offshore Bond Markets," November 2017; Enoch Yiu, "Bond Connect a One-Way Street until Southbound Trade Opens," *South China Morning Post*, July 3, 2017.

\*Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = RMB 6.62.

†In July 2017, China's State Council expanded Hong Kong's RMB Qualified Foreign Institutional Investor quota to \$76 billion (RMB 500 billion), from \$41 billion (RMB 270 billion). *China Daily*, "State Council Raises Hong Kong RQFII Quota to 500 Billion Yuan," July 5, 2017.

‡According to the Hong Kong Exchanges and Clearing, in 2017 just 3 percent of all Hong Kong-listed stocks, by market capitalization, were from new economy sectors. In comparison, listings from new economy firms made up 60 percent of all listed stocks on Nasdaq and 47 percent for the New York Stock Exchange. Julie Zhu and Alun David John, "Hong Kong Scrambles for Talent in the Battle for Nasdaq's Biotech Crown," *Reuters*, April 29, 2018.

§According to Hong Kong Exchanges and Clearing, the biotech sector was selected because biotech companies "make up a majority of companies in the pre-revenue stage of development seeking a listing" and "the activities undertaken by biotech companies tend to be strictly regulated under a regime that sets external milestones on development progress." Hong Kong Exchanges and Clearing, "HKEX Proposes Way Forward to Expand Hong Kong's Listing Regime," December 15, 2017.

¶The most common type of multiclass stock is the dual-class structure typically with two classes of stock: one common stock is offered to the general public and carries one vote per share, while the class available to a company's founders and executives carries multiple votes and often provides for majority control of the company. Pamela Ambler, "Why 2018 Will Be a Renaissance Year for Asia Tech IPOs, Undercutting New York," *South China Morning Post*, January 14, 2018.

tably, Chinese e-commerce giant Alibaba—have opted to list in New York over Hong Kong precisely because the United States allows for weighted voting rights.<sup>129</sup> As a result of the change, Hong Kong expects to attract a number of rising Chinese technology companies that have expanded and are close to going public.<sup>130</sup> However, some in Hong Kong’s financial community fear the change may lead to less rigorous corporate governance, arguing that unequal voting rights could allow management to override the best interests of majority shareholders.<sup>131</sup>

### ***Tourism Links***

Mainland China is Hong Kong’s largest source of tourists, accounting for 76 percent of total arrivals in 2017.<sup>132</sup> Hong Kong has long been a popular travel destination for Chinese tourists because of its proximity and tax-free shopping.<sup>133</sup> Chinese tourists are estimated to contribute 39 percent of Hong Kong’s total retail sales.<sup>134</sup> Hong Kong’s retail and tourism sectors had been hit by anti-Mainland sentiment, a weaker RMB, and China’s anticorruption campaign, which analysts say led to declines in Chinese visitors in 2015 and 2016.<sup>135</sup> Mainland tourist arrivals began to recover in 2017, increasing 3.9 percent year-on-year, driven by recent political tensions between Beijing and neighboring countries popular with Chinese tourists, like Japan and South Korea.<sup>136</sup> However, as more Chinese tourists travel to long-haul destinations like Europe, they are increasingly treating Hong Kong as a short-haul destination, with nearly 60 percent of Chinese tourists to Hong Kong staying for one day.<sup>137</sup>

### **Hong Kong’s Key Role in the Belt and Road Initiative**

The Hong Kong government has sought to brand Hong Kong as a “super-connector” for BRI.<sup>138</sup> According to Norman Chan, chief executive of the Hong Kong Monetary Authority, Hong Kong’s strengths in financial and professional services make it “well-positioned to play an unparalleled role in intermediating infrastructural investment and financing” for BRI.<sup>139</sup> In June 2016, the Hong Kong government set up a steering committee tasked with formulating strategies and policies for Hong Kong’s participation in BRI, along with a Belt and Road Office to coordinate BRI-related work among government departments.<sup>140</sup> The Hong Kong Monetary Authority set up an Infrastructure Financing Facilitation Office in July 2016 to facilitate BRI infrastructure investments and their financing.<sup>141</sup> In December 2017, Hong Kong signed an agreement with China’s National Development and Reform Commission to expand Hong Kong’s role in BRI.<sup>142</sup> The agreement outlines six focus areas for Hong Kong’s participation: finance and investment; infrastructure and maritime services; economic and trade facilitation; people-to-people bonds; the Greater Bay Area initiative; and collaboration on project interfacing and dispute resolution services.<sup>143</sup> (For an in-depth assessment of BRI, see Chapter 3, Section 1, “Belt and Road Initiative.”)

Hong Kong is a key node of the Guangdong-Hong Kong-Macau Greater Bay Area, Beijing’s plan to develop a world-class city cluster at the start of BRI’s Maritime Silk Road that rivals the Tokyo and

San Francisco bay areas.\*<sup>144</sup> The Greater Bay Area is a regional development initiative linking nine cities in Guangdong Province with Hong Kong and Macau to establish a globally competitive hub for advanced manufacturing, finance, and technology, drawing on each city's economic strengths.† China aims to turn the Greater Bay Area into the world's largest bay area by GDP by 2030; the economies in the Greater Bay Area had a combined GDP of \$1.58 trillion in 2017 and a total population of 68 million.<sup>145</sup> The July 2017 framework agreement signed between National Development and Reform Commission, the Guangdong provincial government, the Hong Kong government, and the Macau government identified several areas for cooperation, including “promoting infrastructure connectivity; enhancing the level of market integration; building a global technology and innovation hub; [and] building a system of modern industries through coordinated development.”<sup>146</sup> Beijing is expected to release a more detailed implementation plan later in 2018.<sup>147</sup>

So far, the infrastructure component of the initiative has been the most visible, with several major projects, such as the Guangzhou-Shenzhen-Hong Kong express rail link and the Hong Kong-Zhuhai-Macau bridge, completed or near completion.<sup>148</sup> The initiative faces significant practical difficulties merging three jurisdictions and their respective political and legal systems, and will have to resolve differences in border controls, environmental protection, currency, legislation, taxes, and investment rules, among other issues.

Although Hong Kong and Chinese officials say the three major cities in the Greater Bay Area—Hong Kong, Guangzhou, and Shenzhen—are complementary, some Hong Kong lawmakers have expressed concerns that the initiative may fuel intercity competition. Starry Lee Wai-king, chairman of Hong Kong's largest pro-establishment party, the Democratic Alliance for the Betterment and Progress of Hong Kong, noted that unlike in the case of the San Francisco Bay Area—where San Francisco, Oakland, and San Jose had clear roles as California's financial, manufacturing, and innovation hubs, respectively—“there are multiple financial, logistics and technology centers in the Greater Bay Area.”<sup>149</sup> “If there is no appropriate division of labor ... these cities could become a source of internal conflict,” she said.<sup>150</sup> Some Hong Kong observers also worry that closer economic integration with the Mainland through the Greater Bay Area runs the risk of diluting Hong Kong's rule of law and professional standards.<sup>151</sup>

### Implications for the United States

U.S. policy toward Hong Kong, as outlined in the U.S.-Hong Kong Policy Act of 1992, underscores U.S. support for Hong Kong's human rights, democratization, and autonomy under the “one country, two systems” framework.<sup>152</sup> The preservation of Hong Kong's way of life

\*Several earlier regional integration schemes—such as the Pearl River Delta and Pan-Pearl River Delta initiatives—predate the Greater Bay Area. He Huifeng, “New York, Paris ... Greater Bay Area? Beijing's Big Idea to Transform Southern China,” *South China Morning Post*, June 16, 2018; *Xinhua*, “Greater Bay Area New Highlight in China's Economy,” March 26, 2017.

†Hong Kong, Shenzhen, and Guangzhou are the Greater Bay Area's three core cities, with their respective strengths in financial and professional services, technology, and manufacturing. Peter Sabine, “Can China's Greater Bay Area Initiative Really Work?” *South China Morning Post*, May 28, 2017; PricewaterhouseCoopers, “New Opportunities for the Guangdong-Hong Kong-Macau Greater Bay Area,” 19.

and maintenance of its status as a global financial and business hub help facilitate U.S. interests. U.S. considerations regarding the export of sensitive U.S. technology to Hong Kong are also predicated on the territory's separation from the Mainland. In this light, the ongoing decline in rule of law and freedom of expression due to Beijing's increasing encroachment on Hong Kong's autonomy is a troubling development.

Beijing's continued interference in Hong Kong's internal affairs outside the areas of foreign policy and defense—which are protected under the “one country, two systems” policy and Basic Law—serves as a cautionary example for the Indo-Pacific region, including close U.S. partners.<sup>153</sup> The Xi Administration's failure to abide by its commitments sends a strong message to Taiwan that Beijing would do the same in a similar arrangement with Taipei. More broadly, it signals to Taiwan citizens that China's promises cannot be trusted.<sup>154</sup>

Despite negative trends in Hong Kong's legal, media, and speech freedoms, the territory's system of legal protections, economic freedom, and transparency and openness make it an important destination and partner for U.S. trade and investment. In 2017, Hong Kong was the ninth-largest importer of U.S. goods (\$40 billion), and the United States retained its largest trade surplus globally with Hong Kong (\$32.5 billion).<sup>155</sup> U.S. FDI in Hong Kong was sixth in the world at \$40.4 billion (HK\$ 313.7 billion) as of year-end 2016.<sup>156</sup> Further underscoring the United States' significant economic ties with Hong Kong, more than 1,300 U.S. companies operate in Hong Kong, including 283 regional headquarters and 443 regional offices as of 2017, the highest number of any other foreign presence.<sup>157</sup> Hong Kong also plays a valuable role in international economic organizations, such as the Asia-Pacific Economic Cooperation, Financial Action Task Force, Financial Stability Board, and World Trade Organization.

As a key transshipment hub for mainland China, Hong Kong is an important partner in ensuring robust protections against unauthorized shipments of controlled U.S. items to the Mainland. Pursuant to the Hong Kong Policy Act, the United States treats Hong Kong as a separate customs territory and maintains unique export control agreements with Hong Kong distinct from those with mainland China.<sup>158</sup> In 2017, the United States and Hong Kong strengthened export control cooperation, introducing new documentation requirements on controlled exports and re-exports to Hong Kong.\* The requirement is intended to strengthen existing regulations by requiring those wishing to export or re-export these items to first receive a Hong Kong import license or other written authorization from the Hong Kong government as proof of compliance.<sup>159</sup> However, the State Department's annual Hong Kong Policy Act report, published in May 2018, noted that U.S. officials “continue to raise concerns about the diversion of controlled items, including during its annual bilateral discussion about strategic trade controls.”<sup>160</sup>

In September 2018, Beijing denied a U.S. Navy ship (the *Wasp*) a routine port call in Hong Kong planned for October—the first such

\*The U.S. rule covers items subject to the Export Administration Regulations and controlled on the Commerce Control List for national security, missile technology, nuclear nonproliferation, or chemical and biological weapons. U.S. Department of Commerce, International Trade Administration, *Hong Kong-Macau-U.S. Export Controls*, June 26, 2017.

official refusal since 2016.<sup>161</sup> China made the decision shortly after the United States imposed sanctions on China's Central Military Commission Equipment Development Department and its director for procuring arms from Russia.<sup>162</sup> Since Hong Kong's 1997 handover from the UK to China, China has refused U.S. port visits on at least four other occasions.<sup>163</sup>

In contrast to all the problems documented in this section, the State Department's May 2018 report assesses Hong Kong "generally maintains a high degree of autonomy under the 'one country, two systems' framework in most areas—more than sufficient to justify continued special treatment by the United States for bilateral agreements and programs per the Act."\*<sup>164</sup> The United States has interests in upholding its longstanding policies toward Hong Kong and strengthening bilateral relations, but Beijing's cooperation in upholding its commitments regarding Hong Kong is essential to facilitate a positive U.S.-Hong Kong relationship. However, the report also noted a troubling case of Beijing's direct involvement in U.S.-Hong Kong affairs—beyond China's increasing encroachment on Hong Kong's freedoms—that went against Beijing's promise to allow Hong Kong a "high degree of autonomy": for the first time since the 1997 handover of Hong Kong to Beijing, the Hong Kong government in October 2017 rejected a U.S. fugitive surrender request at the insistence of Beijing (the detainee was released to mainland authorities for a supposed separate criminal investigation).<sup>165</sup>

Some Hong Kong and foreign observers have expressed concern that the territory is becoming more like any other Chinese city and losing the unique characteristics and legal protections that make it an important partner for the United States and others.<sup>166</sup> Given the pace at which Beijing is eroding Hong Kong's autonomy, U.S. NGOs and media organizations may be under mounting pressure to seek alternative locations for their regional operations in the years ahead.<sup>167</sup> As Beijing continues to increase its control over Hong Kong, the territory also faces growing economic competition from mainland cities, which receive increasing investment and incentives, and over the long term could diminish Hong Kong's standing as a global business center.<sup>168</sup>

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\*The "special treatment" afforded to Hong Kong is codified under the U.S.-Hong Kong Policy Act of 1992, which directs the United States to treat Hong Kong as a separate customs territory and as a World Trade Organization member. United States-Hong Kong Policy Act of 1992, Pub. L. No. 102-383, 1992.

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## SECTION 5: CHINA'S EVOLVING NORTH KOREA STRATEGY

### Key Findings

- China considers the disposition of North Korea to be vital to its national security interests, despite a complicated and often antagonistic history between the two countries. Tense relations between Chinese President and General Secretary of the Chinese Communist Party Xi Jinping and North Korean Chairman of the State Affairs Commission Kim Jong-un shifted into warming ties amid North Korea's broader diplomatic outreach campaign in 2018.
- China supports U.S. and South Korean diplomatic engagement with North Korea, although Beijing is wary of being isolated in the process or losing out if North Korea commits to a full-scale strategic realignment with the United States and South Korea. More immediately, China sees the potential to advance its geopolitical goals on the Korean Peninsula. Those goals include avoiding war or instability in North Korea and, eventually, rolling back the U.S.-South Korea alliance. Beijing sees ending North Korea's nuclear and long-range missile programs as a worthwhile but secondary goal. China is aiming to achieve these goals by advocating for a peace treaty to formally end the Korean War, seeking the suspension of joint U.S.-South Korean military exercises, and pushing for a reduction of U.S. forces in South Korea.
- Beijing will continue efforts to ensure its participation in or influence over the diplomatic process surrounding North Korea's nuclear and missile programs. China will try to shape the negotiating format, terms of an agreement, timing and sequencing for implementation, and whether the North Korea issue is tied to other dimensions of U.S.-China relations.
- China's preparations for contingencies in North Korea indicate that Beijing has the capability to respond forcefully in a crisis to manage refugee flows and lock down the border, seize weapons of mass destruction and associated sites, and occupy territory to gain leverage over the future disposition of the Korean Peninsula. Relations between China's People's Liberation Army and North Korea's military, the Korean People's Army, have been strained for many years. How the Korean People's Army might respond to a Chinese intervention is unknown.
- The United States and China have conducted basic talks for North Korea contingencies during high-level visits and major dialogues, but there is no evidence the U.S. and Chinese theater and combatant commands that would be directly involved have

discussed operational planning for any contingency. It is likely these discussions have not yet delved into the level of detail necessary to avoid miscommunication and unwanted escalation in a crisis. Continuing and expanding those talks could help manage the massive risks associated with a potential crisis in North Korea.

## Recommendations

The Commission recommends:

- Congress direct the U.S. Department of the Treasury to provide a report within 180 days on the current state of Chinese enforcement of sanctions on North Korea. A classified annex should provide a list of Chinese financial institutions, businesses, and officials involved in trading with North Korea that could be subject to future sanctions, and should explain the potential broader impacts of sanctioning those entities.

## Introduction

China considers the disposition of the Korean Peninsula to be vital to its national security.\* In 2017 and 2018, heightened tensions and the potential for conflict between the United States and North Korea over Pyongyang's pursuit of long-range, nuclear-armed missiles stoked Chinese fears about war or instability in North Korea. Pyongyang's provocative actions, combined with North Korea's seeming indifference to Chinese policy preferences, intensified an internal debate in China about whether to continue its longstanding policy of steadfastly supporting North Korea.† The potential for conflict also prompted Beijing to accelerate and expand planning for contingencies. Tensions began to ease when inter-Korean diplomacy around the Olympic Games in South Korea set off a series of summits between North Korea and South Korea, China, and the United States. Still, Beijing continues to plan and prepare for North Korea contingencies should talks fail or other contingencies spark a crisis.

This section explores China's interests in and policy toward North Korea. It examines Beijing's search for approaches that seek first to avoid conflict and instability on the Peninsula, while slowing or rolling back Pyongyang's nuclear weapons program and undermining the U.S.-South Korea alliance where possible. This section also cov-

\*During remarks at an economic forum in Russia in May, Chinese Vice President Wang Qishan said North Korea touched on China's "core interests." China's core interests, defined by then Chinese State Councilor Dai Bingguo in 2010, are "China's sovereignty, territorial integrity, and national unity." Given that North Korea borders China, upheaval in North Korea could impact China's sovereignty and territorial integrity directly. *Reuters*, "U.S.-North Korea Summit Needed, Chinese VP Wang Says," May 25, 2018; Dai Bingguo, "Stick to the Path of Peaceful Development," *China Daily*, December 13, 2010; Michael D. Swaine, "China's Assertive Behavior—Part One: On 'Core Interests,'" *China Leadership Monitor*, November 15, 2010, 1–25.

†Debate among Chinese scholars and officials regarding Beijing's North Korea policy has increased in recent years. The debate centers on the question of whether China should change its policy of steadfast support for North Korea in the face of continued North Korean provocations that risk sparking a war with the United States and a defiant stance toward Chinese policy preferences. The diplomatic process that began in 2018 and related China-North Korea engagement have seemingly put that debate on hold. Charles Clover, "China Gives Academics Free Rein to Debate North Korea," *Financial Times*, January 30, 2018; Zhu Feng, "China's North Korean Liability," *Foreign Affairs*, July 11, 2017; Shen Zhihua, "Looking at the THAAD Problem from the Perspective of the History of China-North Korea Relations," *Shanghai East China Normal University Center for Cold War International History Studies*, March 22, 2017. Translation; Carla P. Freeman, ed., *China and North Korea: Strategic and Policy Perspectives from a Changing China*, Palgrave Macmillan, 2015.

ers China's response to the flurry of diplomacy surrounding North Korea in 2018 and China's plans for responding to a North Korea crisis should the current diplomatic process break down, or should another event result in instability on the Peninsula. In doing so, it draws from the Commission's April 2018 roundtable on China's role in North Korea contingencies, the Commission's May 2018 research trip to Japan and Taiwan, and open source research and analysis.

### **China's Evolving North Korea Policy**

The China-North Korea relationship has oscillated between engagement and estrangement throughout its nearly 70-year history.\* This section explores the history of this relationship and how China perceives and pursues its interests regarding North Korea. It then examines the fractious state of Sino-North Korean relations under Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping and North Korean State Affairs Commission Chairman Kim Jong-un before early 2018, including the internal policy debate reassessing the strategic value of North Korea and the Kim regime for China. The discussion concludes by showing how Beijing tightened enforcement of sanctions for a time to encourage Pyongyang to embrace diplomacy prior to the recent improvements in the Sino-North Korean relationship.

#### ***Foundations of the Relationship***

China's longstanding backing of North Korea stems from the two countries' shared interests in countering the United States and its regional allies in East Asia and ensuring the continued existence of North Korea as a state. Robust, if tumultuous, bilateral ties date back to the Korean War (1950–1953), and include the two countries' bilateral Treaty of Friendship, Co-operation, and Mutual Assistance, signed in July 1961.<sup>1</sup> This bilateral treaty has to be renewed every 20 years; it was renewed in 1981 and 2001 and will be up for renewal again in 2021.<sup>2</sup> At its core, Chinese policy toward the Korean Peninsula seeks to avoid war, instability, and nuclear weapons (i.e., achieve denuclearization).<sup>†3</sup> As Foreign Minister Wang Yi—who is now also State Councilor—said in February 2016:

*Firstly, under no circumstances could the Korean Peninsula be nuclearized, whether the DPRK [Democratic People's Republic of Korea] or the ROK [Republic of Korea], self-produced or introduced and deployed. Secondly, there is no military solution to the issue. If there is war or turbulence on the Peninsula it is not acceptable for China. Thirdly, China's legitimate national security interests must be effectively maintained and safeguarded.<sup>4</sup>*

\*For additional background, see the Commission's earlier research on China's relations with North Korea in U.S.-China Economic and Security Review Commission, Chapter 3, Section 4, "China and North Korea," in *2016 Annual Report to Congress*, November 2016, 437–463.

†Some U.S. officials have used a modified version of this formulation in discussing U.S. policy toward North Korea. For example, in September 2017, then Secretary of State Rex Tillerson told John Dickerson of CBS's *Face the Nation*, "I think it's important to understand the policy of the United States, John, towards North Korea is to deny North Korea possession of a nuclear weapon and the ability to deliver that weapon. Our strategy has been to undertake this peaceful pressure campaign, we call it, enabled by the four no's, the four no's being that we do not seek regime change, we do not seek a regime collapse, we do not seek an accelerated reunification of the peninsula, and we do not seek a reason to send our forces north of the Demilitarized Zone." CBS News, "Transcript: U.S. Secretary of State Rex Tillerson on 'Face the Nation,'" September 17, 2017.

President Xi has reportedly emphasized these bottom-line principles directly to then U.S. President Barack Obama and, later, to President Donald Trump.<sup>5</sup> The strategic underpinning for Beijing's approach is a desire to counter the spread of U.S. power and influence in Northeast Asia.<sup>6</sup> As Yun Sun of the Stimson Center told the Commission, "China's desired endgame remains to be the shaping and creation of a China-friendly Korean peninsula free or neutral of American influence."<sup>7</sup>

### *Debating the Future*

The Chinese policy debate around North Korea has intensified in recent years in response to the pressures of heightened U.S.-North Korean tensions and the Sino-North Korean rift.\* CCP censors widened the scope of acceptable opinions on the issue to support Chinese leaders' search for alternatives, although space for debate is likely to narrow in light of renewed Sino-North Korean engagement.<sup>8</sup> Differing voices, led primarily by Chinese international relations scholars, have begun to advocate for dialing back Beijing's support for Pyongyang as part of an international pressure campaign to foster negotiations.<sup>9</sup> Some of these scholars also now advocate for taking part in contingency planning talks with South Korea and the United States to ensure China can secure its interests on the Peninsula in the event of a contingency, while lessening the risk of a wider conflict.<sup>10</sup>

The debate relates to assessments about China's regional strategy and North Korea's role in it. Experts fall on both sides of the question of whether North Korea helps or hurts China's power in the region. One argument holds that North Korea provides a strategic rationale for the United States to strengthen regional alliance relationships and bolster its military posture in East Asia (e.g., deploying the Terminal High-Altitude Area Defense missile defense system in South Korea).<sup>11</sup> As a result, North Korean misbehavior ultimately complicates China's search for regional power and influence. A counterargument says North Korea continues to provide a vital strategic buffer and helps divert the focus of the United States and its allies from balancing China's rise.<sup>†</sup><sup>12</sup> In essence, the rogue North Korean regime prevents China from becoming the sole strategic focus of U.S. and allied power in Asia. How Chinese leaders evaluate this larger question could shape Beijing's overall approach toward North Korea.

### *Sino-North Korean Tensions Prior to March 2018*

Under President Xi and Chairman Kim, bilateral relations between China and North Korea had deteriorated significantly in the years

\*For a history of China's involvement in North Korean nuclear diplomacy from a Chinese perspective, see Fu Ying, "The Korean Nuclear Issue: Past, Present, and Future—A Chinese Perspective," *Brookings Institution*, May 2017.

†China's *Science of Military Strategy 2013* makes explicit China's view of the tradeoff in defense priorities for Japan, saying, "During the Cold War, Japan's hypothetical enemies were primarily the Soviet Union, North Korea, and China. After the Cold War, Japan's hypothetical enemies were, in order, North Korea, China, and Russia, but the trend toward treating China as its main opponent clearly strengthened. Japan has consistently viewed North Korea as its main real threat, but as China's overall national power rose and the modernized building of its military developed, Japan has become more on guard against China and has intensified its containment [of China]." Shou Xiaosong, ed., *The Science of Military Strategy*, Military Science Press, 2013, 79. Translation.

leading up to spring 2018. As Paul Haenle, director of the Carnegie-Tsinghua Center at Tsinghua University in Beijing and former director for China on the National Security Council, explains, “Beijing faced a situation in which its relations with the DPRK were at historic lows.”<sup>13</sup> Pyongyang’s decision to conduct tests and otherwise advance its nuclear and missile programs drove tensions with the United States and defied Chinese admonitions to cease such provocations.<sup>14</sup> *Global Times*, a newspaper owned by the CCP mouthpiece *People’s Daily*, warned North Korea in an editorial that China would not come to Pyongyang’s aid in a war if the North started the conflict.\*<sup>15</sup>

In November 2017, Beijing took a step to mend ties by sending an envoy, CCP International Liaison Department Minister Song Tao, to North Korea on behalf of President Xi, but Song—seen as President Xi’s emissary—did not meet with Chairman Kim.†<sup>16</sup> In addition, reporting from within North Korea prior to the March 2018 Sino-North Korean thaw noted an increase in anti-Chinese rhetoric in North Korean propaganda, which blamed Beijing for going along with sanctions that caused hardship for citizens in the North.<sup>17</sup> North Korea also undertook provocative tests during high-profile moments for China and for President Xi personally. Pyongyang conducted its sixth nuclear test in September 2017, just before President Xi was set to give a speech to the BRICS (Brazil, Russia, India, China, and South Africa) group.<sup>18</sup> In May 2017, North Korea tested an intermediate-range ballistic missile as President Xi hosted a major forum for the Belt and Road Initiative.<sup>19</sup>

### *China’s Sanctions Compliance*

In context of Sino-North Korean tensions, China agreed to additional sanctions on North Korea through the UN Security Council and, according to on-the-ground reports and officially reported statistics, appeared to be enforcing those sanctions more thoroughly than in the past.<sup>20</sup> Those steps resulted in a significant decrease in North Korean exports to China.<sup>21</sup> Chinese enforcement measures still have holes, including the use of ship-to-ship transfers.<sup>22</sup> Additionally, Beijing always leaves some key lifelines in place for North Korea, most notably some oil exports, to avert a complete regime collapse that could result from an economic meltdown.<sup>23</sup> Overall, though, China’s pressure on North Korea increased in material ways from early 2017 to early 2018.

### **China-North Korea Relations Thaw in 2018**

On March 28, Chairman Kim followed in the footsteps of his father and grandfather by taking a train to Beijing to meet with China’s leader, in this case President Xi.<sup>24</sup> Prior to this meeting, the pair had not met since either leader came to power. President Xi and Chairman Kim met twice more in 2018: May 7–8 in Dalian, in northeast China’s Liaoning Province, prior to the June 12 summit

\*China’s stance toward its treaty with North Korea has been purposefully ambiguous for years. This editorial represents only the most recent indicator of Beijing’s policy of maintaining that ambiguity regarding the treaty’s validity. For additional historical background on the treaty, see Chen Jian, “Is Beijing Bound to Defend North Korea during War?” *Wilson Center*, August 21, 2017.

†Song was later granted a meeting during a trip to North Korea following the first Xi-Kim summit. Voice of America, “North Korea’s Kim Meets with Chinese Official in Pyongyang,” April 15, 2018.

between President Trump and Chairman Kim; and June 19–20 in Beijing, ostensibly so President Xi could be briefed by Chairman Kim on the North Korean leader's summit with President Trump in Singapore.<sup>25</sup> In September, China sent Li Zhanshu—its third-highest ranking leader and chief legislator—to Pyongyang as President Xi's "special representative" to attend celebrations marking the 70th anniversary of North Korea's founding and present a personal letter from President Xi to Chairman Kim.<sup>26</sup>

Analysts portrayed the series of Xi-Kim meetings as China's attempt to maintain influence over the diplomatic process surrounding North Korea's nuclear program.<sup>27</sup> For its part, North Korea seemed to believe it had gained the upper hand in its relations with South Korea, the United States, and China, and could use an improvement in Sino-North Korean ties to improve its negotiating leverage against Washington and Seoul. In November 2017, Chairman Kim announced that Pyongyang had "finally realized the great historic cause of completing the state nuclear force" and appeared to believe he could engage foreign powers from a position of strength.<sup>28</sup> Chinese commentators seemed especially concerned with rebutting the notion that North Korea might chart a more independent foreign policy and weaken China's influence through a full-scale strategic realignment with the United States and South Korea.<sup>29</sup> As prominent Chinese historian Shen Zihua told the *New York Times*, "The worst outcome is that the United States, South Korea and North Korea all get together and China gets knocked out."<sup>30</sup> Meanwhile, China appeared to be offering its support to help protect North Korea's security—including the Kim regime—as well as assistance in modernizing the North Korean economy while retaining an authoritarian political system.<sup>31</sup> Statements from Chinese officials framed Beijing's engagement of Pyongyang as a long-term strategic decision rather than a tactical move designed to build leverage in a negotiating process. China's Ministry of Foreign Affairs quoted President Xi as saying, "No matter how the international and regional situations change, the firm stance of the CCP and the Chinese government on consolidating and developing the relations with [North Korea] remains unchanged."<sup>32</sup>

### ***Chinese Views on U.S.-North Korea Diplomacy***

Chinese leaders expressed qualified support for the June 12 summit meeting between President Trump and Chairman Kim, despite Beijing's reservations about being left out of the process.<sup>33</sup> China's Ministry of Foreign Affairs paraphrased President Xi saying the meeting was "an important step in the process of the political settlement of the Korean Peninsula nuclear issue."<sup>34</sup> One sign of China's backing—and also of its influence—came when Beijing provided one of three planes that flew Chairman Kim and his accompanying officials to the summit location in Singapore.<sup>35</sup> After the summit, U.S. Secretary of State Mike Pompeo flew to Beijing to brief Chinese leaders on the summit proceedings and resulting joint statement.<sup>36</sup> Chinese officials applauded the summit outcome and claimed the

\* China's support for U.S. diplomacy with North Korea has not always been clear to U.S. officials. In late May, when the summit was briefly canceled, President Trump accused Beijing of sabotaging the meeting. Bryan Harris and Charles Clover, "Donald Trump Blames China for Problems with Kim Summit," *Financial Times*, May 23, 2018.

agreement mirrored the “freeze for freeze” plan Beijing had been advocating since March 2017 as a potential compromise.\* State Councilor and Foreign Minister Wang said China’s role in shaping the summit was “indisputable” and told reporters “the China-proposed ‘suspension for suspension’ initiative has been materialized and now the situation is moving forward.”<sup>37</sup>

Beyond what President Trump and Chairman Kim agreed to in the joint statement, some additional policy changes and ideas for future shifts announced around the summit align with Chinese policy preferences.<sup>38</sup> These include President Trump’s announcement that the United States will suspend major joint military exercises with South Korea, potentially make changes to the size and composition of U.S. forces stationed in South Korea, and begin discussions for a peace treaty to officially end the Korean War.<sup>39</sup> China supports the first two options because they contribute to Beijing’s goal of rolling back U.S. military presence in Asia. China supports the latter option—which Beijing calls a “peace mechanism” or a “peace regime”—because it would help undermine the rationale and legal basis for continuing to station U.S. troops in South Korea.<sup>40</sup>

### **South Korea’s Role in Decreased Tensions on the Peninsula**

In 2018, relations between South and North Korea warmed considerably. In a display of unity at the 2018 Olympic Winter Games in Pyeongchang, South Korea, both countries marched under one flag at the opening ceremony and competed together as a unified team in one event.<sup>41</sup> On April 27, 2018, South Korean President Moon Jae-in hosted Chairman Kim for a summit in Panmunjom, a village located along the demilitarized zone between the two Koreas.<sup>42</sup> At the summit, Kim and Moon signed a three-page agreement dubbed the “Panmunjom Declaration,” in which both sides affirmed the “common goal of realizing, through complete denuclearization, a nuclear-free Korean Peninsula.”<sup>43</sup> Building on this momentum, Chairman Kim hosted President Moon for a second inter-Korean summit, this time held in Pyongyang in late September. During the summit, the two leaders produced a second joint statement, titled the “Pyongyang Joint Declaration of September 2018,” which reaffirmed the Panmunjom Declaration’s commitment to the denuclearization of the Korean peninsula and agreed to additional measures to deepen inter-Korean economic, public health, and environmental cooperation; reduce cross-border military tensions; and expand family reunions and cultural exchanges.<sup>44</sup>

\*Then Chinese Foreign Minister Wang Yi first proposed the “freeze for freeze” proposal in March 2017. The plan is also referred to using variations on the term, including “dual suspension,” “suspension for suspension,” “dual freeze,” and “double suspension.” Then State Councilor Wang defined the plan, saying, “As a first step, the Democratic People’s Republic of Korea (DPRK) may suspend its nuclear and missile activities in exchange for the suspension of large-scale U.S.-Republic of Korea (ROK) military exercises.” U.S. officials have previously rejected the “freeze for freeze” plan on the basis that it equated legitimate allied activities with provocative and unlawful North Korean actions. *Xinhua*, “China Proposes ‘Double Suspension’ to Defuse Korean Peninsula Crisis,” March 8, 2017; United States Mission to the United Nations, *Remarks at an Emergency UN Security Council Briefing on North Korea*, September 4, 2017. <https://usun.state.gov/remarks/7953>; Tarun Chhabra, “A Slushy ‘Freeze-for-Freeze’: The Deal China and North Korea Always Wanted,” *Brookings Institution*, June 12, 2018.

### *China Tries to Shape the Negotiating Process*

China has taken different—and sometimes contradictory—approaches to North Korea’s nuclear and missile programs over the years. Throughout 2016 and 2017, as Chairman Kim conducted nuclear and missile tests at a rapid pace, Beijing sought to deflect U.S. calls to do more to rein in North Korea by arguing the problem was fundamentally a bilateral dispute between the United States and North Korea, who needed to resolve it between themselves.<sup>45</sup> As Lu Kang, spokesperson for China’s Ministry of Foreign Affairs, said in December 2017, “We hope to see that through direct dialogue and engagement, the United States and North Korea will build mutual trust and create the necessary conditions for eventual settlement of the nuclear issue on the peninsula.”<sup>46</sup>

However, once North Korea began its campaign of diplomatic outreach, Chinese officials started to emphasize their role on the Korean Peninsula. As China’s Ministry of Foreign Affairs summarized President Xi’s comments to Secretary of State Pompeo, “China is willing to continue to play an active and constructive role, and work with all parties concerned including the U.S. to promote the process of the political settlement of the Korean Peninsula issue.”<sup>47</sup> *Global Times* made a more strident argument, saying, “The peninsula situation has multiple stakeholders. Expecting one stakeholder dominating the denuclearization process will cause development in a wrong direction.”<sup>48</sup> These sentiments channel Beijing’s concerns about being isolated in the process.

Going forward, China will likely continue to try to influence the negotiating process. Diplomats from the United States, North Korea, South Korea, and China have mostly focused on building up channels of communication, leaving many of the specifics to be hashed out later below the head-of-state level. One major issue will be the negotiating format for the remainder of the process and whether at some point North Korea’s series of bilateral meetings with the United States, South Korea, and China—and potentially later with Russia and Japan—will formally expand into a multilateral process.

**Crafting an Agreement:** China will seek an active role in trying to shape the terms of any final agreement and build consensus with the other parties regarding how to expand on and implement the agreement between President Trump and Chairman Kim to “work toward complete denuclearization of the Korean Peninsula.”<sup>49</sup> China says it supports ending North Korea’s nuclear weapons program, but its actions demonstrate that denuclearization is not Beijing’s first concern. At the same time, China seeks a deal that goes further to include scaling back or ending the U.S.-South Korea alliance and, eventually, removing U.S. forces from the Peninsula.<sup>50</sup> Alternatively, if the parties cannot agree to verifiably ending North Korea’s nuclear and long-range missile programs, China could pursue an agreement that avoids conflict but sacrifices the goal of ending Pyongyang’s nuclear program. Beijing could try to loosen the verification and enforcement standards to allow Pyongyang to retain a latent program in some form, in effect accepting North Korea as a nuclear power.<sup>51</sup>

By contrast, U.S. officials have set the goal of “final, fully verified denuclearization” to end North Korea’s nuclear weapons program, sometimes describing that standard as a precondition for a deal rather than a goal for a deal.\* U.S. officials have at times broadened the scope of denuclearization to full disarmament that covers all weapons of mass destruction (WMD), including chemical and biological programs.<sup>52</sup>

**Timing and Sequencing for Implementation:** Beyond the negotiating terms and format, China’s views about the timeline and sequencing for an agreement will impact whether a comprehensive deal can be reached and successfully implemented. U.S. officials have expressed a preference for speedy steps toward ending North Korea’s nuclear and long-range missile programs, with the bulk of actions from Pyongyang coming up front before sanctions relief, although recent statements suggest the potential for flexibility.<sup>53</sup> China has publicly advanced a different approach and sided with North Korea in calling for a “phased and synchronous” approach that would trade reciprocal actions from each side to carry out the agreement in steps.<sup>54</sup> China’s Ministry of Foreign Affairs paraphrased President Xi, saying, “The Korean Peninsula issue is complex and its solution must be a gradual process.”<sup>55</sup> Fu Ying, vice chair of the National People’s Congress Foreign Affairs Committee, connects the pace of implementing an agreement to the underlying technical and political issues, asking, “When the Americans propose a front-loaded denuclearization, have they thought about how to ‘front-load’ North Korea’s security concern?”<sup>56</sup>

The timeline for cutting sanctions is perhaps the most prominent process issue. Secretary of State Pompeo said in June 2018 China had assured him sanctions “will remain in place until such time as that denuclearization is, in fact, complete,” but there are already some indicators of looser enforcement.<sup>57</sup> Harmonizing the timeline and sequencing for implementing a comprehensive agreement will be a key priority for negotiators from all parties.

**Linkage with Other Issues in U.S.-China Relations:** Additionally, in the context of growing frictions with China over issues separate from the Korean Peninsula, Beijing could try to hold out its cooperation with the negotiating process in exchange for concessions on separate issues—a tactic China has employed successfully in the past.<sup>58</sup> If China approaches the process in that manner, it could hurt the prospects for success.

### **Potential Chinese Security Guarantee If Talks Fail**

The positive momentum that came out of the Trump-Kim Singapore summit might not be enough to propel negotiators to deliver a detailed agreement and implementation plan for the goal identified in the joint statement of “complete denuclearization of the Korean Peninsula.”<sup>59</sup> Since the Trump-Kim summit, North Korea

\*Trump Administration officials had previously used the phrase “complete, verifiable, irreversible denuclearization” or CVID. Heather Nauert, *Secretary Pompeo’s Travel to Kuala Lumpur, Singapore, and Jakarta*, July 30, 2018. <https://www.state.gov/r/pa/prs/ps/2018/07/284694.htm>; CBS News, “Transcript: Secretary of State Mike Pompeo on ‘Face the Nation,’” May 13, 2018; Joshua Keating, “CVID Is the Most Important Acronym of the Trump-Kim Talks. No One Knows What It Means,” *Slate*, June 11, 2018; U.S. Department of State, *Department Press Briefing*, May 3, 2018; Victor Cha, *The Impossible State: North Korea Past and Future*, Ecco, 2012, 247–315.

has taken some actions meant to signal good faith, including repatriating a number of remains that might be U.S. servicemembers killed during the Korean War and starting to dismantle a missile testing stand.<sup>60</sup> Pyongyang's initial actions, however, have conspicuously avoided any irreversible moves toward denuclearization.<sup>61</sup> In inter-Korean talks, North and South Korean officials have discussed building economic links across their border and signing a peace treaty to officially end the Korean War.<sup>62</sup> Overall, progress in U.S.-North Korea talks related to nuclear and missile programs have slowed amid recriminations from Pyongyang toward Washington.<sup>63</sup> Meanwhile, official exchanges between China and North Korea have continued, while China appears to have eased off sanctions enforcement, despite its promises to keep sanctions intact until North Korea gets rid of its nuclear weapons.<sup>64</sup> Official statistics are unreliable, but North Korean workers have returned to jobs in northeast China, economic activity and tourism have picked up in border towns, flights in both directions have resumed, and the two countries have conducted high-profile official exchanges to discuss economic development.<sup>65</sup>

If talks break down, the situation could return to the cycle of threats and provocations from North Korea and responses from the United States and its allies that drove tensions in 2017 and early 2018.<sup>66</sup> If tensions return, one major variable affecting the outcome will be the degree to which China continues to provide tacit or explicit security guarantees for North Korea. Determining whether any such guarantees exist, their relation to the provisions of the bilateral treaty, their terms, and whether North Korea accepts them will pose a major challenge for U.S. intelligence officials and policymakers. Given that Chairman Kim announced in November 2017 that North Korea's nuclear arsenal was complete, Pyongyang could theoretically implement a nuclear and missile test freeze but not relinquish its existing arsenal, and that would increase the likelihood that China would continue to back North Korea's security.<sup>67</sup> Beijing could argue that since Chairman Kim is no longer engaging in provocative action by testing, "denuclearization" is proceeding in some form.<sup>68</sup>

### **China's Role in North Korea Contingencies**

Despite the ongoing diplomatic process and China's desire to maintain stability and avoid war in North Korea, contingencies Beijing would like to avoid could still occur.\* Therefore, Beijing is preparing for a range of possibilities, from maintaining the status quo to preparing for conflict.<sup>69</sup> This section explains China's interests in contingencies in North Korea. Those interests include managing refugee flows and maintaining border control, securing WMD—including nuclear, biological, and chemical weapons—as well as conventional weapons, and ensuring China's continued geopolitical influence on the Korean Peninsula.<sup>70</sup>

\* For more about how Chinese leaders think about managing contingencies, crisis control, and war control, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 3, "Hotspots along China's Maritime Periphery," in *2017 Annual Report to Congress*, November 2017, 239–266.

## *Refugees and Border Control*

There are a range of contingencies that could result in refugees massing on China's border with North Korea, which Beijing fears could increase social instability in northeast China.\*† The scale of the influx would likely shape the speed and scope of China's reaction.<sup>71</sup> The number of North Koreans flocking toward the border would depend on the specific circumstances of a crisis.‡ For example, a collapse of the Kim regime to the point where the government could no longer provide basic services or maintain order, or the dissolution of North Korea's military, the Korean People's Army (KPA), could result in numerous refugee flows streaming into China. Conversely, more localized unrest might only produce a trickle of fleeing refugees.<sup>72</sup> China's long border with North Korea would present some operational challenges that Chinese policymakers would need to address during a contingency involving a large-scale flow of refugees. Assessing the magnitude of those challenges requires understanding the specific geographic, operational, humanitarian, and social issues Beijing would have to manage following a crisis.

### *Geography of the Border*

China shares an 840-mile-long border with North Korea—a length equivalent to the straight-line distance between New York City and Jacksonville, Florida.<sup>73</sup> By contrast, North Korea's border with South Korea is 147 miles long.<sup>74</sup> Two Chinese provinces—Liaoning and Jilin—abut the mountainous border region, which is demarcated by two rivers, the Yalu and the Tumen (see Figure 1). The Yalu is both deeper and wider than the Tumen, making the Yalu more difficult to cross, at least until the river freezes over in winter.<sup>75</sup> However, the Yalu's depth and width do not make the river impossible to cross, and on-the-ground news reports suggest border security guards are a bigger obstacle than the river.<sup>76</sup> By contrast, the Tu-

\*A range of crises in North Korea could generate refugee flows. This section uses the general term "contingencies" to refer to a range of potential scenarios that would cause crisis and instability in North Korea. The term is purposely vague because events could unfold in a number of ways—too many to attempt to predict—but it includes scenarios such as regime collapse, a coup to remove Kim Jong-un, preventive war initiated by an outside power, or a war sparked by North Korean aggression. For an example of Chinese thinking about potential scenarios in North Korea, see Yao Yunzhu, "Three Possible Scenarios for the Korean Peninsula Situation," *World Knowledge*, December 16, 2017, 18–19. Translation.

†The Chinese government takes a hardline approach toward North Korean refugees. China's rationale appears designed to deter North Koreans from attempting to cross the border. According to the U.S. Department of State's *Country Report on Human Rights Practices for 2017*, China categorizes fleeing North Koreans as "illegal economic migrants" rather than refugees, and forcibly returns many to North Korea. The Chinese government also declines to provide refugees with legal alternatives to repatriation and prevents the UN High Commissioner for Refugees access to North Koreans who make it over the border. In some cases, Chinese authorities arrest and prosecute Chinese citizens who assist North Korean refugees or facilitate illegal border crossings. The State Department also notes reports that North Korean agents work clandestinely within China to forcibly repatriate North Korean refugees. *Global Times*, "North Koreans Entering into China Illegally Not Refugees: Spokesman," July 24, 2017. <http://www.globaltimes.cn/content/1057848.shtml>; U.S. Department of State, *China (Includes Tibet, Hong Kong, and Macau) 2017 Human Rights Report*, 2017, 41–42, 44–45.

‡Drew Thompson and Carla Freeman have offered three potential scenarios for North Korean refugee flows into China: (1) a "trickle to a flood" where worsening conditions accelerate from a small number of refugees to an outpouring, (2) a "Mariel outpouring" where the North purposely allows or pushes North Koreans to flee into China to relieve pressure on the regime, (3) and a "catastrophic collapse" where state failure in North Korea results in a flood of refugees over the border trying to escape violence and deprivation. Drew Thompson and Carla Freeman, "Flood across the Border: China's Disaster Relief Operations and Potential Response to a North Korean Refugee Crisis," *U.S.-Korea Institute at SAIS/The Nixon Center*, April 1, 2009, 17–19.

men River is more easily traversed. It narrows down to points where it is 39 feet wide and less than three feet deep; the long winter in northeastern China means the river is also frozen over for months at a time between November and April.<sup>77</sup> Fences along some parts of the border, which China reportedly began constructing in 2003, would also present obstacles for refugees in transit.<sup>78</sup> Fifteen official crossing points exist along the boundary.<sup>79</sup>

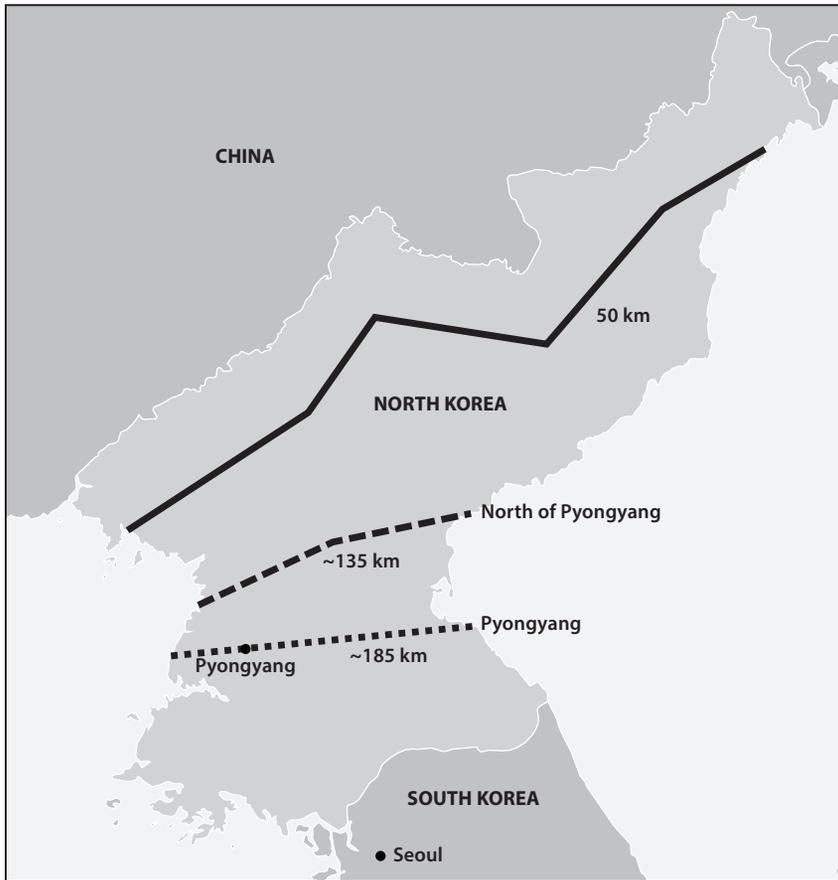
**Figure 1: China's Border with North Korea**



Source: Adapted from Sue-Lin Wong, "The Cold Frontier," *Reuters*, April 12, 2018.

### *A Potential Buffer Zone in North Korea to Control Refugees*

A recurring assessment of Chinese planning for a crisis in North Korea, especially one that includes large numbers of North Koreans attempting to flee into China, is that Beijing would likely act quickly to try to exert control over the situation.<sup>80</sup> One primary means of doing so would be for Chinese forces to intervene and seize territory to establish a buffer zone inside North Korean territory.<sup>81</sup> If successful, China could manage to contain many of the problems refugees would create within North Korea rather than allowing them to spill over into China.<sup>82</sup> Chinese forces could set up refugee camps inside the buffer zone and demobilize any North Korean forces within that zone rather than attempting to handle them at the border, although it is unclear whether KPA forces would cooperate.<sup>83</sup> Conservative estimates put the size of the buffer zone at 31–62 miles (50–100 kilometers) into North Korea, at a minimum (see Figure 2).<sup>84</sup>

**Figure 2: Potential Chinese Buffer Zones in North Korea**

*Note:* These demarcation lines show potential Chinese buffer zones in North Korea. The top line is 31 miles (50 km) from the Sino-North Korean border, the middle line runs north of Pyongyang approximately 84 miles (135 km) from the border, and the bottom line splits the major North Korean cities of Pyongyang and Wonsan about 115 miles (185 km) from the border.

*Source:* Adapted from Bruce W. Bennett, "Preparing for the Possibility of a North Korean Collapse," *RAND Corporation*, 2013, 275.

### *Maintaining Social Stability in Northeast China*

Chinese leaders place a premium on domestic social stability.<sup>85</sup> As such, Chinese policymakers worry about the impact a flood of North Korean refugees could have on border provinces and northeastern China overall.<sup>86</sup> An influx of North Korean people into China could trigger upheaval in a number of ways.

### *Providing Humanitarian Aid and Disarmament*

Significant refugee populations streaming across the Yalu and Tumen rivers would stress the capacity of local governments to address refugee humanitarian needs—including supplying food, water, shelter, and healthcare, and later providing employment and education.<sup>87</sup> The burden of taking care of the North Korean refugees would be immense and could strain the capacity of the Chinese

state.<sup>88</sup> As Bruce Bennett, senior defense researcher at the RAND Corporation, notes, “China would be challenged to assemble the building materials, bedding, and related supplies for refugee camps; the food and medicine; and the services, such as medical care, that the refugees would require.”<sup>89</sup> Providing proper treatment for North Koreans with infectious diseases—including tuberculosis and viral hepatitis—would be critical, lest they contribute to a wider outbreak that spreads beyond the immediate border region.<sup>90</sup> Although the affected areas could expect to receive supplemental assistance from the national government in Beijing, North Korean refugees would arrive in areas already struggling economically. Starting in the 1990s, China’s northeast became the country’s “rust belt” as the negative effects of shuttered heavy industries cascaded through the economy, and the region continues to struggle.<sup>91</sup>

### *Ensuring Ethnic Balance and Territorial Integrity*

Chinese leaders also want to safeguard the ethnic balance in northeastern China.<sup>92</sup> About two million Chinese citizens throughout the whole country are ethnically Korean, making them the 15th-largest of 56 officially recognized ethnic groups in China.<sup>93</sup> About half of those ethnic-Korean Chinese live in Jilin Province, with a high concentration in the Yanbian Korean Autonomous Prefecture.<sup>94</sup> A large migration of North Koreans would alter the ethnic makeup of the border provinces. For Chinese leaders, the importance of the ethnic balance matters for reasons beyond ensuring majority-Han influence.<sup>95</sup> Demographic changes could tip the scales in territorial disputes with the Koreans. For years, China and South Korea have waged a low-level battle over the ethnic composition of historical dynasties that controlled parts of Manchuria, including parts of what are today China and North Korea.<sup>96</sup> Both countries worry about revanchist claims to territory by the other state, and they fear a North Korean border that suddenly becomes fluid or even nonexistent could change the border demarcation.

### *Securing Weapons of Mass Destruction*

A major contingency in North Korea could leave WMD and associated sites unsecured if the Kim regime collapsed. China could try to secure North Korea’s weapons unilaterally or work with the United States and South Korea to secure those sites and the weapons stored there.<sup>97</sup> These locations include North Korea’s nuclear test site, the Punggye-ri Nuclear Test Facility, which is located only 56 miles from the Chinese border.\* Punggye-ri is close enough to China that residents in the city of Yanji in northeastern China felt the tremors from North Korea’s sixth and largest nuclear test in September 2017.<sup>98</sup> The size of the blast sparked concerns among Chinese scientists that the test site might be compromised and another nuclear test could cause the mountain to collapse, releasing nuclear

\*North Korea appeared to demolish the Punggye-ri Nuclear Test Facility in late May 2018, prior to President Trump’s June 12 summit with Chairman Kim. North Korea invited journalists to witness the demolition and experts assessed the explosions had done damage to the site. However, questions remain about the totality and permanence of the demolition, and stringent verification measures would be required to make firm conclusions. Siegfried Hecker, “Why Did Kim Jong Un Blow up His Nuclear Test Site?” *Washington Post*, May 30, 2018; Nuclear Threat Initiative, “Punggye-ri Nuclear Test Facility,” December 12, 2017; Yun Sun, “China’s Potential Actions in a North Korean Nuclear Contingency,” *Korea Economic Institute of America*, May 30, 2017.

radiation into the air that could drift into China.<sup>99</sup> An unattributed commentary on *China Military Online*, a website sponsored by the People's Liberation Army (PLA), called North Korea "very insidious" for choosing Punggye-ri as its nuclear test site, noting, "The place is the farthest point from Pyongyang within the DPRK territory, but near the border of China and DPRK." It went on to detail China's "bottom line" that if "any chance nuclear leakage or pollution incidents happen ... the Chinese PLA will launch attacks [on] DPRK nuclear facilities on its own."<sup>100</sup> The potential for nuclear waste or fallout affecting China has become a prominent theme among Chinese commentators advocating a more hawkish approach to North Korea and stepped-up contingency planning.<sup>101</sup> Another nearby site is the Yongbyon Nuclear Research Center, which sits about 68 miles from the Chinese border.<sup>102</sup>

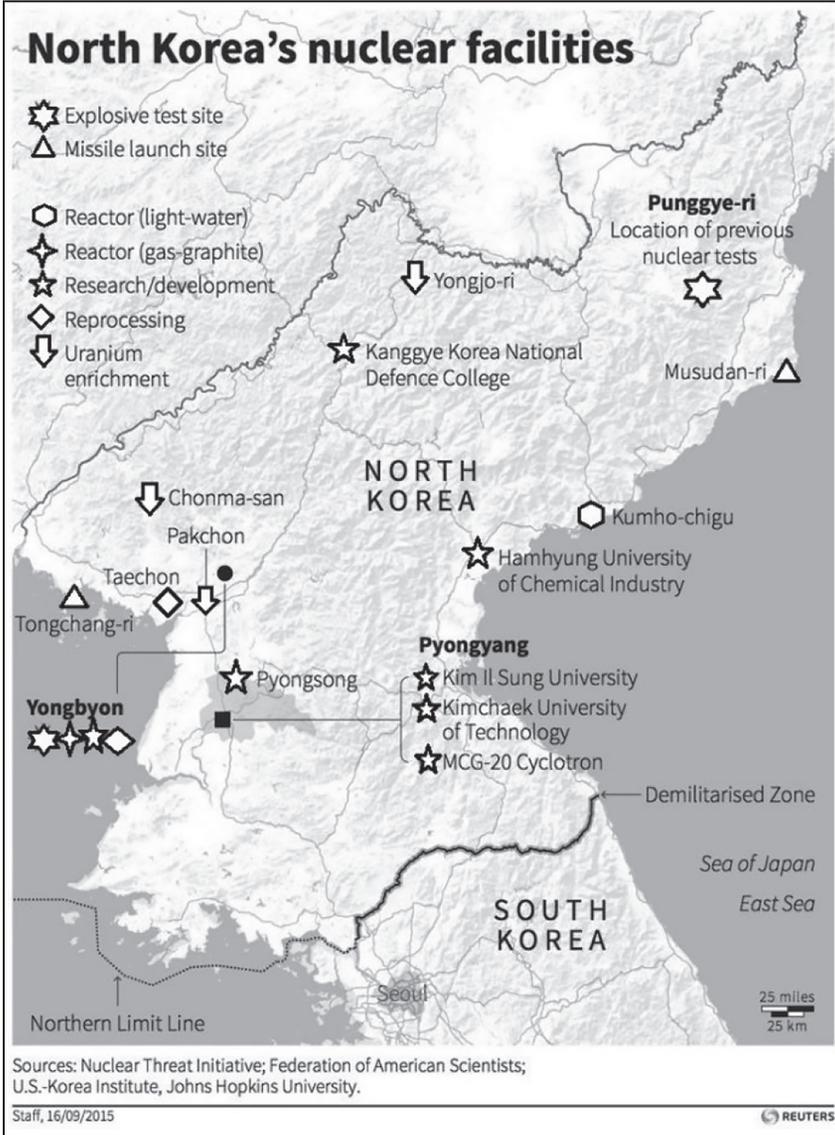
Oriana Skylar Mastro, assistant professor of security studies at Georgetown University, used information from the Nuclear Threat Initiative to calculate that if Chinese forces moved 31 miles across the border into North Korea, the PLA could seize approximately 44 percent of the North's priority nuclear sites and 22 percent of its priority missile sites.<sup>103</sup> If the PLA moved 62 miles into North Korean territory, Chinese forces would control all of the priority nuclear sites and two-thirds of its missile sites.<sup>104</sup> The task of securing nuclear capabilities would go beyond reactor sites, however, to include securing North Korean warheads and delivery vehicles.<sup>105</sup> That mission would pose a challenge because many of the devices are deployed on mobile launchers around the country and stored in a network of tunnels.<sup>106</sup>

Securing North Korea's WMD would also require wresting control over Pyongyang's chemical and biological weapons stockpiles.\* In total, about 200 North Korean WMD sites exist and would need to be secured if the Kim regime collapsed or was ousted, although China would not necessarily have to secure the sites alone (see Figure 3).<sup>107</sup> Beyond the WMD capabilities, China would likely try to assert control over some of North Korea's conventional weapons, including its conventional ballistic missiles and other highly capable systems.<sup>108</sup> The latter mission would gain increased importance if holdouts from the KPA tried to resist Chinese incursions to secure weapons sites.<sup>109</sup>

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\*A report from the South Korean Ministry of National Defense assessed that North Korea possesses 2,500–5,000 tons of chemical weapons, including the VX nerve agent used to assassinate Kim Jong-un's half-brother, Kim Jong-nam, in the Kuala Lumpur airport in February 2017. North Korea's biological weapons program likely has the capability to produce anthrax and a range of other pathogens. Nuclear Threat Initiative, "North Korea: Chemical Weapons," December 2017; Nuclear Threat Initiative, "North Korea: Biological Weapons," December 2015.

**Figure 3: Locations of Known North Korean Nuclear Test, Research, and Main Missile Launch Sites**



*Note:* This map shows North Korea's nuclear test and research sites and its main missile launch sites. In a contingency, China—in addition to the United States and South Korea—would try to secure these sites as well as North Korea's chemical and biological weapons stockpiles.

*Source:* Adapted from Armin Rosen, "A North Korean Hydrogen-Bomb Test Would Be a Game-Changer," *Business Insider*, January 6, 2016.

### ***Ensuring Influence over the Future Disposition of the Korean Peninsula***

Upheaval in North Korea would throw the future status of the Peninsula into question. As noted above, Beijing values North Korea's role as a buffer state and would seek to retain that buffer or otherwise ensure that a Korean Peninsula unified under Seoul's control would not threaten China.<sup>110</sup> Chinese leaders could decide to send troops into North Korea to take and hold territory as a strategy to gain influence over the future political orientation of the Peninsula, or decide to expand its goals to include shaping how Korea is governed following an operation initiated with narrower aims, such as managing refugee flows or controlling WMD.<sup>111</sup> Having troops on the ground would give Chinese leaders something to trade away in long-term status negotiations in return for the United States and South Korea acceding to some Chinese priorities.<sup>112</sup> For example, Beijing might propose the removal of U.S. troops from the Peninsula as a condition for allowing full unification.<sup>113</sup> Alternatively, China could annex all or portions of North Korean territory into China or install a puppet regime in North Korea that could continue to play the role of buffer state. For its part, South Korea could also calculate that holding territory will give it more say over who rules in North Korea, prompting the military from each nation to race to seize territory—potentially resulting in a clash between China on one side and South Korea and the United States on the other.<sup>114</sup>

### **Chinese Preparations for North Korea Contingencies**

China places a high priority on being able to respond effectively to contingencies on its borders, including scenarios that could unfold in North Korea.<sup>115</sup> Therefore, Beijing has worked to prepare a whole-of-government response commensurate with the scale and importance of a North Korea scenario.<sup>116</sup> Those preparations include roles for China's military, the PLA; China's national paramilitary police force, the People's Armed Police; and provincial and local authorities in border regions.<sup>117</sup> This section details the planning and resources those entities have devoted to getting ready for upheaval in North Korea.

One additional factor that will impact China's military planning for North Korea contingencies is the role of the KPA. Cooperation between the PLA and KPA has fallen off since the 1980s.<sup>118</sup> Based on a near-complete lack of mentions in public sources—such as Chinese military documents, biennial defense white papers, and military media coverage—it appears the two militaries have not conducted joint training or exercises for decades. Instead, military-to-military contact appears quite limited and mostly takes place through political commissars.<sup>119</sup> During a contingency, there is little reason to believe the two militaries would be in full cooperation or have entirely the same goals and objectives in the event of a crisis.<sup>120</sup> They might even end up in direct opposition in certain scenarios. A breakdown in KPA command and control during a crisis could result in the force fracturing, with some units fighting on while others cooperate or surrender. Whether KPA forces will cooperate with the PLA during a contingency or instead oppose Chinese intervention will constitute a major factor in Beijing's risk assessment for a contingency.

## ***People's Liberation Army***

### *Force Structure and Contingency Planning*

The PLA Army, Navy, Air Force, Rocket Force, and Strategic Support Force would all play a role in responding to a contingency emanating from North Korea.\* The PLA has officially been in charge of border defense duties along the boundary with North Korea since the mid-2000s.<sup>121</sup> PLA forces assigned to the Northern Theater Command would take the lead in responding to a crisis, with forces from other theater commands tasked to quickly mobilize and reinforce if required.<sup>122</sup> Three PLA “group armies”—each comprising 45,000–60,000 troops—are in the Northern Theater Command.<sup>123</sup> These group armies include artillery, air defense, special operations, army aviation, and combined arms brigades.<sup>124</sup> The PLA has extensive plans for employing those forces in a crisis.<sup>125</sup> Analyst interviews with PLA officers and Chinese government-connected academics have confirmed the existence of Chinese contingency plans for North Korea designed to carry out a variety of missions.<sup>126</sup> These include humanitarian assistance and disaster relief, peacekeeping, securing loose WMD, and environmental cleanup after a nuclear incident.<sup>127</sup> In May 2014, a document purportedly from the PLA that detailed military plans for responding to a contingency on the border leaked to Japanese news sources, although an official spokesperson for China’s Ministry of Foreign Affairs denied its authenticity.<sup>128</sup>

### *Reported Mobilization and Exercises*

The PLA’s preparations for a North Korea contingency appear to have accelerated during 2017, although fragmentary reporting on such preparations is very difficult to verify independently due to strict media censorship in the area.<sup>129</sup> In addition, the PLA conducted several military exercises to develop operational skills relevant to a future North Korea contingency. These include naval exercises in the Yellow Sea in August of 2017, cold-weather combat drills in November 2017, Sino-Russian missile defense exercises in December 2017, and naval exercises in the Bohai Sea in December 2017.<sup>130</sup> Those events practiced broadly applicable military skills, and Beijing claimed they were not aimed at North Korea.<sup>131</sup> The official Chinese stance has been to play down its preparations for a North Korea contingency, presumably to avoid signaling a lack of support for its ostensible North Korean ally. In July 2017, Ministry of Foreign Affairs spokesperson Lu Kang dismissed reports about preparations for war and said the PLA “has maintained normal combat readiness and training status along the Chinese-North Korean border.”<sup>132</sup>

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\**The Science of Military Strategy* discusses “the wars China may face in the future,” including the possibility of “small- to medium-scale, low- to medium-intensity self-defense and counter-attack operation[s],” one type of which are “border blockade and control operational activities triggered by the chaos of war in neighboring countries due to unstable political situations.” Shou Xiaosong, ed., *The Science of Military Strategy*, Military Science Press, 2013, 126–127. Translation; U.S.-China Economic and Security Review Commission, *Roundtable on China’s Role in North Korea Contingencies*, written testimony of Oriana Skylar Mastro, April 12, 2018, 2.

**Figure 4: Chinese Military and People's Armed Police Forces near the Border with North Korea**



Source: Adapted from James Griffiths and Serenitie Wang, "Is China Reinforcing Its Border with North Korea?" *CNN*, July 26, 2017; Jamestown Foundation.

### ***People's Armed Police***

Following a structural reorganization made in late 2017, People's Armed Police forces are now commanded solely by China's Central Military Commission (CMC) rather than under the dual command authority of the Ministry of Public Security and CMC. This means the CMC has full command over People's Armed Police forces in the case of a border contingency, which it would likely assign directly to the Northern Theater Command.<sup>133</sup> The People's Armed Police has long had a significant presence near the China-North Korea border, including at least four border defense regiments. One border defense regiment is located near Dandong in Liaoning Province; two near Tumen, Jilin Province; and one near Linjiang, Jilin Province.<sup>134</sup> Dandong and Tumen each have major border crossings the People's Armed Police units would secure.<sup>135</sup> In total, People's Armed Police forces number about 50,000 strong in China's northeastern provinces, representing a small but important fraction of the 660,000-strong force.<sup>136</sup>

### ***Provincial and Local Government Preparations***

Provincial and local authorities are also preparing for a North Korea contingency, getting ready to tackle issues ranging from dealing with refugees to managing nuclear fallout. Since the mid-2000s, the PLA has coordinated with provincial and local governments near the border on "border defense building" activities, which include fostering close ties between communities and military units stationed in the region.<sup>137</sup> According to news reports quoting local government notices, authorities in Jilin Province recently started reinforcing and building out a network of bunkers and underground command posts that can survive air, nuclear, or chemical attacks.<sup>138</sup> A leaked Chinese government document revealed Jilin provincial

authorities' planning for construction of a series of refugee camps along the border.<sup>139</sup> Other reports show the formation of local border protection units, classes taught by Party cadres on self-defense, and installation of hundreds of cameras as part of a "second-generation border surveillance system."<sup>140</sup> Additional reports say China also employs drones and patrol cars to monitor the border.<sup>141</sup>

Authorities are also taking precautions to deal with potential fallout from North Korean nuclear tests. After North Korea's sixth nuclear test in September 2017, Ministry of Environmental Protection officials conducted emergency tests to measure radiation levels (which they found to be normal).<sup>142</sup> In December 2017, a full-page article in the state-run *Jilin Daily* relayed advice from the province's civil air defense office on how to respond to a nuclear explosion or radioactive fallout.<sup>143</sup>

### **U.S.-China Contingency Talks**

The United States, China, and South Korea would all likely undertake military responses to most contingencies in North Korea.<sup>144</sup> Indeed, military action by one of those states could be the cause of a contingency in North Korea.<sup>145</sup> That reality creates a compelling rationale for contingency talks between China and the United States to avoid major miscalculations or misperceptions that could escalate turmoil in North Korea into a major conflict between the world's two most powerful states.<sup>146</sup> As Yun Sun of the Stimson Center argues, "The U.S. and China both have an intrinsic interest in avoiding a conflict and therefore should engage each other to achieve better understanding of and better coordination with each other. In this sense, the contingency dialogue between the U.S. and China is not only necessary but indispensable for the peace and stability of the region."<sup>147</sup> Historically, Chinese leaders have been loath to participate in talks about contingency planning for unrest on the Peninsula.<sup>148</sup> Beijing has been reluctant to be seen as actively planning for the demise of its treaty ally.<sup>149</sup>

Some U.S. discussions with Chinese interlocutors have taken place. Formats have included both official talks as well as nonofficial Track 1.5 (government officials and outside experts meeting in their unofficial capacities) and Track 2 (unofficial meetings of nongovernment experts) discussions.<sup>150</sup> However, those cautious discussions are not yet believed to include planners or commands involved in the actual plans of either side (e.g., U.S. Forces Korea, U.S. Indo-Pacific Command, or the PLA's Northern Theater Command), and likely did not reach the depth and breadth of dialogue that would be needed to effectively plan and coordinate a response for potential unrest or conflict in North Korea.<sup>151</sup>

### **Recent U.S.-China Military-to-Military Consultations**

Since 2017, Beijing has participated in military-to-military talks with U.S. officials that reportedly included discussions of general potential scenarios on the Korean Peninsula.\* In August 2017, Chairman of the Joint Chiefs of Staff General Joseph Dunford met in Bei-

\*Former U.S. officials and experts previously advocated for such talks with China on North Korea contingency planning. See, for example, Mike Mullen, Sam Nunn, and Adam Mount, "A Sharper Choice on North Korea: Engaging China for a Stable Northeast Asia," *Council on Foreign Relations*, September 2016.

jing with the man who was then his Chinese counterpart, PLA Army General Fang Fenghui—who was previously a member of the CMC and chief of staff of the CMC Joint Staff Department—for talks that included the Korean Peninsula as a topic.\* General Dunford then traveled to Shenyang, the capital of Liaoning Province in northeastern China, where he observed a Chinese infantry unit demonstrating tactical combined arms maneuvers.<sup>152</sup> The demonstration took place in the Northern Theater Command's Haicheng Camp, which sits about 120 miles from the North Korean border.<sup>153</sup> Afterward, General Dunford traveled back to Beijing for a meeting with President Xi.<sup>154</sup> Those meetings resulted in a framework agreement setting up a bilateral joint staff dialogue mechanism meant to increase operational communication between the two militaries' highest-level national joint staffs, aimed at managing crises, preventing miscalculations, and reducing the risk of misunderstandings.<sup>155</sup> Neither of the staffs involved in this dialogue would be directly involved in the planning of force employment for a Korea contingency, but both would give guidance for the employment of force and advise their national command authority on major strategic decisions. The first meeting for that group took place in November 2017 in Washington. Lieutenant General Richard Clarke (the Joint Chiefs' director for strategic plans and policy) and Major General Shao Yuanming (deputy chief of the CMC Joint Staff Department) led the delegations.<sup>156</sup> Korean contingencies are likely to have been one agenda item in that dialogue mechanism. Those meetings constitute a start, but are still only a tentative initial step considering the potential for a crisis on the Peninsula and the likelihood of both sides committing large and complex force deployments to the crisis.

In addition to talking to China behind closed doors, U.S. policymakers have begun to publicly articulate a policy for how the United States would conduct itself during a contingency. Then Secretary of State Rex Tillerson made public statements in December 2017 where he offered details about talks with China, saying,

*We do not seek a reason to send our own military forces north of the demilitarized zone.... We have had conversations that if something happened [on the Korean Peninsula] and we had to go across a line, we have given the Chinese assurances we would go back and retreat back to the south of the 38th parallel when whatever the conditions that caused that to happen [are resolved]. That is our commitment we made to them.*<sup>157</sup>

Then Secretary Tillerson's comments constitute the most detailed public declaration of U.S. policy on the issue to date. Overall, very few details about U.S.-Chinese discussions about a North Korea contingency exist in open sources, leaving analysts to speculate on the degree of coordination the two countries could manage in a crisis.

Another unknown is the status of U.S.-China contingency talks since the current period of warming China-North Korea ties began.

\* Shortly after the visit, General Fang was purged from his post and later prosecuted for bribery. Charles Clover, "China Puts Senior General on Trial for Bribery," *Financial Times*, January 9, 2018; Bonnie S. Glaser and Collin Norkiewicz, "North Korea and Trade Dominate the Agenda," *Comparative Connections* 19:2 (September 2017): 21–34; Jim Garamone, "Dunford Stresses Diplomacy, Sanctions for North Korea in Talks with Chinese," *DoD News*, August 16, 2017.

Beijing's reengagement with Pyongyang could make Chinese leaders more hesitant to be seen conducting even superficial high-level or preliminary talks about North Korea contingencies. Chinese leaders might fear that holding planning discussions with the United States could undermine North Korea's trust in their treaty with China.

### **Implications for the United States**

The situation in North Korea is unsettled and could develop in three general directions: (1) successful negotiations that produce an agreement to resolve the crisis over Pyongyang's nuclear and missile programs; (2) a breakdown in talks that results in maintaining the status quo in North Korea; or (3) failed negotiations followed by instability in North Korea, whether due to a war or to pressure that causes Pyongyang to collapse. Regardless of the scenario, China's role will have important implications for the United States.

If talks fail but the status quo continues, China's approach to sanctions on North Korea will be a critical factor in maintaining pressure on Pyongyang. Whether Beijing chooses to return to the tighter sanctions enforcement that likely contributed to bringing Chairman Kim to the negotiating table will have a major influence on the overall success of a renewed "maximum pressure" campaign to squeeze North Korea.<sup>158</sup> If China drops sanctions or simply reverts to providing a relief valve for Chairman Kim through lackluster enforcement, U.S. policymakers could begin to consider a mix of incentives and pressure on Beijing to entice China to strengthen sanctions enforcement to support a "maximum pressure" strategy.<sup>159</sup> However, convincing Beijing to tighten sanctions has historically been a difficult task and will likely continue to be challenging in the aftermath of recent high-profile diplomacy between President Xi and Chairman Kim.<sup>160</sup>

In the case of a real contingency requiring the employment of force in North Korea, China is prepared to respond to a crisis by entering North Korea and occupying a buffer zone with or without the cooperation of the Kim regime, while also securing WMD and associated sites. During a crisis, U.S. and South Korean leaders would benefit from well-developed plans for deconfliction to avoid contact with Chinese forces while still securing allied interests.<sup>161</sup> Without functioning channels to coordinate a response, the United States, South Korea, and China would be left to conduct extremely high-risk military operations during and after a contingency. Deepening U.S.-China strategic mistrust and Seoul's longtime desire for Korean unification could raise risk levels further, potentially setting the stage for a major conflict over North Korea.<sup>162</sup> Defense Secretary James Mattis has said a war in North Korea would be "catastrophic" and "probably the worst kind of fighting in most people's lifetimes"; a wider conflict between major powers on the Peninsula would likely be even more costly.<sup>163</sup>

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# CHAPTER 4

## CHINA'S HIGH-TECH DEVELOPMENT

### SECTION 1: NEXT GENERATION CONNECTIVITY

#### Key Findings

- The Chinese government has strengthened its strategic support for the Internet of Things (IoT) (physical devices embedded with sensors that can collect data and connect to each other and the broader internet) and fifth-generation wireless technology (5G) networks. The government has laid out comprehensive industrial plans to create globally competitive firms and reduce China's dependence on foreign technology through: significant state funding for domestic firms and 5G deployment, limited market access for foreign competitors, China-specific technical standards, increased participation in global standards bodies, localization targets, and alleged cyber espionage and intellectual property theft. This state-directed approach limits market opportunities for foreign firms in China and raises concerns about the ability of U.S. and other foreign firms to compete fairly both in China's domestic market and abroad.
- 5G networks are expected to quicken data speeds by 100 times, support up to 100 times more IoT devices, and provide near-instant universal coverage and availability. U.S. and Chinese companies are engaged in a fierce competition to secure first mover advantage and benefit from the trillions in economic benefits 5G and subsequent technologies are expected to create.
- IoT devices collect enormous amounts of user information; when aggregated and combined with greater computing power and massive amounts of publicly available information, these data can reveal information the user did not intend to share. U.S. data could be exposed through unsecure IoT devices, or when Chinese IoT products and services transfer U.S. customer data back to China, where the government retains expansive powers to access personal and corporate data.
- The Chinese government is leveraging its comparative advantage in manufacturing and state-led industrial policies to secure an edge in the IoT's wide-ranging commercial and military applications. U.S. firms and the U.S. government rely on global supply chains that in many cases are dominated by China. While not all products designed, manufactured, or assembled in China are inherently risky, the U.S. government lacks essential tools to conduct rigorous supply chain risk assessments. Federal

procurement laws and regulations are often contradictory, and are inconsistently applied.

- International 5G standards will be set by 2019, facilitating large-scale commercial deployment expected by 2020. The Chinese government is encouraging its companies to play a greater role in international 5G standards organizations to ensure they set global standards; such leadership may result in higher revenues and exports from internationally accepted intellectual property and technology and more global influence over future wireless technology and standards development.
- China's central role in manufacturing global information technology, IoT devices, and network equipment may allow the Chinese government—which exerts strong influence over its firms—opportunities to force Chinese suppliers or manufacturers to modify products to perform below expectations or fail, facilitate state or corporate espionage, or otherwise compromise the confidentiality, integrity, or availability of IoT devices or 5G network equipment.
- The lax security protections and universal connectivity of IoT devices create numerous points of vulnerability that hackers or malicious state actors can exploit to hold U.S. critical infrastructure, businesses, and individuals at risk. These types of risks will grow as IoT devices become more complex, more numerous, and embedded within existing physical structures. The size, speed, and impact of malicious cyber attacks against and using IoT devices will intensify with the deployment of 5G.

## Recommendations

The Commission recommends:

- Congress require the Office of Management and Budget's Federal Chief Information Security Officer Council to prepare an annual report to Congress to ensure supply chain vulnerabilities from China are adequately addressed. This report should collect and assess:
  - Each agency's plans for supply chain risk management and assessments;
  - Existing departmental procurement and security policies and guidance on cybersecurity, operations security, physical security, information security, and data security that may affect information and communications technology, 5G networks, and Internet of Things devices; and
  - Areas where new policies and guidance may be needed—including for specific information and communications technology, 5G networks, and Internet of Things devices, applications, or procedures—and where existing security policies and guidance can be updated to address supply chain, cyber, operations, physical, information, and data security vulnerabilities.
- Congress direct the National Telecommunications and Information Administration and Federal Communications Commission to identify (1) steps to ensure the rapid and secure deployment

of a 5G network, with a particular focus on the threat posed by equipment and services designed or manufactured in China; and (2) whether any new statutory authorities are required to ensure the security of domestic 5G networks.

## Introduction

The Chinese government is implementing a series of policies aimed at establishing China as a global innovation and technology center of next generation connectivity,\* with significant implications for U.S. competitiveness, data privacy, and national security. Building upon its success in creating globally competitive telecommunications firms, the Chinese government wants to seize leadership in next generation information technology (IT). Currently, U.S. firms such as Qualcomm, Intel, Cisco, Amazon, and Google are global leaders in next generation network development. However, China's state-directed approach is eroding U.S. dominance as Chinese regulations, foreign investment restrictions, and China-specific technical standards limit U.S. and other foreign firms' access to China, the world's second-largest economy.<sup>1</sup> Chinese companies have already secured multiple influential positions in global standards-setting fora to advance their interests. In some cases, cyber espionage and intellectual property (IP) theft weaken U.S. and other market leaders.<sup>2</sup>

The dominance of Chinese firms and China-based manufacturing in global network equipment raises serious supply chain concerns about the secure deployment of U.S. fifth-generation wireless technology (5G) networks. In addition, China is the world's largest manufacturer of Internet of Things (IoT) devices—physical devices embedded with sensors that can collect data and connect to each other and the broader internet.<sup>3</sup> The rapid increase in these largely unsecure IoT devices is creating numerous points of vulnerability for intelligence collection, cyber attacks, industrial control, or censorship. In addition, through IoT products and services, Chinese firms may be transferring data from their U.S. consumers to China, where the government retains expansive powers to collect and exploit data with little regard for privacy or ownership concerns.<sup>4</sup>

This section lays out China's industrial policies to support the IoT and 5G technologies, compares U.S. and Chinese technological leadership and market access in these industries, and analyzes the implications of these developments for U.S. competitiveness, national security, supply chains, and data privacy and security. It draws from the Commission's March 2018 hearing on China's pursuit of next generation connectivity; contracted research; consultations with government officials, academics, and industry experts; and open source research and analysis.

## Overview of China's Industrial Policy Blueprints

The Chinese government plays a leading role in setting Chinese companies' priorities and guiding China's industrial transformation. In a series of industrial plans, the Chinese government laid out strategies for transforming Chinese firms into internationally

\*Next generation connectivity refers to highly interconnected and autonomous devices and sensors enabled by reliable, near-instant communications.

competitive domestic firms, and replacing foreign technology and products with those designed and made by Chinese companies, first in the domestic market and then the global market.\*

The influential “Internet Plus” and “Made in China 2025” initiatives seek to capitalize on the rise of integrated digital technology and automation to transition China’s economy to higher-value-added manufacturing and services and transform China into a technological powerhouse.<sup>5</sup> Internet Plus seeks to leverage China’s huge online consumer market to build up the country’s domestic mobile internet, cloud computing, big data, and the IoT, and create global competitors by assisting domestic firms’ expansion abroad.<sup>6</sup>

Made in China 2025 reiterates China’s long-held indigenous innovation and import substitution goals, but is larger in scope, resources, and intergovernmental coordination than previous plans.<sup>7</sup> Next generation IT—a broad category that encompasses telecommunications, artificial intelligence (AI),<sup>†</sup> semiconductors, and the IoT—is one of the ten key sectors‡ designated for additional government support.<sup>8</sup> According to the U.S. Chamber of Commerce, Made in China 2025 “aims to leverage the power of the state to alter competitive dynamics in global markets in industries core to economic competitiveness.”<sup>9</sup>

### The Internet of Things

The rapid increase in the number, data usage, and connectivity of IoT devices is transforming every aspect of how we work, live, and fight wars. One of the core utilities of the IoT is its ability to collect and share data between devices to optimize desired outcomes (e.g., efficiency, performance, or profit) with ever greater automation. For example, IoT devices can monitor a user’s physical activity (e.g., wearable fitness trackers); automatically adjust the temperature of a residence or office based on motion, temperature, humidity, and light to conserve energy (e.g., smart thermostats); and remotely deliver products and services (e.g., smart drones) (see Table 1).<sup>10</sup> The IoT will also yield significant military technological advantages in strategic deterrent and warfare capabilities; command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR); and supply chain management.<sup>11</sup> Some examples include autonomous unmanned systems that enhance C4ISR, strike missions, and electronic warfare, and swarms of drones that enable future asymmetric battlefield capabilities.<sup>12</sup>

\*For a comprehensive analysis of China’s industrial plans and their impact on 11 sectors, see Tai Ming Cheung et al., “Planning for Innovation: Understanding China’s Plans for Technological, Energy, Industrial, and Defense Development,” *University of California Institute on Global Conflict and Cooperation* (prepared for the U.S.-China Economic and Security Review Commission), July 28, 2016.

†AI comprises machine programs that can teach themselves by harnessing high-performance computing and big data and eventually mimicking how the human brain thinks. For more information on China’s efforts to build its AI capabilities, see Tate Nurkin et al., “China’s Advanced Weapons Systems,” *Jane’s by IHS Markit* (prepared for the U.S.-China Economic and Security Review Commission), May 10, 2018, 110–124; for a comparison of U.S. and Chinese AI and high-performance computing capabilities, see 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, 507–539.

‡Made in China 2025 targets ten key sectors: (1) energy-saving and new energy vehicles, (2) next generation IT, (3) biotechnology, (4) new materials, (5) aerospace, (6) ocean engineering and high-tech ships, (7) railway, (8) robotics, (9) power equipment, and (10) agricultural machinery. State Council of the People’s Republic of China, *Made in China 2025*, May 8, 2015. Translation. [http://www.gov.cn/zhengce/content/2015-05/19/content\\_9784.htm](http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm).

Estimates on the global number of IoT devices vary: the industry association Global System for Mobile Communications Association (GSMA) estimates the number of IoT devices worldwide will increase from 7.5 billion in 2017 to 25 billion by 2025, while the global information provider IHS estimates that the number of IoT devices will increase from 27 billion in 2017 to 125 billion by 2030.<sup>13</sup> McKinsey & Company estimates the IoT will unlock \$4 trillion to \$11 trillion in global annual economic benefits by 2025 through productivity gains, cost savings, automation, and extended life of equipment and products.<sup>14</sup> Operations optimization (e.g., inventory management and condition-based maintenance) is expected to account for 63 percent of the annual economic benefits.<sup>15</sup>

**Table 1: Commercial and Military Applications of the IoT**

Sector	Examples of IoT Applications
Consumer	<ul style="list-style-type: none"> <li>• Augmented reality and virtual reality entertainment</li> <li>• Smart appliances</li> <li>• Wearable devices (e.g., fitness trackers)</li> </ul>
Buildings	<ul style="list-style-type: none"> <li>• Smart thermostats</li> <li>• Energy and water management</li> <li>• Automated networked surveillance</li> </ul>
Retail	<ul style="list-style-type: none"> <li>• Delivery drones</li> <li>• Supply chain management</li> <li>• Targeted advertisements</li> <li>• In-store customer behavior monitoring</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Self-driving cars</li> <li>• Traffic management</li> <li>• Remote vehicle performance monitoring</li> </ul>
Healthcare	<ul style="list-style-type: none"> <li>• Telemedicine</li> <li>• Robot-assisted surgery</li> <li>• Remote medical device and physiological monitoring</li> </ul>
Military	<ul style="list-style-type: none"> <li>• Unmanned systems (e.g., drone swarms)</li> <li>• Integrated missile defense systems</li> <li>• 360-degree battlefield awareness</li> <li>• Logistics and inventory management</li> </ul>

Source: Various.<sup>16</sup>

IoT devices can be linked into systems with a variety of applications: for instance, interconnected sensors in roads, smart traffic signals, and autonomous vehicles can exchange data to manage traffic in congested cities; several smart appliances in a home or building can exchange data and communicate to efficiently optimize energy usage; or integrated production, warehouse, and delivery facilities can track supplies and equipment throughout military and commercial supply chain networks in real-time to ensure security and timely delivery.<sup>17</sup> Chuck Benson, assistant director for IT in facilities services at the University of Washington, noted in his testimony before the Commission that there are six distinct characteristics of IoT systems:

(1) the large number of devices; (2) the high variability of types of devices and components within those devices; (3) the lack of language and conceptual frameworks to discuss and easily categorize and classify devices; (4) the fact that they span many organizations within an institution; and (5) the fact that the hundreds or thousands of devices embedded in the physical infrastructure around us tend to be out of sight and out of mind; (6) lack of precedence for IoT systems implementation and management.<sup>18</sup>

Advancements in components, data storage, connections, and data processing are enhancing IoT device capabilities and proliferation. Inexpensive miniaturized electronics enable the proliferation of IoT devices and the collection of greater amounts of data. Cloud computing provides additional data storage, processing, and AI capabilities the IoT can leverage for greater impact.\* The deployment of 5G networks is expected to provide greater bandwidth, speed, reliability, and, eventually, ubiquitous connectivity that is needed to support the continual exchange of data between IoT devices and systems. In addition, the low latency—the amount of time it takes data to travel from one point to another—of 5G networks will enable the transmission of real-time commands and data necessary for complex, high-value-added IoT devices such as autonomous vehicles (see “Fifth-Generation Wireless Technology” later in this section).<sup>19</sup> AI enables these devices to become “smart,” acting with ever greater automation upon the data they collect, process, and exchange.<sup>20</sup>

### ***China’s Industrial Policies***

Recognizing the IoT’s enormous economic and military potential, the Chinese government is seeking to become the global IoT leader.† To meet this objective, the Chinese government is leveraging its comparative advantage in manufacturing and strengthening its support for the IoT and its ecosystem through:

- *Comprehensive industrial plans:* The Chinese government first identified the IoT as a strategic emerging industry in 2010 and reaffirmed the IoT as a cornerstone of the Made in China 2025 and Internet Plus industrial plans in 2015.<sup>21</sup> Under the 13th Five-Year Plan (2016–2020),‡ the Chinese government prioritized IoT applications in manufacturing and automobiles and

\* Cloud computing refers to the storage, management, and processing of data and software services on remote servers rather than a local or personal computer. U.S.-China Economic and Security Review Commission, *Hearing on China’s Pursuit of Next Frontier Tech: Computing, Robotics, and Biotechnology*, written testimony of Mark Brinda, March 16, 2017, 1–2; for more information on China’s state-led development of cloud computing, see Tai Ming Cheung et al., “Planning for Innovation: Understanding China’s Plans for Technological, Energy, Industrial, and Defense Development,” *University of California Institute on Global Conflict and Cooperation* (prepared for the U.S.-China Economic and Security Review Commission), July 28, 2016, 184–192; Leigh Ann Ragland et al., “Red Cloud Rising: Cloud Computing in China,” *Defense Group, Inc.* (prepared for the U.S.-China Economic and Security Review Commission), September 5, 2013.

† For an in-depth analysis of China’s IoT and 5G development, see John Chen et al., “China’s Internet of Things,” *SOS International* (prepared for the U.S.-China Economic and Security Review Commission), October 2018.

‡ For more information on China’s 13th Five-Year Plan and its targets, see Katherine Koleski, “The 13th Five-Year Plan,” *U.S.-China Economic and Security Review Commission*, February 14, 2017.

strengthened support for enabling technologies such as 5G, AI, big data, and semiconductors.<sup>22</sup>

- *State funding for domestic firms:* Since 2011, China's central and local governments have rolled out over \$24.2 billion\* (renminbi [RMB]† 160 billion) in direct financial support for China's IoT development. In addition, national and local governments are providing significant financial support for key IoT-enabling technologies such as semiconductors and AI: \$108.8 billion (RMB 720 billion) in national and local government semiconductor funds in 2014; a \$3.2 billion (RMB 20 billion) national Advanced Manufacturing Fund in 2016; a second \$18.1 billion (RMB 120 billion) national semiconductor fund in 2018; and more than \$7.2 billion in local government funding for AI development.<sup>23</sup>
- *Localization targets:* The Chinese Academy of Engineering's *Made in China 2025 Key Area Technology Roadmap* lists targets for increasing Chinese firms' share of the domestic market for autonomous manufacturing robotics to 70 percent, smart manufacturing equipment to 60 percent, and partially autonomous vehicles to 50 percent by 2025.<sup>24</sup>
- *Cyber espionage and IP theft:* The Chinese government and firms have allegedly committed IP theft or cyber espionage against U.S. firms in high-value IoT and IoT-enabling sectors.<sup>25</sup> For example, in July 2018 a federal grand jury indicted former Apple employee Xiaolang Zhang for stealing trade secrets and IP for Apple's autonomous vehicles with the intent to transfer these proprietary documents to a Chinese competitor, Xiaopeng Motors.<sup>26</sup> Chinese firms have also targeted U.S. telecommunications and semiconductor firms.<sup>27</sup>

### ***Comparison of U.S. and Chinese Capabilities***

The IoT's universal applicability makes it inherently difficult to measure the overall competitiveness of any given country, but a review of key enabling technologies such as telecommunications, semiconductors, cloud computing, and AI can serve as a proxy. China has a competitive edge as the world's largest manufacturer of IT, IoT devices, and network equipment.<sup>28</sup> China is the world's largest IT manufacturer: from 2012 to 2017, around 51 percent of total shipments made by leading U.S. IT firms HP, IBM, Dell, Cisco, Unisys, Microsoft, and Intel originated in China.<sup>29</sup> The French insurance firm AXA estimates that by 2020, 95 percent of IoT devices will

\*This figure includes a \$755.3 million (RMB 5 billion) special fund for IoT development for 2011–2016, the \$15.1 billion (RMB 100 billion) China Internet Investment Fund, the Ministry of Industry and Information Technology's \$7.6 billion (RMB 50 billion) in smart city research and projects, the \$61.7 million (RMB 408.5 million) Shanghai IoT Entrepreneurial Investment Fund, and the \$755.3 million (RMB 5 billion) Wuxi IoT industry fund. Zhang Xin and Chen Tianyuan, eds., "Wuxi Forms 5 Billion Yuan Internet of Things Industry Fund to Usher in Industry Development," *People's Daily Jiangsu Channel*, September 11, 2017, Translation; *Xinhua*, "China Launches \$14.6B Internet Investment Fund," *State Council of the People's Republic of China*, January 23, 2017; Simi Holdings, "Venture Capital Fund." Translation; Qichacha, "Shanghai IoT Second Round Innovation Investment Fund." Translation. Matthew Fulco, "Poised for Takeoff: China's Internet of Things," *CKGSB Knowledge*, September 24, 2015; GSMA, "How China's Scaling the Internet of Things," July 2015, 8; Hao Yan, "China Sets 5b Yuan Fund for IoT Industry," *China Daily*, August 23, 2011.

†Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = RMB 6.62.

be manufactured in China.<sup>30</sup> In 2017, Huawei and ZTE together accounted for 41 percent of the \$37.2 billion global mobile infrastructure hardware revenue.<sup>31</sup> U.S. and Chinese firms are global competitors in AI and 5G development (discussed in greater detail in the “Fifth-Generation Wireless Technology” section).<sup>32</sup>

By comparison, U.S. firms are currently market leaders in industrial IoT and key high-value-added IoT-enabling technologies such as semiconductors and cloud computing.<sup>33</sup> According to research platform IoT One’s 2018 assessment of 2,000 providers of industrial IoT (i.e., application of the IoT to manufacturing and industrial processes), U.S. firms accounted for 230 of the 500 most impactful firms compared to Germany (52) and China (27); U.S.-headquartered ThingWorx, Texas Instruments, and Intel ranked as the top three.\* In 2017, Intel, Micron, Qualcomm, and Nvidia together comprised 25.2 percent of the \$438.5 billion in global semiconductor sales, followed by South Korean firms Samsung and SK Hynix with 21 percent.<sup>34</sup> Amazon Web Services, Microsoft, IBM, and Google together accounted for over half of the \$180 billion global cloud computing revenue in 2017.<sup>35</sup>

Seeking to catch up, the Chinese government utilizes state financing, technology transfer and joint venture requirements, state-directed procurement orders, China-specific standards, data storage and transfer regulations, and security and investment screenings to build globally competitive cloud computing and semiconductor† companies.<sup>36</sup> (For more information on China’s data transfer regulations, see Chapter 1, Section 2, “Tools to Address U.S.-China Economic Challenges.”)

### ***U.S. Market Access in China***

U.S. firms can establish operations and sell IoT products and services in China; however, they must also store Chinese customer data within China and face significant restrictions on transferring data overseas.<sup>37</sup> Such restrictions impede data analytics, technology optimization, and integrated global service and research and development (R&D).<sup>38</sup> For example, firms combine and analyze data in real time from their global locations to lower costs, improve business performance, and personalize products and services.<sup>39</sup> In 2017, the Chinese government loosened foreign investment restrictions in augmented reality and virtual reality devices and intelligent emergency medical rescue devices, where there is growing domestic demand for those products and services in China and need for foreign investment to transform domestic firms into global competitors.<sup>40</sup> However, U.S. firms in IoT-enabling technologies—particularly cloud computing and telecommunications—face significant market barriers, including:

- *Chinese IP requirements:* Since 2007, China’s Multi-Level Protection Scheme, which covers around 140,000 information sys-

\*The ranking is based on technology innovation, brand influence, ecosystem openness, and input from industry experts and end users. IoT One, “2018 Top 500 Industrial IoT Companies.” <https://www.iotone.com/iotone500>.

†For more information on China’s efforts to develop its semiconductor industry, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, “China’s 13th Five-Year Plan,” in *2016 Annual Report to Congress*, November 2016, 155–161.

tems,\* requires Chinese IP in core IT technology and components and annual testing, certification, and authentication for the top three of the five tiers of IT users,† effectively excluding foreign competitors unless there is no domestic equivalent.<sup>41</sup> Article 34 of the draft guidelines would expand this scheme to cloud computing platforms, big data systems, industrial control systems and mobile networks, AI, and IoT devices.<sup>42</sup>

- *High restrictions on foreign ownership and investment:* Under China's 2016 Telecommunications Regulations, foreign firms can own up to 50 percent of Chinese telecommunications and cloud computing providers.<sup>43</sup> China's 2016 Telecom Services Catalogue requires foreign telecommunications and cloud computing firms wishing to sell in the Chinese market to form joint ventures with Chinese firms.<sup>44</sup> For example, AT&T has a joint venture with state-owned China Telecom; IBM, Microsoft, and Amazon have separate joint ventures with the Chinese firm 21Vianet for data storage.<sup>45</sup> In February 2017, AT&T and China Mobile agreed to jointly develop an IoT platform, which will allow AT&T to deploy IoT assets and offerings in the Chinese market using China Mobile's services.<sup>46</sup>
- *China-specific technical standards:* The Mercator Institute for China Studies (MERICS) found "China sometimes formulates national standards in strategic industries that deliberately differ from international standards in order to impede market access for foreign technology and to favor Chinese technology on the domestic market."<sup>47</sup> Chinese technical standards for cloud computing, industrial software, and big data have no correlation with international standards.<sup>48</sup> Only around half of China's key smart manufacturing technology standards—critical for controlling a technology—align with international standards; by comparison, around 70 percent of China's standards for low-level smart manufacturing (e.g., safety and management requirements) correlate with international standards.<sup>49</sup> U.S. and other foreign firms must alter their products or services or pay royalty fees to meet the China-specific standards and sell in China's market.<sup>50</sup> (For an example of the impact of a China-specific standard on U.S. firms, see Chapter 1, Section 2, "Tools to Address U.S.-China Economic Challenges.")
- *Restrictions on data storage and transfer:* Under China's Cybersecurity Law, U.S. firms face significant restrictions on data storage and cross-border transfers—essential services for IoT

\*The U.S. National Institute of Standards and Technology defines an information system as "a discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information. Information systems also include specialized systems such as industrial/process controls systems, telephone switching/private branch exchange (PBX) systems, and environmental control systems." U.S. National Institute of Standards and Technology, Computer Security Resource Center, *Glossary*.

†The Multi-Level Protection Scheme separates information systems into five levels based on impact. Damage to a Level 1 (the lowest) information system could result in harm to legal rights of citizens, legal persons, or other organizations without harming national security, social order, or public interest. Damage to a Level 5 (the highest) information system results in very serious harm to national security. Level 3 and above encompasses finance, banking, tax, customs, commerce, communications, health, education, and social services. Nick Marro, "The 5 Levels of Information Security in China," *China Business Review*, December 6, 2016; Adam Segal, "China, Encryption Policy, and International Influence," *Hoover Institution*, No. 1610, November 28, 2016.

devices.<sup>51</sup> U.S. firms such as IBM, Apple, and Microsoft are required to form joint ventures with Chinese partners in order to operate.<sup>52</sup> In addition, foreign firms must rely on domestic partners and government-approved encryption technology, potentially placing foreign IP and data at risk.<sup>53</sup> (For more information on the data transfer problems, see Chapter 1, Section 2, “Tools to Address U.S.-China Economic Challenges.”)

### ***Chinese Market Access in the United States***

Foreign firms are able to sell their IoT products and services freely in the United States with limited restrictions on the collection, storage, and transfer of data (including data from IoT devices).<sup>54</sup> (For more information on U.S. data restrictions, see “Data Privacy and Security Risks” later in this section).<sup>55</sup> DJI, a Chinese smart drone manufacturer, accounted for 62 percent of the 2016 U.S. and Canadian commercial drone market.<sup>56</sup> Other Chinese IoT firms such as the household appliance manufacturer Haier, smartphone and smartwatch manufacturer Xiaomi, and dockless bikesharing firms Ofo and Mobike are also able to sell their IoT products and services freely in the United States.<sup>57</sup>

Chinese firms have also increased their investment in U.S. IoT-enabling sectors such as AI and semiconductors.<sup>58</sup> Examples include:

- Chinese venture capital firm Haiyin Capital’s June 2016 investment in the AI unmanned system software developer Neurala (which had provided technology used by the U.S. Air Force and the National Aeronautics and Space Administration);<sup>59</sup>
- The November 2016 acquisition of automated supply chain technology firm Dematic by Kion (a subsidiary of Chinese state-owned enterprise Weichai Power);<sup>60</sup>
- Beijing Shanhai Capital Management’s April 2017 acquisition of Analogix Semiconductor;<sup>61</sup> and
- Baidu’s 2017 acquisitions of the visual perception software and hardware firm xPerception and the AI language processing and comprehension firm Kitt.ai.<sup>62</sup>

The U.S. government has recently imposed some restrictions on federal procurement of Chinese IoT devices and blocked Chinese investment in two U.S. semiconductor firms due to national security concerns.<sup>63</sup> For example:

- In August 2017, U.S. Immigration and Customs Enforcement’s Los Angeles office alleged DJI is targeting U.S. customers in critical infrastructure, utilities, and law enforcement and had “moderate confidence” that DJI was “providing U.S. critical infrastructure and law enforcement data to the Chinese government.”<sup>64</sup> The U.S. Army Research Laboratory and U.S. Navy similarly found operational risks and user vulnerability risks, and subsequently discontinued the use of DJI drones, electronic components, and software.<sup>65</sup> In June 2018, the U.S. Department of Defense (DOD) suspended the purchase of all commercial-off-the-shelf (COTS) drones until a cybersecurity risk assessment strategy has been established.<sup>66</sup>

- Chinese acquisitions of the semiconductor firms Aixtron (2016) and Lattice (2017) were blocked by presidential order following a review by the Committee on Foreign Investment in the United States (CFIUS).<sup>67</sup>
- In January 2018, Ant Financial (Alibaba's financial services affiliate) withdrew its \$1.2 billion bid for U.S. money transfer firm MoneyGram after CFIUS deemed inadequate Ant Financial's proposed measures to protect personal data associated with U.S. customers.<sup>68</sup>

### Fifth-Generation Wireless Technology

In his testimony to the Commission, Anthony Ferrante, senior managing director at FTI Consulting, explained the evolution of wireless technology, saying,

*2G networks were designed for voice, 3G networks were designed for voice and data, 4G networks were designed for broadband Internet experiences. Now 5G networks are being developed to fuse computing capabilities with communications in real time.*<sup>69</sup>

5G is expected to quicken data speeds 100 times, support up to 100 times more IoT devices, and provide near-instant universal coverage and availability (see Table 2). Based on estimates from IHS, 5G networks will enable \$12.3 trillion in global sales and support nearly 22 million jobs by 2035.<sup>70</sup> Manufacturing is expected to account for 27.3 percent, or \$3.4 trillion, of total 5G-enabled global sales, followed by information and communications technology at 11.4 percent or \$1.4 trillion.<sup>71</sup>

**Table 2: Comparison of 4G and Future 5G Capabilities**

	4G	5G (Expected 2020)
<b>Latency</b>	25 milliseconds	1 millisecond
<b>Peak Data Rates</b>	100 megabits per second	10,000 megabytes per second
<b>Number of Devices*</b>	10,000 devices per square kilometer	1,000,000 devices per square kilometer
<b>Mobility †</b>	350 kilometers per hour	500 kilometers per hour

Source: Various.<sup>72</sup>

5G will enhance existing mobile broadband coverage and experiences (e.g., augmented reality and virtual reality and faster streaming). It will also facilitate massive machine-type communications (e.g., smart cities and smart homes) and sustain ultrareliable and low-latency communications (e.g., autonomous vehicles).<sup>73</sup> 5G will support greater numbers of IoT devices and enable high-value-added IoT devices and IoT systems (i.e., autonomous vehicles and smart factories).<sup>74</sup> Governments and telecommunications providers are

\* Connection density is the total number of devices that can be supported while maintaining quality of service.

† Mobility is the maximum speed at which a user or device can be moving while maintaining quality of service.

rushing to deploy 5G networks to lead innovation and gain first access to new revenue streams from the expanded use of the IoT and other 5G-enabled technologies (for more information, see “Comparison of U.S. and Chinese Capabilities” later in this section).<sup>75</sup>

### ***China’s Industrial Policies***

Over the past three decades, the Chinese government successfully created globally competitive Chinese telecommunications firms and reduced China’s dependence on foreign technology by: (1) providing significant financial support;\* (2) utilizing localization targets and government procurement; (3) promoting Chinese technology standards domestically and internationally; (4) constraining foreign market access; (5) cultivating national champions (e.g., Huawei and ZTE); and (6) allegedly engaging in cyber espionage and IP theft.<sup>76</sup>

Building upon its success at creating global network equipment manufacturers, China is positioning itself to be a global leader in 5G through:†

- *Comprehensive industrial plans:* The Chinese government identified 5G as a cornerstone of its Made in China 2025 and Internet Plus initiatives in 2015.<sup>77</sup> China’s 13th Five-Year Plan (2016–2020) reads: “[China] will drive forward research in key technologies for 5G mobile networks and ultra-wideband applications, and develop commercial applications of 5G technology.”<sup>78</sup>
- *Establishment of a state-owned network operator:* In 2014, the Chinese government combined the cellular tower assets from China Mobile, China Telecom, and China Unicom (the country’s three telecommunications providers) into a new state-owned enterprise, China Tower.‡ The three carriers, rather than each building its own network, will pay China Tower to operate a national cellular network.<sup>79</sup> This consolidation will allow China to accelerate 5G network deployment by combining state funding and eliminating competition or redundant infrastructure

\* China Development Bank provided Huawei a \$10 billion loan in 2004 and a \$30 billion credit line in 2009. China Development Bank provided ZTE an \$8 billion credit line in 2005 that it increased to \$15 billion in 2009 and to \$20 billion in 2012. In addition, the Export-Import Bank of China provided ZTE a \$10 billion credit line in 2009. Huawei and ZTE leveraged their access to low-cost government financing to offer more competitive prices and loans to their customers, often undercutting their foreign competitors’ prices by 30 percent. Nathaniel Ahrens, “China’s Competitiveness: Myths, Reality, and Lessons for the United States and Japan—Case Study: Huawei,” *Center for Strategic and International Studies*, February 2013, 8; ZTE Corporation, “Announcement on the ‘Development Financing Strategic Cooperation Agreement’ with China Development Bank,” *Hong Kong Stock Exchange*, December 4, 2012; ZTE, “The Export-Import Bank of China Provides ZTE US\$10 Billion Credit Line,” May 25, 2009; ZTE, “China Development Bank Provides ZTE US\$15 Billion Credit Line,” March 23, 2009; Peilei Fan, “Catching up through Developing Innovation Capability: Evidence from China’s Telecom-Equipment Industry,” *Technovation* 26 (2006): 364; Ali Farhoomand and Phoebe Ho, “Huawei: Cisco’s China Challenger,” *University of Hong Kong Case HK U599*, 2006, 9.

† For an overview of China’s efforts to develop its 5G technologies, see John Chen et al., “China’s Internet of Things,” *SOS International* (prepared for the U.S.-China Economic and Security Review Commission), October 2018; Tai Ming Cheung et al., “Planning for Innovation: Understanding China’s Plans for Technological, Energy, Industrial, and Defense Development,” *University of California Institute on Global Conflict and Cooperation* (prepared for the U.S.-China Economic and Security Review Commission), July 28, 2016, 177–184.

‡ China Tower is owned by China Mobile (28.5 percent), China Unicom (28.1 percent), China Telecom (27.9 percent), and the state-owned investment fund China Reform Holdings Corporation (6 percent). China Mobile, China Unicom, and China Telecom together accounted for 99.8 percent of China Tower’s 2017 operating revenue. China Tower, “Global Offering,” *Hong Kong Stock Exchange*, 10, 45.

spending.<sup>80</sup> In July 2018, China Tower raised \$6.9 billion in an initial public offering on the Hong Kong Stock Exchange; more than half of the funding raised will be directed toward network construction.<sup>81</sup>

- *Financial support for 5G network deployment:* Since 2015, China Tower has invested \$17.7 billion to add more than 350,000 cellular network sites.<sup>82</sup> The government-run Chinese Academy of Information and Communications Technology estimated that China will invest \$445 billion (RMB 2.8 trillion) toward 5G networks between 2020 and 2030.<sup>83</sup> By comparison, the consulting firm Accenture estimates that U.S. telecommunications firms will invest around \$275 billion in 5G infrastructure by 2024.<sup>84</sup>
- *Limited market access for foreign competitors:* GSMA estimates that China's 5G networks will be the world's largest, accounting for a third of global 5G network users.<sup>85</sup> The Chinese government has guaranteed Huawei and ZTE each a third of domestic 5G network contracts, limiting the opportunities for U.S. and other foreign competitors.<sup>86</sup>
- *Localization targets:* The Chinese Academy of Engineering's *Made in China 2025 Key Area Technology Roadmap* lays out targets to increase the global market share of Chinese-branded fiber communication network equipment to 60 percent, network equipment to 40 percent, and routers and switches to 25 percent by 2025.<sup>87</sup>

### ***China's Growing Influence on International Standards Bodies for 5G***

The timeline for establishing international 5G standards is very short: the first international 5G standard was adopted in December 2017; the remaining standards are expected to be finalized by December 2019, facilitating large-scale commercial deployment by 2020.<sup>88</sup> These standards\* are largely based on consensus among competing company, academic, and government technical experts to maximize buy-in and adherence. Once set, these standards will enable global interoperability of technology and data transfers.<sup>89</sup>

Patented technology is increasingly incorporated into international standards provided that the IP is available under royalty-free or fair, reasonable, and nondiscriminatory† licensing terms.<sup>90</sup> The company that owns the patent necessary to comply with international standards (also known as a standards-essential patent) gains global market share, licensing revenues, and a competitive edge in subsequent technology development.<sup>91</sup> The commercial value of standards-essential patents has contributed to a rise in protracted, costly legal battles over ownership and fair licensing terms, where a

\*Standards establish requirements for a specific item, material, component, system, or service, covering vocabulary, technical engineering processes, and safety, among other things. These commonalities enable interoperability among products and services. International Telecommunications Union, "Understanding Patents, Competition, and Standardization in an Interconnected World," July 1, 2014.

†Fair, reasonable, and nondiscriminatory commonly refers to fair licensing terms at reasonable rates similar to the rates and terms offered to other licensees. Anne Layne-Farrar, A. Jorge Padilla, and Richard Schmalensee, "Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Frand Commitments," *Antitrust Law Journal* 74:3 (2007): 671–706.

delay in a fast-moving industry like IT and telecommunications can place a competitor's projects and product lines on hold.<sup>92</sup>

The Chinese government supports Chinese firms and associations' international standardization efforts through funding the participation of technical experts from government research institutes and setting mandatory national technical standards.<sup>93</sup> In the 2000s, the Chinese government unsuccessfully tried to leverage its large market to establish its domestic standards as international 3G and 4G standards.<sup>94</sup> Since then, Chinese technical experts and firms have been increasing the number of standards and technology submissions, participants, and leadership roles at international standards-setting bodies to ensure Chinese developed technologies are reflected in global standards.<sup>95</sup> In comparison to China's government-led approach, industry leads the U.S. standards-setting process, with the U.S. government providing technical expertise and policy support.<sup>96</sup> In July 2017, U.S. Federal Communications Commission (FCC) member Michael O'Rielly alluded to U.S. concerns related to China's increased participation in the International Organization for Standardization (ISO), International Telecommunications Union (ITU), and the 3rd Generation Partnership Project (3GPP) stating:

*[L]ately, there has been a concerted effort by some countries to manipulate these multi-stakeholder bodies. I have heard several reports that some authoritarian governments are now focusing their attention on leadership positions at these organizations so that they can promote their agendas and dictate the future design of not only wireless networks, but also the internet.<sup>97</sup>*

Chinese companies and experts are playing a greater role in contributing to and leading 5G-related standards-setting bodies such as:

- *International Telecommunications Union*: ITU is an intergovernmental public-private partnership under the UN that allocates global radio spectrum and satellite orbits and establishes international technical standards for information and communication technologies.\* Chinese firms and government bodies have been particularly active in ITU's 5G-related bodies. Huawei and China Mobile served as the chair and vice chair of the five leadership positions in ITU's 5G Focus Group (2015–2016).<sup>98</sup> As of September 2018, Chinese firms and government research institutes account for the largest number of chairs or vice chairs in 5G-related standards-setting bodies, holding 8 of the 39 available leadership positions.† By comparison, the U.S. telecommunications provider Verizon currently serves as the only U.S. representative in leadership at these bodies.<sup>99</sup>

\*ITU is composed of 193 governments, approximately 800 companies, and various academic and other international and regional bodies. International Telecommunication Union, "About International Telecommunication Union (ITU)."

†This number comprises chair and vice chair positions at the 5G-related ITU-T Study Group 13 and its subgroups. South Korea, the second largest, holds 6 of the 39 available leadership positions. International Telecommunications Union, "SG13—Management Team (Study Period 2017–2020)"; International Telecommunications Union, "Focus Groups: ITU-T Focus Groups"; International Telecommunications Union, "Focus Group on Technologies for Network 2030"; International Telecommunications Union, "Focus Group on Machine Learning for Future Networks Including 5G."

- *3rd Generation Partnership Project*: The 3GPP leads international private sector efforts to set technical specifications (de facto standards) for 3G, 4G, and 5G cellular telecommunications network technologies.\* The number of Chinese representatives serving in chair or vice chair leadership positions rose from 9 of the 53 available positions in December 2012 to 11 of the 58 available positions in December 2017.† In these roles, Chinese companies can set the agenda and guide standards discussions.<sup>100</sup> U.S. firms served in 14 leadership positions in 2017 compared with 7 in 2012.‡ Most notably, Qualcomm currently chairs the most important 5G standards-setting group (RAN1), beating Huawei for the position in August 2017.<sup>101</sup>
- *International Organization for Standardization*: ISO is an international nongovernmental organization that sets global consensus-based standards on virtually all technologies.§ China's participation on ISO standards-setting technical committees and its sub-groups increased from 706 participants in December 2012 to 731 (tied with Germany as the third largest)¶ in September 2018.<sup>102</sup> By comparison, U.S. participation fell from 620 to 595 (tied with Finland for 16th largest) from December 2012 to September 2018.<sup>103</sup> Chinese representatives have increased their share from 126 of the 3,253 available ISO leadership positions\*\* in 2012 to 223 of the 3,430 available positions in 2017.<sup>104</sup> The United States has the largest number of leadership positions overall, but the number held has fallen from 653 in 2012 to 540 in 2017.<sup>105</sup> U.S. representatives currently lead several higher-value-added IoT-related technical committees important for the U.S. economy, to include: IT, smart drones, smart transportation vehicles, cloud computing, and data management.<sup>106</sup> By comparison, Chinese representatives primarily lead metal-related committees to include copper, aluminum, steel, various steel products, rare earths, and the railway.<sup>107</sup>

### ***Comparison of U.S. and Chinese Capabilities***

Chinese firms such as Huawei and ZTE are building upon their success as global leaders in key telecommunications technologies (see Table 3) and racing to become leaders in 5G patents and network deployment.<sup>108</sup> In 2017, Huawei unseated Ericsson, its Swed-

\*The 3GPP unites seven telecommunications standards organizations and is composed of around 490 companies, 40 government agencies, and nearly 50 research institutes and universities. 3GPP, "About 3GPP Home."; 3GPP, "3GPP Membership."

†In 2017, China's 11 representatives included Huawei (5), China Mobile (3), ZTE (1), Lenovo via its subsidiary Motorola Mobility (1), and China Academy of Telecommunications Technology (1). Compiled by Commission staff from 3GPP website; 3GPP, "Specification Groups."

‡In 2017, the United States' 14 representatives were Qualcomm (4), Intel (3), Sprint (2), NEC Corporation (1), InterDigital (1), Motorola Solutions (1), Apple (1), and AT&T (1). Compiled by Commission staff from 3GPP website; 3GPP, "Specification Groups."

§ISO is composed of 162 national standards body subscribers. Companies or individuals can participate but cannot become members, and there is only one member representative per country. ISO cooperates with ITU, the International Electrotechnical Commission, and the World Trade Organization to set global consensus-based standards. ISO, "All About ISO—Structure and Governance."; ISO, "ISO in Figures 2017."

¶The two countries with the highest technical committee participation as of September 2018 were France (741) and the UK (735). International Organization for Standardization, "ISO: A Global Network of National Standards Bodies."

\*\*This figure includes technical committee and subcommittee secretariats and working group convenors. International Organization for Standardization, "ISO in Figures 2012."; International Organization for Standardization, "ISO in Figures 2017."

ish competitor, to become the world's largest telecommunications equipment manufacturer, with 28 percent of the \$37.2 billion in mobile infrastructure hardware revenue.<sup>109</sup> ZTE is the fourth largest, with 13 percent.<sup>110</sup> Huawei supplied more than half of the 537 global 4G networks and roughly two-thirds of the 90 global 4G LTE networks in 2016.<sup>111</sup> Stefan Pongratz, an industry analyst at the research firm Dell'Oro, stated, "Existing network footprint is important because operators still need to maintain their legacy ... networks and could save money by using the same vendors."<sup>112</sup> Huawei has signed Memoranda of Understandings—a necessity for future contracts—with at least 45 telecommunications operators to try Huawei's 5G networks equipment, including Germany's Deutsche Telekom, Britain's BT, and Bell Canada.<sup>113</sup> By comparison, Ericsson has signed 38 and Finnish firm Nokia has signed 31.<sup>114</sup> Beyond telecommunications equipment, Huawei is the world's second-largest firm in Ethernet switches and routers based on 2017 revenue, after U.S. telecommunications firm Cisco.<sup>115</sup>

**Table 3: World's Largest Firms in Select Telecommunications Technologies, 2017**

Key Technologies	Leading Firms (global market share based on revenue)
Mobile infrastructure hardware	Huawei (28 percent), Ericsson (27 percent), Nokia (23 percent), and ZTE (13 percent)
Enterprise wireless local area network (WLAN)	Cisco (43.6 percent), Aruba Networks* (14.9 percent), ARRIS/Ruckus† (5.9 percent), Ubiquiti‡ (5.6 percent), and Huawei (5 percent)
Ethernet switches	Cisco (54.9 percent), Huawei (8.3 percent)
Routers	Cisco (36.7 percent), Huawei (23.8 percent), Juniper (18 percent)
Smartphone semiconductors	Qualcomm (42 percent); Apple (22 percent); MediaTek § (15 percent)

*Note:* Mobile infrastructure hardware comprises radio access network, switching, and core equipment.

*Source:* Various.<sup>116</sup>

Based on share of 2017 global revenue, U.S. firm Cisco is the world leader in enterprise WLAN equipment (which provides communication networks), Ethernet switches (which manage network traffic), and routers (which forward data between networks).<sup>117</sup> The U.S. network technology firm Juniper is the world's third-largest firm in the \$15.2 billion global router market at 18 percent after Huawei (23.8 percent).<sup>118</sup> Qualcomm and Apple together accounted for 64 percent of the \$20.2 billion in 2017 global revenue in smartphone

\*Hewlett Packard Enterprise's subsidiary, Aruba Networks, is a U.S.-based wireless network switch technology company. Aruba, "Networking Products."

†ARRIS/Ruckus is a U.S.-based wireless network technology, equipment, and software company. In December 2017, U.S. firm ARRIS completed its acquisition of U.S.-based firm Ruckus Wireless. ARRIS, "Investors"; Ruckus Wireless, "ARRIS Completes Acquisition of Ruckus Wireless and ICX Switch Business," December 1, 2017.

‡Ubiquiti Networks is a U.S.-based wireless network technology firm. Ubiquiti Networks, "Investor Relations."

§MediaTek is a Taiwan-based fabless semiconductor firm. MediaTek, "About MediaTek."

semiconductors, which allow smart phones to connect to telecommunications networks.<sup>119</sup>

In addition, U.S. firms such as Qualcomm and Intel remain global leaders in wireless technology IP development but are facing greater competition from China in the development of 5G-essential patents. Based on 2016 estimates from IP law firm LexInnova Technology, Chinese firms—led by Huawei and ZTE—already own almost 10 percent of the essential 5G IP patents, nearly a ten-fold increase from the number of patents they registered for 4G-LTE.<sup>120</sup> By comparison, U.S. firms Qualcomm, InterDigital, and Intel together own roughly 31 percent of 5G-essential IP patents.<sup>121</sup> Edison Lee, an analyst with the investment firm Jeffries Franchise, expects Chinese firms to control up to 20 percent of essential 5G patents given their significant R&D investments.<sup>122</sup>

U.S., Chinese, South Korean, and Japanese telecommunications providers are rushing to deploy 5G networks in the next two years.<sup>123</sup> First mover advantage in deployment will create new revenue streams from expanded use of the IoT and other 5G-enabled technologies and enable faster advancements in a country's development.<sup>124</sup> Previous U.S. leadership in 4G and 4G-LTE deployment provided the United States a competitive edge in testing and commercializing mobile phone, social network, and streaming applications.<sup>125</sup> The telecommunications research firm Recon Analytics found that U.S. 4G leadership contributed to around \$125 billion in U.S. company revenue from abroad and more than \$40 billion in U.S. application and content developer revenue, and created 2.1 million new jobs from 2011 to 2014.<sup>126</sup>

U.S. telecommunications providers are set to deploy 5G networks first with a nationwide roll-out occurring in stages. U.S. telecommunications provider AT&T plans to deploy 5G networks in 15 cities by December 2018; T-Mobile plans to deploy 5G networks in 30 cities in 2018 but noted that 5G-compatible phone service would not be available until 2019.<sup>127</sup> By comparison, China Tower is aiming to deploy 5G nationwide between 2019 and 2021.<sup>128</sup> Already, China Tower is investing more and constructing cellular infrastructure faster and in greater numbers than the United States.<sup>129</sup> Based on estimates from the consulting firm Deloitte, China Tower constructed more cellular network sites in three months than U.S. firms added in the last three years.<sup>130</sup> China now surpasses the United States, with 14.1 sites per 10,000 people and 5.3 sites per 10 square miles as compared to the United States at 4.7 and 0.4 respectively.<sup>131</sup> Additionally, since 2015, China has annually outspent the United States by \$8 billion to \$10 billion in wireless infrastructure construction.<sup>132</sup>

### ***U.S. Market Access in China***

The Chinese government guarantees Huawei and ZTE two-thirds of domestic 5G network contracts.<sup>133</sup> Foreign firms have to compete with other Chinese firms for the remaining one-third.<sup>134</sup> Samm Sacks, senior fellow at the Center for Strategic and International Studies, identified three additional regulatory barriers for U.S. telecommunications firms operating in China: “cybersecurity reviews, restrictions on cross-border data transfer, and an

overall trend toward localization under the guise of security.”<sup>135</sup> She noted that U.S. IT and telecommunications firms face several security reviews that “can be used for political purposes to delay or block market access.”<sup>136</sup> These reviews are nontransparent and cover critical information systems, cybersecurity and supply chain risks of network products and services, cross-border data transfers, internal virtual private network services, internet technologies and applications, personal data and important data protection, encryption, and foreign investment.<sup>137</sup>

### ***Chinese Market Access in the United States***

Chinese telecommunications firms such as Huawei, ZTE, and China Mobile have limited access to the U.S. telecommunications market and have struggled to acquire\* U.S. firms and other U.S. assets. Huawei and ZTE provide low-cost network equipment for small, rural telecommunications carriers (e.g., Sagebrush Cellular and United Wireless) but not for larger carriers such as AT&T and Verizon due to longstanding security concerns (see “National Security Risks Associated with Major Chinese Telecommunications Firms” later in this section).<sup>138</sup> In March 2018, the FCC proposed barring the use of money from its nearly \$9 billion Universal Service Fund† to “purchase or obtain any equipment or services produced or provided by any company posing a national security threat to communications networks or the communications supply chain,” such as ZTE and Huawei.<sup>139</sup> As of October 9, 2018, the FCC was seeking public input on the implementation of this proposal.<sup>140</sup> If enacted, this measure would limit Huawei and ZTE’s market access to rural U.S. wireless providers, who are dependent on the Universal Service Fund.

In January 2018, the U.S. government reportedly pressured AT&T and Verizon to stop selling Huawei smartphones in the United States.<sup>141</sup> In March 2018, Best Buy announced it would stop selling Huawei smartphones, laptops, and smartwatches in the United States; as of October 2018, Huawei products were still available for purchase on their website.<sup>142</sup> In May 2018, DOD spokesperson Dave Eastburn stated that “Huawei and ZTE devices may pose an unacceptable risk to the department’s personnel, information and mission. In light of this information, it was not prudent for the department’s exchanges to continue selling them.”<sup>143</sup> DOD is considering a wider advisory on military personnel’s purchase of Huawei and ZTE devices for personal use.<sup>144</sup>

Additionally, President Donald Trump signed into law restrictions on U.S. government agencies or government contractors using or procuring telecommunications or video surveillance equipment or services from Huawei, Hytera Communications Corporation, Hikvision, Dahua Technologies, ZTE, or other entities controlled by the Chinese government.<sup>145</sup> Agencies can obtain waivers from agency heads and the director of national intelligence; purchases by private firms such as AT&T and Verizon are not covered.<sup>146</sup>

\*In 2008, Huawei withdrew from a deal to purchase U.S. software firm 3Com, which supplied network security software to the U.S. military, because the deal would not pass CFIUS review. Richard Waters, “Huawei-3Com Deal Finally Collapses,” *Financial Times*, March 21, 2008.

†U.S. telecommunications firms contribute a percentage of their end user interstate and international end user revenues to the Universal Service Fund, which subsidizes telecommunications service to low-income households and high-cost areas. United Service Administration Co., “Universal Service”; U.S. Federal Communications Commission, *Universal Service Fund*.

*National Security Risks Associated with Major Chinese Telecommunications Firms*

Telecommunications are integral for critical infrastructure (e.g., public utilities or banking), businesses, governments, and society.<sup>147</sup> The Chinese government seeks to maintain a capability to hold U.S. and other foreign telecommunications networks at risk and leverage these networks for espionage.<sup>148</sup> Beyond direct control over its state-owned firms, the Chinese government maintains significant influence over private Chinese firms through financial incentives, political arrangements, and agreements among company shareholders.<sup>149</sup> The Chinese government could leverage this influence to pressure Chinese suppliers or manufacturers to modify products or otherwise compromise telecommunications network equipment.<sup>150</sup> The U.S., Australian, British, and other foreign governments are concerned that the Chinese government's involvement could compromise their networks.<sup>151</sup> Select concerns associated with four Chinese companies are highlighted below:

- *Huawei*: Huawei has long sought to enter the U.S. market, but its close ties to China's political and military leadership have raised significant national security concerns.<sup>152</sup> Its founder, Ren Zhengfei, served as an officer in the People's Liberation Army, and a 2002 book quoted Mr. Ren as saying, "If there had been no government policy to protect [nationally owned companies], Huawei would no longer exist."<sup>153</sup> In 2012, an investigation by the U.S. House of Representatives Permanent Select Committee on Intelligence concluded "that the risks associated with Huawei's and ZTE's provision of equipment to U.S. critical infrastructure could undermine core U.S. national-security interests."<sup>154</sup> Australia banned Huawei from supplying its National Broadband Network in 2012 and banned Huawei and ZTE from participating in its 5G broadband network in August 2018.<sup>155</sup>
- *ZTE*: In 2012, Congress expressed concerns about the degree of Chinese government influence as ZTE's largest shareholder, and ZTE's role in China's military R&D.<sup>156</sup> In April 2018, the United Kingdom's (UK) National Cyber Security Center assessed that "the national security risks arising from the use of ZTE equipment or services within the context of the existing UK telecommunications infrastructure cannot be mitigated"—in effect barring ZTE from the UK telecommunications market.<sup>157</sup> Beyond national security risks, the U.S. Department of Commerce fined ZTE for violation of U.S. export laws in 2016 and again in 2018 for noncompliance with the earlier settlement (for more information, see Chapter 1, Section 1, "Year in Review: Economics and Trade").
- *China Mobile*: In September 2011, state-owned China Mobile applied to the FCC to be a U.S. common carrier.<sup>158</sup> If approved, China Mobile would be able to "carry international voice traffic between the United States and foreign countries and to interconnect such traffic with the U.S. telecommunications network."<sup>159</sup> In July 2018, the U.S. government assessed that China Mobile "is vulnerable to exploitation, influence, and control by the Chinese government" and "would likely comply with

requests made by the Chinese government.”<sup>160</sup> The U.S. Departments of Justice, Homeland Security, Defense, State, and Commerce, as well as the Office of the U.S. Trade Representative and the Office of Science and Technology Policy, recommended that the FCC deny China Mobile’s 2011 application to offer telecommunications services as an international common carrier in the United States, citing “substantial and unacceptable national security and law enforcement risks.”<sup>161</sup> In August 2018, China Mobile formally challenged this recommendation.<sup>162</sup> In September 2018, the U.S. Departments of Justice, Homeland Security, Defense, State, and Commerce, as well as the Office of the U.S. Trade Representative and the Office of Science and Technology Policy responded to China Mobile’s petition and reiterated their recommendation that the FCC deny China Mobile’s application.<sup>163</sup> As of October 9, 2018, the FCC has not reached a decision.

- *China Electronics Technology Group*: In August 2018, the U.S. Department of Commerce found that state-owned China Electronics Technology Group was involved in the “illicit procurement of commodities and technologies for unauthorized military end-use in China.”<sup>164</sup> In response, the U.S. Department of Commerce imposed export licensing and review requirements on all items subject to Export Administration Regulations to be sold or used by China Electronics Technology Group and 12 of its subordinate institutions.<sup>165</sup>

### **Implications for the United States**

The IoT and 5G are transforming how countries conduct business, fight wars, and interact as a society. The Chinese government seeks to overtake the United States in these industries to gain a higher share of the economic benefits and technological innovation. Chinese firms have leveraged strong state support to become global leaders in IT and network equipment manufacturing, and to strengthen their roles in global 5G standards-setting and deployment. The scale of Chinese state support for the IoT and 5G undermines the ability of U.S. firms to compete fairly either within China or in third markets.

As Chinese companies gain prominence in the IoT and 5G, U.S. dependence on Chinese manufacturers will deepen. In addition, the rapid advances in the number and capabilities of IoT devices and 5G networks are strengthening military capabilities, expanding U.S. data privacy and security risks, and worsening U.S. cybersecurity vulnerabilities. But China’s leadership in these industries is not a foregone conclusion. Continued innovation from U.S. companies will extend the United States’ technological edge, and rising cost pressures may force Chinese manufacturing to move to Southeast Asia, potentially diversifying U.S. supply chains in the long term.<sup>166</sup>

### ***The Internet of Things***

The scale of Chinese state support for the IoT, the close supply chain integration between the United States and China, and China’s role as an economic and military competitor to the United States create enormous economic, security, supply chain, and data privacy

risks for the United States.<sup>167</sup> The United States is well positioned to take advantage of the expected \$4 trillion to \$11 trillion in productivity, economic growth, jobs, and novel capabilities the IoT creates.<sup>168</sup> But the Chinese government leverages its large domestic market and whole-of-government approach to supplant U.S. firms with its own.<sup>169</sup> U.S. semiconductor, cloud computing, and autonomous vehicle firms face high market access barriers and must partner with Chinese companies—their future competitors—to gain access to China’s market.<sup>170</sup> In addition, the Chinese government has rolled out localization targets, China-specific technical standards, and significant state support to create globally competitive IoT firms.<sup>171</sup> Losing this advantage will weaken U.S. firms’ competitive edge in high-value-added sectors of the future economy, and will undermine the capabilities, capacity, and resilience of the U.S. defense industrial base.

### *Supply Chain Vulnerabilities*

China’s central role in IT and IoT device manufacturing, combined with its position as an economic and military competitor of the United States, creates extensive supply chain vulnerabilities. The degree of risk depends on the type of product; who produces it and at what stage; the production location; the commercial, financial, and other relationships the producer and its suppliers have; and the end user.<sup>172</sup> China’s large market and dominance of IT and IoT manufacturing provide the Chinese government leverage in extracting concessions from leading foreign firms.<sup>173</sup>

The Chinese government—which exerts strong influence over its firms—may force Chinese suppliers or manufacturers to modify products to perform below expectations or fail, facilitate state or corporate espionage, or otherwise compromise the confidentiality, integrity, or availability of IoT devices.<sup>174</sup> These risks are higher for the U.S. government, which depends on commercial-off-the-shelf (COTS) products for over 95 percent of its electronics components and IT systems.<sup>175</sup> While COTS products are generally lower in cost and available faster than government-developed or government-customized products, Gregory Falco, research fellow at Harvard University Kennedy School’s Belfer Center, warned:

*(1) the wide distribution of COTS products means that many people have access to the devices, so a hacker can extensively analyze the device for vulnerabilities, (2) COTS products need to be actively maintained and upgraded for security patches that are often not applied by users, and (3) anyone could have contributed to the code behind open source technology, which means that vulnerabilities or backdoors to the software could be intentionally planted by adversaries.*<sup>176</sup>

In addition, Jennifer Bisceglie, chief executive officer at the supply chain risk management firm Interos, noted in her oral testimony before the Commission that the U.S. government “lacks a consistent, holistic supply chain risk management approach” to address such risks due to conflicting and confusing federal procurement laws and regulations and inconsistently applied procurement policies.<sup>177</sup> For example, in 2018, DOD’s inspector general found that DOD incorpo-

rated COTS drones—largely from China—into its operations without an adequate assessment of their cybersecurity risks or a mitigation strategy.<sup>178</sup> In June 2018, DOD’s inspector general expanded its audit on DOD cybersecurity and physical security assessments and mitigation strategies for other COTS products.<sup>179</sup>

### *Security Vulnerabilities*

Advancements in the IoT are strengthening military capabilities, but can worsen global cybersecurity threats without proper risk management. The IoT will yield significant military technological advantages in strategic deterrent and warfare capabilities, C4ISR, and supply chain management, and will create future asymmetric battlefield capabilities such as swarms of drones.<sup>180</sup> For example, China’s advancements in unmanned undersea drones and networks of undersea sensors are enhancing China’s detection of U.S. submarines and undersea assets, eroding the ability of the United States to operate freely in the region.<sup>181</sup>

The rapid proliferation of IoT devices is outstripping industry standards and worsening global cybersecurity risks.<sup>182</sup> A May 2018 report by the U.S. Department of Homeland Security and U.S. Department of Commerce found that “product developers, manufacturers, and vendors are motivated to minimize cost and time to market, rather than to build in security or offer efficient security updates.”<sup>183</sup> The research firm Ponemon Institute’s 2017 survey of 593 mobile and IoT application developers and users found that vendors test only 20 percent of IoT applications for vulnerabilities; of the ones that are tested, an average of 38 percent contain significant vulnerabilities.<sup>184</sup> Additionally, once an IoT device is sold, few firms provide lifecycle management to ensure discovered software vulnerabilities are fixed.<sup>185</sup>

Daniel R. Coats, Director of National Intelligence, warned in May 2017,

*Our adversaries are likely to seek capabilities to hold at risk U.S. critical infrastructure as well as the broader ecosystem of connected consumer and industrial devices known as the “Internet of Things” (IoT) ... Their deployment has also introduced vulnerabilities into both the infrastructure that they support and on which they rely, as well as the processes they guide. Cyber actors have already used IoT devices for distributed denial-of-service (DDoS) attacks, and we assess they will continue. In the future, state and non-state actors will likely use IoT devices to support intelligence operations or domestic security or to access or attack targeted computer networks.*<sup>186</sup>

The universal connectivity of unsecured IoT devices could enable the remote exploitation\* of a device to deny service, eavesdrop, or be used in a botnet for a cyber attack (see Table 4).<sup>187</sup> In 2017, the U.S. cybersecurity software firm Symantec found a 600 percent year-on-year increase in the number of IoT attacks.<sup>188</sup> Mr. Benson noted

\*For example, the Tel Aviv-based startup firm Toka is developing cyber tools that can exploit vulnerabilities in IoT devices for government surveillance. Thomas Fox-Brewster, “Alexa, Are You a Spy? Israeli Startup Raises \$12.5 Million So Governments Can Hack IoT,” *Forbes*, July 15, 2018.

that the shortage of trained staff, insufficient risk assessments, and lack of capacity contribute to misconfigured and poorly managed IoT systems, limit the value added, and degrade cybersecurity for the end user (e.g., city, institutional campus, or military base).<sup>189</sup> In addition, Mr. Benson warned that “there’s no limit on the type of data that could be sent back if something was maliciously developed or there’s a vulnerability in it.”<sup>190</sup>

**Table 4: Potential Vulnerabilities of IoT Technologies**

	<b>Device</b>	<b>Communication Network</b>	<b>Data</b>
<b>Types of Vulnerabilities</b>	<ul style="list-style-type: none"> <li>• Hardware</li> <li>• Firmware</li> <li>• Software</li> <li>• Sensor failure</li> <li>• Default passwords</li> <li>• Denial-of-service attack</li> </ul>	<ul style="list-style-type: none"> <li>• Compromised or fake communication network (e.g., Wi-Fi or cellular)</li> <li>• Denial-of-service attack</li> </ul>	<ul style="list-style-type: none"> <li>• Software</li> <li>• Unsecure or compromised communication network</li> </ul>
<b>Risks</b>	<ul style="list-style-type: none"> <li>• Modification of firmware, hardware, or software without authorization</li> <li>• Unauthorized access to information or services</li> <li>• Loss of service</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of service</li> <li>• Physical tracking of user</li> <li>• Unauthorized access to information or services</li> </ul>	<ul style="list-style-type: none"> <li>• Unauthorized access to information</li> <li>• Physical tracking of user</li> <li>• Modification of data without authorization</li> <li>• Impersonating a device, user, or recipient</li> </ul>

*Source:* Adapted from Zubair A. Baig, “Future Challenges for Smart Cities: Cyber-Security and Digital Forensics,” *Digital Investigation*, August 15, 2017; U.S. Department of Homeland Security and the National Institute of Standards and Technology, *Study on Mobile Device Security*, April 2017, 18.

The U.S. Office of Management and Budget and the U.S. Department of Homeland Security’s May 2018 report evaluated 96 agencies’ cybersecurity risk mitigation programs and found 59 agencies at risk and 12 at high risk.<sup>191</sup> Federal agencies could not identify the method of attack for 38 percent of the 30,899 cyber incidents that compromised information or information system functionality in 2016.<sup>192</sup> Furthermore, only 27 percent of federal agencies have the ability to detect and investigate attempts to access large volumes of data, and only 16 percent of federal agencies met the government-wide target for encrypting stored data.<sup>193</sup> Protecting U.S. national security from malicious cyber actors will become harder as the technology gets more complex, diverse, and abundant, and embedded within existing physical structures.<sup>194</sup> In a 2018 report prepared for the Commission,\* Interos found that “software supply chain attacks will become easier—and more prevalent—as developing technologies such as fifth generation (5G) mobile network technology and the IoT exponentially increase the avenues for attack.”<sup>195</sup>

\*For an analysis of federal information and communications technology vulnerabilities from China, see Tara Beeny et al., “Supply Chain Vulnerabilities from China in U.S. Federal Information and Communications Technology,” *Interos* (prepared for the U.S.-China Economic and Security Review Commission), April 19, 2018.

Hackers are creating ever larger botnets from the rapid growth in insecure IoT devices to launch record-breaking denial-of-service attacks.<sup>196</sup> For example, in September 2016, hackers exploited the lax security settings on Chinese firm Dahua Technology's IoT security cameras to create a massive botnet that launched one of the world's largest denial-of-service attacks on a well known cybersecurity blog.<sup>197</sup> In October 2016, hackers utilized weak default usernames and passwords on Chinese firm Hangzhou Xiongmai Technology's IoT security cameras and digital video recorders to launch a denial-of-service attack against U.S. domain name system provider Dyn.<sup>198</sup> This large-scale attack temporarily prevented internet access to the websites of major U.S. firms such as Twitter, Spotify, PayPal, GitHub, the *New York Times*, and the *Boston Globe*.<sup>199</sup> The Seattle-based cybersecurity firm F5 found that during the July 2018 meeting between President Trump and Russian President Vladimir Putin in Finland, 34 percent of the brute force attacks against Finland's ports and protocols originated in China; around 62 percent of the attacks were targeting SSH protocol (commonly used for "secure" remote administration of IoT devices).<sup>200</sup>

#### *Data Privacy and Security Risks*

IoT devices collect enormous amounts of user information. In 2016, an investigation by 25 countries' government data protection regulators found that 60 percent of the more than 300 reviewed IoT devices did not "provide adequate information on how personal data is collected, used and communicated to third parties."<sup>201</sup> In addition, when user data are aggregated and combined with greater computing power and massive amounts of publicly available information, the data can reveal information the user did not intend to share—even if the data have been anonymized per federal regulations.<sup>202</sup>

Location-based data are widely collected and "generat[e] a precise, comprehensive record of a person's public movements that reflects a wealth of detail about ... familial, political, professional, religious, and sexual associations."<sup>203</sup> For example, in January 2018 researchers cross-referenced location-based data collected by the U.S. exercise tracking application Strava with Google Maps to reveal the location of military bases and patrol routes and track an individual's movements.<sup>204</sup> In August 2018, DOD issued a department-wide edict that immediately banned geolocation-capable non-government- and government-issued devices, applications, and services (e.g., fitness trackers, smart phones, and smart watches) in operational areas.\*<sup>205</sup> DOD cited the exposure of "personal information, locations, routines, and numbers of DoD personnel" and the potential of "unintended security consequences and increased risk to the joint force and mission" as reasons for the ban.<sup>206</sup>

Despite the amount of information these data can reveal, the U.S. Government Accountability Office found "there is no overarching federal privacy law that covers the collection and sale of ... personal information among private-sector companies. There are also no federal laws designed specifically to address all the products sold and information maintained by information resellers."<sup>207</sup> Existing U.S.

\*Operational area refers to geographic areas in which military operations are conducted. U.S. Department of Defense, *DOD Dictionary of Military and Associated Terms*, June 2018, 172.

data protections are limited to children under 13, financial information, credit, medical records, or deceitful business practices (see Table 5). The amount of data collected, the value of such data to criminal and state actors, and lax security and legal protections are creating privacy, safety, and security risks for U.S. citizens, businesses, and democracy.<sup>208</sup>

**Table 5: U.S. Laws on Data Collection, Use, and Protection**

U.S. Laws	Protections
Federal Trade Commission Act	Unfair or deceptive practices by companies
Financial Services Modernization Act	Collection, use, and disclosure of financial information by banks, security firms, insurance companies, or other financial services and product businesses
Fair Credit Reporting Act	Accuracy, collection, use, and disclosure of medical records, housing, credit, and employment information by consumer reporting agencies and other relevant agencies
Health Insurance Portability and Accountability Act of 1996 (HIPAA)	Data collected, stored, or sent by or to healthcare providers and their business associates, healthcare insurance firms, or medical billing clearing houses
Children's Online Privacy Protection Act of 1998	Collection or storage of personal information on children under the age of 13 by website operators, online services, and operators of websites or online services

Source: Various.<sup>209</sup>

Chinese firms are increasing their access to U.S. customer data through IoT products and services. Similar to U.S. firms, Chinese firms aggregate these data with their global customers to enhance their product and service offerings, among other uses. For example, Chinese dockless bikesharing firms Ofo and Mobike reserve the right to transmit, store, and process U.S. customer data outside of the United States.<sup>210</sup> Some U.S. firms have also agreed to share data on U.S. customers with their Chinese partners. For example, Facebook shared user data and contents—without explicit permission—with at least 60 device manufacturers, including Chinese mobile device manufacturers Huawei, Lenovo, OPPO, and TCL.<sup>211</sup> On June 6, 2018, Facebook announced it had ended more than half its 60 partnerships, including ones with Huawei, Lenovo, OPPO, and TCL.<sup>212</sup>

Chinese IoT devices may also expose U.S. data because IoT developers, vendors, and manufacturers did not thoroughly check components, firmware, or software for security vulnerabilities before bringing the product to market.<sup>213</sup> For example, lax security settings on IoT surveillance cameras from Dahua and Hikvision exposed thousands of customers to remote exploitation and monitoring before the companies released security patches.<sup>214</sup> And, once deployed, IoT devices often lack update protocols, leaving them vulnerable as new threats evolve.

The Chinese government retains expansive powers to access personal and corporate data in order to support its domestic firms, maintain control over its citizens, enhance governance, and ensure the security of sensitive data and related infrastructure.<sup>215</sup> The Chi-

nese government could potentially force Chinese firms to provide access to data collected on U.S. users—data that, when aggregated and analyzed, could reveal sensitive information.<sup>216</sup> For example, U.S. Immigration and Customs Enforcement in August 2017 alleged that DJI's commercial drones and software likely provided the Chinese government “with first and secondhand access” to U.S. critical infrastructure and law enforcement data.<sup>217</sup> The sharing of such sensitive data with the Chinese government—an economic and military competitor—could facilitate China's ability to coordinate physical or cyber attacks against U.S. critical infrastructure.<sup>218</sup> DJI denied these allegations.<sup>219</sup>

### **5G Wireless Technology**

Huawei and ZTE are competing against U.S. companies for 5G IP and an expected \$12.3 trillion in economic output, creating new challenges for the secure deployment of critical next generation telecommunications infrastructure in the United States.<sup>220</sup> As Doug Brake, director of telecommunications policy at the Information Technology and Innovation Foundation, noted, the “successful deployment of next generation wireless is a matter of national competitiveness.”<sup>221</sup>

U.S. leadership in 4G spurred rapid advancements in mobile phone applications.<sup>222</sup> Setting international standards provides a country a competitive edge in subsequent technology development. In a 2016 report prepared for the Commission, the University of California Institute on Global Conflict and Cooperation warned:

*If China leads in 5G technology, U.S. telecommunication companies could lose significant amounts of royalty income on patents. Chinese telecommunication companies have been able to negotiate waivers of royalty payments to U.S. semiconductor firm Qualcomm for TD-SCDMA and TD-LTE networks. However, they are still paying high licensing fees to Qualcomm when using the CDMA, WCDMA (3G), and FDD-LTE (4G) standards.*<sup>223</sup>

The loss of these licensing and royalty payments will affect the ability of U.S. firms to continue reinvesting in R&D, maintaining brand recognition, and achieving economics of scale, key factors in a firm's long-term economic competitiveness. In addition, if U.S. firms become uncompetitive (as they currently are in network equipment manufacturing), the United States will need to rely on foreign suppliers, creating supply chain vulnerabilities and a potential loss in the United States' technological edge. Mark Natkin, managing director of Marbridge Consulting, noted that beyond a commercial advantage, owning a significant portion of the patents is also a security advantage: “Whoever controls the technology knows, intimately, how it was built and where all the doors and buttons are.”<sup>224</sup>

### **Supply Chain Vulnerabilities**

U.S. telecommunications providers, particularly larger carriers such as AT&T and Verizon, lack U.S. network equipment suppliers and rely on global supply chains that Chinese firms and manufacturing dominate. Although they do not source from Huawei and ZTE, U.S. telecommunications providers (including AT&T, Sprint,

and T-Mobile) rely on other foreign 5G network equipment suppliers (such as Ericsson, Nokia, and Samsung) that incorporate Chinese manufacturing and assembly facilities into their global supply chains.<sup>225</sup> Even in enterprise WLAN, Ethernet switches, and routers—areas in which U.S. firm Cisco dominates—over a third of Cisco’s total shipments between 2012 and 2017 originated in China (largely from Cisco’s Chinese subsidiaries).<sup>226</sup>

While Cisco and other foreign firms may exert control over the location security, staff hiring, manufacturing, and quality control practices at their Chinese subsidiaries, these subsidiaries operate in a country where the government exerts significant influence over its businesses and legal systems.<sup>227</sup> This reliance on China-based manufacturing and the degree of Chinese government influence could provide opportunities for the Chinese government to force Chinese suppliers or manufacturers to modify products, facilitate espionage, or otherwise compromise telecommunications equipment.<sup>228</sup>

In February 2018, U.S. Federal Bureau of Investigation Director Christopher Wray reiterated longstanding concerns about the United States’ use of products and services from Huawei—the world’s largest telecommunications equipment manufacturer—stating:

*We’re deeply concerned about the risks of allowing any company or entity that is beholden to foreign governments that don’t share our values to gain positions of power inside our telecommunications networks. That provides the capacity to exert pressure or control over our telecommunications infrastructure. It provides the capacity to maliciously modify or steal information. And it provides the capacity to conduct undetected espionage.*<sup>229</sup>

In addition, U.S. allies and partners in Europe and Latin America have placed a greater share of their data and message traffic on Chinese-supplied telecommunications networks, potentially compromising their networks and facilitating China’s intelligence collection.<sup>230</sup>

### *Security Vulnerabilities*

Telecommunications networks are inherently vulnerable and targeted due to their critical importance to every facet of U.S. government, business, and society.<sup>231</sup> U.S. telecommunications infrastructure is largely built, owned, and operated by the private sector, which often prioritizes profit maximization over national security.<sup>232</sup> According to an April 2017 report by the U.S. Department of Homeland Security and U.S. National Institute of Standards and Technology, “There are no regulations requiring carriers to run encryption or provide privacy protections to users on their network.”<sup>233</sup> FCC Chairman Ajit Pai warned, “[H]idden ‘back doors’ to our networks in routers, switches—and virtually any other type of telecommunications equipment—can provide an avenue for hostile governments to inject viruses, launch denial-of-service attacks, steal data, and more.”<sup>234</sup>

For example, the existing routing systems used by major U.S. and foreign telecommunications carriers—Signaling System 7 and Diameter—contain longstanding cybersecurity vulnerabilities.<sup>235</sup> Foreign

governments exploit these vulnerabilities to track users, intercept calls and texts, and steal sensitive data.<sup>236</sup> A March 2018 report by the EU Agency for Network and Information Security found that around 72 percent of the 39 EU telecommunications providers surveyed believed the same routing vulnerabilities in 2G, 3G, and 4G will be present in 5G.<sup>237</sup> These vulnerabilities, combined with the greater speed and capacity of 5G networks, will increase the power and speed of malicious cyber attacks.<sup>238</sup>

According to a February 2017 report by the U.S. Defense Science Board, the Chinese and Russian governments are capable of holding existing U.S. telecommunications networks and other critical U.S. infrastructure at risk due to their massive resources and intelligence, supply chains, and cyber capabilities.<sup>239</sup> These governments could use their growing capabilities to undermine U.S. military responses, economic growth, financial services and systems, political institutions, and social cohesion.<sup>240</sup> In addition, the United States is increasingly dependent on China for IT and telecommunications manufacturing, creating supply chain vulnerabilities the Chinese government could exploit.

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# COMPREHENSIVE LIST OF THE COMMISSION'S RECOMMENDATIONS

## Chapter 1: U.S.-China Economic and Trade Relations

### *Section 2: Tools to Address U.S.-China Economic Challenges*

The Commission recommends:

1. 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.
2. 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.
3. 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.

### *Section 3: China's Agricultural Policies: Trade, Investment, Safety, and Innovation*

The Commission recommends:

4. Congress direct the U.S. Department of Agriculture to identify the extent to which China's asynchronous biotech review and approval system for agricultural products adversely impacts U.S. industry. As part of its review, the U.S. Department of Agriculture should work with the Office of the U.S. Trade Represen-

tative to seek bilateral or multilateral measures, as appropriate, to address these impacts.

5. Congress direct the U.S. Department of Agriculture, in collaboration with the U.S. Food and Drug Administration, to prepare an annual report on its technical engagement with China on food safety, inspection, mechanisms for addressing sanitary and phytosanitary problems, and any technical assistance provided to China to improve its food safety inspection regime.

## **Chapter 2: U.S.-China Security Relations**

### ***Section 2: China's Military Reorganization and Modernization: Implications for the United States***

The Commission recommends:

6. Congress direct the U.S. Department of Defense and U.S. Department of Homeland Security to provide to the relevant committees of jurisdiction a report, with a classified annex, assessing how the change in the China Coast Guard's command structure affects its status as a law enforcement entity now that it reports to the Central Military Commission. The report should discuss the implications of this new structure for China's use of the coast guard as a coercive tool in "gray zone" activity in the East and South China seas. This report should also determine how this change may affect U.S. Navy and U.S. Coast Guard interactions with the China Coast Guard, and whether the latter should be designated as a military force.
7. Congress consider imposing sanctions on key Chinese state-owned enterprises and individuals involved in China's ongoing militarization of the South China Sea.

## **Chapter 3: China and the World**

### ***Section 1: Belt and Road Initiative***

The Commission recommends:

8. Congress create a fund to provide additional bilateral assistance for countries that are a target of or vulnerable to Chinese economic or diplomatic pressure, especially in the Indo-Pacific region. The fund should be used to promote digital connectivity, infrastructure, and energy access. The fund could also be used to promote sustainable development, combat corruption, promote transparency, improve rule of law, respond to humanitarian crises, and build the capacity of civil society and the media.
9. Congress require the U.S. Department of State to prepare a report to Congress on the actions it is taking to provide an alternative, fact-based narrative to counter Chinese messaging on the Belt and Road Initiative (BRI). Such a report should also examine where BRI projects fail to meet international standards and highlight the links between BRI and China's attempts to suppress information about and misrepresent reporting of its human rights abuses of Uyghurs in Xinjiang.

10. Congress require the Director of National Intelligence to produce a National Intelligence Estimate (NIE), with a classified annex, that details the impact of existing and potential Chinese access and basing facilities along the Belt and Road on freedom of navigation and sea control, both in peacetime and during a conflict. The NIE should cover the impact on U.S., allied, and regional political and security interests.

### ***Section 2: China's Relations with U.S. Allies and Partners***

The Commission recommends:

11. Congress direct the Administration to strengthen cooperation between the United States and its allies and partners in Europe and the Indo-Pacific on shared economic and security interests and policies pertaining to China, including through the following measures:
  - Urge the Administration to engage in regular information sharing and joint monitoring of Chinese investment activities and to share best practices regarding screening of foreign investments with national security implications, including development of common standards for screening mechanisms.
  - Enhance consultations on mitigating the export of dual-use technology to China and identifying other foundational technologies essential for national security.
12. Congress direct the U.S. Department of Justice to:
  - Examine the application of current U.S. laws, including the “Conspiracy against Rights” law, to prosecuting Chinese Communist Party affiliates who threaten, coerce, or otherwise intimidate U.S. residents.
  - Clarify that labels required by the Foreign Agents Registration Act on informational materials disseminated on behalf of foreign principals, such as *China Daily*, must appear prominently at the top of the first page of such materials.
13. Congress direct the National Counterintelligence and Security Center to produce an unclassified annual report, with a classified annex, on the Chinese Communist Party's influence and propaganda activities in the United States.
14. Congress direct the Administration to discuss in its engagements with the EU and NATO the implications of China's increasingly close military ties with Russia and growing importance to transatlantic security interests. Such discussions would include how Europe and NATO can promote the exchange of information on common defense and other challenges posed by China and Russia, including both countries' influence operations.

### ***Section 3: China and Taiwan***

The Commission recommends:

15. Congress direct the Office of the U.S. Trade Representative to resume meetings under the U.S.-Taiwan Trade and Investment Framework Agreement in 2019 and to identify enhanced negotiating procedures to resolve outstanding issues.

16. Congress direct the Administration to produce an interagency report on a whole-of-government strategy for supporting Taiwan's engagement with the international community, including consideration of, but not limited to, the following actions:
  - Explore opportunities for providing proactive development and security assistance to Taiwan's diplomatic partners in an effort to encourage them to maintain ties with Taipei.
  - Identify adjustments the United States could take in its relations with Taiwan in response to Beijing altering the cross-strait status quo and taking coercive action to pressure Taipei.
  - Discuss cross-strait relations and U.S. policy regarding Taiwan in meetings with U.S. allied and partner governments and support an expansion of commercial, cultural, and other exchanges between Taiwan and those countries.
  - Establish a high-level bilateral U.S.-Taiwan development dialogue to encourage Taiwan's role in promoting sustainable global development.
  - Identify key international organizations that would benefit from Taiwan's expertise and participation, and focus high-level U.S. advocacy efforts to secure Taiwan's membership or participation in these organizations.
17. Congress consider amending antiboycott laws under the Export Administration Act or pass new legislation to prohibit U.S. companies from complying with China's efforts to apply pressure on Taiwan. Such legislation could include measures authorizing reciprocal sanctions on Chinese entities in the event of Chinese government retaliation against U.S. companies.
18. Congress direct the U.S. Department of Defense to support the implementation of Taiwan's new Overall Defense Concept and take actions that support Taiwan's ability to maintain a sufficient self-defense capability by including Taiwan military personnel as participants or observers in U.S. and U.S.-led multilateral military exercises; conducting regular high-level exchanges of military planning and other advisory personnel pursuant to the Taiwan Travel Act; and considering the potential for assisting Taiwan with the creative acquisition of critical defense articles, including through coproduction of defense technology between U.S. and Taiwan companies.
19. Congress consider raising the threshold of congressional notification on sales of defense articles and services to Taiwan to those set for major U.S. allies, and terminating any requirement to provide notification of maintenance and sustainment of Taiwan's existing capabilities.
20. Congress express support for the Tsai Administration's approach to maintaining the status quo in the Taiwan Strait.

#### ***Section 4: China and Hong Kong***

The Commission recommends:

21. Congress direct the U.S. Department of Commerce and other relevant government agencies to prepare an unclassified public

report, with a classified annex, examining and assessing the adequacy of U.S. export control policy for dual-use technology as it relates to U.S. treatment of Hong Kong and China as separate customs areas.

22. Congressional interparliamentary groups engage parliamentarians from the United Kingdom, EU, and Taiwan in a biennial review of China's adherence to the Basic Law, with specific attention to rule of law, freedom of speech and assembly, and press freedom, and issue a report based on its findings after each review.
23. Members of Congress participate in congressional delegations to Hong Kong and meet with Hong Kong officials, prodemocracy legislators, civil society, and business representatives in the territory and when they visit the United States. In meetings with Hong Kong and Chinese officials, they should raise concerns about Beijing's adherence to the "one country, two systems" policy and China's promise to allow Hong Kong a "high degree of autonomy." They should also continue to express support for freedom of expression and rule of law in Hong Kong.

### ***Section 5: China's Evolving North Korea Strategy***

The Commission recommends:

24. Congress direct the U.S. Department of the Treasury to provide a report within 180 days on the current state of Chinese enforcement of sanctions on North Korea. A classified annex should provide a list of Chinese financial institutions, businesses, and officials involved in trading with North Korea that could be subject to future sanctions, and should explain the potential broader impacts of sanctioning those entities.

## **Chapter 4: China's High-Tech Development**

### ***Section 1: Next Generation Connectivity***

The Commission recommends:

25. Congress require the Office of Management and Budget's Federal Chief Information Security Officer Council to prepare an annual report to Congress to ensure supply chain vulnerabilities from China are adequately addressed. This report should collect and assess:
  - Each agency's plans for supply chain risk management and assessments;
  - Existing departmental procurement and security policies and guidance on cybersecurity, operations security, physical security, information security and data security that may affect information and communications technology, 5G networks, and Internet of Things devices; and
  - Areas where new policies and guidance may be needed—including for specific information and communications technology, 5G networks, and Internet of Things devices, applications, or procedures—and where existing security policies and guidance can be updated to address supply chain, cyber,

operations, physical, information, and data security vulnerabilities.

26. Congress direct the National Telecommunications and Information Administration and Federal Communications Commission to identify (1) steps to ensure the rapid and secure deployment of a 5G network, with a particular focus on the threat posed by equipment and services designed or manufactured in China; and (2) whether any new statutory authorities are required to ensure the security of domestic 5G networks.

## **APPENDIX I CHARTER**

The Commission was created on October 30, 2000 by the Floyd D. Spence National Defense Authorization Act of 2001, Pub. L. No. 106–398 (codified at 22 U.S.C. § 7002), as amended by:

- The Treasury and General Government Appropriations Act, 2002, Pub. L. No. 107–67 (Nov. 12, 2001) (regarding employment status of staff and changing annual report due date from March to June);
- The Consolidated Appropriations Resolution, 2003, Pub. L. No. 108–7 (Feb. 20, 2003) (regarding Commission name change, terms of Commissioners, and responsibilities of the Commission);
- The Science, State, Justice, Commerce, and Related Agencies Appropriations Act, 2006, Pub. L. No. 109–108 (Nov. 22, 2005) (regarding responsibilities of the Commission and applicability of FACA);
- The Consolidated Appropriations Act, 2008, Pub. L. No. 110–161 (Dec. 26, 2007) (regarding submission of accounting reports, printing and binding, compensation for the executive director, changing annual report due date from June to December, and travel by members of the Commission and its staff);
- The Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113–291 (Dec. 19, 2014) (regarding responsibilities of the Commission).

### **22 U.S.C. § 7002. United States-China Economic and Security Review Commission**

#### **(a) Purposes**

The purposes of this section are as follows:

(1) To establish the United States-China Economic and Security Review Commission to review the national security implications of trade and economic ties between the United States and the People’s Republic of China.

(2) To facilitate the assumption by the United States-China Economic and Security Review Commission of its duties regarding the review referred to in paragraph (1) by providing for the transfer to that Commission of staff, materials, and infrastructure (including leased premises) of the Trade Deficit Review Commission that are appropriate for the review upon the submittal of the final report of the Trade Deficit Review Commission.

(b) Establishment of United States-China Economic and Security Review Commission

## (1) In general

There is hereby established a commission to be known as the United States-China Economic and Security Review Commission (in this section referred to as the “Commission”).

## (2) Purpose

The purpose of the Commission is to monitor, investigate, and report to Congress on the national security implications of the bilateral trade and economic relationship between the United States and the People’s Republic of China.

## (3) Membership

The Commission shall be composed of 12 members, who shall be appointed in the same manner provided for the appointment of members of the Trade Deficit Review Commission under section 127(c)(3) of the Trade Deficit Review Commission Act (19 U.S.C. 2213 note), except that—

(A) appointment of members by the Speaker of the House of Representatives shall be made after consultation with the chairman of the Committee on Armed Services of the House of Representatives, in addition to consultation with the chairman of the Committee on Ways and Means of the House of Representatives provided for under clause (iii) of subparagraph (A) of that section;

(B) appointment of members by the President pro tempore of the Senate upon the recommendation of the majority leader of the Senate shall be made after consultation with the chairman of the Committee on Armed Services of the Senate, in addition to consultation with the chairman of the Committee on Finance of the Senate provided for under clause (i) of that subparagraph;

(C) appointment of members by the President pro tempore of the Senate upon the recommendation of the minority leader of the Senate shall be made after consultation with the ranking minority member of the Committee on Armed Services of the Senate, in addition to consultation with the ranking minority member of the Committee on Finance of the Senate provided for under clause (ii) of that subparagraph;

(D) appointment of members by the minority leader of the House of Representatives shall be made after consultation with the ranking minority member of the Committee on Armed Services of the House of Representatives, in addition to consultation with the ranking minority member of the Committee on Ways and Means of the House of Representatives provided for under clause (iv) of that subparagraph;

(E) persons appointed to the Commission shall have expertise in national security matters and United States-China relations, in addition to the expertise provided for under subparagraph (B)(i)(I) of that section;

(F) each appointing authority referred to under subparagraphs (A) through (D) of this paragraph shall—

(i) appoint 3 members to the Commission;

(ii) make the appointments on a staggered term basis, such that—

(I) 1 appointment shall be for a term expiring on December 31, 2003;

(II) 1 appointment shall be for a term expiring on December 31, 2004; and

(III) 1 appointment shall be for a term expiring on December 31, 2005;

(iii) make all subsequent appointments on an approximate 2-year term basis to expire on December 31 of the applicable year; and

(iv) make appointments not later than 30 days after the date on which each new Congress convenes;

(G) members of the Commission may be reappointed for additional terms of service as members of the Commission; and

(H) members of the Trade Deficit Review Commission as of October 30, 2000, shall serve as members of the Commission until such time as members are first appointed to the Commission under this paragraph.

(4) Retention of support

The Commission shall retain and make use of such staff, materials, and infrastructure (including leased premises) of the Trade Deficit Review Commission as the Commission determines, in the judgment of the members of the Commission, are required to facilitate the ready commencement of activities of the Commission under subsection (c) or to carry out such activities after the commencement of such activities.

(5) Chairman and Vice Chairman

The members of the Commission shall select a Chairman and Vice Chairman of the Commission from among the members of the Commission.

(6) Meetings

(A) Meetings

The Commission shall meet at the call of the Chairman of the Commission.

(B) Quorum

A majority of the members of the Commission shall constitute a quorum for the transaction of business of the Commission.

(7) Voting

Each member of the Commission shall be entitled to one vote, which shall be equal to the vote of every other member of the Commission.

(c) Duties

(1) Annual report

Not later than December 1 each year (beginning in 2002), the Commission shall submit to Congress a report, in both unclassified and classified form, regarding the national security implications and impact of the bilateral trade and economic relationship between the United States and the People's Republic of China. The report shall include a full analysis, along with conclusions and recommendations for legislative and administrative actions, if any, of the national security implications for the United States of the trade and current balances with the People's Republic of China in goods and services, financial transactions, and technology transfers. The Commission shall also take into account patterns of trade and transfers through third countries to the extent practicable.

(2) Contents of report

Each report under paragraph (1) shall include, at a minimum, a full discussion of the following:

(A) The role of the People's Republic of China in the proliferation of weapons of mass destruction and other weapon systems (including systems and technologies of a dual use nature), including actions the United States might take to encourage the People's Republic of China to cease such practices.

(B) The qualitative and quantitative nature of the transfer of United States production activities to the People's Republic of China, including the relocation of manufacturing, advanced technology and intellectual property, and research and development facilities, the impact of such transfers on the national security of the United States (including the dependence of the national security industrial base of the United States on imports from China), the economic security of the United States, and employment in the United States, and the adequacy of United States export control laws in relation to the People's Republic of China.

(C) The effects of the need for energy and natural resources in the People's Republic of China on the foreign and military policies of the People's Republic of China, the impact of the large and growing economy of the People's Republic of China on world energy and natural resource supplies, prices, and the environment, and the role the United States can play (including through joint research and development efforts and technological assistance) in influencing the energy and natural resource policies of the People's Republic of China.

(D) Foreign investment by the United States in the People's Republic of China and by the People's Republic of China in the United States, including an assessment of its economic and security implications, the challenges to market access confronting potential United States investment in the People's Republic of China, and foreign activities by financial institutions in the People's Republic of China.

(E) The military plans, strategy and doctrine of the People's Republic of China, the structure and organization of the People's Republic of China military, the decision-making process of the People's Republic of China military, the interaction between the civilian and military leadership in the People's Republic of China, the development and promotion process for leaders in the People's Republic of China military, deployments of the People's Republic of China military, resources available to the People's Republic of China military (including the development and execution of budgets and the allocation of funds), force modernization objectives and trends for the People's Republic of China military, and the implications of such objectives and trends for the national security of the United States.

(F) The strategic economic and security implications of the cyber capabilities and operations of the People's Republic of China.

(G) The national budget, fiscal policy, monetary policy, capital controls, and currency management practices of the People's Republic of China, their impact on internal stability in the People's Republic of China, and their implications for the United States.

(H) The drivers, nature, and implications of the growing economic, technological, political, cultural, people-to-people, and security relations of the People's Republic of China's with other countries, regions, and international and regional entities (including multilateral organizations), including the relationship among the United States, Taiwan, and the People's Republic of China.

(I) The compliance of the People's Republic of China with its commitments to the World Trade Organization, other multilateral commitments, bilateral agreements signed with the United States, commitments made to bilateral science and technology programs, and any other commitments and agreements strategic to the United States (including agreements on intellectual property rights and prison labor imports), and United States enforcement policies with respect to such agreements.

(J) The implications of restrictions on speech and access to information in the People's Republic of China for its relations with the United States in economic and security policy, as well as any potential impact of media control by the People's Republic of China on United States economic interests.

(K) The safety of food, drug, and other products imported from China, the measures used by the People's Republic of China Government and the United States Government to monitor and enforce product safety, and the role the United States can play (including through technical assistance) to improve product safety in the People's Republic of China.

(3) Recommendations of report

Each report under paragraph (1) shall also include recommendations for action by Congress or the President, or both, including specific recommendations for the United States to invoke Article XXI (relating to security exceptions) of the General Agreement on Tariffs and Trade 1994 with respect to the People's Republic of China, as a result of any adverse impact on the national security interests of the United States.

(d) Hearings

(1) In general

The Commission or, at its direction, any panel or member of the Commission, may for the purpose of carrying out the provisions of this section, hold hearings, sit and act at times and places, take testimony, receive evidence, and administer oaths to the extent that the Commission or any panel or member considers advisable.

(2) Information

The Commission may secure directly from the Department of Defense, the Central Intelligence Agency, and any other Federal department or agency information that the Commission considers necessary to enable the Commission to carry out its duties under this section, except the provision of intelligence information to the Commission shall be made with due regard for the protection from unauthorized disclosure of classified information relating to sensitive intelligence sources and methods or other exceptionally sensitive matters, under procedures approved by the Director of Central Intelligence.

(3) Security

The Office of Senate Security shall—

(A) provide classified storage and meeting and hearing spaces, when necessary, for the Commission; and

(B) assist members and staff of the Commission in obtaining security clearances.

(4) Security clearances

All members of the Commission and appropriate staff shall be sworn and hold appropriate security clearances.

(e) Commission personnel matters

(1) Compensation of members

Members of the Commission shall be compensated in the same manner provided for the compensation of members of the Trade Deficit Review Commission under section 127(g)(1) and section 127(g)(6) of the Trade Deficit Review Commission Act (19 U.S.C. 2213 note).

(2) Travel expenses

Travel expenses of the Commission shall be allowed in the same manner provided for the allowance of the travel expenses of the Trade Deficit Review Commission under section 127(g)(2) of the Trade Deficit Review Commission Act.

(3) Staff

An executive director and other additional personnel for the Commission shall be appointed, compensated, and terminated in the same manner provided for the appointment, compensation, and termination of the executive director and other personnel of the Trade Deficit Review Commission under section 127(g)(3) and section 127(g)(6) of the Trade Deficit Review Commission Act. The executive director and any personnel who are employees of the United States-China Economic and Security Review Commission shall be employees under section 2105 of title 5 for purposes of chapters 63, 81, 83, 84, 85, 87, 89, and 90 of that title. [Amended by P.L. 111–117 to apply section 308(e) of the United States China Relations Act of 2000 (22 U.S.C. 6918(e)) (relating to the treatment of employees as Congressional employees) to the Commission in the same manner as such section applies to the Congressional-Executive Commission on the People’s Republic of China.]

(4) Detail of government employees

Federal Government employees may be detailed to the Commission in the same manner provided for the detail of Federal Government employees to the Trade Deficit Review Commission under section 127(g)(4) of the Trade Deficit Review Commission Act.

(5) Foreign travel for official purposes

Foreign travel for official purposes by members and staff of the Commission may be authorized by either the Chairman or the Vice Chairman of the Commission.

(6) Procurement of temporary and intermittent services

The Chairman of the Commission may procure temporary and intermittent services for the Commission in the same manner provided for the procurement of temporary and intermittent services for the Trade Deficit Review Commission under section 127(g)(5) of the Trade Deficit Review Commission Act.

(f) Authorization of appropriations

(1) In general

There is authorized to be appropriated to the Commission for fiscal year 2001, and for each fiscal year thereafter, such sums as may be necessary to enable the Commission to carry out its functions under this section.

## (2) Availability

Amounts appropriated to the Commission shall remain available until expended.

## (g) Applicability of FACA

The provisions of the Federal Advisory Committee Act (5 U.S.C. App.) shall apply to the activities of the Commission.

## (h) Effective date

This section shall take effect on the first day of the 107th Congress.

(Pub. L. 106–398, § 1 [[div. A], title XII, § 1238], Oct. 30, 2000, 114 Stat. 1654 , 1654A–334; Pub. L. 107–67, title VI, §§ 645(a), 648, Nov. 12, 2001, 115 Stat. 556; Pub. L. 108–7, div. P, § 2(b)(1), (c)(1), Feb. 20, 2003, 117 Stat. 552; Pub. L. 109–108, title VI, § 635(b), Nov. 22, 2005, 119 Stat. 2347; Pub. L. 110–161, div. J, title I, Dec. 26, 2007, 121 Stat. 2285; Pub. L. 113–291, div. A, title XII, § 1259B(a), Dec. 19, 2014, 128 Stat. 3578.)

**Amendments**

2014—Subsec. (c)(2). Pub. L. 113–291 added subpars. (A) to (K) and struck out former subpars. (A) to (J) which described required contents of report.

2007—Subsec. (c)(1). Pub. L. 110–161 substituted “December” for “June”.

2005—Subsec. (g). Pub. L. 109–108 amended heading and text of subsec. (g) generally. Prior to amendment, text read as follows: “The provisions of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Commission.”

2003—Pub. L. 108–7, § 2(b)(1)(A), inserted “Economic and” before “Security” in section catchline.

Subsec. (a)(1), (2). Pub. L. 108–7, § 2(b)(1)(B), inserted “Economic and” before “Security”.

Subsec. (b). Pub. L. 108–7, § 2(b)(1)(C)(i), inserted “Economic and” before “Security” in heading.

Subsec. (b)(1). Pub. L. 108–7, § 2(b)(1)(C)(ii), inserted “Economic and” before “Security”.

Subsec. (b)(3). Pub. L. 108–7, § 2(b)(1)(C)(iii)(I), which directed the amendment of introductory provisions by inserting “Economic and” before “Security”, could not be executed because “Security” does not appear.

Subsec. (b)(3)(F). Pub. L. 108–7, § 2(c)(1), added subpar. (F) and struck out former subpar. (F) which read as follows: “members shall be appointed to the Commission not later than 30 days after the date on which each new Congress convenes;”.

Subsec. (b)(3)(H), (4), (e)(1), (2). Pub. L. 108–7, § 2(b)(1)(C)(iii)(II), (iv), (D)(i), (ii), which directed insertion of “Economic and” before “Security”, could not be executed because “Security” does not appear.

Subsec. (e)(3). Pub. L. 108–7, § 2(b)(1)(D)(iii)(II), inserted “Economic and” before “Security” in second sentence.

Pub. L. 108–7, § 2(b)(1)(D)(iii)(I), which directed the amendment of first sentence by inserting “Economic and” before “Security”, could not be executed because “Security” does not appear.

Subsec. (e)(4), (6). Pub. L. 108-7, §2(b)(1)(D)(iv), (v), which directed the amendment of pars. (4) and (6) by inserting “Economic and” before “Security”, could not be executed because “Security” does not appear.

2001—Subsec. (c)(1). Pub. L. 107-67, §648, substituted “June” for “March”.

Subsec. (e)(3). Pub. L. 107-67, §645(a), inserted at end “The executive director and any personnel who are employees of the United States-China Security Review Commission shall be employees under section 2105 of title 5 for purposes of chapters 63, 81, 83, 84, 85, 87, 89, and 90 of that title.”

## **APPENDIX II**

### **BACKGROUND OF COMMISSIONERS**

#### **Robin Cleveland, PhD, Chairman**

Chairman Cleveland was reappointed by Senate Republican Leader Mitch McConnell for a two-year term expiring December 31, 2018. After three decades of government service, Chairman Cleveland received her PhD in Counseling and is now in private practice. Previously, she served as the Executive Director of the Office of Student Life at the Graduate School of Education and Human Development at The George Washington University. Chairman Cleveland worked for U.S. Senator Mitch McConnell in a number of positions in his personal office, on the Senate Select Committee on Intelligence, the Foreign Relations Committee, and the Senate Appropriations Committee. In addition, Chairman Cleveland served as the Counselor to the President of the World Bank, and as the Associate Director of the Office of Management and Budget in the Executive Office of the President. During her tenure serving President Bush, Chairman Cleveland co-led the interagency effort to develop and implement two Presidential initiatives: the Millennium Challenge Corporation and the President's Emergency Plan for AIDS Relief. These efforts reflect her commitment to link policy, performance, and resource management.

Chairman Cleveland graduated from Wesleyan University with honors and received her Masters and PhD in Counseling from The George Washington University.

#### **Carolyn Bartholomew, Vice Chairman**

Vice Chairman Carolyn Bartholomew was reappointed to the Commission by House Democratic Leader Nancy Pelosi for a two-year term expiring on December 31, 2019. She previously served as the Commission's chairman for the 2007, 2009, and 2017 report cycles and served as vice chairman for the 2006, 2008, 2010, and 2016 report cycles.

Vice Chairman Bartholomew has worked at senior levels in the U.S. Congress, serving as counsel, legislative director, and chief of staff to now House Democratic Leader Nancy Pelosi. She was a professional staff member on the House Permanent Select Committee on Intelligence and also served as a legislative assistant to then U.S. Representative Bill Richardson.

In these positions, Vice Chairman Bartholomew was integrally involved in developing U.S. policies on international affairs and security matters. She has particular expertise in U.S.-China relations, including issues related to trade, human rights, and the proliferation of weapons of mass destruction. Vice Chairman Bar-

tholomew led efforts in the establishment and funding of global AIDS programs and the promotion of human rights and democratization in countries around the world. She was a member of the first Presidential Delegation to Africa to Investigate the Impact of HIV/AIDS on Children and a member of the Council on Foreign Relations' Congressional Staff Roundtable on Asian Political and Security Issues.

In addition to U.S.-China relations, her areas of expertise include terrorism, trade, proliferation of weapons of mass destruction, human rights, U.S. foreign assistance programs, and international environmental issues. She is a consultant to non-profit organizations and also serves on the board of directors of the Kaiser Aluminum Corporation.

Vice Chairman Bartholomew received a Bachelor of Arts degree from the University of Minnesota, a Master of Arts in Anthropology from Duke University, and a Juris Doctorate from Georgetown University Law Center. She is a member of the State Bar of California.

### **The Honorable Carte P. Goodwin**

Senator Carte P. Goodwin was appointed to the Commission by Senate Democratic Leader Chuck Schumer for a two-year term expiring on December 31, 2019.

He is an attorney with the law firm Frost Brown Todd, LLC where he serves as the Member-in-Charge of its Charleston office, vice chair of the Appellate Practice Group, and a member of Civic Point, the firm's government affairs subsidiary. Goodwin's practice includes litigation and appellate advocacy, and advising clients on government relations, intellectual property matters and commercial transactions.

In July of 2010, West Virginia Governor Joe Manchin III appointed Goodwin to the United States Senate to fill the vacancy caused by the passing of Senator Robert C. Byrd, where he served until a special election was held to fill the remainder of Senator Byrd's unexpired term.

From 2005 to 2009, Goodwin served four years as General Counsel to Governor Manchin, during which time he also chaired the Governor's Advisory Committee on Judicial Nominations. In addition, Goodwin chaired the West Virginia School Building Authority and served as a member of the State Consolidated Public Retirement Board. Following his return to private practice in 2009, Goodwin was appointed to chair the Independent Commission on Judicial Reform, along with former Supreme Court Justice Sandra Day O'Connor, which was tasked with evaluating the need for broad systemic reform to West Virginia's judicial system.

Goodwin also previously worked as a law clerk for the Honorable Robert B. King of the United States Court of Appeals for the Fourth Circuit. A native of Mt. Alto, West Virginia, Goodwin received his Bachelor of Arts degree in Philosophy from Marietta College in Marietta, Ohio, in 1996 and received his Doctor of Law degree from the Emory University School of Law, graduating Order of the Coif in 1999.

Goodwin currently resides in Charleston, West Virginia, with his wife, Rochelle; son, Wesley Patrick; and daughter, Anna Vail.

## Glenn Hubbard, PhD

Glenn Hubbard was named dean of Columbia Business School on July 1, 2004. A Columbia faculty member since 1988, he is also the Russell L. Carson Professor of Finance and Economics.

Hubbard received his BA and BS degrees summa cum laude from the University of Central Florida, where he received the National Society of Professional Engineers Award. He also holds AM and PhD degrees in economics from Harvard University. After graduating from Harvard, Hubbard began his teaching career at Northwestern University, moving to Columbia in 1988. He has been a visiting professor at Harvard's Kennedy School of Government and Harvard Business School as well as the University of Chicago. Hubbard also held the John M. Olin Fellowship at the National Bureau of Economic Research.

In addition to writing more than 100 scholarly articles in economics and finance, Glenn is the author of three popular textbooks, as well as co-author of *The Aid Trap: Hard Truths About Ending Poverty*, *Balance: The Economics of Great Powers From Ancient Rome to Modern America*, and *Healthy, Wealthy, and Wise: Five Steps to a Better Health Care System*. His commentaries appear in *Business Week*, the *Wall Street Journal*, the *New York Times*, the *Financial Times*, the *Washington Post*, *Nikkei*, and the *Daily Yomiuri*, as well as on television and radio.

In government, Hubbard served as deputy assistant secretary for tax policy at the U.S. Treasury Department from 1991 to 1993. From February 2001 until March 2003, he was chairman of the U.S. Council of Economic Advisers under President George W. Bush. While serving as CEA chairman, he also chaired the economic policy committee of the OECD. In the corporate sector, he is a director of ADP, BlackRock Closed-End Funds, and MetLife. Hubbard is co-chair of the Committee on Capital Markets Regulation; he is a past Chair of the Economic Club of New York and a past co-chair of the Study Group on Corporate Boards.

Hubbard and his family live in New York.

## Roy D. Kamphausen

Commissioner Roy Kamphausen was appointed by Senate Republican Leader Mitch McConnell for a two-year term expiring December 31, 2019. He is Senior Vice President for Research at The National Bureau of Asian Research (NBR) where he provides executive leadership to NBR's policy research agenda on security, politics, energy, economics, and trade. As a specialist on a range of U.S.-Asia issues, Mr. Kamphausen leads and contributes substantively to NBR's research initiatives. He is the author, contributing author, or co-editor of numerous publications, including chapters in NBR's *Strategic Asia* series; the Carlisle People's Liberation Army Conference series and its most recent volume, *The Chinese People's Liberation Army in 2025* (co-edited with David Lai, 2015); an NBR Special Report on innovation in India (2015); and the IP Commission's *Report on the Theft of American Intellectual Property* (2013 and 2017). His areas of expertise include China's People's Liberation Army, U.S.-China defense relations, East Asian security issues, innovation, and intellectual property protection. He has presented

on these topics throughout the United States, Asia, and Europe to government and corporate decision-makers. Mr. Kamphausen is frequently cited in U.S. and international media, including CNN, the *Financial Times*, *Foreign Policy*, National Public Radio, *Newsweek*, and the *New York Times*.

Mr. Kamphausen is a senior adviser on East Asia for the University of Connecticut's Office of Global Affairs. He has previously served as an adjunct associate professor at Columbia University's School of International and Public Affairs. He lectures regularly at leading U.S. military institutions, including the U.S. Military Academy (West Point) and the U.S. Army War College. Mr. Kamphausen regularly briefs members of Congress and advises the U.S. Department of Defense.

Prior to joining NBR, Mr. Kamphausen served as a career U.S. Army officer. A China foreign area officer, his career included assignments as China policy director in the Office of the Secretary of Defense, China strategist for the chairman of the Joint Chiefs of Staff, and a military attaché at the U.S. Embassy in Beijing.

Mr. Kamphausen holds a BA in Political Science from Wheaton College and an MA in International Affairs from Columbia University. He studied Chinese at both the Defense Language Institute and Beijing's Capital Normal University. He is a member of the National Committee on U.S.-China Relations. He is married to Arminde and they have three children—Abigail, Hudson, and Delaney.

### **Michael A. McDevitt**

Rear Admiral (Ret.) Michael McDevitt is a Senior Fellow at CNA, a Washington, DC area non-profit research and analysis company. During his 21 years at CNA he served as a Vice President responsible for strategic analyses, especially in East Asia and the Middle East. He has been involved in U.S. security policy and strategy in the Asia-Pacific for the last 28 years, in both government policy positions and, following his retirement from the U.S. Navy, as an analyst and commentator.

During his 34 year navy career he had four at sea warship commands, including an aircraft carrier battle group. He was the Director of the East Asia and Pacific policy office during the George H.W. Bush Administration, and also served as the Director of Strategy and Policy (J-5) for United States Pacific Command. His last assignment before retirement was a Commandant of the National War College in Washington, DC. He is a graduate of the University of Southern California and Georgetown University where his MA focused on U.S. East Asian diplomatic history. He also attended the National War College and spent a year as a Chief of Naval Operations Fellow on the Strategic Study Group at the Naval War College.

His most recent research includes a study on U.S. Policy Options and the South China Sea ([https://www.cna.org/CNA\\_files/PDF/IOP-2014-U-009109.pdf](https://www.cna.org/CNA_files/PDF/IOP-2014-U-009109.pdf)), and a study of security issues from a maritime perspective in the Indo-Pacific region ([https://www.cna.org/CNA\\_files/PDF/IRP-2013-U-004654-Final.pdf](https://www.cna.org/CNA_files/PDF/IRP-2013-U-004654-Final.pdf)). Most recently he completed a two-year study on China's ambition to become a maritime great power ([https://www.cna.org/cna\\_files/pdf/IRM-2016-U-013646.pdf](https://www.cna.org/cna_files/pdf/IRM-2016-U-013646.pdf)).

### **The Honorable Jonathan N. Stivers**

Jonathan Stivers was appointed to the Commission by House Democratic Leader Nancy Pelosi for a term expiring on December 31, 2018. Commissioner Stivers has more than two decades of experience in the Executive and Legislative Branches focusing on foreign policy including U.S.-China relations, Asian Affairs, trade, global economics and finance, development, global health, and democracy and human rights.

Commissioner Stivers currently serves as the Vice President for International Affairs at The Sheridan Group. In the Obama Administration, Commissioner Stivers served as the Assistant Administrator for the Bureau for Asia at the U.S. Agency for International Development (USAID). In this Senate-confirmed position he managed a budget of approximately \$1.2 billion in foreign assistance and led a staff of approximately 1,200 development professionals in 32 countries in East Asia and the Pacific Islands, South Asia and Central Asia. He testified before Congressional committees on almost two dozen occasions on topics such as the Asia-Pacific Rebalance policy, China's Belt and Road Initiative, annual budget requests, the democratic transition in Burma, earthquake recovery in Nepal, democracy and human rights in Southeast Asia, and sustainable development and property rights in the Philippines and Cambodia.

During his time in the Administration Commissioner Stivers led USAID efforts to promote democratic reform in Burma including the U.S. serving as the lead donor for the 2015 election paving the way for the first democratic government in over 50 years. Other actions included developing the plan to support earthquake recovery and reconstruction in Nepal, leading the effort to create an innovative anti-human trafficking program in Southeast Asia, designing a strategic plan to support new democratic reform in Sri Lanka, and helping to heal wounds of the past in Vietnam and Laos through development initiatives. He also participated in high-level dialogues including the U.S.-India Strategic & Commercial Dialogue in New Delhi and the U.S.-China Development Cooperation Dialogue in Beijing.

In the U.S. Congress, Commissioner Stivers served as Senior Advisor to the Speaker of the U.S. House of Representatives and Democratic Leader Pelosi. He played a leadership role on numerous foreign policy initiatives related to trade, global health, development and human rights. He played a key role in advancing legislation that provided historic increases in global health funding, securing emergency relief after the Haiti earthquake, passing the JADE Act that tightened sanctions on the Burmese government and passing the Currency Reform Act in the House of Representatives.

While serving in the Democratic Leadership, he was responsible for the operations of the Steering & Policy Committee including all committee assignments and appointments. He also worked on the House floor to help count votes and build support on major legislation including the Affordable Care Act, Wall Street Reform, the War in Iraq, and annual budget and appropriations legislation.

Commissioner Stivers also served as Senior Legislative Assistant to the Ranking Member of the Appropriations Subcommittee on Foreign Operations and in the Office of the Democratic Whip. In these

positions, he wrote and negotiated foreign policy provisions in the annual appropriations legislation and gained expertise in parliamentary procedure, communications, and member services.

Commissioner Stivers earned a Masters of International Policy and Practice from The Elliott School of International Affairs at The George Washington University in Asian Affairs and a Bachelor of Arts from James Madison College at Michigan State University in International Relations.

Originally from Detroit, Michigan, Commissioner Stivers currently resides in Washington, DC with his wife and two daughters.

### **The Honorable James M. Talent**

Senator Jim Talent was appointed by Senate Republican Leader Mitch McConnell for a two-year term expiring December 31, 2019. Senator Jim Talent is a national security leader who specializes in issues related to the Department of Defense. He has been active in Missouri and national public policy for over 25 years.

Senator Talent's public service began in 1984, when at the age of 28 he was elected to the Missouri House of Representatives where he served eight years, the last four as the Republican leader in the Missouri House.

In 1992, he was elected to the first of four terms in the U.S. House of Representatives where he represented Missouri's Second Congressional District. During his eight years in the U.S. House of Representatives, Talent co-authored the historic welfare reform bill, championed national security issues on the House Armed Services Committee, and enacted legislation to help revitalize distressed neighborhoods, both urban and rural. He was the Chairman of the House Small Business Committee from 1997–2001, where he worked on regulatory reform issues and on legislation to lower health care costs for small business people and their employees. Under Senator Talent's leadership, the Small Business Committee became one of the most prolific and bi-partisan in the House of Representatives, passing numerous bills without a single dissenting vote.

In 2002, Missourians elected Talent to serve in the United States Senate where he worked with Republicans and Democrats to enact critical legislation for Missouri. He served on the Senate Armed Services, Energy and Natural Resources, and Agriculture Committees. Working with Oregon Democrat Ron Wyden, Senator Talent was successful in securing critical funding through construction bonding in the highway bill. He and Senator Dianne Feinstein (D-CA) succeeded in passing the most comprehensive anti-methamphetamine bill ever enacted into law. Senator Talent was a leader on energy issues and was instrumental in the passage of the renewable fuel standard.

After leaving the Senate in 2007, Senator Talent joined The Heritage Foundation as a Distinguished Fellow specializing in military affairs and conservative solutions to poverty. In 2008, he served as Vice Chairman of the Commission on Prevention of Weapons of Mass Destruction Proliferation and Terrorism. In 2010, he served on the independent panel that reviewed the Quadrennial Defense Review of the Department of Defense. He also served on the independent panel that reviewed the Quadrennial Defense Review of

2014. He also has been a member of the executive panel advising the Chief of Naval Operations. Senator Talent was the first national figure outside Massachusetts to endorse Governor Mitt Romney for president in 2007 and was Governor Romney's senior policy advisor in both the 2008 and 2012 campaigns for president.

Senator Talent is an attorney and currently a Senior Fellow at the Bipartisan Policy Center and a Visiting Senior Fellow and Director, National Security 2020 Project, Marilyn Ware Center for Security Studies at the American Enterprise Institute. He earned his BA from Washington University in St. Louis and his JD from the University of Chicago Law School.

### **The Honorable Katherine C. Tobin, PhD**

Dr. Katherine Tobin was reappointed to the U.S.-China Economic and Security Review Commission by Senate Democratic Leader Harry Reid for a two-year term expiring December 31, 2018. Dr. Tobin has fifteen years of experience as a business manager, market researcher and consultant in corporate America at institutions including Hewlett-Packard Corporation, IBM and Catalyst. She also has worked for fifteen years as a university faculty member and administrator.

In 2009, Dr. Tobin was appointed by President Obama as Deputy Assistant Secretary for Performance Improvement at the U.S. Department of Education. She focused on strengthening the Department's capacity to work more effectively with its political and educational partners at the national, state and local levels.

In 2006, Dr. Tobin was appointed by President George W. Bush and served as a member of the Board of Governors of the U.S. Postal Service. Dr. Tobin provided strategic vision to the executive team, helped direct and control expenditures, reviewed business practices, conducted long-range planning and set policies on all postal matters. She also chaired the Board's Audit and Finance Committee at a critical time, when, due to Congress's 2006 legislation, the U.S. Postal Service needed to strengthen its organizational and financial controls to become compliant by 2010 with the Sarbanes-Oxley Act.

During her years at Hewlett-Packard, Dr. Tobin worked in the Corporation's Computer Systems Division and the Systems Technology Division which were responsible for developing minicomputer systems purchased around the world for business, medical and scientific usage. Dr. Tobin worked closely with R&D and marketing teams early in the product development life cycle to insure that customer needs were clearly understood and translated into engineering and market specifications.

Working as a consultant with IBM's senior leaders, Dr. Tobin conducted research on the corporation's values across all its global operations, institutional brand awareness and preference, distribution channels management, and the creation of a new business plan for IBM's Global Financing business.

Dr. Tobin earned a PhD and Master of Arts degree from Stanford University. She earned a Master of Arts degree in Teaching from the University of Massachusetts and a Bachelor of Arts in English from Skidmore College. Currently, she also serves as a member of the U.S. Postal Service's Citizens' Stamp Advisory Committee which

recommends to the Postmaster General subjects reflecting America's values and achievements for portrayal on commemorative stamps.

### **Michael R. Wessel**

Commissioner Michael R. Wessel, an original member of the U.S.-China Economic and Security Review Commission, was reappointed by House Democratic Leader Nancy Pelosi for a term expiring on December 31, 2019.

Commissioner Wessel served on the staff of former House Democratic Leader Richard Gephardt for more than two decades, leaving his position as general counsel in March 1998. In addition, Commissioner Wessel was Congressman Gephardt's chief policy advisor, strategist, and negotiator. He was responsible for the development, coordination, management, and implementation of the Democratic leader's overall policy and political objectives, with specific responsibility for international trade, finance, economics, labor, and taxation.

During his more than 20 years on Capitol Hill, Commissioner Wessel served in a number of positions. As Congressman Gephardt's principal Ways and Means aide, he developed and implemented numerous tax and trade policy initiatives. He participated in the enactment of every major trade policy initiative from 1978 until his departure in 1998. In the late 1980s, he was the executive director of the House Trade and Competitiveness Task Force, where he was responsible for the Democrats' trade and competitiveness agenda as well as overall coordination of the Omnibus Trade and Competitiveness Act of 1988. He currently serves as staff liaison to the Administration's Advisory Committee on Trade Policy and Negotiations as well as the Labor Advisory Committee to the USTR and Secretary of Labor.

Commissioner Wessel was intimately involved in the development of comprehensive tax reform legislation in the early 1980s and every major tax bill during his tenure. Beginning in 1989, he became the principal advisor to the Democratic leadership on economic policy matters and served as tax policy coordinator to the 1990 budget summit.

In 1988, he served as national issues director for Congressman Gephardt's presidential campaign. During the 1992 presidential campaign, he assisted the Clinton presidential campaign on a broad range of issues and served as a senior policy advisor to the Clinton Transition Office. In 2004, he was a senior policy advisor to the Gephardt for President Campaign and later co-chaired the Trade Policy Group for the Kerry presidential campaign. In 2008, he was publicly identified as a trade and economic policy advisor to the Obama presidential campaign and advised the Clinton campaign in 2016.

He has coauthored a number of articles with Congressman Gephardt and a book, *An Even Better Place: America in the 21st Century*. Commissioner Wessel served as a member of the U.S. Trade Deficit Review Commission in 1999–2000, a congressionally created commission charged with studying the nature, causes, and consequences of the U.S. merchandise trade and current account deficits.

Today, Commissioner Wessel is President of The Wessel Group Incorporated, a public affairs consulting firm offering expertise in

government, politics, and international affairs. Commissioner Wesel holds a Bachelor of Arts and a Juris Doctorate from The George Washington University. He is a member of the Bars of the District of Columbia and of Pennsylvania and is a member of the Council on Foreign Relations. He and his wife Andrea have four children.

### **Larry M. Wortzel, PhD**

Dr. Larry M. Wortzel was reappointed by House Speaker Paul Ryan for a term expiring on December 31, 2018. Commissioner Wortzel served for 32 years in the United States Armed Forces, three years in the Marine Corps followed by 29 years in the Army. A graduate of the U.S. Army War College, Commissioner Wortzel earned his Doctor of Philosophy degree from the University of Hawaii-Manoa.

Commissioner Wortzel's military experience includes seven years in the infantry as well as assignment in signals intelligence collection, human source intelligence collection, counterintelligence, and as a strategist. He served two tours of duty in Beijing, China, as a military attaché and spent twelve years in the Asia-Pacific Region.

Commissioner Wortzel is the former Director of the Strategic Studies Institute at the U.S. Army War College. Concurrently he was professor of Asian studies. He retired from the U.S. Army as a colonel at the end of 1999. After his military retirement, Commissioner Wortzel was director of the Asian Studies Center and vice president for foreign policy and defense studies at The Heritage Foundation.

Commissioner Wortzel has written or edited ten books and numerous scholarly articles on China and East Asia. His books include *Class in China: Stratification in a Classless Society*; *China's Military Modernization: International Implications*; *Dictionary of Contemporary Chinese Military History*; and *The Dragon Extends its Reach: Chinese Military Power Goes Global*.

He and his wife live in Williamsburg, Virginia.

### **Daniel W. Peck, Executive Director**

As the Executive Director of the Commission, Mr. Peck leads the Commission's full-time professional staff. He is responsible for Commission operations and budget, execution of the Commission's annual hearing cycle, development and publication of the Annual Report to Congress, as well as staff development and overseeing all other activities of the Commission.

Mr. Peck has previously served as the Senior Director for China Policy at the Office of the Secretary of Defense (OSD) and as the Director of Political Military Affairs at the American Institute in Taiwan (AIT) Washington Office, in support of the State Department's East Asian and Pacific Affairs (EAP) Bureau. His 22 years of service in the U.S. Army include twelve years as a Foreign Area Officer (FAO) focused on China and the Asia-Pacific, with tours as a military attaché at the U.S. Embassy in Beijing, as an advisor and trainer to the Afghan National Army, as a senior military analyst at the Defense Intelligence Agency, and as a visiting scholar at Beijing's Capital Normal University. His military service includes two combat tours in Afghanistan, operational deployments to Kuwait and Bosnia, and service in Korea and China.



**APPENDIX III**  
**PUBLIC HEARINGS OF THE COMMISSION**

Full transcripts and written testimonies are available online at  
the Commission's website: [www.uscc.gov](http://www.uscc.gov).

**January 25, 2018: Public Hearing on  
“China’s Belt and Road Initiative: Five Years Later”  
Washington, DC**

Commissioners present: Robin Cleveland, Chairman; Carolyn Bartholomew, Vice Chairman; Hon. Dennis C. Shea (Hearing Co-Chair); Hon. Jonathan N. Stivers; Hon. James M. Talent; Hon. Katherine C. Tobin (Hearing Co-Chair).

Witnesses: Nadège Rolland, National Bureau of Asian Research; Jonathan Hillman, Center for Strategic and International Studies; Randal Phillips, Mintz Group; Ely Ratner, Council on Foreign Relations; Daniel Kliman, Center for a New American Security; Joel Wuthnow,\* National Defense University; Andrew Small, German Marshall Fund of the United States; Joshua Eisenman, University of Texas at Austin; Tobias Harris, Sasakawa Peace Foundation USA.

**February 15, 2018: Public Hearing on  
“China’s Military Reforms and Modernization:  
Implications for the United States”  
Washington, DC**

Commissioners present: Carolyn Bartholomew, Vice Chairman (Hearing Co-Chair); Hon. Carte P. Goodwin; Hon. Dennis C. Shea; Hon. Jonathan N. Stivers; Hon. James M. Talent (Hearing Co-Chair); Hon. Katherine C. Tobin; Michael R. Wessel; Larry M. Wortzel.

Witnesses: Cortez Cooper, RAND Corporation; John Costello, New America Foundation; Kevin McCauley, independent analyst; Ben Lowsen, independent analyst; James Holmes, U.S. Naval War College; Brendan Mulvaney, China Aerospace Studies Institute; Michael Chase, RAND Corporation; Tate Nurkin, Jane’s by IHS Markit; Jacqueline Deal, Long Term Strategy Group; Kathleen Hicks, Center for Strategic and International Studies.

**March 8, 2018: Public Hearing on “China, the United States,  
and Next Generation Connectivity”  
Washington, DC**

Commissioners present: Robin Cleveland, Chairman; Carolyn Bartholomew, Vice Chairman; Hon. Carte P. Goodwin; Hon. Dennis C. Shea; Hon. Jonathan N. Stivers; Hon. James M. Talent; Hon. Katherine C. Tobin; Michael R. Wessel (Hearing Co-Chair); Larry M. Wortzel (Hearing Co-Chair).

Witnesses: Chuck Benson, University of Washington; Doug Brake, ITIF; Jennifer Bisceglie, Interos Solutions; Anthony Ferrante, FTI Consulting; James Mulvenon, SOS International LLC; Heath Tarbert, U.S. Department of Treasury.\*

**April 5, 2018: Public Hearing on “China’s Relations with  
U.S. Allies and Partners in Europe and the Asia Pacific”  
Washington, DC**

Commissioners present: Robin Cleveland, Chairman; Hon. Carte P. Goodwin; Hon. Jonathan N. Stivers; Hon. James M. Talent (Hearing Co-Chair); Hon. Katherine C. Tobin; Michael R. Wessel (Hearing Co-Chair); Larry M. Wortzel.

Witnesses: Erik Brattberg, Carnegie Endowment for International Peace; Thomas Wright, Brookings Institution; Thorsten Benner, Global Public Policy Institute;\* Christopher Walker, National Endowment for Democracy; Ankit Panda, Federation of American Scientists; Russell Hsiao, Global Taiwan Institute; Amy Searight, Center for Strategic and International Studies; Peter Mattis, Jamestown Foundation.

**April 12, 2018: Public Roundtable on  
“China’s Role in North Korea Contingencies”  
Washington, DC**

Commissioners present: Carolyn Bartholomew, Vice Chairman; Hon. Jonathan N. Stivers (Roundtable Co-Chair); Hon. James M. Talent (Roundtable Co-Chair); Hon. Katherine C. Tobin; Michael R. Wessel.

Witnesses: Carla Freeman, Johns Hopkins University School of Advanced International Studies; Oriana Skylar Mastro, Georgetown University and American Enterprise Institute; Yun Sun, Stimson Center.

**April 26, 2018: Public Hearing on “China’s Agricultural Policies: Trade, Investment, Safety, and Innovation”  
Washington, DC**

Commissioners present: Robin Cleveland, Chairman (Hearing Co-Chair); Carolyn Bartholomew, Vice Chairman; Hon. Carte P. Goodwin (Hearing Co-Chair); Roy D. Kamphausen; Hon. Jonathan N. Stivers; Hon. James M. Talent; Hon. Katherine C. Tobin; Michael R. Wessel.

Witnesses: Ambassador Darci Vetter, Edelman, formerly Office of the U.S. Trade Representative; Fred Gale, U.S. Department of Agriculture; Bill Westman, North American Meat Institute; Thomas Sleight, U.S. Grains Council; Carl Pray, Rutgers University; Nathan Fields, National Corn Growers Association; Holly Wang, Purdue University; Michael Robach, Global Food Safety Initiative and Cargill; David Ortega, Michigan State University;\* American Soybean Association and U.S. Soybean Export Council;\* Howard Minigh, CropLife International;\* Joseph Damond, Biotechnology Innovation Organization.\*

**June 8, 2018: Public Hearing on  
“U.S. Tools to Address Chinese Market Distortions”  
Washington, DC**

Commissioners present: Robin Cleveland, Chairman; Carolyn Bartholomew, Vice Chairman; Glenn Hubbard (Hearing Co-Chair); Roy D. Kamphausen; Hon. Jonathan N. Stivers (Hearing Co-Chair); Hon. James M. Talent; Hon. Katherine C. Tobin; Michael R. Wessel; Larry M. Wortzel.

Witnesses: Chad Bown, Peterson Institute for International Economics, formerly Council of Economic Advisors; Linda Dempsey, National Association of Manufacturers; Celeste Drake, AFL-CIO; Jennifer Hillman, Georgetown Law School, formerly WTO Appellate Body; Lee Branstetter, Carnegie Mellon University, formerly Council of Economic Advisors; Mark Cohen, University of California at Berkeley, formerly U.S. Patent and Trademark Office; Willy Shih, Harvard Business School; Graham Webster, New America and Yale Law School.

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\*Did not appear in person, but submitted material for the record.



**APPENDIX IIIA**  
**LIST OF WITNESSES TESTIFYING BEFORE**  
**THE COMMISSION**  
**2018 Hearings**

Full transcripts and written testimonies are available online at the Commission's website: [www.uscc.gov](http://www.uscc.gov).

**Alphabetical Listing of Panelists Testifying before the Commission**

Panelist Name	Panelist Affiliation	Commission Hearing
--	American Soybean Association and U.S. Soybean Export Council *	April 26, 2018
Benner, Thorsten *	Global Public Policy Institute	April 5, 2018
Benson, Chuck	University of Washington	March 8, 2018
Bisceglie, Jennifer	Interos Solutions	March 8, 2018
Bown, Chad	Peterson Institute for International Economics, formerly Council of Economic Advisors	June 8, 2018
Brake, Doug	ITIF	March 8, 2018
Branstetter, Lee	Carnegie Mellon University, formerly Council of Economic Advisors	June 8, 2018
Brattberg, Erik	Carnegie Endowment for International Peace	April 5, 2018
Chase, Michael	RAND Corporation	February 15, 2018
Cohen, Mark	University of California at Berkeley, formerly U.S. Patent and Trademark Office	June 8, 2018
Cooper, Cortez	RAND Corporation	February 15, 2018
Costello, John	New America Foundation	February 15, 2018
Damond, Joseph *	Biotechnology Innovation Organization	April 26, 2018
Deal, Jacqueline	Long Term Strategy Group	February 15, 2018

\*Did not appear in person, but submitted material for the record.

**Alphabetical Listing of Panelists Testifying before the  
Commission—Continued**

<b>Panelist Name</b>	<b>Panelist Affiliation</b>	<b>Commission Hearing</b>
Dempsey, Linda	National Association of Manufacturers	June 8, 2018
Drake, Celeste	AFL-CIO	June 8, 2018
Eisenman, Joshua	University of Texas at Austin	January 25, 2018
Ferrante, Anthony	FTI Consulting	March 8, 2018
Fields, Nathan	National Corn Growers Association	April 26, 2018
Freeman, Carla	Johns Hopkins University School of Advanced International Studies	April 12, 2018
Gale, Fred	U.S. Department of Agriculture	April 26, 2018
Harris, Tobias	Sasakawa Peace Foundation USA	January 25, 2018
Hicks, Kathleen	Center for Strategic and International Studies	February 15, 2018
Hillman, Jennifer	Georgetown Law School, formerly WTO Appellate Body	June 8, 2018
Hillman, Jonathan	Center for Strategic and International Studies	January 25, 2018
Holmes, James	U.S. Naval War College	February 15, 2018
Hsiao, Russell	Global Taiwan Institute	April 5, 2018
Kliman, Daniel	Center for a New American Security	January 25, 2018
Lowsen, Ben	independent analyst	February 15, 2018
Mastro, Oriana Skylar	Georgetown University and American Enterprise Institute	April 12, 2018
Mattis, Peter	Jamestown Foundation	April 5, 2018
McCauley, Kevin	independent analyst	February 15, 2018
Minigh, Howard*	CropLife International	April 26, 2018
Mulvaney, Brendan	China Aerospace Studies Institute	February 15, 2018
Mulvenon, James	SOS International LLC	March 8, 2018
Nurkin, Tate	Jane's by IHS Markit	February 15, 2018
Ortega, David*	Michigan State University	April 26, 2018
Panda, Ankit	Federation of American Scientists	April 5, 2018
Phillips, Randal	Mintz Group	January 25, 2018
Pray, Carl	Rutgers University	April 26, 2018
Ratner, Ely	Council on Foreign Relations	January 25, 2018

**Alphabetical Listing of Panelists Testifying before the  
Commission—Continued**

<b>Panelist Name</b>	<b>Panelist Affiliation</b>	<b>Commission Hearing</b>
Robach, Michael	Global Food Safety Initiative and Cargill	April 26, 2018
Rolland, Nadège	National Bureau of Asian Research	January 25, 2018
Searight, Amy	Center for Strategic and International Studies	April 5, 2018
Shih, Willy	Harvard Business School	June 8, 2018
Sleight, Thomas	U.S. Grains Council	April 26, 2018
Small, Andrew	German Marshall Fund of the United States	January 25, 2018
Sun, Yun	Stimson Center	April 12, 2018
Tarbert, Heath*	U.S. Department of Treasury	March 8, 2018
Vetter, Darci	Edelman, formerly Office of the U.S. Trade Representative	April 26, 2018
Walker, Christopher	National Endowment for Democracy	April 5, 2018
Wang, Holly	Purdue University	April 26, 2018
Webster, Graham	New America and Yale Law School	June 8, 2018
Westman, Bill	North American Meat Institute	April 26, 2018
Wright, Thomas	Brookings Institution	April 5, 2018
Wuthnow, Joel*	National Defense University	January 25, 2018



**APPENDIX IV**  
**LIST OF RESEARCH MATERIAL**  
**Contracted and Staff Research Reports**  
**Released in Support of the 2018 Annual Report**

*Disclaimer*

The reports in this section were prepared at the request of the Commission to support its deliberations. They have been posted to the Commission's website in order to promote greater public understanding of the issues addressed by the Commission in its ongoing assessment of U.S.-China economic relations and their implications for U.S. security, as mandated by Public Law No. 106-398, and amended by Public Laws No. 107-67, No. 108-7, No. 109-108, No. 110-161, and No. 113-291. The posting of these reports to the Commission's website does not imply an endorsement by the Commission or any individual Commissioner of the views or conclusions expressed therein.

**Contracted Reports**

***China's Internet of Things***

Prepared for the Commission by John Chen, Emily Walz, Brian Lafferty, Joe McReynolds, Kieran Green, Jonathan Ray, and James Mulvenon  
SOS International  
October 2018  
<https://www.uscc.gov/Research/chinas-internet-things>

***China's Advanced Weapons Systems***

Prepared for the Commission by Tate Nurkin, Kelly Bedard, James Clad, Cameron Scott, and Jon Grevatt  
Jane's by IHS Markit  
May 2018  
<https://www.uscc.gov/Research/chinas-advanced-weapons-systems>

***Supply Chain Vulnerabilities from China in U.S. Federal Information and Communications Technology***

Prepared for the Commission by Tara Beeny, Jennifer Bisceglie, Brend Wildasin, and Dean Cheng  
Interos Solutions, Inc.  
April 2018  
<https://www.uscc.gov/Research/supply-chain-vulnerabilities-china-us-federal-information-and-communications-technology>

**Staff Research Reports, Issue Briefs, and Backgrounders**

***China's Engagement with Latin American and the Caribbean***

Written by Research Director and Policy Analyst Katherine Koleski and Research Intern Alec Blivas

October 2018

<https://www.uscc.gov/Research/chinas-engagement-latin-america-and-caribbean>

***October Economics and Trade Bulletin***

Written by Economics and Trade Staff

October 2018

<https://www.uscc.gov/Research/october-2018-trade-bulletin>

***September Economics and Trade Bulletin***

Written by Economics and Trade Staff

September 2018

<https://www.uscc.gov/Research/september-2018-trade-bulletin>

***China's Overseas United Front Work: Background and Implications for the United States***

Written by Policy Analyst Alexander Bowe

August 2018

<https://www.uscc.gov/Research/china's-overseas-united-front-work-background-and-implications-united-states>

***August Economics and Trade Bulletin***

Written by Economics and Trade Staff

August 2018

<https://www.uscc.gov/Research/august-2018-trade-bulletin>

***Trends in Trade: U.S.-China Goods Trade 2012-2017***

Written by former Research Fellow Bart Carfagno and Policy Analyst Michelle Ker

July 2018

<https://www.uscc.gov/Research/trends-trade-us-china-goods-trade-2012-2017>

***July Economics and Trade Bulletin***

Written by Economics and Trade Staff

July 2018

<https://www.uscc.gov/Research/july-2018-trade-bulletin>

***China's Engagement in the Pacific Islands: Implications for the United States***

Written by Policy Analyst Ethan Meick, Policy Analyst Michelle Ker, and former Research Fellow Han May Chan

June 2018

<https://www.uscc.gov/Research/china's-engagement-pacific-islands-implications-united-states>

***June Economics and Trade Bulletin***

Written by Economics and Trade Staff

June 2018

<https://www.uscc.gov/Research/june-2018-trade-bulletin>***SOE Megamergers Signal New Direction in China's Economic Policy***

Written by Policy Analyst Sean O'Connor

May 2018

<https://www.uscc.gov/Research/soe-megamergers-signal-new-direction-chinas-economic-policy>***China's Digital Game Sector***

Written by Policy Analyst Matt Snyder

May 2018

<https://www.uscc.gov/Research/chinas-digital-game-sector>***May Economics and Trade Bulletin***

Written by Economics and Trade Staff

May 2018

<https://www.uscc.gov/Research/may-2018-trade-bulletin>***April Economics and Trade Bulletin***

Written by Economics and Trade Staff

April 2018

<https://www.uscc.gov/Research/april-2018-trade-bulletin>***China's Technonationalism Toolbox: A Primer***

Written by Policy Analyst Katherine Koleski and Senior Policy Analyst Nargiza Salidjanova

March 2018

<https://www.uscc.gov/Research/china's-technonationalism-toolbox-primer>***Chinese Air Force's Long-Distance Training over Water Continues to Increase and Expand***

Written by Policy Analyst Matthew Southerland

March 2018

<https://www.uscc.gov/Research/chinese-air-force's-long-distance-training-over-water-continues-increase-and-expand>***March Economics and Trade Bulletin***

Written by Economics and Trade Staff

March 2018

<https://www.uscc.gov/Research/march-2018-trade-bulletin>***February Economics and Trade Bulletin***

Written by Economics and Trade Staff

February 2018

<https://www.uscc.gov/Research/february-2018-trade-bulletin>

***January Economics and Trade Bulletin***

Written by Economics and Trade Staff

January 2018

<https://www.uscc.gov/Research/january-2018-trade-bulletin>

***December Economics and Trade Bulletin***

Written by Economics and Trade Staff

December 2017

<https://www.uscc.gov/Research/december-2017-trade-bulletin>

***November Economics and Trade Bulletin***

Written by Economics and Trade Staff

November 2017

<https://www.uscc.gov/Research/november-2017-trade-bulletin>

## APPENDIX V

### CONFLICT OF INTEREST AND LOBBYING DISCLOSURE REPORTING

The Commission seeks to hold itself to the highest standards of transparency in carrying out its mission. In accordance with its policy for avoiding conflicts of interest, Commissioners who believe they have an actual or perceived conflict of interest must recuse themselves from the source or subject matter of the conflict. The following Commissioners recused themselves from the portions of the 2018 Report cycle below:

- Commissioner James M. Talent recused himself from deliberations which relate specifically to Jimmy Lai or Next Animation.

Lobbying disclosure reports filed by any Commissioners who engage in “lobbying activities” as defined by the Lobbying Disclosure Act in connection with their outside employment activities may be accessed via public databases maintained by the House (<http://disclosures.house.gov/ld/ldsearch.aspx>) and Senate (<https://soprweb.senate.gov/index.cfm?event=selectfields>).



## APPENDIX VI

### ACRONYMS AND ABBREVIATIONS

<b>3GPP</b>	3rd Generation Partnership Project
<b>5G</b>	fifth-generation wireless technology
<b>A2/AD</b>	antiaccess/area denial
<b>AAW</b>	anti-air warfare
<b>AD</b>	antidumping
<b>AI</b>	artificial intelligence
<b>AIIB</b>	Asian Infrastructure Investment Bank
<b>AIT</b>	American Institute in Taiwan
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>ASIO</b>	Australian Security Intelligence Organization
<b>ASUW</b>	anti-surface warfare
<b>ASW</b>	anti-submarine warfare
<b>ATP</b>	advanced technology products
<b>BIT</b>	bilateral investment treaty
<b>BRI</b>	Belt and Road Initiative
<b>BRICS</b>	Brazil, Russia, India, China, and South Africa
<b>C4ISR</b>	command, control, communications, computers, intelligence, surveillance, and reconnaissance
<b>CCP</b>	Chinese Communist Party
<b>CDB</b>	China Development Bank
<b>CED</b>	Comprehensive Economic Dialogue
<b>CFIUS</b>	Committee on Foreign Investment in the United States
<b>CIA</b>	Central Intelligence Agency
<b>CICPEC</b>	China-Indochina Peninsula Economic Corridor
<b>CMC</b>	Central Military Commission (China)
<b>COTS</b>	commercial-off-the-shelf
<b>CPEC</b>	China-Pakistan Economic Corridor
<b>CPPCC</b>	Chinese People's Political Consultative Conference
<b>CPPRC</b>	Council for the Promotion of Peaceful Reunification
<b>CSIS</b>	Center for Strategic and International Studies
<b>CVD</b>	countervailing duty
<b>DIA</b>	Defense Intelligence Agency
<b>DOD</b>	U.S. Department of Defense
<b>DOJ</b>	U.S. Department of Justice
<b>DPP</b>	Democratic Progressive Party (Taiwan)
<b>EAP</b>	Bureau of East Asian and Pacific Affairs
<b>EPC</b>	engineering, procurement, and construction
<b>EU</b>	European Union
<b>FAC</b>	Foreign Affairs Commission (China)

<b>FAI</b>	fixed asset investment
<b>FCC</b>	U.S. Federal Communications Commission
<b>FDA</b>	U.S. Food and Drug Administration
<b>FDI</b>	foreign direct investment
<b>FIRRMA</b>	Foreign Investment Risk Review Modernization Act of 2018
<b>GAO</b>	U.S. Government Accountability Office
<b>GATS</b>	General Agreement on Trade in Services
<b>GATT</b>	General Agreement on Tariffs and Trade
<b>GDP</b>	gross domestic product
<b>GMO</b>	genetically modified organism
<b>GSMA</b>	Global System for Mobile Communications Association
<b>HA/DR</b>	humanitarian assistance/disaster relief
<b>HIPAA</b>	Health Insurance Portability and Accountability Act of 1996
<b>HIPC</b>	Heavily Indebted Poor Country
<b>ICBM</b>	intercontinental ballistic missile
<b>ICT</b>	information and communication technology
<b>IEEPA</b>	International Emergency Economic Powers Act of 1977
<b>IMF</b>	International Monetary Fund
<b>INDOPACOM</b>	U.S. Indo-Pacific Command
<b>INTERPOL</b>	International Criminal Police Organization
<b>IoT</b>	Internet of Things
<b>IP</b>	intellectual property
<b>IPO</b>	initial public offering
<b>ISO</b>	International Organization for Standardization
<b>ISR</b>	intelligence, surveillance, and reconnaissance
<b>IT</b>	information technology
<b>ITU</b>	International Telecommunications Union
<b>JCCT</b>	Joint Commission on Commerce and Trade
<b>JV</b>	joint venture
<b>KPA</b>	Korean People's Army
<b>LegCo</b>	Legislative Council
<b>LGFV</b>	local government financing vehicles
<b>MaRV</b>	maneuverable reentry vehicle
<b>MIRV</b>	multiple independently targetable reentry vehicle
<b>MOFCOM</b>	Ministry of Commerce (China)
<b>MOU</b>	Memorandum of Understanding
<b>NATO</b>	North Atlantic Treaty Organization
<b>NDAA</b>	National Defense Authorization Act
<b>NDB</b>	New Development Bank
<b>NDRC</b>	National Development and Reform Commission (China)
<b>NGO</b>	nongovernmental organization
<b>NIE</b>	National Intelligence Estimate
<b>nm</b>	nautical mile
<b>NPC</b>	National People's Congress
<b>NPL</b>	nonperforming loan
<b>NPR</b>	Nuclear Posture Review
<b>ODA</b>	official development assistance

<b>OECD</b>	Organization for Economic Cooperation and Development
<b>PBOC</b>	People's Bank of China
<b>PKO</b>	peacekeeping operation
<b>PLA</b>	People's Liberation Army
<b>PMI</b>	purchasing managers' index
<b>PRC</b>	People's Republic of China
<b>R&amp;D</b>	research and development
<b>RMB</b>	renminbi
<b>ROC</b>	Republic of China (Taiwan)
<b>S&amp;ED</b>	Strategic and Economic Dialogue
<b>SCO</b>	Shanghai Cooperation Organization
<b>SOE</b>	state-owned enterprise
<b>SSBN</b>	nuclear-powered ballistic missile submarine
<b>SSF</b>	Strategic Support Force
<b>SSGN</b>	guided-missile nuclear attack submarine
<b>THAAD</b>	Terminal High Altitude Air Defense
<b>TIFA</b>	Trade and Investment Framework Agreement
<b>TRQ</b>	tariff rate quota
<b>UAE</b>	United Arab Emirates
<b>UAV</b>	unmanned aerial vehicle
<b>UFWD</b>	United Front Work Department
<b>UK</b>	United Kingdom
<b>UN</b>	United Nations
<b>USDA</b>	U.S. Department of Agriculture
<b>USITC</b>	U.S. International Trade Commission
<b>USTR</b>	Office of U.S. Trade Representative
<b>VC</b>	venture capital
<b>WAPI</b>	WLAN Authentication and Privacy Infrastructure
<b>WLAN</b>	wireless local area network
<b>WMD</b>	weapons of mass destruction
<b>WMP</b>	wealth management product
<b>WTO</b>	World Trade Organization



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