



2022

REPORT TO CONGRESS

of the

**U.S.-CHINA ECONOMIC AND
SECURITY REVIEW COMMISSION**

ONE HUNDRED SEVENTEENTH CONGRESS
SECOND SESSION

NOVEMBER 2022

Printed for the use of the
U.S.-China Economic and Security Review Commission
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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 and statutory mandate are available online at: www.USCC.gov/charter.

U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

NOVEMBER 15, 2022

The Honorable Patrick Leahy
President Pro Tempore of the U.S. Senate, Washington, DC 20510
The Honorable Nancy Pelosi
Speaker of the U.S. House of Representatives, Washington, DC 20510

DEAR SENATOR LEAHY AND SPEAKER PELOSI:

On behalf of the U.S.-China Economic and Security Review Commission, we are pleased to transmit the Commission's 2022 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." The Commission reached a broad and bipartisan consensus on the contents of this Report, with all 12 members voting unanimously to approve and submit it to Congress.

In accordance with our mandate, this Report, which is current as of October 7, includes the results and recommendations of our hearings, research, 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), 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 seven public hearings, taking testimony from 74 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 www.USCC.gov). This year's hearings included:

- CCP Decision-Making and the 20th Party Congress;
- China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States;
- China's Energy Plans and Practices;
- Challenging China's Trade Practices: Promoting Interests of U.S. Workers, Farmers, Producers, and Innovators;
- China's Activities and Influence in South and Central Asia;
- U.S.-China Competition in Global Supply Chains; and
- Challenges from Chinese Policy in 2022: Zero-COVID, Ukraine, and Pacific Diplomacy.

The Commission received a number of briefings by executive branch agencies and the intelligence community, including both unclassified and classified briefings on implications of China's Zero-COVID policy, China's relationship with Russia after the unprovoked invasion of Ukraine, China's involvement in global logistics, China's cyber capabilities, China's space capabilities, China's nucle-

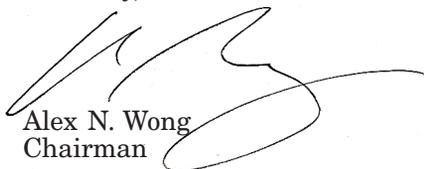
ar capabilities, and net assessments of U.S. and Chinese military capabilities. The Commission also received briefings by foreign government officials as well as U.S. and foreign nongovernmental experts. The Commission includes key insights gained through these briefings either in its unclassified Annual Report or, as appropriate, in a classified annex to that Report.

The Commission conducted official fact-finding travel this year to U.S. Strategic Command and U.S. Indo-Pacific Command. During these visits we heard from our military's leadership on the threat presented by China in strategic, air, sea, and cyber domains. In addition to onsite meetings, this year we continued to conduct virtual discussions with interlocutors to ensure the continued diversity of perspectives heard by the Commission. 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).

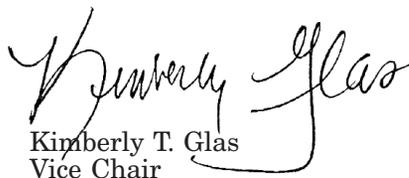
The Report includes 39 recommendations for congressional consideration. The Commissioners agreed that ten of these recommendations, which appear on page 21, are the most important for congressional action. The complete list of recommendations appears on page 727 at the conclusion of the Report.

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.

Sincerely,



Alex N. Wong
Chairman

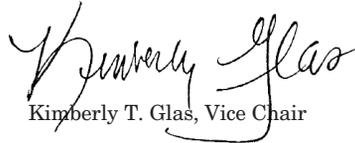


Kimberly T. Glas
Vice Chair

Commissioners Approving the 2022 Report



Alex N. Wong, Chairman



Kimberly T. Glas, Vice Chair



Carolyn Bartholomew, Commissioner



Bob Borochoff, Commissioner



Robin Cleveland, Commissioner



Jeffrey Fiedler, Commissioner



Aaron Friedberg, Commissioner



Carte P. Goodwin, Commissioner



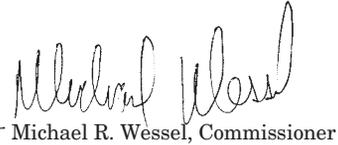
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Randall Schriver, Commissioner



Derek Scissors, Commissioner



Michael R. Wessel, Commissioner

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INTRODUCTION

2022 was a watershed year for China's Communist Party regime and for America's response to its policies. A confluence of groundbreaking events, including Russia's unprovoked invasion of Ukraine and China's growing military threats to Taiwan, led to new, potentially far-reaching changes in international alignments and in the responses by democratic nations to the CCP's conduct. At the same time, as the result of the CCP's novel coronavirus (COVID-19) containment policies that produced lockdowns of major cities, the Chinese people were obliged to live at a greater distance from the outside world. The CCP gave its leader Xi Jinping unprecedented power over the Party and the country. Xi and the CCP relied ever more heavily on nationalist appeals, as was evident in its escalating rhetoric and menacing military actions toward Taiwan.

Faced with a series of crises and unexpected developments, China's Communist Party regime reacted, not by reexamining its assumptions and modifying its approach, but rather by doubling down on existing policies. In the near term these choices have increased the challenge China poses to the security, prosperity, and shared values of the United States and its democratic allies and partners. But heightened awareness of the danger may also be creating new opportunities for implementing effective countervailing policies in response.

Inside China itself, the Communist Party further tightened its grip on society and the economy while Xi Jinping continued to move to take unprecedented personal power over the Party and the government. Critical decisions about everything, from education and popular culture to war and peace, now appear to rest in the hands of one man.

When a new and more transmissible variant of COVID-19 reached China at the start of the year, Xi's commitment to a "Zero-COVID" policy required the inhabitants of large cities like Shanghai to live with draconian lockdowns, cutting ordinary people off from contact with their neighbors and local stores. These disruptions constricted household consumption, slowing the economy and reinforcing the CCP's tendency to rely on exports and debt-fueled investment to sustain growth. Zero-COVID also made it considerably more difficult for Chinese citizens to travel abroad and for outsiders to visit China. Both the pandemic and the CCP's continuing repression at home caused many institutions overseas to suspend or cancel their longstanding programs and exchanges, leaving China ever more estranged from the world, and especially from the United States, Europe, and America's Asian allies.

In February 2022 Xi Jinping and Russian president Vladimir Putin met in Beijing and announced a further tightening of the already close strategic and economic ties between their countries. The

two men declared that their partnership now had “no limits” and pledged to cooperate in opposing “certain States’ attempts to impose their own ‘democratic standards’ on other countries” and in shaping a new international order more conducive to the survival of their own authoritarian regimes. Three weeks later, after the end of the Olympics in Beijing, Putin initiated his unprovoked invasion of Ukraine.

Despite its supposedly unshakeable commitment to the principle of international sovereignty, China has prioritized support for its most important strategic partner. Although it has been careful thus far to avoid openly violating U.S. and other Western sanctions, China has stepped up its imports of Russian oil and wheat while expanding exports to Russia of desperately needed semiconductors. Beijing has also offered diplomatic cover, blaming the war on NATO expansion and faithfully echoing and amplifying Moscow’s talking points and disinformation. Much of this activity appears directed at the developing world, where China has been working to cultivate support and expand its presence and influence, in part by appealing to shared anti-Western sentiments.

The war against Ukraine brought America and its democratic allies in both Europe and Asia into much closer strategic cooperation, as these nations then joined in a series of unprecedented economic sanctions and military measures aimed at Russia. For the CCP, these strengthened alliances and sanctions against Russia raised the possibility that it, too, could one day confront similar measures by the United States and its allies. In response, the CCP regime redoubled its ongoing attempts to reduce China’s vulnerability to sanctions and export restrictions.

Among other measures, Xi Jinping’s so-called “dual circulation” strategy aims to diminish China’s dependence on exports and critical imports, while encouraging Western companies to remain reliant on supply chains routed through China. The difficulties Russia is presently encountering further highlight the importance of achieving Xi’s goal of technological “self-reliance” and reducing China’s dependence on the dollar-dominated international financial system.

The war in Ukraine has contributed to a heightened sense of concern regarding a possible conflict over Taiwan. Beijing has done nothing to ease those anxieties, seizing on the occasion of Speaker of the U.S. House of Representatives Nancy Pelosi’s August visit to conduct massive military exercises, including firing ballistic missiles and staging a practice blockade of the island. Here again, China’s actions represent an intensification of an existing trend toward increasingly confrontational, nationalist rhetoric and menacing behavior. In addition to flexing its military muscles, the CCP regime also continued its relentless arms buildup, increasing spending despite the slowdown in economic growth.

The events of the past year have created opportunities as well as heightened dangers. Russia’s attempts to use energy as a weapon have underlined the threat to the United States and other countries of excessive dependence on potentially hostile foreign powers for critical manufactured products and materials. It should thus give added impetus both at home and abroad to ongoing efforts to restructure some critical supply chains away from China. China’s

support for Russian aggression has fueled growing skepticism in Europe about its intentions and may encourage European governments to join with their Asian counterparts and with the United States in taking a tougher stance against Beijing on trade and technology as well as other issues, including the theft of intellectual property and human rights abuses. China's increasing belligerence toward Taiwan and the brutal realities of conflict in Europe (including the speed with which sophisticated weapons are consumed in modern warfare) have highlighted the challenges of deterring a determined aggressor and the importance of maintaining both the standing military capabilities and the defense industrial capacity necessary to defeat aggression should deterrence fail.

There remains a gap between America's growing recognition of the challenges China presents and our responses to date in dealing with them. The purpose of this report is to assess recent developments and to recommend a set of actions that Congress can consider to help meet the challenges, and seize the opportunities they present.

EXECUTIVE SUMMARY

Chapter 1: CCP Decision-Making and Xi Jinping's Centralization of Authority

Over the past ten years, General Secretary of the Chinese Communist Party (CCP) Xi Jinping has undertaken a wide-ranging effort to restructure decision-making processes within the Chinese Party-state that will continue to have effects at the 20th Party Congress and beyond. Xi has augmented his own authority and systematically centralized decision-making power across all policy areas, preserving and enhancing the CCP's capacity to dominate policy-making and expanding his own authority to drive China's policy agenda. This top-down approach aims to unify the government and the nation under the Party and deliver on Xi's aspirations of enhancing China's strength while avoiding what he perceives as the shortcomings of his predecessors' leadership. Nevertheless, Xi's centralization of decision-making power may reduce the adaptability of lower-level governments and encourage the CCP's reliance on policy approaches that are poorly suited to address China's structural challenges. Should these trends continue, challenges to the United States may include more unpredictable economic policy decision-making, a more assertive foreign policy agenda, and a more aggressive military posture.

Alongside his efforts to centralize Party control, Xi has expanded his own decision-making power by creating new Party groups and taking over the chairmanship of them, including those on economics, national security, foreign policy, and domestic governance institutions. In economic policy, Xi is increasing top-down control over local governments and inserting the Party into all aspects of the nonstate sector in an increasing effort to steer economic development from the center. Xi has used his position as the head of multiple Party groups on foreign affairs to strengthen CCP leadership of diplomacy and enforce compliance throughout the bureaucracy with his personal foreign policy initiatives, such as the Belt and Road Initiative and Global Security Initiative. In his changes to China's military and paramilitary forces, Xi has emphasized loyalty to the Party while granting himself ultimate responsibility for decision-making on military matters. Xi has complemented these changes by embedding a broad, regime-centric definition of "national security" into decision-making in nearly every policy area.

Key Findings

- General Secretary Xi's decision-making power has increased dramatically over the past decade, to the point that CCP media have recast the previously negative term "decision by one authority" as a positive feature of China's system. Xi has also

overhauled Party rules to give himself an outsized role in the overall governance of the CCP and of China. Xi will likely maintain his high level of control after the October 20th Party Congress and the spring 2023 National People's Congress.

- Under Xi's leadership, the CCP has restructured China's policymaking apparatus by taking decision-making functions away from government bodies and placing them into Party organs, such as leading small groups and commissions. This shift bolsters the CCP's oversight of policy formulation and implementation to ensure stricter adherence to the Party line and marks a departure from prior CCP leaders' more broadly consultative policymaking process.
- Policy decision-making is increasingly centralized and synonymous with Xi's personal leadership, equating loyalty to the Party with loyalty to him. This trend improves policy coordination at the possible expense of policy flexibility, leading to campaign-style governance that effectively addresses short-term issues but limits CCP leaders' ability to correct policy mistakes.
- Xi seeks to avoid the perceived errors of the Soviet Union and China's reform-era leaders. He asserts that previously lax and weak governance by his immediate predecessors damaged the CCP's reputation, cohesiveness, and national governance abilities.
- Xi is enhancing central control over economic decision-making in an effort to ensure the preservation of the regime. Xi justifies this centralization by claiming he and the Party are uniquely capable of steering China toward an increasingly ambitious and nationalistic set of modernization plans. These intentions fail to reconcile with the systemic ailments afflicting China's economy, which Xi and the CCP have chosen to mask by replacing the previous metric of gross domestic product maximization with a proliferating number of top-down mandates and increased central enforcement.
- Xi has restructured the foreign policy decision-making apparatus to facilitate a unified and centrally directed approach to addressing international threats and achieving national objectives. The conduct of Chinese diplomacy now reflects his preference for a more aggressive and confrontational style.
- Xi has restructured the military and paramilitary apparatus to increase centralization and vest more authority in his own hands. Decisions on the use of China's military and paramilitary forces are subject to an increase in the personal discretion exercised by Xi.

Chapter 2: U.S.-China Economic and Trade Relations

Section 1: Year in Review: Economics and Trade

In 2022, China's economic growth slowed significantly due to the government's stringent novel coronavirus (COVID-19) containment measures, collapse in housing construction and sales, and slow in-

infrastructure construction. Cut off from easy bank loans and other financing, China's highly indebted property developers faced a crisis of confidence as home prices faltered and owners halted mortgage payments on presold units throughout the country. Economic uncertainty amid continued lockdowns also prompted households to save rather than spend, deepening the economy's dependence on exports to drive growth. China's economic slump and weak currency prompted an exodus of foreign capital from China's financial markets and contributed to cooling enthusiasm for expanding China-based operations among multinationals. Beijing also faced continued challenges in its external economic relations throughout 2022, particularly as it attempted to maintain economic ties with Russia while avoiding economic sanctions.

China's response to its abrupt economic slowdown has not employed stimulus on the scale seen in other major global economies, reflecting policymakers' limited options given the country's staggering debt burden. Deprived of normal sources of fiscal revenue but mandated to generate growth, local governments are dependent on issuing more debt, overwhelmingly to state banks. Bank lending meanwhile remains tepid despite low interest rates. Financial sector development in 2022 continued to focus on reducing volatility, with China creating a state-funded bailout mechanism, as well as further increasing the central government's influence over capital allocation.

Key Findings

- China's economy faltered in the first half of 2022 as protracted Zero-COVID lockdowns caused local economies to grind to a halt. The Chinese government attempted to employ a modest infrastructure-led stimulus in the second half of the year, though its impact may be limited as local governments struggle to identify useful projects. Despite the economic damage caused by the lockdowns, the CCP remains committed to its Zero-COVID policy, demonstrating its ability to maintain political control even in the absence of economic growth.
- Beijing's credit tightening toward the property sector has become a significant drag on economic growth as developers strain to deliver on presold housing projects. Mortgage boycotts throughout the country demonstrated growing public anger toward property developers as well as broader pessimism about the state of China's economy. With about 60 percent of urban household wealth concentrated in residential property, a protracted downturn in real estate values would likely exacerbate already anemic consumption among households and continue to weigh on China's economic growth prospects.
- U.S. businesses and investors are reevaluating their engagement in China. Many multinational businesses are delaying further expansion of their China operating segments as stringent COVID-19 response measures worsen the business climate and geopolitical tensions arising from Russia's unprovoked invasion of Ukraine strain global supply chains. Despite the CCP continuing to encourage foreign capital to flow into its financial markets, U.S. investors in China's financial markets have start-

ed to reduce the investment positions they built up, causing capital outflows to accelerate in 2022.

- In 2022, the Chinese government significantly reduced its lending to developing countries while developed countries pushed back against the Chinese government's use of economic coercion and pursued supply chain diversification away from China. Although it has been careful thus far to avoid triggering secondary sanctions, the Chinese government has maintained friendly relations with Russia after its invasion of Ukraine, supporting the regime by purchasing Russian oil and natural gas. Beijing likely sees coordinated sanctions against Russia as an example of potential repercussions for its intensified aggression against Taiwan, driving China to accelerate ongoing efforts to harden its economy against sanctions and undermine the dollar-led financial system.

Section 2: Challenging China's Trade Practices

After many years of attempting to engage China and persuade it to abandon its distortive trade practices, it is clear this approach has not been successful. The United States has an opportunity to develop a new strategy based on building resilience against China's state capitalism and blunting its harmful effects rather than seeking to change it. With the WTO unable to introduce meaningful new rules and procedures, the United States can pursue approaches that advance its own national interests as well as cooperate with like-minded partners. A number of different policy options can support a future strategy.

The U.S. government has a number of ways to bolster its capacity to assess and proactively mitigate the harmful impact of China's industrial policies on U.S. workers, producers, and innovators. U.S. agencies can enhance coordination to better implement export controls, investment restrictions, and enforcement of intellectual property rights as well as to guard against Chinese courts' assertion of extraterritorial jurisdiction. Chinese economic influence, particularly in the Indo-Pacific, demands a more coordinated international response to its practices. Effective U.S. policy leadership to establish new rules and curb China's economic coercion could galvanize action among likeminded partners.

Key Findings

- China has subverted the global trade system and moved further from the spirit and letter of its obligations under its WTO accession protocol. China's subsidies, overcapacity, intellectual property theft, and protectionist nonmarket policies exacerbate distortions to the global economy. These practices have harmed workers, producers, and innovators in the United States and other market-based countries.
- Having tried and failed to compel China to change its policies, the United States has begun to focus increasingly on defending itself against market-distorting effects of China's policies. The United States can do so by following two concurrent paths: first, it can build its ability to understand and monitor China's trade policies and mitigate their harmful impact through a variety of

trade remediation tools and interventions; second, it can coordinate its defensive policies with those of other countries that face similar challenges.

- Years of paralysis and inadequate rules on nonmarket actors have shown that the WTO cannot adequately address the challenges stemming from China's practices. Where the WTO has not succeeded in introducing new rules or combating the economic threat of these practices, the United States and its allies may be able to create new fora of collaboration along discrete topics and sectors.
- The current ability of the United States to overcome the scale and scope of China's harmful policies is undermined by the lack of a coherent strategy and fragmented authorities to mobilize resources, coupled with a deficiency in new tools to address economic injury. The United States is also impeded by its self-imposed barriers to employing and underutilization of available tools and its difficulties in data sharing and analysis.
- Beijing's unrelenting economic manipulation and growing willingness to weaponize its economic position are prompting market-based economies to seek new and alternative frameworks for collaboration on trade. At the same time, Russia's unprovoked invasion of Ukraine is causing advanced democracies to reconsider the national security implications of economic interdependence with authoritarian regimes.
- The United States and likeminded partners have begun to explore new mechanisms that may promote more sustainable and equitable trade while better protecting market-oriented economies from China's state capitalist distortions. New rules and approaches could strengthen supply chain resilience and ensure high standards for services, intellectual property protection, digital trade, and other emerging disciplines that remain unresolved under the WTO. Alternative regional fora and new structures developed with likeminded partners and allies provide the United States potential additional avenues to meet its trade and security goals.

Section 3: China's Energy Plans and Practices

Despite Chinese leaders' stated commitments to decarbonize the economy, China remains heavily reliant upon energy-intensive and carbon-intensive industries and is the world's largest emitter of greenhouse gases. Its growing energy demand and significant import reliance on fossil fuels drive the government's focus on securing sufficient energy supplies to meet its needs. China thus employs a comprehensive energy strategy that seeks to ensure adequate energy supply and to reduce its vulnerabilities to maritime energy import chokepoints. By cultivating leadership in clean energy technologies, Beijing is seeking to profit from a global clean energy transition while further deepening its geoeconomic leverage. Ultimately, Beijing's energy strategy will intensify U.S.-China technology competition.

Chinese leaders' efforts to satisfy and secure China's growing energy demand raise global security and commercial risks. In addi-

tion to launching a national tanker fleet, China is also increasing its capacity to secure oil imports by developing the means to project power throughout the Indian Ocean. Additionally, Chinese oil purchases from countries sanctioned by the United States and its partners undermine the efficacy of the sanctions regime. Finally, as China positions itself to lead in commercializing clean energy, global supply chains for technology to accelerate decarbonization could rely on Chinese industries that violate human rights and present commercial risks.

Key Findings

- China's demand for imported energy has significantly expanded in tandem with its growing economy, leading it to become a net crude oil importer in 1993. China depends on imports for 72 percent of its oil consumption, and the overwhelming majority of China's oil imports must pass through maritime chokepoints over which the United States has significant influence. To mitigate its vulnerabilities, China's government has invested billions of dollars in overland pipelines, launched a national tanker fleet it can direct to sail through conflict zones and potentially run blockades, and begun building out its capabilities for long-range power projection.
- Through its powerful economic planning agency, the National Development and Reform Commission (NDRC), the Chinese central government imposes strict energy price controls as levers that can be adjusted to remedy imbalances and allocate resources within China's energy system. These controls contribute to pervasive energy market distortions. Inconsistent and conflicting central government guidance contributes further to local energy system mismanagement. The resulting system is too brittle to correct for sudden energy supply disruptions and price shocks, and it contributed to a domestic energy crisis in 2021 that caused ripple effects throughout the global economy.
- Despite climate pledges by Chinese leaders, China remains the world's largest carbon dioxide emitter, and it continues to build out its coal-fired power plants with unprecedented speed. Moreover, decarbonization of China's energy-intensive economy sufficient to meet its stated goals would require large-scale economic restructuring, and policymakers have yet to make significant progress toward this goal. China's international and domestic climate targets intentionally delay the politically difficult policies required to meaningfully reduce emissions.
- Chinese national oil companies (NOCs) have also cultivated close relations with suppliers in the developing world, using local corruption in supplier countries as a competitive advantage and targeting oil-rich countries with low transparency to secure access to resources. Chinese NOCs exert growing control over global oil supplies by coopting foreign oil production through oil-backed loans or by pursuing ownership stakes in foreign oil-producing assets to secure "equity oil."
- Beijing is cultivating leadership in clean energy technologies in order to secure future markets and supply chains. A second-

ary goal is for domestically produced clean energy technologies to support China’s decarbonization efforts. China’s status as a global clean energy technology manufacturing hub and the fastest-growing renewable energy market affords it unique advantages in commercializing the next generation of clean energy technologies.

Section 4: U.S. Supply Chain Vulnerabilities and Resilience

The United States is vulnerable to a number of threats stemming from the concentration of many critical supply chain segments in China, including active pharmaceutical ingredients (APIs), rare earth elements, castings and forgings, and others. Chinese leaders are aware of their supply chain strengths, as well as their weaknesses, and they are taking active measures to limit their own vulnerabilities and sustain and enhance their leverage over certain U.S. supply chains.

U.S. supply chain risks from China can be measured by exposure and consequence across five stages: materials, components, final products, transportation and logistics, and research and design. Foremost among the challenges to remedying U.S. critical supply chain vulnerabilities are lack of visibility, weaknesses related to sourcing from a single supplier either by choice or lack of alternatives, and susceptibility to disruption of “just-in-time” delivery. For U.S. defense supply chains, in particular, a dearth of strong demand signals and contraction in the defense industrial base have led to fewer providers of defense systems and materials, lowering capacity for outputs and reducing resilience to interference from and dependencies on China.

Key Findings

- The concentration of production within China for certain critical global supply chains leaves the United States and other countries vulnerable to disruption and potential strategic trade interdictions by the CCP. Beijing seeks further consolidation and domination of global supply chains to create influence and leverage. The CCP has demonstrated its willingness to wield the resulting trade dependencies as tools of strategic competition and political leverage.
- CCP leaders’ assessments of their own supply chains have led them to a combustible mix of confidence and anxiety. While CCP leaders plan to bolster and leverage China’s strong position in manufacturing, they are extremely concerned about technological dependencies and vulnerabilities. Recent U.S. actions against Chinese telecommunications companies, as well as the coordinated multilateral response to Russia’s unprovoked invasion of Ukraine, have led Beijing to hasten longstanding plans for achieving technology self-reliance.
- A continuing lack of visibility into critical U.S. supply chains likely masks potential vulnerabilities to disruptions and compromise by Chinese state actors. The lack of a coordinated U.S. supply chain mapping and mitigation strategy, as illustrated in recent reports by various U.S. government agencies, continues to hinder supply chain diversification and resiliency across a

number of key national security and critical industries, including APIs and rare earth elements that are crucial for U.S. infrastructure, health, and security.

- While numerous supply chain risk management and mapping initiatives are underway, further action in the public domain is needed for standardizing, collecting, and analyzing necessary data, particularly in supply chains reliant upon sole- or single-source suppliers. Greater due diligence and verification are needed to protect defense and critical infrastructure supply chains from Chinese counterfeit or corrupted components and to prevent investments by Chinese companies that may compromise suppliers' intellectual property or limit their ability to participate in federal acquisition programs.
- The U.S. government's inconsistent spending trends and irregular, outdated procurement practices have accelerated contraction of the defense industrial base, leading to reduced manufacturing capacity, fewer alternative suppliers, and ultimately greater dependence on Chinese suppliers for some critical materials and components. Federal funding practices discourage much of industry, particularly small businesses, from competing for contracts with the U.S. Department of Defense and do not incentivize resilience measures like the ability to surge manufacturing capacity and create and maintain material stockpiles that would mitigate supply chain disruptions and allow the defense industrial base to meet surge capacity requirements if needed.

Chapter 3: U.S.-China Security and Foreign Affairs

Section 1: Year in Review: Security and Foreign Affairs

The CCP responded to a turbulent year by hardening its foreign and domestic policy approaches. In foreign policy, China's leaders chose to preserve close ties with Russia even after the country's unprovoked invasion of Ukraine, drawing a stark contrast with China's espoused commitment to foreign policy principles of "territorial integrity" and "noninterference." China's diplomats also took advantage of the crisis to promote General Secretary of the CCP Xi Jinping's so-called "Global Security Initiative," an effort to create a new international security paradigm more favorable to China. Many governments, including members of the EU, NATO, and the Quad, publicly condemned China's actions as threatening the norms-based international order and universal values; however, in other countries, especially in the developing world, China faced limited push-back. In the military sphere, China increased the brazenness of its operations in the air and waters around Taiwan, its confrontations in the South China Sea, and its pursuit of overseas basing options. As the People's Liberation Army (PLA) continued to upgrade the quality of its weapons and military equipment, Beijing unilaterally withdrew from all military-to-military interactions with the United States.

These international actions took place against a backdrop of continued political tightening within China. In an effort to ensure

political stability for the “victorious convening” of the 20th Party Congress and presumed extension of Xi’s rule, the CCP leadership undertook a series of targeted measures to suppress all potential political dissent both from the broader society and from within the CCP itself. Throughout the year, the CCP continued to lock down cities and promote Xi’s Zero-COVID policy as the only appropriate response to COVID-19. China’s ineffective vaccination effort left Chinese society particularly vulnerable to disruption by the more highly transmissible Omicron variant, leading to continued heavy-handed containment measures in cities like Shanghai despite significant public discontent and protests. Local leaders in China even used mass surveillance tools developed for COVID-19 mitigation to suppress unrelated protests and reinforce social control. The CCP similarly continued to tighten restrictions on China’s cultural, ethnic, and religious minorities, including the Uyghurs and Tibetans.

Key Findings

- The CCP wanted a stable year for the convening of the 20th Party Congress and presumptive extension of General Secretary Xi’s rule. They did not get it. Russia’s unprovoked invasion of Ukraine and internal discontent surrounding outbreaks of COVID-19 strained China’s foreign and domestic policy. Instead of rethinking his approaches, Xi has doubled down on his policy agenda.
- Russia and China in 2022 announced a “no limits” partnership, the culmination of a years-long effort to strengthen ties. This was immediately followed by Russia’s unprovoked invasion of Ukraine. Beijing provided diplomatic and economic support to Russia, all while promoting itself as “objective and impartial.” The CCP, diplomats, and media amplified Russian talking points and attempted to shift blame to the United States and NATO for Russia’s war of choice.
- NATO, along with South Korea, Japan, and New Zealand, declared China to pose a “systemic challenge” to a norms-based international order that upholds universal values. China’s diplomats dismissed these concerns and continued to promote the “Global Security Initiative,” a still vague security framework that endorses the interpretation of “indivisible security” that Russian diplomats cite in their statements concerning Ukraine.
- The Chinese government took steps toward securing additional overseas access and basing opportunities for its armed forces. In April, China concluded an agreement with the Solomon Islands granting access and transit rights for its military and paramilitary forces in the country. This agreement accompanied a broader push for increased influence in the Pacific Islands region in 2022. In June, a Chinese official confirmed PLA access to a Cambodian naval base. The PLA also appears to be considering sites for a base on the western coast of Africa.
- China’s aggressive activities in the South China Sea led to dangerous encounters between Chinese and other countries’ ships and aircraft in the region. In November 2021, China began blocking access to the Automatic Identification System (AIS) signals

of its ships in the region to obscure their location, breaking an international standard practice for maritime safety. A Chinese Coast Guard ship maneuvered within an unsafe distance of a Philippine patrol vessel in March, and in May the PLA conducted at least two dangerous maneuvers against Australian reconnaissance aircraft operating in international airspace.

Section 2: China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States

China has engaged in a massive buildup of its cyber capabilities over the past decade and poses a formidable threat to the United States in cyberspace today. The country has achieved this transformation by reorganizing its cyber policymaking institutions, developing sophisticated offensive cyber capabilities, and perpetrating cyberespionage to steal foreign intellectual property at industrial scale. China has also played by a different set of rules than the United States in cyberspace, leveraging large swathes of its own government and society to advance its activities in cyberspace. These efforts include regulations requiring civilian companies and researchers to report software vulnerabilities they discover to the Chinese government prior to public notification, the apparent exploitation by the Chinese intelligence services of vulnerabilities reported to the government for cyberspace operations, and the widespread collaboration on cyber capability development with Chinese universities and companies. China also promotes its “cyber sovereignty” norm in contrast to widely held principles of a free and open global internet.

As a result of these long-running efforts, China's activities in cyberspace are now more stealthy, agile, and dangerous to the United States than they were in the past. Urgent questions remain concerning the United States' readiness for the China cyber challenge, including the adequacy of resourcing for U.S. military cyber forces, the sufficiency of existing protections for U.S. critical infrastructure, and the scope of public-private cybersecurity cooperation.

Key Findings

- China's cyber operations pose a serious threat to U.S. government, business, and critical infrastructure networks in the new and highly competitive cyber domain. Under Xi, the country's leaders have consistently expressed their intention to become a “cyber superpower.” China has developed formidable offensive cyber capabilities over the past decade and is now a world leader in vulnerability exploitation. As a result, China's activities in cyberspace constitute a fundamentally different, more complex, and more urgent challenge to the United States today than they did a decade ago.
- China enjoys an asymmetric advantage over the United States in cyberspace due to the CCP's unwillingness to play by the same rules, reflecting a dynamic observable in other areas of U.S.-China relations. The United States and China diverge sharply on the norms that should guide responsible state behavior in cyberspace during peacetime. The main points of contention are China's perpetration of cyberespionage for illegit-

imate economic advantage, its emphasis on state control over the internet under the guise of “cyber sovereignty,” and its opposition to the application of certain principles of international law in the cyber domain. China promotes its preferred norms in existing international and regional institutions and is creating new organizations to supplant existing cyber governance mechanisms in line with its vision for the internet.

- The PLA views cyberspace operations as an important component of information warfare in concert with space, electronic, and psychological warfare capabilities. The Strategic Support Force (SSF) is at the forefront of China’s strategic cyberwarfare operations and plans to target both U.S. military assets and critical infrastructure in a crisis or in wartime.
- China’s cyberespionage activities are increasingly sophisticated and use advanced tactics, techniques, and procedures (TTPs) such as vulnerability exploitation and third-party compromise to infiltrate victims’ networks. China’s premier spy agency, the Ministry of State Security (MSS), conducts most global cyberespionage operations and targets political, economic, and personally identifiable information to achieve China’s strategic objectives.
- Military-civil fusion underpins China’s development of cyber capabilities and conduct of cyber operations. To advance China’s military aims, the SSF can mobilize civilian information technology (IT) resources, such as data centers, as well as militias composed of technically competent civilians working in the domestic telecommunications industry, cybersecurity firms, and academia. For its cyberespionage operations, the MSS exploits vulnerabilities submitted to the Chinese government and often employs contractors to carry out state-sponsored cyber operations.
- China’s cybersecurity legislation weaponizes the country’s cybersecurity industry and research by requiring companies and researchers to submit all discovered software and hardware vulnerabilities to the government before providing them to the vendors that can patch them. This policy, leveraged in combination with domestic hacking competitions and cooperative agreements with Chinese universities, provides China’s security services with a steady stream of vulnerabilities to exploit for state-sponsored operations.

Section 3: China’s Activities and Influence in South and Central Asia

Chinese leaders consider South and Central Asia critical to securing China’s western borders and ensuring access to Eurasia and the Indian Ocean. Accordingly, the Chinese government has escalated its efforts to exert influence in the regions over the past decade and has tried to establish its development and internal security interests as regional priorities by leveraging political influence through investment and loans. In South Asia, the Chinese government has become a more significant presence, but it has also damaged its relations with India and contributed to India’s increasingly close

relationship with the United States. In Central Asia, China has accrued significant influence, yet public opinion toward China remains mixed in the region. Meanwhile, the Chinese government remains concerned about its ability to manage regional security risks emanating from Afghanistan.

The Chinese government's increasing outreach to South and Central Asia and changes in the regions are challenging traditional balances of power. While Chinese leaders consider the Indian Ocean region as a secondary theater, China's increasing economic ties, growing network of strategic commercial ports, and greater PLA Navy activity could foreshadow a long-term challenge to Indian and U.S. interests in the region. In Central Asia, China's growing bilateral security partnerships and influence in the Shanghai Cooperation Organization indicate the Chinese government's increasing willingness to encroach on Russia's traditional role as the region's dominant security partner.

Key Findings

- Chinese strategists view the U.S. Navy as China's principal challenge in the Indian Ocean. In response, PLA Navy warships and submarines regularly exercise expeditionary capabilities in the Indian Ocean in what the PLA claims are antipiracy operations. China's efforts to secure its interests in the Indian Ocean region have included significant development financing in Sri Lanka and the Maldives, two small but strategically located island countries near India. Despite these efforts, however, China has yet to convert its economic ties into significant political or security gains.
- Over the past decade, China's government has worked to undermine India's influence in South Asia and exert its own, including by escalating military tensions along the two countries' disputed border. As a result, China-India relations are now at their lowest point in decades. The Indian government has increased its efforts to reduce its economic reliance on China, though it has had limited success to date.
- China has longstanding security ties with Pakistan motivated largely by a common geopolitical rivalry and territorial disputes with India. Since 2015, these ties have been bolstered by the China-Pakistan Economic Corridor (CPEC), an initiative that promises massive infrastructure investment as part of China's Belt and Road Initiative (BRI). While rhetorical support for CPEC remains strong in both countries, its implementation has fallen short of original expectations, and Pakistan's deteriorating security situation makes significant expansion of CPEC highly unlikely in the near term.
- China's engagement in Central Asia and Afghanistan is primarily driven by security concerns and preventing unrest in the regions from crossing into China's Xinjiang Uyghur Autonomous Region. The Chinese government also views the region as an important source of commodities such as oil, natural gas, and uranium and as a gateway to westward expansion of BRI. Its integration with Central Asia has recently accelerated as the

region's traditional hegemon, Russia, has experienced setbacks in the wake of its unprovoked invasion of Ukraine.

- The Chinese government's development financing in South and Central Asia has helped recipient countries build much-needed infrastructure, but it also serves China's own economic and political aims. Its opaque lending, which typically does not require institutional economic reforms, often exacerbates underlying governance issues in recipient countries. Its lending terms are also more onerous than those from the United States or international financial institutions such as the International Monetary Fund. The turbulence in Sri Lanka that has occurred throughout 2022 is exacerbated by the hazards of accepting significant Chinese lending.

Chapter 4: Taiwan

In 2022, China adopted a significantly more aggressive stance toward Taiwan, ramping up displays of military force in addition to diplomatic and economic coercion. Beijing has also carefully observed Russia's war in Ukraine, presumably drawing lessons that would inform its approach if Chinese leaders ultimately decide to force unification with Taiwan. While the lessons being learned are not yet clear, Chinese leaders may conclude that managing information, mitigating the potential impact of sanctions, and examining the Russian military's combat performance are paramount. For their part, Taiwan's leaders may conclude on the basis of Ukraine's experience that they must adopt an asymmetric warfighting strategy, involve the populace in resistance to a Chinese military operation, and build stockpiles of critical materials.

Taiwan's economy demonstrated resilience in 2022, bolstered by global demand for its microelectronics exports. The semiconductor sector remains heavily dependent on trade with the Mainland, though it was notably spared from the economic coercion Beijing levied against many smaller industries as part of its ongoing campaign to intimidate and punish the Taiwan government for its global engagement. Taiwan's vulnerability to Beijing's coercion is coming into greater focus as the specter of a Chinese blockade looms over the island's reliance on imported energy and food.

Key Findings

- Russia's unprovoked invasion of Ukraine in 2022 provided a contemporary case study of the potential challenges and opportunities the People's Republic of China might face if its leadership decides to attempt unification with Taiwan through the use of force. The war in Ukraine also injected urgency into ongoing discussions in Washington and Taipei about how to enhance the island's self-defense capabilities amid the PLA's massive military buildup as well as current and future challenges and disruptions to the global supply chains vital for weapons production.
- Beijing continued its multifaceted coercion campaign against Taiwan this year to isolate its people from the world. Chinese officials leveraged their power in international institutions to

propagate falsehoods about a global consensus underpinning their “One China” principle and to prevent Taiwan from sharing its valuable expertise on issues ranging from global health to oceanic science. The PLA continued its intimidating and frequent operations in the air and waters around Taiwan, conducting large-scale live-fire exercises in August after Speaker of the U.S. House of Representatives Nancy Pelosi’s visit to Taiwan.

- Taiwan and the United States are pursuing closer economic and trade collaboration. In June 2022, the U.S.-Taiwan Initiative on 21st-Century Trade was launched as the two economies agreed to pursue deeper integration. The U.S.-Taiwan Initiative will also address shared concerns related to China’s nonmarket practices, including discussions on state-owned enterprise and nonmarket economy-related issues.
- China’s economic coercion of Taiwan targets export industries that are both relatively small and highly dependent on China’s consumer market, attempting to send a political message and inflict pain on Taiwan while avoiding fallout on China’s own economy. The Chinese government used the pretext of Speaker Pelosi’s trip to increase its economic coercion of Taiwan, implementing a variety of import bans on food products that in particular originate from areas supportive of Taiwan’s President Tsai-Ing Wen. Beijing’s decision to leave the far more consequential trade in semiconductors untouched demonstrates its approach to economic targeting of Taiwan industries that are relatively small and highly dependent on China’s consumer market.
- Beijing’s messaging to foreign and domestic audiences evolved in new and concerning ways. Chinese officials’ international messaging asserted China’s ownership of the entire Taiwan Strait and conveyed their disdain for international norms. Speaking to its own members, the CCP unveiled and credited to General Secretary of the CCP Xi Jinping a new “overall strategy for resolving the Taiwan question in the new era.” While much of the strategy repeats longstanding tenets of China’s policy toward Taiwan, certain phrases raise questions about whether the CCP could announce significant changes to Taiwan policy at its 20th Party Congress in late 2022.
- Taiwan’s effective containment of the COVID-19 pandemic and strong demand for Taiwan exports led to robust economic growth through the first quarter of 2022. In contrast to the extended lockdowns that have shuttered substantial swaths of China’s economy, Taipei has shifted to a less stringent set of COVID-19 management policies, allowing for greater economic openness. However, China’s lockdowns and inflationary concerns in advanced economies have slowed Taiwan’s growth relative to 2021.

Chapter 5: Hong Kong

In 2022, Hong Kong became increasingly isolated and further subordinated under Beijing’s control. Security authorities continued their assault on Hong Kong’s freedoms while the economy suffered from restrictions guided by Chinese government direction. Stronger

mainland influence over Hong Kong is driving key changes to all aspects of life in the territory and more emigration. Hong Kong remains an important offshore financial and business center for the Mainland due to the territory's unique connections to the global financial system. The territorial government is moving to a legal system that increasingly mimics that of the Mainland, threatening prospects for journalists and civil society as well as U.S. and other foreign businesses and expatriates in the territory.

Beijing has continued its increasingly systematic dismantling of Hong Kong's civic institutions and installation of loyalists in the territory's government in support of advancing security objectives. Hong Kong's rule of law continues to be undermined as only Beijing-approved judges serve on national security cases and security forces increase politically motivated arrests and detention. Following mass arrests of prodemocracy protestors in 2019 and 2020, the number of political prisoners in the territory is rising as Hong Kong authorities continue to target educators, labor organizers, journalists, and religious leaders. Despite increased political risk, foreign investors continue to rely on Hong Kong as a channel into China, particularly as the territorial government develops new mechanisms for investment.

Key Findings

- With Beijing's handpicked chief executive now at the helm, China firmly controls all branches of Hong Kong's government, ushering in a new era of total control by mainland authorities. Beijing has now successfully inserted loyalists into every branch of Hong Kong's government. By overhauling the election process, it created a rubber-stamp parliament full of so-called patriots, and it has also leveraged the new chief executive's authority to appoint judges.
- Hong Kong is actively working to implement "local" national security rules to reinforce the National Security Law passed in Beijing's legislature in 2020. These new local laws are slated for introduction by the end of 2022 and are expected to feature a comprehensive definition of national security in line with that of the Mainland.
- Freedoms of speech, expression, assembly, association, and religion in Hong Kong—once among the most progressive in the region—have all but vanished as the territory now ranks near the bottom of global freedom indices. Prominent religious figures, such as Hong Kong's senior-most cleric, Cardinal Joseph Zen Ze-kium, have been targeted and arrested; the education system has also come under intense scrutiny as Beijing seeks to shed Hong Kong's British legacy by rewriting textbooks and curricula to revise history and solidify a more unified national identity with the Mainland.
- Recent data suggest Hong Kong's increased departures of expatriates and locals will intensify as the territory introduces new laws to curb public criticism of the Beijing-aligned government and has imposed strict Zero-COVID controls for most of 2022. Brain drain and potential loss of talent could be an added

damper to Hong Kong's economic outlook. More foreign companies may find Hong Kong less welcoming as they contend with challenges retaining staff, accessing real-time information, and navigating a higher degree of political suppression and control.

- Hong Kong's leadership, in concert with the Beijing government, is actively crafting policies to increase not only legal, political, and economic subordination of Hong Kong but also cultural and demographic transformation.
- Some U.S. companies are reorganizing operations in the Indo-Pacific to shift away from Hong Kong due to extensive restrictions and difficulties associated with doing business in the territory. U.S. companies are poised to take regional operations and headquarters out of Hong Kong gradually and in greater numbers.
- Hong Kong remains an important part of the Chinese government's growth agenda due to its centrality in renminbi transactions as well as its role in supporting expansion of China's financial services. The CCP's plans to rely on Hong Kong's stock exchange as an alternative to U.S. exchanges have been delayed in 2022, but Chinese companies and banks are set to dominate Hong Kong's business environment as U.S. and other foreign firms depart.

THE COMMISSION'S KEY RECOMMENDATIONS

The Commission considers 10 of its 39 recommendations to Congress to be of particular significance. The complete list of recommendations appears at the Report's conclusion on page 727.

The Commission recommends:

1. Congress direct the Administration to produce within 90 days an interagency report coordinated by the Office of the U.S. Trade Representative to assess China's compliance with the terms and conditions of the 1999 Agreement on Market Access between the People's Republic of China and the United States of America. The assessment should be presented as a summary list of comply/noncomply status of the provisions under the agreement. If the report concludes that China has failed to comply with the provisions agreed to for its accession to the WTO, Congress should consider legislation to immediately suspend China's Permanent Normal Trade Relations (PNTR) treatment. Following the suspension of PNTR, Congress should assess new conditions for renewal of normal trade relations with China.
2. Congress direct the Administration to create an Economic and Security Preparedness and Resilience Office within the executive branch to oversee, coordinate, and set priorities for cross-agency efforts to ensure resilient U.S. supply chains and robust domestic capabilities, in the context of the ongoing geopolitical rivalry and possible conflict with China. This Office would be tasked with:
 - Establishing a dedicated Supply Chain Mapping Unit to determine requirements, set priorities, and coordinate efforts to continuously map, monitor, and analyze the most critical supply chains, including but not limited to semiconductors, rare earths, life-saving and life-sustaining medications and their active pharmaceutical ingredients, and castings and forgings.
 - The unit would be tasked with developing interoperable performance measures to monitor and assess current U.S. supply chain resiliency and risk mitigation efforts, including data collection on U.S. supply chain dependencies on direct and indirect Chinese suppliers, prioritizing defense-critical supply chains.
 - Establishing a Defense Mobilization Unit responsible for coordinating and setting priorities for:
 - Assessment of the requirements for weapons, munitions, supplies, and other equipment necessary to equip and support U.S. forces and to assist friends and partners in the Indo-Pacific region in a potential conflict with the People's Republic of China, including conflicts of varying duration;
 - Determination of the adequacy of existing stocks and available productive capacity to meet those needs;
 - Identification of potential shortfalls or bottlenecks that might impede production and resupply in some scenarios; and

- Recommendation of corrective measures to address these problems.
 - Including in its assessments the effects of potential disruptions in U.S.-China trade on defense mobilization and domestic availability of critical materials, products, and supplies. Where it identifies likely requirements for additional capacity, the unit shall determine funding and support mechanisms to ensure the timely development of such capabilities and capacity.
 - Consulting with other departments and agencies to identify shortfalls in current defense industrial base and supporting industrial capabilities and what additional measures might be needed to address them.
3. Congress enact legislation creating a permanent interagency committee in the executive branch charged with developing options and creating plans for the imposition of sanctions or other economic measures in a range of possible scenarios, including (but not limited to) a Chinese attack, blockade, or other hostile action against Taiwan. This committee would evaluate the potential economic and political consequences of various options, coordinate their implementation, and advise Congress of any amendments to statutory authorities or mandates required to enhance their effectiveness. The committee should coordinate and seek to devise joint plans with the relevant agencies of other governments that may be contemplating similar measures. The committee should include participants from the U.S. Departments of State, Treasury, Commerce, Defense, and Homeland Security.
 4. Congress direct the U.S. Food and Drug Administration in cooperation with other federal agencies, within one year and on an ongoing basis thereafter, to identify pharmaceutical products that utilize active pharmaceutical ingredients (APIs) and other ingredients and inputs that are sourced directly or indirectly from the People's Republic of China and develop alternative sourcing arrangements through available tools and resources, including Defense Production Act authorities. The United States should maximize the production of such goods domestically or, as appropriate, from trusted countries.
 5. Congress direct the Administration as part of the Indo-Pacific Economic Framework (IPEF) to negotiate a prohibition on the utilization of China's National Transportation and Logistics Public Information Platform (LOGINK) or similar systems provided by Chinese state-affiliated entities within IPEF member ports. A two-year transition period shall be provided for existing users of LOGINK or similar Chinese-controlled or -affiliated systems to terminate use of such systems and transition to secure logistics systems with no Chinese control or affiliation.
 6. Congress direct the U.S. Department of the Treasury to require U.S. corporations and U.S.-registered subsidiaries of foreign corporations to publicly disclose, on an annual basis, all holdings in firms linked to China's military, including those that maintain

any production permit, qualification, or certification issued by the People's Liberation Army or China's State Administration for Science, Technology, and Industry for National Defense.

7. Congress create an authority under which the president can require specific U.S. entities or U.S. entities operating in specific sectors to divest in a timely manner from their operations, assets, and investments in China, to be invoked in any instance where China uses or threatens imminent military force against the United States or one of its allies and partners.
8. Congress direct the U.S. Department of Defense to produce a classified report on current and future military posture, logistics, maintenance, and sustainment requirements to bolster the United States' "capacity to resist force" in the event of a Chinese attack and attempted invasion of Taiwan. The report shall assess the requirements for all scenarios, including protracted combat in a contested environment (e.g., anti-access, area denial), and evaluate how to best enable a dispersed, distributed force in the Indo-Pacific.
9. Congress should make available significant additional multi-year defense funds in conjunction with: (i) a joint planning mechanism made up of Taiwan and U.S. defense officials identifying sets of interoperable and complementary capabilities required for the defense of Taiwan; and (ii) Taiwan legislatively committing significant additional funds to procure its share of those capabilities for its military.
10. Congress, pursuant to the Hong Kong Human Rights and Democracy Act, amend the International Organization Immunities Act to remove Hong Kong Economic and Trade Offices as a covered organization, thereby eliminating diplomatic privileges enjoyed by such offices and their employees in the United States. This amendment could be reversed under one of the following conditions:
 - The People's Republic of China negotiates an agreement with the United States to have Hong Kong Economic and Trade Offices considered an official part of the People's Republic of China's mission to the United States, and subject to the same requirements.
 - China alters its treatment of Hong Kong to allow for sufficient autonomy and abides by One Country, Two Systems as enumerated by the Hong Kong Policy Act.

CHAPTER 1

CCP DECISION-MAKING AND XI JINPING'S CENTRALIZATION OF AUTHORITY

Abstract

Over the past ten years, General Secretary of the Chinese Communist Party (CCP) Xi Jinping has undertaken a wide-ranging effort to restructure decision-making processes within the Chinese Party-state that will continue to have effects at the 20th Party Congress and beyond. Xi has augmented his own authority and systematically centralized decision-making power across all policy areas, preserving and enhancing the CCP's capacity to dominate policy-making and expanding his own authority to drive China's policy agenda. This top-down approach aims to unify the government and the nation under the Party and deliver on Xi's aspirations of enhancing China's strength while avoiding what he perceives as the shortcomings of his predecessors' leadership. Nevertheless, Xi's centralization of decision-making power may reduce the adaptability of lower-level governments and encourage the CCP's reliance on policy approaches that are poorly suited to address China's structural challenges. Should these trends continue, challenges to the United States may include more unpredictable economic policy decision-making, a more assertive foreign policy agenda, and a more aggressive military posture.

Key Findings

- General Secretary Xi's decision-making power has increased dramatically over the past decade, to the point that CCP media have recast the previously negative term "decision by one authority" as a positive feature of China's system. Xi has also overhauled Party rules to give himself an outsized role in the overall governance of the CCP and of China. Xi will likely maintain his high level of control after the October 20th Party Congress and the spring 2023 National People's Congress.
- Under Xi's leadership, the CCP has restructured China's policymaking apparatus by taking decision-making functions away from government bodies and placing them into Party organs, such as leading small groups and commissions. This shift bolsters the CCP's oversight of policy formulation and implementation to ensure stricter adherence to the Party line and marks a departure from prior CCP leaders' more broadly consultative policy-making process.

- Policy decision-making is increasingly centralized and synonymous with Xi’s personal leadership, equating loyalty to the Party with loyalty to him. This trend improves policy coordination at the possible expense of policy flexibility, leading to campaign-style governance that effectively addresses short-term issues but limits CCP leaders’ ability to correct policy mistakes.
- Xi seeks to avoid the perceived errors of the Soviet Union and China’s reform-era leaders. He asserts that previously lax and weak governance by his immediate predecessors damaged the CCP’s reputation, cohesiveness, and national governance abilities.
- Xi is enhancing central control over economic decision-making in an effort to ensure the preservation of the regime. Xi justifies this centralization by claiming he and the Party are uniquely capable of steering China toward an increasingly ambitious and nationalistic set of modernization plans. These intentions fail to reconcile with the systemic ailments afflicting China’s economy, which Xi and the CCP have chosen to mask by replacing the previous metric of gross domestic product (GDP) maximization with a proliferating number of top-down mandates and increased central enforcement.
- Xi has restructured the foreign policy decision-making apparatus to facilitate a unified and centrally directed approach to addressing international threats and achieving national objectives. The conduct of Chinese diplomacy now reflects his preference for a more aggressive and confrontational style.
- Xi has restructured the military and paramilitary apparatus to increase centralization and vest more authority in his own hands. Decisions on the use of China’s military and paramilitary forces are subject to an increase in the personal discretion exercised by Xi.

Recommendations

The Commission recommends:

- Congress pass legislation creating a new Federally Funded Research and Development Center (FFRDC) (to replace the Open Source Center closed in 2015) that will translate and maintain a publicly available collection of important open source material from the People’s Republic of China (PRC) and other countries of strategic interest. This legislation should require existing FFRDCs to provide to this new entity a copy of all open source Chinese-language materials collected or used in any government-sponsored analytical or related projects on an ongoing basis.
- Congress direct the Office of the U.S. Director of National Intelligence to produce an unclassified directory of Chinese Communist Party (CCP) senior members and organizations, similar to the “Directory of PRC Military Personalities” produced and updated by the U.S. Department of Defense.
 - The directory should be updated on an annual basis and consist of an unclassified public report on the CCP, including the Party’s organizational structure (including organizations affil-

iated with the United Front Work Department) and profiles of leaders and organizations at least to the level that the CCP defines as “senior cadre.”

- The contents of each year’s directory should be retained in the form of an unclassified, publicly available, searchable database of CCP members and organizations.

Introduction

At the 20th National Congress of the CCP, scheduled to begin on October 16, 2022, roughly 2,300 CCP delegates will likely extend Xi’s leadership and endorse new candidates for positions within the Party.* This reshuffle will be followed shortly thereafter by the National People’s Congress (NPC) in early 2023 for turnover of the state leadership.¹ These major political events are occurring against the backdrop of Xi’s intense consolidation and assertion of power over the last decade. Xi’s likely priorities for the Party Congress are to continue strengthening his ability to exercise complete political control and ensure personal loyalty from all levels of the CCP. An evaluation of how Xi has changed decision-making processes in China’s political system helps to understand the outcome of the Party Congress and how the United States can prepare for it.

Xi is upending recent patterns of decision-making and policy formulation that emerged in the post-Mao era.² In response to the Party’s perceived weaknesses under prior leaders, Xi has sought to strengthen the mechanisms for the Party’s leadership over all organs of governance, neutralize threats to CCP authority, and equip the CCP with the governance tools it needs to achieve its objectives.³ Xi’s emphasis on protecting and promoting the CCP’s authority in governing China means the Party is expanding its role in decision-making across all policy areas. Furthermore, Xi’s style of leadership makes personal loyalty to him synonymous with loyalty to the Party. These dynamics mean Xi’s policy preferences have an outsized impact on decision-making, as national and local government bodies must implement policies that adhere to his agenda.

This section evaluates the CCP’s decision-making structure and policy formation process under Xi’s leadership. The section begins with an assessment of how and why the CCP’s decision-making norms have evolved under Xi’s leadership. It then reviews the specific features of CCP decision-making processes under Xi across economic, foreign, and security policy. The section draws on the Commission’s January 2022

*As of this Report’s writing, the CCP is expected to convene its 20th National Congress on October 16, 2022. These congresses are held once every five years. Delegates to the Congress elect the CCP Central Committee and the Central Commission for Discipline Inspection. The CCP Central Committee is a political body comprising China’s top political leadership (currently 204 members and 172 alternates). According to the CCP charter, the Central Committee is vested with the power to select the Politburo (a group of 25 people who oversee the CCP). Within the Chinese political system, the ultimate power resides with the Politburo Standing Committee (nominally elected by the Central Committee). The current Politburo Standing Committee has seven members, with Xi Jinping serving as the General Secretary of the CCP and China’s head of state. *Xinhua*, “The CCP Central Committee Politburo Meeting Suggests that the Party’s 20th National Congress Convene on October 16 in Beijing” (中共中央政治局会议建议党的二十大10月16日在北京召开), August 31, 2022. Translation; Susan Lawrence and Mari Lee, “China’s Political System in Charts: A Snapshot before the 20th Party Congress,” *Congressional Research Service*, November 24, 2021, 2, 9, 11; State Council of the People’s Republic of China, *19th Party Congress Concludes in Beijing, Xi Jinping Presided over the Congress and Delivered an Important Speech* (中国共产党第十九次全国代表大会在京闭幕 习近平主持大会并发表重要讲话), October 24, 2017. Translation.

hearing on “CCP Decision-Making and the 20th Party Congress,” consultations with experts, and open source research and analysis.

The Evolution of CCP Decision-Making

As one of the CCP’s most revered revolutionary leaders and the founder of the People’s Republic of China (PRC), Mao Zedong enjoyed a position of singular authority in China’s political system until his death in 1976.⁴ At the Zunyi Conference during the CCP’s Long March in January 1935, Mao for the first time overcame the intra-Party disputes that had placed an upper limit on his political control of the CCP to become the Party’s undisputed leader.⁵ With the founding of the PRC, Mao was in a position to play a decisive role in shaping the construction of China’s nascent governance institutions and guiding the country’s policy direction. He was known for his hands-on involvement in policy decision-making, particularly in the foreign policy and security realms where his personal diplomacy with foreign leaders largely set the course for China’s diplomatic relations.⁶ Mao did not always exercise his decision-making authority through the formal bureaucratic mechanisms of the Party-state, and he even stopped attending Politburo meetings after 1959.⁷ Despite his domestic position at the pinnacle of China’s Party-state, Mao possessed a profound distrust of institutions that led him to repeatedly circumvent both government and Party bureaucracies in favor of stirring up mass movements to accomplish his policy goals.⁸ His domination had destabilizing and deadly consequences, such as the economic disaster of the Great Leap Forward that led to millions of deaths by starvation and the ideological excess of the Cultural Revolution that persecuted China’s political elite.⁹ Although Mao established the leading role for the CCP in Chinese society, his leadership approach also sometimes threatened the CCP’s stability as a ruling organization.

CCP leaders in the post-Mao era, up through Hu Jintao’s tenure, made deliberate efforts to prevent the concentration of decision-making power in one top leader. Mao Zedong’s unassailable authority over the CCP and his dictatorial governance of China led to continued disastrous policies despite mounting evidence of their failure.¹⁰ To prevent leaders from exercising such outsized power and influence, successive CCP leaders in the post-Mao era gradually adopted a “collective leadership” model* to ensure the top leader consulted with an executive group of other leaders in the Politburo Standing Committee when making decisions.¹¹

Hu Jintao’s leadership of the CCP from 2002 to 2012 saw the peak of the collective leadership model.¹² A communique from the CCP’s 17th Party Congress, held in 2007, formally defined the model as “a system with a division of responsibilities among individual leaders in an effort to prevent arbitrary decision-making by a single top leader.”¹³ The CCP’s adoption of a collective leadership model instituted a consensus-based approach toward decision-making whereby the top leader builds consensus around his specific policy proposals.

* Deng Xiaoping first articulated the need for the CCP to adopt a collective leadership system, writing in 1980 that CCP leadership required radical reform to guard against the risk of overconcentration of power. Alice Miller, “What Would Deng Do?” *Hoover Institution*, February 14, 2017; Deng Xiaoping, “On the Reform of the System of Party and State Leadership,” 1980.

Achieving consensus can be difficult partly because members of the Politburo Standing Committee may owe their position to political allegiance to different constituencies, interest groups, and influential Party elders whose interests they informally represent.*¹⁴

Women in China's Leadership †

The emphasis on consensus building does not include the voice of women. Despite stated commitments to equal opportunity and fair representation by the CCP and the Chinese government,‡ women have limited representation and voice across the top echelons of China's political system.¹⁵ Historically, female representatives have rarely constituted more than 10 percent of the roughly 300-member CCP Central Committee.¹⁶ Only 6 women have ever served in the 25-member Politburo, half of whom were the wives of other top leaders.¹⁷ No woman has ever served on the Politburo Standing Committee or held any of the top three positions in China's political system: CCP general secretary, chairman of the Central Military Commission (CMC), and state chairman.§¹⁸ Female representation in key government roles such as ministries and provincial governorships is also extremely low.¹⁹ The percentage of People's Liberation Army (PLA) servicemembers who are female is not publicly available, but a Chinese military newspaper estimated in 2015 that approximately 5 percent or fewer were women.²⁰ Currently, no women hold senior command or political commissar positions in the PLA.²¹

Informal rules and procedures have emerged alongside a shift to collective decision-making. These norms include mandatory retirement age and term limits for CCP Politburo members, cadre evaluation systems, and regional representation in the CCP Central Committee. Some analysts argue these norms have contributed to

*Difficulties in consensus building extend throughout the broader Party-state bureaucracy. A provincial Party secretary, for example, has the same bureaucratic rank in China's political system as the minister of a State Council-level ministry. The interests and policy preferences of one minister may correspond with or diverge from those of a broader array of other ministries and local governments, with central Party leaders serving as the ultimate arbiters of decision-making. As a result, decisions from the top are often interpreted in different ways by localities and ministries, creating a "fragmented authoritarianism" style of governance in China's political system. Kenneth Lieberthal, "Introduction: The 'Fragmented Authoritarianism' Model and Its Limitations," in Kenneth Lieberthal and David Lampton, eds., *Bureaucracy, Politics, and Decision Making in Post-Mao China*, 1992, 1–30; David Lampton, "A Plum for a Peach: Bargaining, Interest, and Bureaucratic Politics in China," in Kenneth Lieberthal and David Lampton, eds., *Bureaucracy, Politics, and Decision Making in Post-Mao China*, 1992, 33–58.

†For more, see Sierra Janik, Daniel Blaughter, and Jonathan Ray, "Women in China's Leadership," *U.S.-China Economic and Security Review Commission*, March 30, 2022.

‡PRC law on the protection of women's rights states that "women shall enjoy equal rights with men in all aspects of political... life." China has also espoused a commitment to "strengthen[ing] the work of training and selecting women cadres" and instituted quotas for female representation in certain positions in the CCP. Valarie Tan, "Women Hold Up Half the Sky, but Men Rule the Party," *Mercator Institute for China Studies*, June 3, 2021; State Council Information Office of the People's Republic of China, *Gender Equality and Women's Development in China* (中国性别平等与妇女发展状况), August 2005. Translation: People's Republic of China Law on the Protection of Women's Rights and Interests (中华人民共和国妇女权益保障法), 2005. Translation.

§The top leader of the state in the PRC is called the "state chairman" (国家主席). Beijing misleadingly translates this title as "president" for the English-speaking audience. The Chinese word for "president" (总统), which is used in the title of the president of the United States and other presidents in democratic countries, is not used in any of Xi's titles. *Xinhua*, "Xi Jinping Elected State Chairman, State Military Commission Chairman" (习近平当选国家主席、国家军委主席), March 14, 2013. Translation; Embassy of the People's Republic of China in the United States of America, "Xi Jinping Elected Chinese President," March 14, 2013.

a more “institutionalized” political system in China.²² For example, expert on China’s elite politics Cheng Li argues that at least two loose factions* in the CCP leadership have created an “intraparty mechanism approximating a system of checks and balances in the CCP leadership,” with leaders of these two groupings alternating occupancy of top leadership positions.²³ Bruce Dickson, professor of political science and international affairs at George Washington University, adds that existing and retired leaders negotiated over future leadership appointments in order to maintain a factional balance of power.²⁴

In reality, any apparent norms or institutions in China’s political system are little more than flexible rules that do not constrain the top CCP leaders but are instead selectively mobilized by them to advance their interests.²⁵ For example, while analysts point to formal and informal retirement age rules and term limits as indicative of institutionalization of China’s political system,† top CCP leaders have manipulated these norms to protect their position. At the 15th Party Congress in 1997, then General Secretary Jiang Zemin imposed a mandatory retirement age on the CCP leadership, and all leaders aged 70 or older resigned.²⁶ This rule, issued in spite of the fact that then General Secretary Jiang himself was 71, forced Qiao Shi, a member of the Politburo Standing Committee and disliked by Jiang, to retire.²⁷ Then General Secretary Jiang lowered the retirement age to 67 at the 16th Party Congress in 2002 to remove another political rival, Li Ruihuan.²⁸

While these norms have always been informal and abused at the margins by his immediate predecessors, General Secretary Xi has fully taken advantage of their informality to strengthen his control. He has proven more effective than Jiang Zemin and Hu Jintao in preventing opposing factions from challenging his leadership, upsetting any prior trend toward factional balancing. Whereas the nine-member Politburo Standing Committee of the 17th Party Congress (2007–2012) featured four members of the Communist Youth League faction, the seven-member Politburo Standing Committee of the 19th Party Congress (2017–2022) featured only one (Premier Li Keqiang).²⁹

Xi’s Justification for Reasserting Party Control

Xi’s drive to reassert the CCP’s role in decision-making springs from what he perceived to be critical weaknesses in China’s governance capacity under his recent predecessors.³⁰ A document known as a “historical resolution”‡ that Xi directed in order to reinforce his

*Dr. Li categorizes these factions as an “elitist coalition” of leaders from the families of CCP revolutionaries (e.g., Jiang Zemin, Xi Jinping) and a “populist” faction of leaders who advanced their careers by way of the Communist Youth League and have oriented policy toward economic equality and regional development (Hu Jintao, Li Keqiang). The factional groups Dr. Li identifies are not exhaustive, with several other loose groupings of political networks also observable in China’s elite politics. Cheng Li, *Chinese Politics in the Xi Jinping Era: Reassessing Collective Leadership*, Brookings Institution Press, 2019, 251–256; Cheng Li, “A Biographical and Factional Analysis of the Post-2012 Politburo,” *China Leadership Monitor*, June 6, 2013.

†For example, analysts at MacroPolo observe that retirement rules, retained since 1997 and consistently enforced since 2002, have worked to usher in new political leadership every 5–10 years. Damien Ma and Joshua Henderson, “Age Rules: The Arrival of the Post-60s Generation in Chinese Politics,” *MacroPolo*, December 31, 2021.

‡A “historical resolution” is a high-level Party document that presents an official summary of CCP history. CCP leaders including Mao Zedong, Deng Xiaoping, and Xi Jinping have used the production of a historical resolution to address important political issues of their time with bear-

own leadership ahead of the 20th Party Congress claims that “previously lax and weak governance” under his reform-era predecessors had damaged the CCP’s reputation, cohesiveness, and national governance abilities.³¹ First, the document assesses that a “lack of awareness” by the previous Party leadership had permitted “weak, ineffective, diluted, and marginalized efforts in implementation” of the Party’s major policies and “feigned compliance” from lower-level officials, jeopardizing the CCP’s ability to enact its desired policies.³² Second, it argues that previous failures to stringently govern Party organizations had fostered “a serious lack of political conviction” among Party members and officials as well as “a startling level of corruption” that damaged the Party’s public image and therefore threatened its authority.³³ In the economic sphere, the historical resolution argues that an “undue emphasis on the rate and scale of growth” since the beginning of “reform and opening up” had created “institutional and structural problems in China’s economy” that only a strong Party could address.³⁴ In military affairs, it assesses that weak Party control over the armed forces under recent leadership had endangered both the Party’s political security and China’s military effectiveness.³⁵ Finally, it argues that China needs to bolster its abilities to defend its national security and navigate an increasingly complex international environment.³⁶ The solution to all of these deficiencies, in Xi’s analysis, was strengthening Party leadership over the organs of governance.³⁷

Xi also justifies his own personal elevation as a means to strengthen the overall authority of China’s political leadership. Xuezhi Guo, professor and chair of the political science department at Guilford College, argues in his book *The Politics of the Core Leader in China* that having a clear paramount leader facilitates penetration of Party authority into society because the aura of unified leadership fosters greater willingness to acquiesce to Party directives.³⁸ It also allows the leader to imprint the force of his personality on important policies.³⁹ Party sources advance this argument by framing the expansion of Xi’s authority as beneficial for both Party unity and China’s overall future.† Chinese politics expert Alice Miller assesses

ing on their personal leadership and legacy. (For more on Xi’s historical resolution, see Chapter 3, Section 1: “Year in Review: Security and Foreign Affairs.”) Bert Hofman, “China’s Third Historical Resolution: A Preview,” *National University of Singapore East Asian Institute*, November 16, 2021, 1; David Bandurski, “Deciding History, Sealing the Future,” *China Media Project*, November 8, 2021.

* Deepening the integration of the CCP into China’s administrative state bureaucracy aims to overcome internal tensions in this domestic development agenda, such as the need to break through vested interests and manage politically contentious redistributions of resources across regions, income groups, and powerful sectors. Neil Thomas, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 6; Neil Thomas, “Party All the Time: Xi Jinping’s Governance Reform Agenda after the Fourth Plenum,” *MacroPolo*, November 14, 2019; Nis Grunberg and Katja Drinhausen, “The Party Leads on Everything,” *Mercator Institute for China Studies*, September 24, 2019.

† A 2016 *People’s Daily* editorial justifying Xi’s political elevation asserted, “In order for a large country and large party such as [China’s] to cohere the entire party, unite the whole people, [and] triumph over challenges . . . the CCP Central Committee and the whole Party must have a core.” It further describes Xi’s adoption of this role as necessary for maintaining the authority of the CCP Central Committee, the unified leadership of the Party, and China’s overall long-term stability. An authoritative article released by a media platform affiliated with the CCP’s Central Political-Legal Affairs Commission in March 2022 argues that “only a political party that has a strong core can have formidable power” and supports this statement with quotations from Karl Marx, Friedrich Engels, Mao Zedong, and Deng Xiaoping. It then credits Xi, serving as the core of the Party, with enabling China to overcome serious challenges, both domestic and international. Central Political and Legal Affairs Commission Chang’an Daulun, [*Chang’an Introduction*] Zhong Zhengsheng:

that prior to Xi's rise in 2012, the CCP elite may have groomed him for the precise purpose of Party institution building and shoring up governance capacity.*⁴⁰ In his testimony before the Commission, Neil Thomas, analyst for China and Northeast Asia at consultancy Eurasia Group, similarly argued that a perception existed among CCP elites that Hu Jintao's weak leadership had endangered Party authority and may have given Xi an "elite mandate" to restore the Party's authority, which he has also used to consolidate his own power dramatically.⁴¹

Xi's Lessons from the Fall of the Soviet Union

Xi's emphasis on reasserting Party control likely also reflects a desire to prevent the CCP from repeating mistakes he believes contributed to the Communist Party of the Soviet Union's (CPSU) fall from power and the ensuing collapse of the Soviet Union itself. While Xi is not the first CCP leader to emphasize learning lessons from the fall of the Soviet Union, his conclusions about which lessons to draw differ in some areas from those of his predecessors.⁴²

A series of high-profile CCP propaganda documentaries on the topic produced in 2006, 2013, and 2022 illustrate this difference. Although all three documentaries emphasize the dangers of corruption, media liberalization, and hostile influences from outside powers, the 2006 documentary also includes a critique against overconcentration of power that is noticeably absent from the two films produced under Xi.[†]⁴³ It criticizes the CPSU for repeatedly allowing the top leader too much discretion to make decisions without consulting others.[‡]⁴⁴ The 2013 and 2022 documentaries produced under Xi do not share this assessment and instead place a pronounced emphasis on maintaining the authority of the Party's top leader.⁴⁵

According to Xi's remarks and propaganda aimed at the Party bureaucracy under his leadership, the most important factors behind the Soviet collapse include ideological competition and

Deeply Understand the Decisive Significance of the Two Establishes from Four Major Dimensions (【长安导论】钟政声：从四大维度深刻领悟“两个确立”的决定性意义), March 14, 2022. Translation; *Xinhua*, "People's Daily Editorial: Unswerving Promote Comprehensive and Strict Governance of the Party" (人民日报社论：坚定不移推进全面从严治党), October 27, 2016. Translation.

*Alice Miller observes that then General Secretary Hu Jintao's work report to the 18th Party Congress in November 2012 called for several specific initiatives that explicitly emerged under General Secretary Xi's leadership. These include upgrading the National Security Leading Small Group into a full-fledged commission and strengthening the role of Party organizations in non-public entities. Alice Miller, "Xi Jinping and the Evolution of Chinese Leadership Politics," in Thomas Fingar and Jean C. Oi, eds., *Fateful Decisions: Choices That Will Shape China's Future*, Stanford University Press, 2020, 35–39.

[†]According to research by David Shambaugh, a similar critique of the over-centralization of power was also visible in other Chinese assessments around and prior to this period. One of many themes common in works at the time was that Stalin introduced an over-concentration of power and a "dictatorship of the supreme leader" which led to a range of secondary problems throughout Soviet government and society. David Shambaugh, *China's Communist Party: Atrophy and Adaptation*, Woodrow Wilson Center Press, 2008, 62, 65–66.

[‡]The documentary accuses most of the Soviet leaders for violating the poorly defined principle of "democratic centralism." It criticizes Stalin for regularly "acting on his own will without consulting others" which led to a widespread problem of Party members "not speaking truth and currying favor[s]." Khrushchev and Brezhnev are similarly chastised for restricting decision-making power to only a small group of individuals and neglecting intra-Party oversight mechanisms. Gorbachev is accused of walking away from the principle of democratic centralism entirely through a unilateral decision to force democratization upon the Soviet Union. *ChinaScope*, "Eight-Episode TV Documentary Series: Preparing for Danger in Times of Safety, Episode Six."

Xi's Lessons from the Fall of the Soviet Union—Continued

confusion, loss of Party control over the historical narrative, decreasing effectiveness of the Party's organizational structure, and loss of Party control over the military.⁴⁶ Xi-era propaganda and both the 2013 and 2022 documentaries feature an excerpt from a speech he delivered to the newly selected 18th Central Committee in January 2013, two months after taking power:

Why did the Soviet Union disintegrate? Why did the CPSU fall from power? An important reason is that competition in the ideological field was extremely intense; there was a complete negation of the Soviet Union's history [and] CPSU history, negating of Lenin, negating of Stalin, engaging in historical nihilism; ideology [was] confused, each level of Party organization had become almost useless, [and] the military was no longer under the leadership of the Party... This is a lesson from the past!⁴⁷

The changes Xi has wrought on China's governance system align closely with this diagnosis of the CPSU's failures, suggesting his agenda is informed in part by a desire to arrest these trends in China's own governance.⁴⁸

Features of CCP Decision-Making in the Xi Era

The CCP's decision-making under General Secretary Xi has broken away from the models of collective and consensus-based decision-making developed over time during Deng, Jiang, and Hu's periods of rule. Xi has reversed these emerging governance norms, overseeing an absorption of government functions once under the State Council into the CCP and elevating his personal leadership in a manner not seen since Mao Zedong. He also emphasizes a broad conception of national security in all policy areas so that the Party can address anything the leadership judges to be a threat. Xi's sweeping anticorruption campaign complements these efforts by removing potential rivals, shoring up Party discipline, and incentivizing loyalty to his leadership.

Expanded CCP Decision-Making Power

Xi is restructuring China's policymaking apparatus to grant greater decision-making authority to central Party bodies across policy areas, including in some areas previously delegated to the State Council and other government bodies.⁴⁹ Xi's elevation of "top-level design"* is emblematic of his push to increase the Party's control over policy formulation and implementation in China's broader national development.⁵⁰ Top-level design is intended to ensure more

*The phrase "top-level design" predates General Secretary Xi's rule over the CCP. According to Alex He, senior fellow at the Centre for International Governance Innovation, the phrase was first introduced in recommendations prepared by the CCP Central Committee for the 12th Five-Year Plan in October 2010: "It is necessary to comprehensively move reform forward in every sector, with greater determination and courage; pay even more attention to a top-level design and an overall plan for reform; and clarify the priorities and sequences for reform." Alex He, "Top-Level Design for Supremacy: Economic Policy Making in China under President Xi," *Centre for International Governance Innovation*, May 2020, 3.

unified implementation of central policies throughout the system.⁵¹ By recentralizing policy formulation to Party-led organizations, top-level design seeks to overpower vested interests and bureaucratic resistance to Xi's agenda.⁵² For Xi, this recentralization is important because it enables him to overcome diverging interests of State Council Ministries* and local governments that may hinder their implementation of policy directives from the Party center.⁵³

To bring this top-level design to fruition, Xi has increased the number and bureaucratic power of Party leadership groups on core policy topics. Between 2013 and 2018, Xi elevated the bureaucratic status of existing Party leading small groups† on national security, finance and economics, and foreign affairs by converting them into permanent commissions.⁵⁴ Compared to leading small groups, commissions are higher-ranking, more formalized bodies with more bureaucratic power to coordinate policy development.⁵⁵ Xi also established new Party groups on topics such as “comprehensively deepening reform,” “law-based governance,” cybersecurity, audits, and military-civil fusion, all of which were either founded as commissions or later elevated to that level.⁵⁶ While some of these commissions' offices are located within the offices of the CCP Central Committee, others have been physically placed within corresponding State Council ministries.⁵⁷ For example, in March 2018 the CCP established a new Central Commission on Comprehensively Governing the Country According to Law with its own permanent offices at the Ministry of Justice.⁵⁸

March 2018 marked a key milestone in Xi's efforts to centralize Party control. Following its Third Plenum in February 2018, the 19th Central Committee under Xi's leadership released a plan in March directing a broad reorganization of many elements of the Party-state bureaucracy.⁵⁹ This included the establishment and upgrading of six of the aforementioned Party commissions as well as several other measures that explicitly moved key functions from State Council bodies under new Party leadership (see Table 1).⁶⁰ The reorganization plan published jointly by the CCP Central Committee and the State Council emphasized the importance of furthering integration between Party and state offices.⁶¹ It also explained that the changes aimed to improve the CCP's ability to “design policy.”⁶²

*The State Council is the cabinet of China's government and is the highest organ of day-to-day governance and administration. It is officially responsible for implementing policies formulated by the CCP. It is led by the premier and composed of 26 constituent departments and an array of other public institutions. Susan V. Lawrence and Mari Y. Lee, “China's Political System in Charts: A Snapshot before the 20th Party Congress,” *Congressional Research Service*, November 24, 2021, 27, 30.

†The CCP has used leading small groups since at least the 1950s for a variety of oversight and decision-making purposes depending on the top leader's preferences. Under Mao Zedong, for example, the Party Central Committee formed a five-person and then a ten-person leading small group to guide the 1955 campaign to “suppress counterrevolutionaries.” As the Party moved to a collective leadership model with a consensus approach to decision-making, leading small groups gradually became more policy focused and led by different members of the Politburo Standing Committee. The CCP has also established task-oriented, short-term groups in response to policy crises. On January 25, 2020, the Central Committee established a new central leading group on pandemic response as CCP leaders finally publicly acknowledged the severity of the COVID-19 outbreak in Wuhan. *Xinhua*, “Xi Focus: Chronicle of Xi's Leadership in China's War against Coronavirus,” September 7, 2020; Christopher K. Johnson and Scott Kennedy, “Xi's Signature Governance Innovation: The Rise of Leading Small Groups,” *Center for Strategic and International Studies*, October 17, 2017; Alice Miller, “More Already on the Central Committee's Leading Small Groups,” *China Leadership Monitor*, July 28, 2014, 3–4; Alice Miller, “The CCP Central Committee's Leading Small Groups,” *China Leadership Monitor*, September 2, 2008.

Table 1: March 2018 Reorganization of Select State Council Functions under CCP Leadership

Original State Council Body	Reorganization under the CCP
Ministry of Supervision	Absorbed by the National Supervisory Commission
Bureau of Corruption Prevention	Absorbed by the National Supervisory Commission
State Office for Public Sector Reform	Reorganized under the CCP Organization Department
Civil Service Department	Reorganized under the CCP Organization Department
National Academy of Governance	Merged with the Central Party School
State Administration of Press, Publication, Radio, Film, and Television	Absorbed by the CCP Propaganda Department
State Ethnic Affairs Commission	Leadership transferred to the CCP United Front Work Department
State Administration for Religious Affairs	Reorganized under the CCP United Front Work Department
State Council Overseas Chinese Affairs Office	Reorganized under the CCP United Front Work Department

Source: Adapted from Nis Grunberg and Katja Drinhausen, “The Party Leads on Everything,” *Mercator Institute for China Studies*, September 24, 2019.

Anticorruption Campaign and Discipline Inspections as Tools of Governance

Upon assuming power in 2012, Xi launched a sweeping anticorruption campaign to both restore faith in the legitimacy of the CCP and remove political rivals.⁶³ The campaign has been notable in quickly reaching the upper echelons of the Party and military leadership. Purges of several high-level officials have included former Secretary of the Central Political-Legal Affairs Commission and member of the Politburo Standing Committee Zhou Yongkang and two former vice chairmen of the CMC, among others.⁶⁴ In targeting such officials, the campaign allowed Xi to increase his popular appeal by rooting out egregious corruption of China’s political elite.⁶⁵ It also enabled Xi to sideline rivals and instill fear of running afoul of his preferences throughout the Party’s upper and lower ranks.⁶⁶

The campaign and associated discipline inspections have been gradually institutionalized and now serve as tools to ensure adherence to Xi’s policy agenda across all levels of government. In late 2016, the CCP’s Central Committee launched pilot supervisory commissions in the Beijing municipality and Shanxi and Zhejiang provinces, leading to the establishment of a National Supervisory Commission that integrated the anticorruption functions of several government organizations.⁶⁷ This commission ultimately joined with the Party’s Central Commission for Discipline Inspection (CCDI), the CCP’s top disciplinary body, at the 2018 Two Sessions.⁶⁸ The new National Supervisory Commission formalized Xi’s anticorruption campaign and equipped the CCP with

Anticorruption Campaign and Discipline Inspections as Tools of Governance—*Continued*

oversight of China's wider government bureaucracy and public officials, including non-Party members that were formerly beyond the CCDI's jurisdiction.⁶⁹ These increased intragovernmental and intraparty coordination efforts have been complemented by changes to laws, regulations, and Party strictures to further formalize the campaign.⁷⁰ The anticorruption campaign's long-term persistence, expansion, and institutionalization provide increased evidence of its underlying political motivation and Xi's intention to use it as a multipurpose governing tool.⁷¹

As Xi's efforts to root out corruption and bolster Party discipline become more formalized, investigations are reaching down deeper into the Party's rank and file and becoming a means of governance. The number of corruption cases at or below the county level grew nearly 20 percent from 523,000 in 2017 to 624,000 in 2021.⁷² According to think tank MacroPolo's analysis of CCDI discipline inspections from 2019 to 2021, performance-related cases* made up 54 percent of cases investigated, compared with 46 percent for financial corruption, suggesting the CCP is attempting to shape cadre behavior to ensure they perform their duties.⁷³ These shifts toward larger numbers of investigations into lower-level cadres seem to point to an increased emphasis on ensuring broad-based responsiveness to the Party center.⁷⁴ There is also evidence that the ever-present threat of inspection has resulted in higher levels of risk aversion among local-level bureaucrats.†

Xi as the Core of CCP Decision-Making

Over the past decade, Xi has consolidated power and elevated his personal authority over the Party to an extent not seen since Mao Zedong.⁷⁵ First, Xi took control of the Party, state, and military more quickly than Jiang Zeming or Hu Jintao, becoming CCP general secretary and chairman of the CMC in November 2012 and state chairman in March 2013.‡ Then in 2016, only three years into Xi's

*The institutionalization of the National Supervision Commission within the CCDI is resulting in a more concerted effort to modify cadre behavior and ensure they implement the top CCP leadership's policy agenda. Since 2018, the CCDI has stressed the importance of "addressing bureaucratic inefficiency," with inspections now focusing on officials' failure to implement Party directives or the adoption of a lax work style, such as holding too many meetings and side-stepping administrative duties. Ruihan Huang and Joshua Henderson, "From Fear to Behavior Modification: Beijing Entrenches Corruption Fight," *MacroPolo*, March 8, 2022.

†In a study on the anticorruption campaign's impact on local-level governance, Erik H. Wang, assistant professor of political science at the Australian National University, found disciplinary inspections and anticorruption activities made local-level bureaucrats more risk averse. Dr. Wang used local government land auctions as an indicator of local bureaucrats' governance activity, as these auctions typically drive infrastructure development. According to Dr. Wang's findings, provincial disciplinary inspections were followed in the subsequent month by a 15 percent decline in land development projects proposed by bureaucrats in the inspected province. Erik H. Wang, "Frightened Mandarins: The Adverse Effects of Fighting Corruption on Local Bureaucracy," *Comparative Political Studies*, October 16, 2021, 1–2, 10, 25–26.

‡Jiang Zemin and Hu Jintao each served a whole term as the top leader of the Party and the state before their predecessors (Deng Xiaoping and Jiang Zemin, respectively) ceded control of the military to them. Xi, by contrast, attained leadership of the Party, military, and state each at the first available opportunity. National People's Congress of the People's Republic of China, "Xi Elected Chinese President, Chairman of the PRC Central Military Commission," March 14, 2013; *Xinhua*, "Xi Jinping Appointed Chairman of the Central Military Commission" (习近平任中央军委军事委员会主席), November 15, 2012. Translation; *Xinhua*, "Xi Jinping -- General Secretary of

first term, the 18th CCP Central Committee formally declared him the “core” of the Party.⁷⁶ The designation of the “core” is reserved for particularly influential top leaders in CCP politics, and prior to Xi, only Mao Zedong and Deng Xiaoping had attained the title without it being directly bestowed upon them by the outgoing leader.^{*77} At the end of Xi’s first term in power, his namesake political theory “Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era” was incorporated into the Party Charter and the Preamble of the PRC Constitution, respectively, further elevating him above his predecessors whose contributions to Party doctrine carry less political weight and drawing a parallel with Mao’s “Mao Zedong Thought.”^{†78} In addition to formal political designations, Xi has accumulated informal titles deeply reminiscent of those last used to refer to Mao Zedong[‡] that, to the domestic audience, carry a clear political message that places Xi on similar footing with Mao.⁷⁹ They also elevate him above his other predecessors, including Deng Xiaoping, who did not use any comparable honorifics.⁸⁰

the CPC Central Committee,” *People’s Daily Online*, November 15, 2012; James Mulvenon, “The King is Dead! Long Live the King! The CMC Leadership Transition from Jiang to Hu,” *China Leadership Monitor*, January 30, 2005.

* Jiang Zemin was declared the “core” on the authority of his powerful predecessor Deng Xiaoping, likely to promote stability amid the turbulent aftermath of the 1989 Tiananmen Square massacre. Hu Jintao was never granted the designation. Neil Thomas, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 2; Chris Buckley, “China’s Communist Party Declares Xi Jinping ‘Core’ Leader,” *New York Times*, October 27, 2016; Alice Miller, “‘Core’ Leaders, ‘Authoritative’ Persons, and Reform Pushback,” *China Leadership Monitor*, July 19, 2016, 1.

† Jiang Zemin’s “Three Represents” and Hu Jintao’s “Scientific Outlook on Development” do not bear their names and were not incorporated until after the conclusion of their terms as general secretary. Xi’s contribution is considered more politically significant because it includes his name and was formalized during his time in office. National People’s Congress of the People’s Republic of China, *Explanation of the ‘Amendment to the Constitution of the People’s Republic of China (Draft)’* (关于《中华人民共和国宪法修正案(草案)》的说明), March 20, 2018. Translation; *Reuters*, “China to Enshrine Xi’s Thought into State Constitution amid National ‘Fervor,’” January 19, 2018; 19th National Congress of the Chinese Communist Party, *Chinese Communist Party Charter* (中国共产党章程), October 24, 2017. Translation.

‡ Mao Zedong’s informal titles included the so-called “Four Greats,” namely “Great Teacher” (*weida de daoshi*), “Great Leader” (*weida de lingxiu*), “Great Helmsman” (*weida de duoshou*), and “Great Commander” (*weida de tongshuai*). Xi has thus far received titles reminiscent of the latter three, although without the adjective “great” associated. Over the course of Xi’s tenure, state and Party media, government websites, and officials have variously referred to him as “Leader” (*lingxiu*), “People’s Leader” (*renmin lingxiu*), “Pilot at the Helm” (*linghang zhangduo*), “Helmsman” (*zhangduozhe*), “Helmsman” (*duoshou*), and “Commander” (*tongshuai*). In the past, the *People’s Daily* has also referred to Stalin as “Great Leader” (*weida de lingxiu*), while both Stalin and Lenin have been called “Helmsman” (*duoshou*). Manoj Kewalramani, “‘People’s Leader’ Xi at Two Sessions - Paralympics Closing - Yang-Sullivan Meeting - He Yiting on Xi Thought & Two Establishments,” *Tracking People’s Daily*, March 14, 2022; *People’s Daily*, “General Secretary, Your Fellow Countrymen Long to See You!— Two Sessions Representative Committee Members Bring Regards to General Secretary from the People Everywhere” (总书记, 乡亲们非常想念您! ——两会代表委员带来各地人民对总书记的心意), March 10, 2022. Translation; *Qishi*, “Read and Understand the Decisive Significance of the ‘Two Establishes’” (读懂“两个确立”的决定性意义), January 10, 2022. Translation; Qian Gang, “A Brief History of the Helmsmen,” *China Media Project*, November 2, 2020; *Xinhua*, “The Commander’s Deep Emotion and Concern— PLA and PAP Representatives Tell the Story of Chairman Xi Jinping’s Care for Grassroots Construction” (统帅的深情牵挂——解放军和武警部队代表讲述习近平主席关心基层建设的故事), May 25, 2020. Translation; *People’s Daily Online*, “People’s Daily Editorial: The Country’s Helmsman the People’s Leader” (人民日报社论: 国家的掌舵者 人民的领路人), March 17, 2018. Translation; *Xinhua*, “History’s Choice, the People’s Expectation— Commentary on the Management of State Affairs since the 18th Party Congress by the CCP Central Committee with Comrade Xi Jinping as the Core” (历史的选择, 人民的期待——党的十八大以来以习近平同志为核心的党中央治国理政评述), January 2, 2017. Translation; Chris Buckley, “China’s New ‘Helmsman’ Offers a Strident Nationalist Message,” *New York Times*, March 20, 2018; Nectar Gan, “Why China Is Reviving Mao’s Grandiose Title for Xi Jinping,” *South China Morning Post*, October 28, 2017; Javier C. Hernández, “China’s ‘Chairman of Everything’: Behind Xi Jinping’s Many Titles,” *New York Times*, October 25, 2017; Nectar Gan, “What Do You Call Xi Jinping? China’s Elite Echo Language of Mao to Sing the Praises of Their ‘Leader and Helmsman,’” *South China Morning Post*, October 22, 2017; Yan Changgui, “Who Put Forward the ‘Four Greats’” (“四个伟大”是谁提出来的), *People’s Daily*, August 18, 2006. Translation.

Xi's decision-making power has increased dramatically over this same period, to the point that CCP media have begun alluding to his expanding role in the CCP's decision-making by recasting the previously negative term "decision by one authority" as a positive feature of China's system.⁸¹ Most importantly, Xi has taken over the chairmanship of most of the CCP's powerful commissions and leading small groups, granting him a guiding role in defining goals for most major policy issues and expanding the remit of his decision-making power.⁸² Xi currently chairs nine Party commissions and leading small groups, all but one of which were either elevated in status or created during his tenure (see Table 2).⁸³ Hu Jintao, in comparison, chaired four.⁸⁴ The head of each commission's staff office handles daily administration for the commission and reports directly to Xi as the commission chairman.⁸⁵

Table 2: CCP Commissions and Leading Small Groups Chaired by Xi

Party Group Name	Establishment	Staff Office Head
Central Comprehensively Deepening Reform Commission	Established in 2013 as a leading small group. Upgraded to a commission in 2018.	Jiang Jinqun
Central Finance and Economic Affairs Commission	Established in 1958 as a leading small group. Upgraded to a commission in 2018.	Liu He
Central Foreign Affairs Commission	Established in 1958 as a leading small group. Upgraded to a commission in 2018.	Yang Jiechi
Central National Security Commission	Established in 2000 as a leading small group. Upgraded to a commission in 2013.	Ding Xuexiang
Central Commission for Cybersecurity and Informatization	Established in 2014 as a leading small group. Upgraded to a commission in 2018.	Zhuang Rongwen
Central Commission for Integrated Military and Civilian Development	Established in 2017 as a commission.	Han Zheng
Central Commission on Comprehensively Governing the Country According to Law	Established in 2017 as a leading small group. Upgraded to a commission in 2018.	Guo Shengkun
Central Audit Commission	Established in 2018 as a commission.	Hou Kai
Central Taiwan Affairs Leading Small Group	Established in 1954 as a leading small group.	Yang Jiechi

Source: Various.⁸⁶

Xi's elevated role is also reflected in other Party processes. For example, Xi has presided over the creation or amendment of significantly more Party rules and regulations than his predecessors.⁸⁷ In his testimony before the Commission, Mr. Thomas estimated that Xi is responsible for creating or editing about 70 percent of current central Party regulations, giving him an outsized impact on the overall governance of the CCP itself.*⁸⁸ In 2021 alone, Xi passed new CCP rules that increased central control over personnel selection, strengthened central supervision of high-level cadres, and elevated the general secretary's control over the agenda, convening, and operations of the Central Committee, Politburo, and Politburo Standing Committee.⁸⁹ Xi also has significant ability to control very high-level Party documents that carry great authority in China's ostensibly consensus-driven political system. According to Party media, Xi personally directed and supervised the document drafting group for the 19th Central Committee's Fourth Plenary Session in 2019 "from beginning to end" for more than 200 days.⁹⁰

Xi's expansion of his own authority alongside concurrent efforts to strengthen Party control blurs the line between the Party's authority and his own, creating conditions under which challenging him is tantamount to challenging the Party. Some experts argue that the leadership of the Party is now personified in the personal leadership of Xi.⁹¹ For example, Guoguang Wu, professor at the University of Victoria, Canada, remarks that the most striking feature of the 2019 Fourth Plenum Xi personally supervised is "the parity of the leadership of the party, of the party center, and of the party chief Xi Jinping."⁹² The line between Xi's authority and the Party's authority is also increasingly blurred in state media.⁹³ Mr. Thomas explains, "[Xi's] ideological control makes him virtually synonymous with Party rule ... rais[ing] the public cost for elites to move against him."⁹⁴ According to Minxin Pei, professor of government at Claremont McKenna College, rule changes under Xi have also "systematically enshrined Xi's personal authority and made support for and loyalty to Xi's authority a litmus test to determine discipline violations, job performance, and appointments and promotions of officials."⁹⁵ A condition to maintain Xi's status as the core and the center of the entire Party is now included in the CCP's Disciplinary and Penalty Code, Inspection and Work Code, CCP and Government Cadre Evaluation Code, and Cadre Appointment and Promotion Code.⁹⁶ Support for Xi even appears to be a criterion for participation in the upcoming 20th Party Congress.[†]⁹⁷

*Xi has also amassed the political power to alter more authoritative rules than his predecessors in a way that further entrenches his own power. For example, in 2016 Xi oversaw the revision of *Several Principles on Political Life in the Party*, one of the core documents developed under Deng Xiaoping to prevent the return of Mao-era strongman rule. The revised document notably decreased the emphasis on "collective leadership" and watered down prohibitions against the promotion of a personality cult. Minxin Pei, "Rewriting the Rules of the Chinese Party-State: Xi's Progress in Reinvigorating the CCP," *China Leadership Monitor*, June 1, 2019, 1–5.

†After the November 2021 Sixth Plenum, CCP media began emphasizing that delegates selected for the upcoming 20th Party Congress must "firmly uphold General Secretary Xi Jinping's core position in both the Party's Central Committee and the Party as a whole." Neil Thomas, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 11.

The “Two Safeguards” and the “Two Establishes”

Xi has used a pair of political formulations known as the “Two Safeguards” and “Two Establishes” to enshrine his status in official Party documents and to build a political defense for his personal leadership. In the runup to the 20th Party Congress, the two formulations have served as a vehicle for expressing obeisance to Xi in public statements by officials and organizations of the Party, government, and military at both central and provincial levels.⁹⁸

- The Two Safeguards, introduced in early 2018, stipulate that the CCP must “safeguard General Secretary Xi Jinping’s position as the core of the CCP Central Committee and the core of the whole Party” and “safeguard the CCP Central Committee’s authority and centralized, unified leadership.”⁹⁹ The Two Safeguards were incorporated into the CCP Regulations on Disciplinary Actions on August 26, 2018, making them a powerful tool for enforcing political loyalty to Xi.¹⁰⁰
- The Two Establishes build on the foundation of the Two Safeguards while taking steps toward greater personalization of power,* declaring that the Party has “established Comrade Xi Jinping’s status as the core of the CCP Central Committee and the core of the whole Party” and “established the guiding role of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era.”¹⁰¹ Though first mentioned in 2018, the Two Establishes have been most heavily promoted since their incorporation into the 19th Central Committee’s Sixth Plenum Communiqué and Xi’s historical resolution in November 2021.¹⁰²

Emphasis on National Security in All Policy Areas

Xi has embedded a broad definition of “national security” into decision-making in nearly every policy area (see “Xi’s ‘Comprehensive National Security Concept’” below), which complements his emphasis on coordinated, centralized leadership.¹⁰³ Since 2014, the CCP claims to have made “security development a common thread in every domain of national development,” and the majority of Party and state organs now directly support some aspect of China’s so-called “national security work.”¹⁰⁴ As Timothy Heath, senior international defense researcher at RAND Corporation, explained in 2015, the adjustment means “anything [CCP] authorities deem an impediment to the realization of any of the country’s developmental objectives—regardless of whether it is economic, political or another category—may now be deemed a ‘security threat.’”¹⁰⁵

*While only one of the Two Safeguards mentions Xi by name, both of the Two Establishes concern him directly. Additionally, while the Two Safeguards refer to the leader by his current position as “General Secretary Xi Jinping,” the Two Establishes refer to him as “Comrade Xi Jinping,” thereby promoting him as an individual with authority independent of his particular position in the Party apparatus. *Qiushi*, “Read and Understand the Decisive Significance of the ‘Two Establishes’” (读懂“两个确立”的决定性意义), January 10, 2022. Translation; Propaganda Department of the Chinese Communist Party Central Committee, “Two Safeguards” and “Four Consciousnesses” (“两个维护”和“四个意识”), August 27, 2018. Translation.

Xi's "Comprehensive National Security Concept"

Xi has introduced a so-called "Comprehensive National Security Concept"* that argues that threats to the CCP regime may originate from any field in the domestic or international arena and that these threats require coordinated, proactive efforts to manage. Its introduction in 2014 heralded a dramatic broadening and elevation of the concept of national security within China's policy framework.¹⁰⁶ As Sheena Chestnut Greitens, associate professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin, testified before the Commission, the concept is primarily concerned with threats to the security of the CCP regime and political system.¹⁰⁷ According to official descriptions, it covers a wide and expanding range of policy areas within the definition of national security.¹⁰⁸ To date, this includes at least political security, military security, territorial security, economic security, cultural security, societal security, scientific security, internet security, environmental security, resource security, nuclear security, security of overseas interests, space security, deep sea security, polar security, and biological security.[†]¹⁰⁹ The concept considers both internal and external threats in each of these areas as well as the potential for the two types of threats to interact with and exacerbate one another.¹¹⁰ It further emphasizes the importance of proactive efforts to neutralize threats before they cause lasting damage.¹¹¹

To better coordinate the expansion of security responsibilities throughout the bureaucracy, Xi has strengthened central control by creating the Central National Security Commission (CNSC) and its associated hierarchy.¹¹² Xi presided over the creation of the CNSC in 2014 by elevating the previously ad hoc Central National Security Leading Small Group to the status of a permanent commission, thereby granting it a permanent staff office, a regular membership, and a position of greater influence within the bureaucracy.¹¹³ Since 2014, the CNSC has served as the CCP Central Committee's official "coordinating mechanism for decision-making and discussion" on the broad range of issues now deemed "national security" affairs and the institutional manifestation of Xi's Comprehensive National Security Concept.¹¹⁴ It functions as the highest decision-making body for integrated national security issues, merging the bureaucratic stove-

*The term is also sometimes translated "overall national security concept" or "holistic national security concept." Manoj Kewalramani, "Xi's Boao Forum Speech - 20th Party Congress Nominations - State Council on Agriculture & Energy Security - Xinjiang Secretary Ma Xingrui on National Security - Wang Yi's South Caucasus Diplomacy," *Tracking People's Daily*, April 21, 2022; Joel Wuthnow, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 2; Sheena Chestnut Greitens, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Relations at the Chinese Communist Party's Centennial*, January 28, 2021, 1.

†Party sources often describe the relationship between various areas as: "the security of the people as the aim; political security as the fundamental principle; economic security as the foundation; military, cultural, and societal security as guarantees; and the promotion of international security as the source of support." Tang Aijun, "Ideological Security in the Framework of the Overall National Security Outlook" (总体国家安全观视域中的意识形态安全), *Socialism Studies*, December 12, 2019. Translation; *Xinhua*, "Xi Jinping: Persist in the Comprehensive National Security Concept, Walk the Road of National Security with Chinese Characteristics" (习近平: 坚持总体国家安全观 走中国特色国家安全道路), April 15, 2014. Translation.

pipes of national security work through its inclusion of top political, military, and economic leaders.*¹¹⁵ An official readout of the CNSC's first meeting states that the group exists "to establish a centralized, unified, efficient, and authoritative national security system; and to strengthen the leadership of national security work."¹¹⁶ This body is responsible to the Politburo and Politburo Standing Committee and is chaired by Xi himself.¹¹⁷ A hierarchy of subordinate national security commissions have also been integrated into the Party structure at the provincial, prefectural, municipal, district, and county levels.¹¹⁸ These lower-level commissions take direction from above and are mainly tasked with implementation,† creating a system of supervision and coordination that extends from Xi in his role as CNSC chairman to the localities.¹¹⁹

Consequences for CCP Decision-Making in the Xi Era

The recentralization of the CCP's decision-making power under Xi streamlines policy coordination in China while undermining the flexibility of lower-level bodies and contributing to other policy challenges. Consequences arising from this recentralization include:

- *Centralized decision-making encourages further reliance on campaign-style governance, which is ill-suited to addressing longer-term, structural challenges:* As a Leninist party, the CCP is inherently mobilizational and often formulates and implements policy in a campaign-style manner.¹²⁰ Campaigns are appealing because in demanding rapid and clear results, they can overcome bureaucracy and give the impression of responsiveness to policy problems.¹²¹ By increasing the system's responsiveness to centralized directives, Xi's streamlining of the system increases the attractiveness of the mobilizational approach to policy formulation. Mr. Thomas testified that a mobilizational approach can yield results in policy areas with short-term, measurable, and easily defined goals, such as the improvement of air quality in China's industrial northeast.¹²² Campaign-style governance is less effective in resolving longer-term structural challenges such as China's economic slowdown, declining productivity, and high debt levels, which require careful balancing between dif-

*The group's broad membership reflects the requirements of the comprehensive national security concept's expansive and integrated nature. In 2017, the CNSC membership reportedly included Zhang Dejiang (Politburo Standing Committee Member, Chair of National People's Congress); Wang Huning (Politburo Member, Director, Policy Study Office of Central Committee); Liu Qibao (Politburo Member, Chief of Propaganda Department); Sun Zhengcai (Politburo Member, Party Secretary of Chongqing); Fan Changlong (Politburo Member, Deputy Chair, CMC); Meng Jianzhu (Politburo Member, Secretary of Central Political-Legal Affairs Commission); Hu Chunhua (Politburo Member, Party Secretary of Guangdong); Li Zhanzhu (Politburo Member, Director of General Affairs Office); Guo Jinlong (Politburo Member, Party Secretary of Beijing); Han Zheng (Politburo Member, Party Secretary of Shanghai); Yang Jing (State Councilor, Secretary of Central Secretariat); Guo Shengkun (State Councilor, Minister of Public Security); Zhang Yesui (Party Secretary and Deputy Minister of Foreign Ministry); Yang Jiechi (State Councilor, Director of the Foreign Affairs Office); Zhou Xiaochuan (Chief, People's Bank of China); Fang Fenghui (Chief of Staff, CMC); Zhang Yang (Chief, Political Department, CMC); Zhao Keshi (Chief, Logistic Department, CMC); and Zhang Youxia (Chief, Equipment Development Department, CMC). Yun Sun, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 8–9.

†Information from local Party and government sources suggests the lower-level commissions meet two to three times per year to review decisions from commissions at the higher levels, receive reports from other agencies, and discuss national security issues. Joel Wuthnow, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 2.

ferent stakeholders, including central and local government officials and state and nonstate businesses.¹²³

- *Centralized decision-making reduces flexibility in local-level governance, a historically important source of regime resilience:* In testimony before the Commission, Middlebury College associate professor of political science Jessica Teets explained that the previous encouragement and tolerance of local-level experimentation and adaptation of central-level policy directives enabled the CCP to maintain broad-based support for its rule.*¹²⁴ Local experimentation has also encouraged provinces to calibrate their tax and investment regulations to compete for investment from private and foreign firms.¹²⁵
- *Xi's centralization of political power and decision-making in the CCP and himself makes it difficult to correct policy mistakes:* As Xi has consolidated power within CCP bodies and himself, the Party's policy choices increasingly reflect his personal judgment with minimal if any checks from other parts of the Party-state bureaucracy.¹²⁶ Concentrating policy formulation and decision-making in leading small groups and commissions personally led by Xi means cadres also become fearful of adjusting and implementing policy in any manner that might run counter to the general secretary's pronouncements.¹²⁷

Economic Decision-Making

Like other domains, economic policymaking under General Secretary Xi has been characterized by increasing centralization. The economic domain is unique, however, in the degree to which decentralization and devolution of economic decisions had become core features of China's economy prior to Xi's ascension. In contrast to speculation at the beginning of his term that Xi might accentuate these trends as a market-oriented reformer, he has rather proven to be a reformer of a very different kind: a Leninist aiming to revive the Party's ability to more assertively penetrate and steer the economy, enact control over economic agents, and neutralize countervailing centers of economic power.[†]¹²⁸ Centralized economic decision-making under Xi aims to steer China's economy toward a new "high-quality" growth model, aiming to not only entrench and legitimize the CCP's position at home in the process but also buttress its

* Strict pollution standards, for example, might lead wealthier provinces to invest in clean energy technologies and poorer provinces to pare back pollutive manufacturing activity. Guangdong, a wealthy province along China's eastern seaboard, for example, pledged in its provincial 14th Five-Year Plan to "implement renewable energy replacement [of fossil energy]," invoking Xi's call from March 2021 to "establish a new type of power system with new energy as the mainstay." "New energy" in CCP policy pronouncement often refers to recently developed energy generation technologies such as wind and solar power as opposed to traditional fossil or hydrogeneration technologies. Jessica Teets, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 3; Edmund Downie and Jeremy Lee Wallace, "Gatekeepers of the Transition: How Provinces Are Adapting to China's National Decarbonization Pledges," *Columbia University Center on Global Energy Policy*, November 22, 2021.

† Leninism defines and characterizes the CCP's authoritarian organizational structure. Adopted originally from the Soviet Union, Leninism calls for a "vanguard" party organized along strict hierarchical lines not only to firmly dominate and control the government but also to penetrate and control society more broadly. For more, see Joseph Fewsmith, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 1; Neil Harding, "Leninism," *Duke University Press*, 1996.

influence globally.*¹²⁹ To accomplish this, Xi is reviving, enhancing, and building new levers of central control over China's sprawling economy.

The Fragmentation of Economic Decision-Making Prior to the Xi Era

In the decades preceding Xi, decentralization and devolution of economic decision-making came to characterize China's political economy. "Fragmented authoritarianism" became a widely used term to describe the sprawling nature of China's economic bureaucracy, which consists of two vertical hierarchies, the Party (e.g., Party committees) and the state (e.g., ministries), intermeshed with territorial-level governments (e.g., mayors) and replicated at five levels: central, provincial, county, city, and township. Around the period of China's Reform and Opening, the prominence and discretion of local implementation increased sizably.† As Dr. Teets argued in testimony before the Commission, the great strength of this model was the adaptability it afforded an otherwise rigid authoritarian state. Local governments were able to compete, innovate, and move quickly to encourage GDP growth.¹³⁰

The problem CCP leaders perceived, however, was that their formal control over economic decision-making had eroded. Halting attempts to adjust the growth model under the Hu Jintao and Wen Jiabao Administration highlighted conflicts between the central government, local governments, and emerging corporate class.¹³¹ Inability to push forward central directives also revealed the relative decline of Party control mechanisms as well as rampant corruption and state capture by networks of regime insiders.¹³² Vested interest groups across various sectors (e.g., real estate, infrastructure, finance, and energy) and geographic areas developed centers of power challenging Beijing. Characterized by informal patronage and loyalty networks, these blocs proved capable of influencing national politics and stymying central government initiatives in favor of parochial interests.‡ While this collusion between local governments and business may have fostered China's rapid growth, it undermined the effectiveness of central governance, often requiring Beijing to bargain informally with influential interest groups in exchange for compliance with top-level decisions.¹³³ As vested interests undermined

*As Neil Thomas explained in testimony before the Commission, "For Xi, political power also has a policy purpose. Xi is not a simple megalomaniac. His personalist rule is an effort to 'concentrate power to do big things.'" Neil Thomas, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 4.

†Some analysts and scholars identify the centralization versus decentralization paradigm as the perpetual source of both development and conflict in authoritarian systems, as a "continuous struggle" and "mutual interdependence" of a "despotic, universal state" contends with "a decentralized, particularistic aristocracy in actual possession of much of the power infrastructure of society." Mark Lupher, *Power Restructuring in China and Russia*, Westview Press, 1996, 10. As an example of this struggle within China, following the establishment of the People's Republic in 1949, China was originally governed via six greater administrative areas, all headed by powerful revolutionaries. However, this system was abolished quickly in the 1950s in favor of smaller provincial governance units, as Mao feared that large local power bases were a mounting challenge to central authority. Xiao Ma, "Localized Bargaining," Oxford University Press, 2022, 194.

‡A recent insider-turned-defector's account of this process is captured in Desmond Shum's book *Red Roulette*, wherein the author demonstrates the informal networks of wealth and influence that proliferated in the Hu-Wen era involving intimate members of Premier Wen Jiabao's own family, high-ranking Party personnel, private businessmen, and a variety of other elites. In one chapter, Shum reveals that he, a non-Party member, was able to influence the promotion track of several cadres. Desmond Shum, *Red Roulette*, Simon & Schuster, September 7, 2021.

the Party internally, sources of wealth and influence outside the Party structure also rose precipitously, leading to the rapid relative decline in importance of the Party's formal control mechanisms.¹³⁴

Increasingly aware of their dwindling influence, CCP leaders came to view economic decentralization and fragmentation of authority as a threat to their rule. Thus, while many within and outside China saw liberalizing market-oriented reforms—moves that would have promoted transparency, increased bottom-up input and accountability, and decreased the role of regime insiders over the economy—as the solution to increasingly obvious systemic defects, CCP leaders opted instead for top-down reform, revivifying the Party's influence over the economy.

Power and Preservation Motivate Centralized Economic Decision-Making in the Xi Era

General Secretary Xi came into power with a mandate to preserve and recentralize the Party's authority, increase compliance with top-level economic directives throughout the Party-state bureaucracy, and crack down on vested interests.¹³⁵ At the highest levels, agreement was reached that reform from above via hierarchical, formal, Leninist Party structures was crucial to the Party's preservation. Xi's efforts are thus oriented around subjecting economic decision-makers to strict adherence to his "top-level design approach."¹³⁶ As Xi elaborated in a speech at the Fifth Plenum of the 19th Central Committee in October 2020, his "new development dynamic" is intended to "strengthen planning and design at the top level, and delegate detailed tasks to lower levels with priorities assigned."¹³⁷ Xi's approach is intended to counter the fragmented nature of the economic system that had arisen in the decades prior to his rule, in particular aiming to weaken centers of economic influence inside and outside the Party-state system that complicate or undermine his top-level direction. As Dr. Teets addressed in testimony before the Commission, this represents a decisive—though as of yet incomplete—move toward a new type of economic model wherein the center exerts greater control and the localities have far less autonomy.¹³⁸ Xi notes his intentions for consolidating and centralizing in his Fifth Plenum speech, arguing that his "new development dynamic must be built upon a unified national market, not on small and fragmented local markets."¹³⁹

In addition to Party preservation, Xi's drive to centralize control over the economy is motivated and justified in terms of engineering a comprehensive modernization drive to augment China's national power and global influence, particularly vis-à-vis the United States.*¹⁴⁰ The Party's evolving economic development ambitions

*In a speech given shortly after becoming general secretary in 2013, Xi outlined his guiding motivation: "we must concentrate our efforts on bettering our own affairs, continually broadening our comprehensive national power, improving the lives of our people, building a socialism that is superior to capitalism, and laying the foundation for a future where we will win the initiative and have the dominant position." In the third volume of *Governance of China*, Xi explains that a "well-founded system is the biggest strength a country has, and competition in terms of systems is the most essential rivalry between countries." Beijing's nationalist pursuit of "the great rejuvenation of the Chinese nation" is routinely framed as part of this broad competition of systems, particularly with the United States, and it is in turn used to justify the need for strengthening the Party and enhancing its position over and within the economy. For more, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "A Global Contest for Power and Influence: China's Views of Strategic Competition with the United States," in *2020 Annual Report*

are rhetorically and practically connected with the preservation of its domestic political position as well as its ability to exert global influence. Xi and his authorized propaganda regularly promote the idea that the Party is uniquely capable—informed by allegedly scientific assessments stemming from its Marxist analytic framework—of leading China and its economy to what he calls the “great rejuvenation.”¹⁴¹ Barry Naughton, China economist at the University of California at San Diego, succinctly captures Beijing’s evolving approach to its economy as a process of “grand steerage.”¹⁴² At the 19th Party Congress, Xi introduced a new and expedited timetable for bolstering China’s so-called “comprehensive national power” by way of having “basically achieved modernization” by 2035.¹⁴³ For Xi, achieving these expedited modernization goals simultaneously requires and justifies centralization, unity, and disciplined adherence to top-level economic directives. The CCP’s preservation and reinvigoration is thus, at least in Xi’s assessment, in a symbiotic relationship with his modernization goals and his ambitious vision for global leadership.

Xi’s confident pursuit and enunciation of his nationalistic modernization plans, however, coexist uneasily with the stark reality of an unbalanced economy that has experienced extended overreliance on unproductive debt. Misallocated resources have led total factor productivity growth (an economist’s primary measure of economic efficiency) to drop precipitously from an average of 3.5 percent in the 2000s to only 0.7 percent in the 2010s, at the same time total debt has ballooned.¹⁴⁴ It is increasingly evident to those inside and outside Beijing that a decisive economic slowdown is unavoidable and happening. These unwelcomed realities have only added urgency to Xi’s centralization drive as he seeks to make a virtue out of necessity: concentrating control to not only cut off local governments and vested interests from piling up debts in unproductive sectors but also steer resource allocation in centrally approved directions. As Beijing deepens a belated effort to cut off credit to old growth drivers, principally real estate construction activities, these moves have become embedded in a larger, politicized effort to shift China’s growth model from “quantity” to “quality,” wherein investment is channeled in accordance with a top-down definition of “quality” that conspicuously serves Xi’s modernization drive. Centralization and the revivification of top-down control mechanisms simultaneously aim to strengthen Xi’s capacity to guide this process and to ensure the regime’s preservation amid potential economic instability.

Politicized Economic Decision-Making Replaces GDP Growth Maximization

Faced with a drastic slowdown in China’s economy, the CCP has invoked Xi’s modernization agenda as a rationale for deemphasizing growth rates and elevating the importance of several other aspects of economic development, prominently including environmental health, concerns over inequality, and shifting the

to Congress, November 2020; Xi Jinping, “Uphold and Improve the Chinese Socialist System and Modernize State Governance,” *Governance of China*, Volume 3, October 31, 2019, 144; Tanner Greer, “Xi Jinping in Translation: China’s Guiding Ideology,” *Palladium*, May 31, 2019.

Politicized Economic Decision-Making Replaces GDP Growth Maximization—*Continued*

growth model to “high-quality” innovation-driven growth.* External observers initially expressed optimism that reducing a singular emphasis on growth would cut back on the negative externalities of China’s model. In practice, however, deemphasizing GDP growth as the lynchpin of economic decision-making has had the opposite effect, greatly increasing the politicization of economic decision-making as the CCP takes a top-down approach to determining what constitutes high-quality growth. Numerical targets often allowed officials and enterprises leeway to experiment in how they fulfilled state-directed objectives. GDP targets, however, have been replaced by a “confusing welter of political, social, and environmental mandates,” according to Andrew Batson, director for China research at economic research firm Gavekal. The shift has led officials and enterprises to adhere more closely to signals from Beijing than the market.¹⁴⁵ Rather than liberal market reform, Xi’s “grand project to reorient the Communist Party’s mobilizational machinery away from the pursuit of economic growth and toward a broader set of goals, which can be summarized as the pursuit of ‘national greatness’” is instead far more “consistent with Xi’s renewed focus on ideology and political discipline.”¹⁴⁶

The Structures of Economic Decision-Making under Xi

Xi is revivifying formal Leninist structures to discipline and control lower-level economic decision-making, enforce adherence to central directives, deepen the Party’s penetration into all aspects of the economy, and expand and deploy macroeconomic policy planning and guidance. Structures of economic decision-making under Xi can be segmented into two areas: (1) discipline, command, and control of the Party and state bureaucracies; and (2) increased penetration and efforts to steer the nonstate sector. Xi aims to overcome the structural challenge of exerting control over a sprawling economic system, enormous geographical expanse, and massive population by conditioning the bureaucracy, local officials, state-owned enterprises, and—increasingly—nonstate actors to faithfully enact his nationalist modernization plans. Xi’s address to the 19th Party Congress stressed the importance of developing the Party so the Party can guide the country and the economy toward modernization.¹⁴⁷ This belief will continue to animate Xi’s agenda at and beyond the 20th Party Congress.

*The 19th Party Congress was the locus of a major change in this direction, as Xi altered the CCP’s “principal contradiction” facing Chinese society away from Deng’s “ever-growing material and cultural needs of the people and backward social production” and to his own “unbalanced and inadequate development and the people’s ever-growing needs for a better life.” As Neil Thomas explained in his testimony, this change in the “principal contradiction” is an arcane but extremely important aspect of China’s governance. Neil Thomas, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 5–6.

Reconsolidating the Control Center: The Party-State's Economic Bureaucracy

Whereas Mao Zedong was broadly “[d]istrustful of bureaucracy” and “sought means of administration which minimized the role of bureaucracy,” Xi seeks to rule through the bureaucracy, increasing its conditioning and adherence to central directives so that it may be harnessed and relied upon to faithfully steward his top-down economic program.¹⁴⁸

Centralizing Economic Decision-Making Power through Institutional Restructuring

The ability of central leaders to restructure both Party and state institutions is a major source of power.¹⁴⁹ Concentration of economic decision-making within Party commissions, and the expansion in resources and institutional capacity of these bodies, provides Xi greater leverage to penetrate and guide the state bureaucracies responsible for carrying out economic policy and ensure they are responsive to his top-level design.* By moving decision-making to these commissions, Xi has shifted the locus of economic decision-making out of the Politburo Standing Committee and to himself and his coterie of loyalists that run the economic commissions. Xi has also empowered Party organs he more directly controls to reclaim command over economic policymaking and implementation processes that had devolved to the State Council, enabling his influence over economic policy to far outpace that of Li Keqiang who, as premier of the State Council, would historically have had more power over economic matters.[†]¹⁵⁰

The two most important Party entities for economic policy-making in China, both upgraded from leading small groups to commissions in March 2018, are the Central Comprehensively Deepening Reform Commission and the Central Finance and Economic Affairs Commission.¹⁵¹ The former, although not principally focused on economics, is nonetheless the most important commission impacting economic policy. Nis Grünberg, lead analyst at the Mercator Institute for China Studies and an expert on China’s governance, called the Central Comprehensively Deepening Reform Commission the “powerhouse for Xi Jinping’s ‘top-level design’ policymaking, issuing policy on a broad array of topics, including economic issues.”¹⁵² The Central Comprehensively Deepening Reform Commission outranks ministries and commands more political clout than China’s State

*Resources and personnel were syphoned away from functional ministries to staff these now expanded bodies, likely leading to “larger permanent staff and even their own office buildings.” Victor Shih, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 2.

†Prior premiers, such as Zhu Rongji, have been given the latitude to oversee momentous economic policy programs, including banking system reorganization and state-owned enterprise reform. Beyond the structural changes, recent Party proceedings further point to the sidelining of the State Council and its leadership in matters of economic affairs. Li Keqiang was notably not referred to as “Premier” in the readout of the CCP’s 2021 Central Economic Work Conference, whereas he was in the 2020 readout. *Xinhua*, “The Central Economic Work Conference Was Held in Beijing, Xi Jinping and Li Keqiang Delivered Important Speeches, Li Zhanshu, Wang Yang, Wang Huning, Zhao Leji, and Han Zheng All Attended the Meeting” (中央经济工作会议在北京举行习近平李克强作重要讲话 栗战书汪洋王沪宁赵乐际韩正出席会议), December 10, 2021. Translation; *Xinhua*, “Central Economic Work Conference Held in Beijing, Xi Jinping and Li Keqiang Made Important Speeches, Li Zhanshu, Zhao Leji, Wang Yang, Wang Huning, and Han Zheng Attended the Meeting” (中央经济工作会议在北京举行 习近平李克强作重要讲话 栗战书汪洋王沪宁赵乐际韩正出席会议), December 18, 2020. Translation.

Council, which it uses “to steer and accelerate structural reforms under guidance by the central leadership,” and it includes but is not limited to economic policymaking areas such as “structural reforms in the financial sector, market regulation, and trade policy.”¹⁵³ The Central Comprehensively Deepening Reform Commission formulates policies and hierarchically guides subordinate functional bodies such as the People’s Bank of China, the Ministry of Finance, the China Securities Regulatory Commission, China Banking and Insurance Regulatory Commission, the Ministry of Science and Technology, and the Ministry of Industry and Information Technology.*¹⁵⁴ The Central Finance and Economic Affairs Commission, as the second-most-important economic policymaking body, fulfills a similar role but with a more specialized remit focusing specifically on finance and economics, and it is “not as involved in the concrete policy formulation as the Central Comprehensively Deepening Reform Commission.”¹⁵⁵

The most noteworthy downgrading of state power at the expense of the Party’s recentralization of economic policymaking may be the de facto demotion of the National Development and Reform Commission (formerly the State Planning Commission)†, an entity of the state government once so powerful it was known as the “mini State Council.”¹⁵⁶ In the Hu-Wen era, the State Council guided China’s economic development, with the National Development and Reform Commission leading coordination of the national five-year planning process and making relevant policy decisions.¹⁵⁷ Under Xi, the Party-led commissions identified above have taken on more of these responsibilities at the same time as the 2018 restructuring removed key economic policymaking areas from the commission’s jurisdiction, further curtailing its influence.‡ The National Development and Reform Commission remains the leading state body for macroplanning and still conducts preliminary five-year planning research at the direction of the Politburo and the Central Committee, presenting them with initial policy proposals. The Party’s Central Finance and Economic Affairs Commission, however, now coordinates the drafting of the actual five-year plan and makes relevant decisions on its content.¹⁵⁹ Centralized economic decision-making power in Party bodies that are more pliant to Xi’s commands and increasingly resourced and empowered to steer China’s economic bureaucracy demonstrate Xi’s desire to ensure greater compliance with his top-level directives.

*In recent years, significant economic policies were made by the State Council, but they needed to be discussed and approved by the Politburo and Politburo Standing Committee. In the late 1970s, during the transition away from Maoism, the CCP authorized the State Council to manage day-to-day administration of the country. Alex He, “The Emerging Model of Economic Policy Making under Xi Jinping: China’s Political Structure and Decision-making Process,” *Centre for International Governance Innovation*, December 2018, 11; Susan Lawrence and Mari Lee, “China’s Political System in Charts: A Snapshot before the 20th Party Congress,” *Congressional Research Service*, November 24, 2021, 27.

†The State Planning Commission was first established in 1952 and charged with managing the central planned economy. In 1998, it was renamed the State Development Planning Commission, which in 2003 merged with the State Council Office for Restructuring the Economic System and part of the State Economic and Trade Commission to form the National Development and Reform Commission. Peter Martin, “The Humbling of the NDRC: China’s National Development and Reform Commission Searches for a New Role Amid Restructuring,” *China Brief*, March 6, 2014.

‡When Xi came to power in 2012, the National Development and Reform Commission was also “one of the first major bureaucracies to fall under Xi’s anticorruption radar. Dozens of [National Development and Reform Commission] officials were netted, including Deputy Director Liu Tienan, who managed the energy portfolio.” Neil Thomas, “Change of Plans: Making Market Capitalism Safe for China,” *MacroPolo*, December 30, 2018.

Increasing Supervision and Control of Local Experimentation beyond the 20th Party Congress

Despite Xi's centralization drive, economic policy implementation of top-level directives retains decentralized features. The reasons for this are structural, pragmatic, and strategic. Structurally, given China's geographic and population size, central leaders have little choice but to rely on local-level implementation of their plans. Pragmatically, central leaders continue to derive utility from local governments and officials figuring out what high-level directives such as "supply-side structural reform" should mean in practice. By passing responsibility to local levels, the central government puts the onus of resource expenditure on them while preserving its own resources. Further, the center can actively promote the specific implementation solutions that work well at the local level. Strategically, the central government is able to shift blame onto local governments whenever anything goes wrong. As Ran Ran and Yan Jian, scholars of Chinese politics, explain, "Upper level Chinese officials are inclined to deflect the blame downward to those at the lower levels who are in a less powerful position in the administrative system."¹⁶⁰ All of these factors enable Xi to take credit when things go right, blame others when things go wrong, and allow those below him to do the difficult work of trying to implement vague and contradictory top-level guidance.

Dr. Teets emphasized in testimony before the Commission, however, that policy experimentation in the Xi era is increasingly "supervised," with digital governance tools augmenting the center's ability to "directly monitor local compliance."¹⁶¹ This has led the governance structure to become "less fragmented between Party and State, and between the central and local levels of government, removing much of the previous policy discretion in the system."¹⁶² While reduced local discretion has benefits related to better implementation, less corruption, and more mobilization and standardization capacity, Xi's changes to governance have also led to confusion and frustration among cadres who face less clarity on promotion prospects, a sense of paralysis, and decreasing morale.¹⁶³ Centralization and bureaucratization remain ongoing processes and are far from complete, but the shift to this style of governance will increasingly endure "the same problems that all rigid bureaucracies do: less innovation to solve local problems, inadequacy of "one-size-fits-all policies," challenges of collecting enough information, and of regulating elite ambition within the system."¹⁶⁴ Nonetheless, Dr. Teets assesses that through the 20th Party Congress and beyond, "Xi Jinping's belief that the Party-state system was facing existential threats under the previous system makes any deviation from political centralization unlikely."^{* 165}

^{*} Optimistically, Dr. Teets forecasts that as "power accrues to the Party leadership and former veto players are pushed out of the system, we will observe policy reform in traditionally challenging areas, such as the urbanization-household registration nexus, advanced economic reform, and land reform. In the past, these reforms were not feasible because local or factional leaders opposed them, but now these changes may be made." Jessica Teets, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 4.

Placing, Promoting, and Rewarding Personnel in the Economic Domain: Xi's Network of Loyalists

Building and placing networks of loyalists in key domains is one of the most important aspects of control in the CCP's Leninist system. In the sprawling economic domain in particular, wherein numerous technical issue areas make it impossible for one individual to track everything at the center let alone at the localities, Xi relies on a coterie of loyalists to carry out his will. Xi leans heavily on the CCP's Central Organization Department, a powerful Party organ that directly monitors, evaluates, and controls promotions for thousands of positions throughout the Party system, thus making it an immensely important institution to Xi's plans for economic grand steering as well for the millions of cadres seeking promotion into positions of prominence.* The Organization Department's influence has only increased since 2018, when the State Administration of Civil Service, which formerly handled the appointment and assignment of state officials, was abolished and its functions absorbed into the Organization Department.¹⁶⁶ Xi has filled the Organization Department's leadership role, effectively his "chief personnel officer," with close associate Chen Xi, who was his roommate and close friend as a fellow "worker-peasant-soldier student" at Tsinghua University, when they both studied the same subject (chemical engineering) at the same time (1975–1979).¹⁶⁷ Control over the Organization Department allows Xi not only to promote loyalists to any position within the "leading cadre system," including the heads of the provincial organization departments, but also to embed his preferred economic promotion metrics into the evaluation criteria leading cadres compete to meet, mobilizing China's personnel apparatus to further his own politically informed economic development agenda.¹⁶⁸

Xi's loyalists are also perched atop the key "comprehensive" economic decision units, namely those that are more important than specific functional bureaucracies. Most important in this regard is Liu He, who handles the relevant economic issues at both the Central Comprehensively Deepening Reform Commission and the Central Finance and Economic Affairs Commission. Liu, as with Chen Xi, is a close associate from Xi's youth.¹⁶⁹ In the state bureaucracy, Xi also placed He Lifeng, one of his closest associates dating back to their time in Fujian in the 1980s, at the head of the National Development and Reform Commission.¹⁷⁰ He could become Xi's top economic advisor, according to reporting from the *Wall Street Journal*, taking over for Liu and overseeing day-to-day economic work at the Central Comprehensively Deepening Reform Commission and the Central Finance and Economic Affairs Commission.¹⁷¹ Liu is over the implicit retirement age and, if the implicit norm holds, would vacate these positions at the 20th Party Congress.¹⁷²

*The leading cadre system is estimated to contain over two million positions, with roughly 2,500 at the provincial/ministerial level. Cadre evaluation has also become substantially more centralized over time, with the Organization Department promulgating a variety of more specific metrics, the provinces more closely monitoring the counties, and the center more closely monitoring the provinces for compliance. Rui Qi, Chenchen Shi, and Mark Wang, "The Over-Cascading System of Cadre Evaluation and China's Authoritarian Resilience," *China Information* 35:1 (March 2021): 67–88; Han Chan and Jie Gao, "The Politics of Personnel Redundancy: The Non-Leading Cadre System in the Chinese Bureaucracy," *China Quarterly* 235 (2018): 627.

Controlling, Disciplining, and Punishing Personnel in the Economic Domain: Fear as a Tool

While placement and promotion incentives are a key lever Xi uses to induce compliance with his economic agenda, he has an equally potent counterpart in his arsenal: discipline and punishment. Christopher Carothers, postdoctoral fellow at the University of Pennsylvania's Center for the Study of Contemporary China and an expert on Xi's anticorruption campaign, has documented the rise of inspections and their transition from "corruption control to everything control."¹⁷³ Dr. Carothers argues that the "Xi administration initially strengthened inspections to combat corruption but then repurposed them to serve as a top-down governance mechanism in numerous other areas as well," including implementation of Xi's economic development initiatives.¹⁷⁴ Investigations and inspections have become tools to coerce a geographically and functionally fragmented and decentralized bureaucracy and group of local elites into compliance with top-down economic decisions.¹⁷⁵ Dr. Carothers notes that these visits "produce a great deal of fear among bureaucrats and businesspeople," as inspectors' determinations, which are increasingly focused on substantively monitoring policy implementation, can have "swift and dramatic consequences."¹⁷⁶ As in other domains, Xi relies in particular on the Central Commission for Discipline Inspection (CCDI) and the National Supervisory Commission—both of which are headed by Xi loyalists—to enforce implementation of central economic decisions.*¹⁷⁷

Xi's much-touted campaign to eliminate absolute poverty † in China is a prominent example of the involvement of these commissions in disciplining lower-level decision-makers and implementers. The National Supervisory Commission and CCDI worked at Xi's personal instruction to pressure and closely monitor Party and government officials to enact his campaign-style poverty reduction efforts, investigating and disciplining more than 99,000 people in 2019 for corruption related to poverty alleviation efforts.¹⁷⁸ More recently, investigations have been ongoing into leaders in areas related to China's flagging technological upgrading ambitions. Xiao Yaqing, responsible for overseeing industrial policy initiatives in semiconductors and other high-technology areas as the Minister of Industry and Information Technology, was removed from his post as minister in July 2022 and placed under investigation for a "violation of discipline and law," making him the highest-ranking official ensnared

*The head of the Central Commission for Discipline Inspection, Zhao Leji, is considered one of Xi's two closest allies on the Politburo Standing Committee. The head of the National Supervisory Commission, Yang Xiaodu, served with Xi in Shanghai and was a deputy of Wang Qishan for several years prior to his appointment in March 2018. Neil Thomas, "Ties That Bind: Xi's People on the Politburo," *MacroPolo*, June 17, 2020; *US-China Business Council*, "National Supervisory Commission Director Yang Xiaodu"; Matt Ho, "Xi Jinping Aide, Yang Xiaodu, to Head China's Anti-Corruption 'Super Agency,'" *South China Morning Post*, March 18, 2018.

†When Xi declared victory over absolute poverty in 2021, China's standard for "absolute poverty" was roughly \$2.30 per day in 2011 dollars after adjusting for purchasing power parity. While this exceeded the World Bank's extreme poverty threshold of \$1.90 in 2011 dollars, economists have argued that the standard is nevertheless too low for a country with China's aggregate wealth. For more on limits of the metrics, methodology, and accuracy of the CCP's assertion of victory over absolute poverty, see Chapter 1, Section 1: "The Chinese Communist Party's Ambitions and Challenges at Its Centennial" in U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 39; Maria Ana Lugo, Martin Raiser, and Ruslan Yemtsov, "What's Next for Poverty Reduction Policies in China?" *Brookings Institution*, September 24, 2021.

since 2018.¹⁷⁹ Between June and August 2022, the president and head of the National Integrated Circuit Industry Investment Fund, China's largest semiconductor government guidance fund, and four other top executives were put under investigation.¹⁸⁰ These investigations send a strong signal and warning to the rest of the bureaucracy and those charged with implementing Xi's technological upgrading ambitions that he is not pleased with the progress.

CCP Investigates Major Financial Institutions to Ensure Political Fealty

CCP leaders are increasing scrutiny of state financial regulators and major financial institutions to ensure adherence to the Party's top-level economic policy decisions. In October 2021, the CCP Central Committee announced it would undertake a series of disciplinary inspections into China's financial regulators, state-owned banks, and major financial institutions, with a statement from the CCDI describing the inspections as part of an effort to "strengthen the Party's leadership of financial work."¹⁸¹ The probe began as questions about China's high debt levels and inability to shift toward its "high-quality" growth model came into sharper relief for China's leaders: the 2021 CCDI investigation was notable for its inclusion of China's state-owned asset management companies, such as China Huarong.¹⁸² The firm's chairman, Lai Xiaomin, was executed following his conviction on bribery charges in January 2021.¹⁸³ Lai's execution was followed by Huarong missing a deadline to release its *2020 Annual Report* in April 2021, further rattling China's financial markets.*¹⁸⁴ Asset management companies were not scrutinized in a prior round of CCDI inspections into China's financial sector in 2015.†¹⁸⁵ Hugely indebted property developer Evergrande's missed bond payments in September and October 2021 likely also animated Party concerns about ties between nonstate companies and state-owned lenders.‡¹⁸⁶

*A host of other factors likely contributed to the Party's concerns about Huarong and its ability to dispose of nonperforming loans (NPLs). Huarong is one of the original four asset management companies established by the Chinese government in 1999 to take NPLs off the balance sheets of the country's state-owned banks amid the government's broader bailout of them at the time. Beginning in 2006, Huarong expanded into several other lines of noncore business, including banking, brokerage, and fund management services, as well as lending to property developers, thereby departing from its original mandate of helping state-owned banks dispose of NPLs and growing in systemic importance. Ling Huawei, "Ling Huawei: Huarong Can't Be Treated Like a Normal Company in Bankruptcy Restructuring," *Caixun*, April 12, 2021.

†The CCDI previously investigated China's financial sector in 2015 in the wake of a stock market rout and as part of the CCP's broader anticorruption campaign. In that investigation, the CCDI dispatched 15 inspection teams across 21 financial institutions (compared to 15 inspection teams across 25 financial institutions in 2021). Analysts assess the 2015 investigation was politically motivated, targeting patronage networks linked to specific political figures as Xi moved to consolidate power. It also targeted specific forms of market malfeasance, with probes into CITIC Securities General Manager Cheng Boming for insider trading and top officials at the then China Banking Regulatory Commission for corruption. *Reuters*, "Four China Banking Regulators Demoted as Anti-Corruption Crackdown on Financial Sector Continues," *South China Morning Post*, November 23, 2015; *People's Daily*, "Third Round of Central Inspections: Lineup Expanded to 15 Teams, First Appearance of 'One Supports Three'" (中央第三轮巡视进驻看点: 阵容扩至15组 首现“一托三”), November 3, 2015. Translation; *Xinhua*, "Central Inspection Storm Blows to the Financial System, 'One Bank, Three Commissions,' and Related Inspections" (中央巡视风暴刮向金融系统 “一行三会”等将体检), October 24, 2015. Translation; *Agence France-Presse*, "The World's Largest Sovereign Fund Is Being Scrutinized by China's Anti-Corruption Watchdog," *Insider*, October 24, 2015; Gabriel Wildau, "China's Anti-Corruption Probe Broadens into Finance Sector," *Financial Times*, February 3, 2015.

‡For more on Evergrande, see U.S.-China Economic and Security Review Commission, "In Focus: Evergrande Debt Crisis Forces Tough Choices," in *Economics and Trade Bulletin*, October

CCP Investigates Major Financial Institutions to Ensure Political Fealty—*Continued*

Particular scrutiny was applied to financial support of areas Xi no longer wants to see expand, such as in real estate (e.g., lending to Evergrande), as well as sensitive areas wherein Xi assesses that the rapid growth and influence of nonstate firms threatens the CCP's political control (e.g., fintech giant Ant Group and ride-sharing firm Didi Chuxing).¹⁸⁷ The CCP is particularly concerned that state regulators have become too close with large and influential nonstate firms.¹⁸⁸ In a preliminary review of their inspection work in February 2022, the CCDI warned financial regulators to be wary of problems arising from the “revolving door” of staff moving between regulatory agencies and commercial institutions.¹⁸⁹ The CCDI also called for improved efforts to prevent the “barbaric expansion of capital.”¹⁹⁰ Xi's use of investigations, discipline, and punishment aims to ensure political fealty and enforce stricter adherence to his developmental agenda.

Ideology in the Economic Domain: Xi Conditions Thought to Induce “Correct” Decisions

Xi's efforts to increasingly guide and control the economy through the bureaucracy suffer from what Xi and his Party propaganda organs routinely refer to as “formalism” and “bureaucratism.”¹⁹¹ These are forms of the principal-agent problem and refer to issues of lackadaisical implementation and the development of independent bureaucratic interests. Xi has warned China's leading officials that “formalism and bureaucratism kill people!”¹⁹² He has further denounced these two issues as existential threats to the Party, describing them as the most hated aspects and a core reason for the fall of the Soviet Union.¹⁹³ In contrast to Western critiques of “bureaucracy” that focused on structural issues, the CCP has routinely treated “bureaucratism” as stemming from wrong thought, moral failings, and weak ideological commitment.¹⁹⁴ As made clear in an edited volume of Xi's speeches against formalism and bureaucratism that cadres were made to study in 2020, formalism and bureaucratism result from an improper worldview and ideology as well as lack of “faith” and weak “ideals and convictions.”¹⁹⁵ Unlike Mao, who during the Cultural Revolution incited ideological fervor among the masses to attack Party and government structures and officials, Xi is seeking to use ideology to energize Party and government officials to faithfully and vigorously carry out his top-level guidance and engage in a permanent “self-revolution” to internalize his sanctioned approach to thinking, behaving, and ultimately making decisions.*¹⁹⁶

Ideologically molding official decision-making is a crucial cornerstone of Xi's approach to furthering his economic agenda, going well beyond simple reward and punishment and venturing into deeper

20, 2021, 8–12.

*“Self-revolution” is a common theme in Xi's speeches. In context, it refers to a process of self-evaluation and self-criticism, geared especially toward inducing the individual to be a better cadre who pursues a disciplined life and thoroughly imbibes the thought and policy preferences of Xi.

aspects of thought control.* The inculcation of what is termed Xi Jinping’s Economic Thought has only grown more intensive in the runup to the 20th Party Congress. In June 2022, the Central Propaganda Department† and the National Development and Reform Commission jointly organized and published a new book, the *Outline for Studying Xi Jinping’s Economic Thought*, which was immediately made mandatory reading for all Party organizations at all levels.¹⁹⁷ In studying, cadres were told to “arm their minds with Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era” so as to “guide practice, promote work, and more conscientiously use Xi Jinping’s economic thought to guide and solve practical problems,” particularly in areas related to Xi’s “new development philosophy.”‡¹⁹⁸ In effect, Xi wants CCP cadres, particularly those in the most important economic decision-making positions, to internalize his top-level economic development priorities and reflexively produce economic decisions that align with those priorities.§ Correct thought, in Xi’s view, translates into correct action, allowing “the majority of Party members and the masses to feel the formidable power of ideals and beliefs by means of practical actions.”¶¹⁹⁹ David Ownby and Timothy Cheek, China scholars with expertise in political ideology and governance, call Xi’s efforts a “revival of governing by ideology” and consider them a direct response “to the increasing social and intellectual pluralism that China’s economic development and engagement with the world have produced.”²⁰⁰

Governing by Ideology: Zero-COVID Campaign Puts Political Ideology over Economic Growth

China’s strict adherence to the Zero-COVID policy in 2022 demonstrates the extent to which top-down centralized management has displaced local discretion under Xi. The CCP has demanded local officials treat containing the spread of the novel

* Xi explicitly notes in a speech to senior cadres that “to build our party well, we must grasp the ‘key minority’” of Party-state leaders to ensure they all maintain “firm ideals and beliefs.” Xi Jinping, “We Must Be Consistent in Carrying on the Great New Undertaking of Party Building,” (推进党的建设新的伟大工程要一以贯之), *Qiushi*, October 2, 2019. Translation.

† Huang Kunming, another of Xi’s loyalists, runs the Propaganda Department and routinely emphasizes the importance of studying Xi’s economic thought. Formerly, they both worked closely in Fujian and Zhejiang. Neil Thomas, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 22.

‡ An online graphic summarizing Xi’s newly compiled book titled “Study Outline of Xi Jinping’s Economic Thought” states that Xi’s thought is the newest Marxist analytic innovation and that “it is clear that strengthening the party’s overall leadership over economic work is the fundamental guarantee for China’s economic development.” *People’s Daily*, “One Picture to Understand the Basic Content of ‘Study Outline of Xi Jinping’s Economic Thought,’” (一图读懂《习近平经济思想学习纲要》基本内容), August 12, 2022. Translation.

§ In a particularly slavish example reminiscent of Mao-era exhortations, one article published in *Qiushi* calls on cadres to “wholeheartedly love and respect the core emotionally” in their “pursuit of truth for Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era.” *Qiushi*, “How to More Conscientiously Achieve the ‘Two Safeguards?’” (如何更加自觉做到“两个维护”?), January 24, 2022. Translation.

¶ In the same speech, Xi casts lack of ideological “faith” and commitment in existential terms, asking leading cadres rhetorically, “Isn’t that [lack of committed belief] the logic of the disintegration of the Soviet Union, the collapse of the Communist Party of the Soviet Union, and the upheaval in Eastern European?” Xi also analyzes the historic cycle of dynastic rise and fall through a paradigm of what he describes as the historical tragedy of great prosperity begetting decline, wherein he sees comfort and wealth bringing on ideological laxity, corruption, moral depravity, and lack of discipline, ultimately leading the ruling regime to fall apart. Xi Jinping, “We Must Be Consistent in Carrying Forward the Great New Undertaking of Party Building” (推进党的建设新的伟大工程要一以贯之), *Qiushi*, October 2, 2019. Translation.

**Governing by Ideology: Zero-COVID Campaign Puts
Political Ideology over Economic Growth—Continued**

coronavirus (COVID-19) as a “political task.”²⁰¹ In spite of considerable economic costs and reports of popular resentment in 2022, local officials have prioritized strict containment measures for fear of potential political and disciplinary consequences from outbreaks.²⁰² In May 2022, Bloomberg reported that more than 4,000 officials had been punished in relation to 51 outbreaks of COVID-19 in China.²⁰³

Stringent lockdowns under Zero-COVID also showcase the policy confusion, conflicting imperatives, and political liability facing cadres. Both the National Development and Reform Commission as well as the State Council have issued measures pushing back on excessive closures and mobility restrictions.²⁰⁴ Other official guidance, including a May 2022 virtual meeting of over 100,000 officials, has also urged local governments to focus on shoring up economic growth.²⁰⁵ In at least one case, officials have even been punished for excessive control measures, including cadres in China’s northern Heilongjiang Province.²⁰⁶

The Party Commands All: Party Penetration of Nonstate Enterprises and Market Steerage

While Xi reconsolidates the Party-state’s capacity to steer the economy through systematic efforts at reward, punishment, and indoctrination, he is also directing an expansion of the Party into all aspects of the economy, including prominent nonstate firms. Xi’s core political principle that “the Party leads everything” was explicitly edited into the Party charter at the 19th Party Congress, at the same time Xi made very clear in his report at the 19th Party Congress that “there must be no irresolution about working to encourage, support, and guide the development of the non-public sector.”²⁰⁷ The rapid expansion of Party organizations within economic entities has been a lynchpin of economic decision-making under Xi. As of 2021, according to official statistics released by *Xinhua News*, the CCP had over 4.8 million Party organizations embedded throughout society, including 1.5 million in enterprises, 933,000 in public institutions, and 742,000 in government agencies.²⁰⁸ Jude Blanchette, Center for Strategic and International Studies Freeman Chair in China Studies, documents that this resurgence of Party organizations in firms began between 2015 and 2017 as foreign companies began to notice Party organizations becoming more active in day-to-day activities of their firms, while Chinese companies increasingly incorporated a role for the organizations into their articles of association.²⁰⁹

Xi hopes to attain two objectives with his increasing penetration of and control over the nonstate sector: first, to rein in economic activity he views as contrary to CCP goals and values; and second, to enlist the nonstate sector in advancing key policy objectives. On the former, policies and campaigns launched by Xi have aimed to limit accumulation of resources and power in centers outside the Party. In part, this stems from a belief that underregulated nonstate entities

will cause financial instability or otherwise undermine market integrity, for instance by building up and abusing monopoly positions.* Relatedly, the CCP under Xi has ramped up regulation of nonstate companies with extensive control over consumer data or issuance of consumer credit.† Beyond control of resources and market influence, Xi has targeted sectors dominated by nonstate firms that do not toe the Party line, most notably major internet and education technology companies in 2021.‡ On the latter—enlisting nonstate firms in fulfilling policy objectives—CCP policy pronouncements expect that market dynamism can deliver where state-owned enterprises and the state-dominated banking system have not, particularly on goals related to innovation.²¹⁰

Financial Levers Aim to Tilt Capital Markets toward Funding Policy Objectives

To achieve an economic outcome that balances these disparate motivations, economic decisions under Xi have attempted to create a financial system and regulatory framework that: (1) guides nonstate capital and firms toward realizing objectives that enhance CCP authority or China’s comprehensive national power while avoiding misallocation of resources and other inefficiencies of central planning; and (2) keeps nonstate entities on message ideologically and constrains their market influence and power vis-à-vis the CCP. To these ends, economic decisions under Xi regarding the nonstate sector have focused on reinforcing carrots and sticks via financial market development and regulatory campaigns.

Financial market development under Xi has focused on bringing corporate fundraising onshore and encouraging inflows of foreign capital while also enabling the CCP to influence which firms get funding.§ The intended outcome is to finance China’s technology development objectives by creating a pipeline of venture-backed firms able to raise large initial public offerings (IPOs) on domestic exchanges.

- *Private markets:* Following the launch of Made in China 2025 in spring 2015, China’s government attempted to supercharge China’s domestic venture capital (VC) ecosystem through industrial government guidance funds.²¹¹ Guided but not actively directed by the central government, these funds position local govern-

*In a crackdown on monopolistic practices in 2020, China’s market regulator fined Alibaba a record \$2.8 billion (renminbi [RMB] 18.2 billion) or 4 percent of its revenue for imposing forcing merchants into exclusivity arrangements with the platform. Meal delivery app Meituan similarly faced a \$534 million (RMB 3.4 billion) fine equal to 3 percent of its revenue for the same practice in October 2021. Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB. Brian Liu and Raquel Leslie, “Meituan Fined in Latest Move to Rein in Chinese Tech Giants,” *Lawfare*, October 14, 2021.

†For instance, Chinese financial regulators required Alibaba affiliate Ant Group, messaging and gaming platform Tencent, and e-commerce giant JD to restructure their consumer lending businesses as financial holding firms subject to the similar regulatory capital requirements as banks. Zhang Yuzhe, Hu Yue, and Luo Meihan, “Exclusive: Tencent Ordered to Set Up Financial Holding Company,” *Caixin Global*, May 26, 2021; *Bloomberg News*, “JD Digits Plans Finance Holding Company as China Tightens Rules,” April 7, 2021.

‡For more discussion of China’s regulatory tightening against technology firms in 2020, see “Chinese Regulators Crack Down on Big Tech,” in U.S.-China Economic and Security Review Commission, Chapter 2, Section 1, “Year in Review: Economics and Trade,” in *2021 Annual Report to Congress*, November 2021, 134–136.

§For a discussion of risks to U.S. security from foreign investment in China’s capital markets, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 4, “U.S.-China Financial Connectivity and Risks to U.S. National Security,” in *2021 Annual Report to Congress*, November 2021.

ments and agencies as VC investors raising both government and outside investment to fund firms in sectors designated as priorities under Chinese industrial policies, such as semiconductor manufacturing or biotechnology.* In practice, the outside investment is often still derived from the state-funded sources such as state-owned enterprises and state-run banks.†²¹² A study conducted by Gavekal, a research consultancy, at the height of government guidance fund raising efforts in late 2018 found that it was typical for state sources to constitute at least 90 percent of the capital raised by many of the funds.²¹³

- *Public markets:* Under Xi, China has launched two attempts to create new stock exchanges that cater to Chinese tech startups. Rules for listing on the main boards of the Shanghai and Shenzhen stock exchanges favor established firms with larger revenue bases. The Shanghai Stock Exchange opened the STAR market in July 2019 and shares began trading on the Beijing Stock Exchange in November 2021.²¹⁴ Both focus on listing technology firms; when the Beijing Stock Exchange opened, nearly a quarter of the companies listed on the exchange made engineering, agriculture, or aviation equipment.²¹⁵ The design of capital markets could further prioritize projects favored by the Party through a “traffic light” mechanism proposed at the Central Economic Work Conference in December 2021.²¹⁶ No formal policy has yet been released, but a report by the China Banking and Insurance Regulatory Commission and comments by finance officials suggest the mechanism would incentivize investment in “green light” priority areas and prevent investment in “red light” areas (for more on the traffic light system, see Chapter 2, Section 1, “Year in Review: Economics and Trade”).²¹⁷

Under Xi, China’s financial regulators have also aggressively choked off financing to nonstate entities they view as unaligned with the CCP’s economic or political goals. Perhaps most notably, the Shanghai Stock Exchange suspended Alibaba affiliate Ant Group’s planned IPO in November 2020, a decision Xi reportedly issued himself after former Alibaba CEO Jack Ma publicly criticized China’s financial regulators.²¹⁸ China’s government also exacerbated China’s economic slowdown in 2020 and 2021 by blocking bank lending to highly indebted property developers.

Consequences for China’s Economy

Although Xi assesses centralization and his nationalist modernization drive to be in a highly symbiotic relationship, in practice these two trends may very well work at cross-purposes. First, the

*For more background on government guidance funds, see “Government Guidance Funds Attempt to Combine Policy Imperative and Profit Motive,” in U.S.-China Economic and Security Review Commission, Chapter 2, Section 3, “The Chinese Government’s Evolving Control of the Nonstate Sector,” in *2021 Annual Report to Congress*, November 2021, 224–226.

†As researchers at Georgetown’s Center for Security and Emerging Technology note, government guidance funds typically use the limited partnership structure common in private equity. The guidance fund’s general partner is generally a fund manager established by a government agency or a state-owned investment firm or third-party fund manager, while other investors, though predominantly investing state funds, are limited partners. Ngor Luong, Zachary Arnold, and Ben Murphy, “Chinese Government Guidance Funds: A Guide for the Perplexed,” *Center for Security and Emerging Technology*, March 2021, 3.

manner in which the CCP is pursuing its top-down drive to rein in the fragmented bureaucracy, local governments, and vested interests may be undermining the local experimentation that has served as an important source of regime adaptability and resilience. Lower-level officials and economic decision-makers are now simultaneously beset with an increasingly complex set of modernization mandates from the top as well as an increasingly coercive performance monitoring regime, creating fear and paralysis.

Second, as in other areas of CCP economic decision-making, policy toward the nonstate sector under Xi has been guided by a “Party knows best” mentality. Further embedding of Leninist political institutions in China’s nonstate firms increases top-down control and drives companies to fill political rather than market objectives. This approach treats the market as a tool to allocate resources toward ends predetermined by the CCP and is skeptical of any market function beyond serving policy goals. As a result, policy rather than the market increasingly determines where resources are allocated, while greater involvement of the nonstate sector in fulfilling policy objectives continues to lead to wasted investment and overcapacity.* Encouragement of nonstate capital to invest in China’s speculative VC and stock markets has also increased financial risks. Where industrial policy formerly relied on provision of bank loans to state-owned enterprises, China’s current direction ties a greater share of private wealth to the inefficiency and poor returns of the planned economy. Leninist revival and reassertion of state intervention is, and will continue, leading nonstate firms to look to Beijing rather than the market for resources, permission, and guidance. Rather than broadly promoting innovation-driven development and improving productivity, factors fundamental to Beijing’s aspirational rejuvenation, Xi’s centralization of economic decision-making may undermine them.

Finally, Xi’s recentralization process to overcome parochial vested interests may simply be leading one set of regime insiders to replace another. The Party-state’s growing control over economic resources and capacity to steer the economy reinforces incentives for corruption and state capture and only expands the role for vested interests, at least in the economic arenas and industries Xi favors. At the same time, a growing coterie of Xi loyalists is nested throughout the Party-state structure, creating the potential for insiders to operate below the surface so long as they espouse political loyalty and limit ostentatious signs of corruption. Centralization may therefore not only work at cross purposes with Xi’s aspirational modernization goals (i.e., success even on his own terms) but also exacerbate some of the most pressing problems he set out to resolve in the first place.

* Poor results of China’s various semiconductor funds, which have channeled an estimated \$150 billion in state funding into developing the country’s semiconductor industry, are a case in point. Most of the fabrication technologies acquired in China’s semiconductor push are generations behind the cutting edge, and where China has managed to close the gap, production remains in very small scale. For more on China’s semiconductor industry, see Chapter 2, Section 4, “U.S. Supply Chain Vulnerabilities and Resilience.” Alex He, “China’s Techno-Industrial Development: A Case Study of the Semiconductor Industry,” Centre for International Governance Innovation No. 252, May 2021, 18; Karen M. Sutter, “China’s New Semiconductor Policies: Issues for Congress,” *Congressional Research Service* CRS R 46767, April 20, 2021, 4.

Foreign Policy Decision-Making

General Secretary Xi's concentration of power in the CCP and into his own hands extends to China's foreign policy decision-making system.²¹⁹ Under Xi, China's foreign policy decision-making apparatus is increasingly centralized and concentrated at the highest levels in order to address perceived risks to the CCP's authority emanating from China's international environment. Institutional reforms to the foreign policy system under Xi stem from his and other CCP leaders' perception of growing security risks in the international arena and reflect a desire for a more rapid and efficient decision-making process, better policy coordination, and more reliable implementation in the changing environment.²²⁰ As CCP Politburo member and top diplomat Yang Jiechi put it in 2017, China's foreign policy approach under Xi developed in response to "profound changes in China's relations with the world" and is designed to "enable [China] to firmly occupy a position of strategic initiative amidst a complicated and oft-changing international structure."²²¹

Foreign Policy Decision-Making Prior to Xi

The CCP leadership has been the central authority for China's foreign policy since the founding of the PRC in 1949.²²² Under Xi's predecessors Jiang and Hu, this foreign policy decision-making apparatus was headed by the Politburo and Politburo Standing Committee, which met frequently to decide on foreign policy issues on behalf of the CCP Central Committee.²²³ Party sources described the decision-making process as "collective leadership, democratic centralism, individual preparation and decisions made at meetings."²²⁴ The general secretary had particular influence as the only Politburo Standing Committee member with a specifically designated purview over foreign affairs.²²⁵ Nevertheless, he remained only "first among equals" on all matters, while other members had the liberty to dissent and at times even prevailed over his foreign policy preferences, such as then Politburo Standing Committee member Zhou Yongkang's endorsement supporting China National Petroleum Corporation's investment in an unstable Sudan.²²⁶

Beneath the top Party leadership, foreign policy formulation drew on a deep and complex bureaucratic hierarchy that included the former Central Foreign Affairs Leading Small Group and Central National Security Leading Small Group, which assisted the Party leaders in consensus building.²²⁷ It also included line ministries responsible for information gathering and the provision of policy recommendations in addition to implementation, such as the Ministry of Foreign Affairs, Ministry of Commerce, and Ministry of State Security.²²⁸ Additionally, reforms instituted by Deng Xiaoping caused a strong trend toward "diversification" of relevant actors in China's foreign policy system.²²⁹ Beginning in the 1980s, actors such as foreign affairs think tanks, local governments, and Chinese companies emerged as important players in China's foreign policy and created a layered foreign policy with multiple stakeholders.²³⁰ Provinces and major cities in particular took the initiative to advance their own foreign relations and develop new links abroad.²³¹

Centralizing Decision-Making Power in the CCP

Xi has strengthened the role of central Party leadership in the foreign policy decision-making process relative to the ministries and other actors. As Yang Jiechi explained in 2018, the explicit end goal of this centralization is an arrangement by which “the Party assumes full responsibility for the overall situation and coordinates the foreign affairs work of all parties.”²³² As in other fields, the formalization of decision-making power in CCP commissions reflects a strengthening of Party control relative to other actors.

As he has in other policy areas, Xi has advanced this goal by reconstituting the CCP’s leading small groups as permanent standing commissions of the Central Committee, turning them into a “true nerve center” of the Party’s foreign policymaking process.²³³ This change gives the CCP central leadership more power to coordinate actions by various parts of the bureaucracy, cut through bureaucratic roadblocks, and override competing goals by other stakeholders.²³⁴ An important example is the promotion of the Party’s Central Foreign Affairs Leading Small Group to permanent status as the Central Foreign Affairs Commission (CFAC)* in March 2018, which strengthened the CCP’s ability to coordinate and manage everyday foreign affairs work.²³⁵ Whereas the former Central Foreign Affairs Leading Small Group was reportedly often bypassed by government agencies who viewed it as ineffective, the CFAC, and more specifically the CFAC Office,† has become the central executive organ for foreign policy decision-making under Xi’s leadership.²³⁶ The head of the CFAC Office, currently Yang Jiechi, reports directly to Xi in the latter’s role as CFAC Chairman, and Xi in turn relies upon the CFAC Office for information on major foreign policy issues.²³⁷ In contrast, the Minister of Foreign Affairs (currently Wang Yi), does not have a direct line to Xi and must report to the CFAC.²³⁸

Xi’s elevation of the CNSC further strengthened Party leadership over the conduct of China’s foreign policy by overlaying foreign policy decisions with considerations of regime security.²³⁹ Because of the broad nature of Xi’s Comprehensive National Security Concept, there is inevitable overlap between jurisdictions of the CNSC and the CFAC when considering national security threats from abroad.²⁴⁰ The CNSC is regarded as more prominent and important to foreign affairs than even the CFAC due to the former’s direct association with Xi’s Comprehensive National Security Concept.‡²⁴¹

*The full membership of the CFAC has not been publicized, although it likely includes the members of its predecessor, the Central Foreign Affairs Leading Small Group, namely the heads of the Ministry of Foreign Affairs, CCP International Liaison Department, Propaganda Department, Ministry of National Defense, Ministry of Public Security, Ministry of State Security, Ministry of Commerce, the Taiwan Affairs Office, Hong Kong and Macau Affairs office, the Overseas Chinese Affairs Office, and the State Council Information Office. Jean-Pierre Cabestan, “China’s Foreign and Security Policy Institutions and Decision-Making under Xi Jinping,” *British Journal of Politics and International Relations* 23:2 (2021): 319–336, 324.

†The CFAC Office is the permanent staff organization that supports the operations of the CFAC. It is also sometimes referred to as the Central Committee Foreign Affairs Office (CCFAO) or the Central Office of Foreign Affairs (COFA). Guoguang Wu, “The Emergence of the Central Office of Foreign Affairs: From Leadership Politics to ‘Greater Diplomacy,’” *China Leadership Monitor*, September 1, 2021; Jean-Pierre Cabestan, “China’s Foreign and Security Policy Institutions and Decision-Making under Xi Jinping,” *British Journal of Politics and International Relations* 23:2 (2021): 324–325.

‡While the exact division of responsibilities between the two commissions is not explicitly defined in public information, it is likely that the CNSC would take priority over the CFAC in the event of a conflict of interest. In addition to the CNSC possessing a direct affiliation with Xi’s Comprehensive National Security Concept, the CNSC’s aggregate membership also outranks

The practical implication of this difference in ranking is that any decisions the CFAC makes on the conduct of diplomacy must comport with national security requirements set by the CNSC.²⁴²

In parallel with the centralization of authority in the Party, latitude for local actors to design and drive foreign interactions has also been constrained under Xi. Although the legacy of foreign policy diversification under previous leaders means local governments are still allowed to commit to some outbound international investment projects without first acquiring central approval, Xi has increasingly limited local government autonomy in foreign affairs.²⁴³ Since Xi came to power, central government agencies involved in foreign affairs have put a stronger emphasis on ensuring uniform policy implementation at the local level.²⁴⁴ According to a written statement submitted for the Commission's hearing record from Jean-Pierre Cabestan, research professor of political science at Hong Kong Baptist University, the central government has especially strengthened its control over the external relations of regions Beijing considers sensitive, such as Xinjiang, Tibet, and Inner Mongolia.²⁴⁵

Putting Xi at the Core of China's Foreign Policy

Xi has strengthened his personal role in foreign policy decision-making through his political elevation within the Party, a de-emphasis on collective decision-making, and his increasing influence over the Party's official ideology.²⁴⁶ Yang Jiechi summarized the new state of affairs in a July 2021 *People's Daily* article, stating that "Xi Jinping has made the strategies" for China's foreign relations since coming to power and attributing diplomatic achievements firstly to "Xi Jinping's personal commandship and actions."²⁴⁷ Yun Sun, senior fellow and codirector of the East Asia program and director of the China studies program at the Stimson Center, assessed in her testimony to the Commission that the model of foreign policy decision-making based around collective leadership "ended with [General Secretary] Xi's ascension to power," to be replaced by a system centered on adhering to Xi's ultimate authority.²⁴⁸ Although foreign policy decisions remain subject to a level of approval by the Politburo or its Standing Committee, Xi's elevated political status bolsters his ability to impose his personal decisions on those bodies relative to his predecessors.²⁴⁹ His position as chairman of both the CFAC and the CNSC also multiplies his authority by giving him the ability to direct and supervise the work of both commissions and their associated offices.²⁵⁰ On a purely operational level, compared to his predecessors, Xi has made greater use of his authority to convene high-level foreign affairs work conferences, conduct foreign diplomatic travel, and receive foreign visitors.²⁵¹

Xi enforces his paramount authority to personally guide China's foreign policy decision-making through the official promotion of so-called "Xi Jinping Thought on Diplomacy." Authoritative Party sources present this supposed summary of Xi's foreign policy positions as the foundational theory and "guide for action" for China's foreign affairs work.²⁵² Descriptions of Xi Jinping Thought on Diplo-

that of the CFAC, granting it greater relative bureaucratic power. Yun Sun, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 8–9.

macy also suggest his prerogative includes not only the right to give high-level guidance on broad matters like “strategy,” “doctrine,” and “principles” but also the ability to give direction on lower-level “responsibilities,” “mechanisms,” “operations,” and “tactics” of China’s foreign affairs.²⁵³ A summary of Xi Jinping Thought on Diplomacy has been compiled and distributed across the Party and foreign policy apparatus, and the study of its contents has been mandated to ensure the bureaucracy’s compliance with Xi’s vision.²⁵⁴ Demonstrating that the broader trend of Xi’s personal embodiment of Party authority also applies in foreign policy, Yang Jiechi claimed in *Qiushi* in 2017 that Xi Jinping Thought on Diplomacy represents the will and conclusions of the entire Central Committee.²⁵⁵

Xi’s Major Foreign Policy Initiatives: Case Studies

Belt and Road Initiative

The Belt and Road Initiative (BRI), which is widely considered Xi’s “signature” foreign policy initiative, provides an illustration of the top-down, Party-centered, and personalized foreign policymaking process in the Xi era.²⁵⁶ Official descriptions* of BRI trace its development from an idea originating with Xi himself, through high-level Party coordination, to elaboration within central government ministries, and finally to lower-level implementation by local governments and in the international arena.²⁵⁷ The process exhibits a high degree of vertical coordination in which lower-level decisions are mandated within the framework set out for them from above.²⁵⁸ Yuen Yuen Ang, associate professor at the University of Michigan, describes BRI as a clear example of a “policy campaign” in which the top leader mobilizes bureaucrats and other stakeholders to support a single vision, which may initially be relatively loosely defined.²⁵⁹ Throughout the process, Xi has remained both a driving force behind BRI’s privileged status and a gatekeeper for policy adjustments. The combination of his personal leadership and a strict interpretation of China’s national security interests leave little space for meaningful policy changes.

Top-Down, Party-Centric Mobilization

The guiding concept and overall design for BRI originated at the top of the system, and Xi announced its original components in two international speeches in September and October 2013.†²⁶⁰ Since

*A speech by Xi in November 2021 clearly illustrated the top-down design of the BRI, insisting: “It is necessary to persist in the Party’s centralized and unified leadership; the Leading Small Group must grasp well the coordination and control of major plans, major policies, major items, major issues, and annual key tasks. Relevant departments must incorporate joint construction of the ‘Belt and Road’ into the important agenda and make overall plans for effective implementation of international project construction and risk prevention and control responsibilities. Local governments must find an orientation to participate in the joint construction of the ‘Belt and Road.’” Similarly, an official description of BRI posted by China’s representative mission to the UN traces the idea directly from Xi’s introduction, to the creation of a CCP leading group, to the publication of government plans, to the eventual consultation with other countries in international fora and BRI’s incorporation into the agenda in international organizations. China Internet News Center and China Institute of International Studies, “Xi Jinping Thought on Diplomacy and China’s Diplomacy in the New Era: One Belt One Road” (习近平外交思想和新时代中国外交: 一带一路), Translation; Permanent Mission of the People’s Republic of China to the United Nations Office at Geneva and Other International Organizations in Switzerland, “The Belt and Road Initiative: Progress, Contributions and Prospects.”

†Experts assess that Xi came up with the idea along with some of his closest advisors. Xi frequently describes himself as having proposed the initiative and in 2017 claimed “This initiative originates from my observation and reflection on the world situation.” Nadège Rolland,

BRI's inception, Xi has mobilized the Party and government apparatus to carry out the initiative as a priority task and established a government hierarchy to implement it.²⁶¹ Only a month after Xi's second speech, the CCP Central Committee endorsed the concept as a component of China's long-term economic strategy in its Third Plenum.²⁶² Party leadership further elevated the initiative in 2014 at the Central Economic Work Conference, the CCP-led economic planning meeting between the CCP Central Committee and State Council that lays out an economic policy agenda for the coming year.²⁶³ In March 2015, the CCP demonstrated its intention to coordinate the initiative at the highest level by creating a Central Leading Small Group for BRI Development headed by a member of the Politburo Standing Committee and including several other Politburo members.²⁶⁴ The office for the leading small group was established within the National Development and Reform Commission, ensuring a close link between the Party decision-makers and government bureaucracy.²⁶⁵ The National Development and Reform Commission, in turn, was put in charge of coordinating actual BRI projects with support from the Ministry of Foreign Affairs and Ministry of Commerce.*²⁶⁶

General Secretary Xi's Personal Role

BRI is closely linked to Xi's personal legacy,[†] giving it staying power in China's foreign policy system.²⁶⁷ Ms. Sun assessed in her testimony that "through the Initiative, Xi successfully tied the whole foreign policy apparatus to his personal leadership and authority over Chinese foreign policy."²⁶⁸ A close affiliation with Xi makes BRI an unavoidable topic for all relevant agencies and means that a lack of enthusiasm in participation risks being interpreted as political disloyalty.²⁶⁹ Xi has also used his status to continue involving himself in the ongoing promotion, implementation, and redefinition of BRI. According to commentary from China's Ministry of National Defense in 2021, BRI remains subject to "the personal planning, personal deployment, and personal promotion of General Secretary Xi Jinping."²⁷⁰ Since 2013, Xi has demonstrated a continued personal commitment to BRI by promoting it in his own speeches, leading

written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Belt and Road Initiative: Five Years Later*, January 25, 2018, 4; Bei An, Xiyao Xie, and Xin Wen, "Commentary on General Secretary Xi Jinping's Plan to Promote the Joint Construction of the 'Belt and Road'" (习近平总书记谋划推动共建“一带一路”述评), *China's Ministry of National Defense*, November 19, 2021, 3. Translation; China Internet News Center and China Institute of International Studies, "Xi Jinping Thought on Diplomacy and China's Diplomacy in the New Era: One Belt One Road" (习近平外交思想和新时代中国外交：一带一路), Translation.

*In March 2015, the National Development and Reform Commission jointly with the Ministry of Foreign Affairs and Ministry of Commerce issued a general roadmap for the initiative, laying out principles, priorities, coordination mechanisms, and planned Chinese government actions for the implementation of BRI. Suisheng Zhao, "China's Belt-Road Initiative as the Signature of President Xi Jinping Diplomacy: Easier Said than Done," *Journal of Contemporary China* 29:123 (2020): 319–335, 321; Nadège Rolland, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Belt and Road Initiative: Five Years Later*, January 25, 2018, 4; Permanent Mission of the People's Republic of China to the United Nations Office at Geneva and Other International Organizations in Switzerland, "The Belt and Road Initiative: Progress, Contributions and Prospects."

†The CCP's 19th Party Congress in 2017 officially incorporated BRI into the Party Charter alongside Xi's other contributions to Party doctrine, suggesting BRI will continue to frame China's foreign affairs for many years to come. Suisheng Zhao, "China's Belt-Road Initiative as the Signature of President Xi Jinping Diplomacy: Easier Said than Done," *Journal of Contemporary China* 29:123 (2020): 319–335, 321; Nadège Rolland, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Belt and Road Initiative: Five Years Later*, January 25, 2018, 5.

Politburo study sessions on the topic, presiding over international symposiums and conferences, and carrying out both overseas visits and domestic inspections.²⁷¹

BRI also conforms to Xi's Comprehensive National Security Concept in its emphasis on coordinating all available national resources to pursue both internal and external security goals under strict Party leadership. The project is designed to mobilize and coordinate the use of political, economic, diplomatic, military, and ideological resources in an integrated way to pursue both internal and external security objectives.²⁷² An independent task force report published by the U.S. Council on Foreign Relations concluded that China's leaders hope BRI will improve China's security by several means, including by reorienting global economic activity toward China; increasing economic growth and thus political stability in China's minority-dominated regions; generating economic leverage China can use to pressure other countries not to criticize its government and policies; and providing intelligence and access to facilities that could one day benefit China's military.²⁷³ As in other policy fields, Xi's guidance on BRI also emphasizes the necessity of Party leadership and control as well as the proactive management of risks.²⁷⁴

Top-Level Adjustment to an Unchanged Agenda

Although BRI has undergone some reframing in response to changing international conditions, the policy adjustments have largely been issued from the top and have not altered the policy's underlying objective. Poor financial, social, and environmental standards of BRI projects produced widespread international pushback after the first few years of mobilization, and China has responded to global criticism by attempting to rebrand BRI and improve its international reputation.²⁷⁵ Xi has personally led this effort from the top, pledging in 2018 to reorient the initiative toward poverty alleviation, green development, economic sustainability, and higher project standards.²⁷⁶ Official sources credit Xi with "put[ting] forward a new requirement for the next stage of work," namely the new focus on "high-quality development."²⁷⁷ A comparison of Xi's speeches before and after this adjustment also reflect a shift in messaging toward a greater emphasis on consultation, environmental impact, standards, and project quality.²⁷⁸ Nevertheless, this messaging shift and any accompanying adjustments to project type alter neither the overall security benefits the Chinese leadership seeks from the initiative nor its fundamental implementation process or its privileged place in China's diplomatic interactions.²⁷⁹

Global Security Initiative

Xi's Global Security Initiative is another example of how major diplomatic projects are conceived, introduced, and expanded within his centralized foreign policy system. The Global Security Initiative is Xi's recently announced effort to reshape the norms of international security and make them more favorable to China, primarily by delegitimizing military alliances as a means of achieving security goals.²⁸⁰ (For more on the objectives of the Global Security Initiative, see Chapter 3, Section 1, "Year in Review: Security and Foreign Affairs.") The initiative has been described internally as a "concrete

manifestation of Xi Jinping Thought on Diplomacy,” linking it to Xi’s broader vision and instructions for the conduct of China’s foreign affairs.²⁸¹ As a relatively recent initiative, it provides a window into the process of continuous policy development under Xi whereby new initiatives are built upon the foundation of his previously established concepts.

Like BRI, the Global Security Initiative is a framework Xi introduced to guide China’s foreign policy that is being carried out and elaborated upon through top-down Party leadership. It was introduced as a relatively broad concept by Xi himself at the Boao Forum for Asia* on April 21, 2022.²⁸² Xi’s speech laid out six major elements of the initiative, which have since been officially designated the “six commitments.”†²⁸³ In the months since the Global Security Initiative’s introduction, the “six commitments” have been faithfully echoed in other Party and government sources and gradually rolled out in diplomatic statements around the globe.²⁸⁴ Although the Global Security Initiative is still in its earliest stages, Dr. Greitens assessed in her testimony that it is likely to closely follow the pattern set by Xi’s other named initiatives over the upcoming one to two years as the various levels of the Party-state work to transform Xi’s initial directive into concrete policies.²⁸⁵

Policy concepts and Party structures Xi has put in place already appear to have played a leading role in the development of the new initiative. As Dr. Greitens explained in her testimony for the Commission, the Global Security Initiative should be understood as the international projection of Xi’s Comprehensive National Security Concept that centers on regime security.²⁸⁶ Although the initiative has not yet been widely presented as such abroad, authoritative Chinese sources are very explicit about this framing and argue that Xi’s national security concept forms the “theoretical foundation” for the Global Security Initiative.²⁸⁷ For example, the Global Security Initiative is referred to as “a vivid practice for guiding China’s diplomatic work based on the Comprehensive National Security Concept” and a “further enrich[ment of] the ‘world chapter’ of the Comprehensive National Security Concept.”²⁸⁸ Based on an assessment of its publications in 2022, a particular Party-affiliated research organization known as the Comprehensive National Security Concept Research Center also appears to have played a leading role in both laying the theoretical groundwork for and fleshing out the initial details of the Global Security Initiative.²⁸⁹ The organization was founded on April 14, 2021, with the mandate to develop and promote

*The Boao Forum for Asia is an international organization with a mission of promoting economic integration and advancing development in Asia, headquartered in Boao in Hainan, China. Boao Forum for Asia, “About BFA,” 2021–2022.

†The “six commitments” are: (1) “staying committed to the vision of common, comprehensive, cooperative and sustainable security”; (2) “staying committed to respecting the sovereignty and territorial integrity of all countries”; (3) “staying committed to abiding by the purposes and principles of the UN Charter”; (4) “staying committed to taking seriously the legitimate security concerns of all countries”; (5) “staying committed to peacefully resolving differences and disputes between countries through dialogue and consultation”; and (6) “staying committed to maintaining security in both traditional and non-traditional domains.” China’s Ministry of Foreign Affairs, *Global Security Initiative—China’s Latest Contribution to Peace and Development in a Changing World*, May 19, 2022; Wang Yi, “Implement the Global Security Initiative, Safeguard World Peace and Tranquility” (落实全球安全倡议, 守护世界和平安宁), *People’s Daily*, April 24, 2022. Translation; China’s Ministry of Foreign Affairs, *Xi Jinping Delivers a Keynote Speech at the Opening Ceremony of the Boao Forum for Asia Annual Conference 2022*, April 21, 2022.

Xi's Comprehensive National Security Concept.*²⁹⁰ This tight association with Xi's guiding principle on China's national security will likely ensure the Global Security Initiative remains a foreign policy priority as long as Xi is in power.

Consequences for Foreign Affairs

Xi lays out an assertive direction for China's foreign policy, which is then faithfully carried out by the institutional setup beneath him.²⁹¹ Xi's vision for China's foreign affairs is one that manages China's external environment to ensure China's "rejuvenation" under the CCP is accommodated and facilitated abroad.²⁹² The CN-SC's domination of the bureaucratic level ensures that policy choices conform to a strict interpretation of China's national security interests, leaving little space for ambiguity or compromise.²⁹³ The mandate from above in turn compels the diplomatic corps to adopt the "Wolf Warrior" ethos, treating any perceived slight against China internationally as an attack warranting an aggressive response.²⁹⁴

On a conceptual level, Xi's Comprehensive National Security Concept acts as an important framework for foreign policy decision-making under Xi.²⁹⁵ In other words, the mandate of China's diplomatic corps is determined through a lens of regime security and includes defending Beijing's broad definition of territorial sovereignty, combatting what it considers separatism and terrorism, defending overseas interests, promoting economic and financial security, and—above all—maintaining the leadership of the CCP and the socialist system.²⁹⁶ For example, China's March 2021 retaliatory countersanctions against entities and individuals in the EU were applied not only to official government institutions and representatives but also to two independent think tanks and two private scholars because the CCP alleged that their critical analysis of China's repressive Hong Kong and Xinjiang policies was a threat to China's "national sovereignty, national security and development interests."²⁹⁷ In a summary article on Xi Jinping Thought on Diplomacy in May 2022, Yang Jiechi further illustrated this concept by highlighting China's "forceful" responses to other countries' so-called "provocations" related to Taiwan, Xinjiang, Hong Kong, maritime issues, and human rights as a key success for China's diplomacy over the past year.²⁹⁸

Xi's political elevation produces a reinforcing "bandwagon effect" throughout the bureaucracy and in research institutions, decreasing the channels for contrasting ideas to influence choices at the top.²⁹⁹ According to Yun Sun, Xi's leading role means officials who do not share his vision for foreign policy "are naturally

*The secretariat of the Comprehensive National Security Concept Research Center is located inside the China Institutes of Contemporary International Relations (CICIR)—itself a leading policy research organ under the supervision of the CCP Central Committee. According to CICIR's president, Yuan Peng, the Research Center's work is currently oriented around the "study, research, and promot[ion]" of an official outline of Xi's Comprehensive National Security Concept, which was produced by the CCP Central Committee's Propaganda Department and the Office of the Central National Security Commission, which Xi chairs. Yuan Peng, "The Fundamental Principles for Maintaining and Shaping National Security in the New Era—Study the 'Study Outline of the Comprehensive National Security Concept'" (新时代维护和塑造国家安全的根本遵循——学习《总体国家安全观学习纲要》), *People's Daily*, April 26. Translation; *Rule of Law Daily*, "Comprehensive National Security Concept Research Center Established" (总体国家安全观研究中心挂牌成立), April 15, 2021. Translation; *Xinhua*, "Comprehensive National Security Concept Research Center Established" (总体国家安全观研究中心成立), April 14, 2021. Translation; DBpedia, "About: China Institutes of Contemporary International Relations."

marginalized in the decision-making circle.”³⁰⁰ Xi has also overseen the imposition of stricter political controls on policy think tanks.³⁰¹ At the lower levels, scholars whose views contrast with the top leadership’s position do not receive support for their work, as resources are directed toward those who will defend Xi’s chosen agenda.³⁰² Thus, even though there has been an increase in the number of think tanks during Xi’s tenure, there is little reason to believe they will publicly question the assertive course set at the top of the system.³⁰³

BRI’s evolution as a foreign policy platform illustrates that Xi can command rigorous implementation of his foreign policy initiatives through all levels of China’s foreign affairs bureaucracy as well as at the local levels and that his framing has staying power in China’s system even in the face of international backlash. Although China’s foreign policy apparatus is also capable of making adjustments, such changes must still be centrally directed and may even be largely cosmetic in nature, reflecting a change in the top’s assessment of the best way to reach a consistent goal rather than a fundamental policy reorientation. The Global Security Initiative further illuminates the lasting effect of Xi’s initiatives by illustrating how new policies can continue to grow out of the foundational ideas and institutions Xi created.

Military Decision-Making

China’s decision-making on the use of its military and paramilitary forces is highly centralized and increasingly personalized. Command authority for China’s military and paramilitary forces rests with the CMC, the CCP Central Committee’s designated military policy body.* Under General Secretary Xi, reforms increased centralization and vested more responsibility and final decision-making power in Xi himself. Consequently, the goals and use of China’s military and paramilitary forces are subject to immense personal discretion by Xi, particularly in crisis situations. CCP leaders continuously scrutinize the military’s loyalty, with several reforms and increased emphasis on “political work” in the military and paramilitary forces designed to strengthen loyalty to the Party and ultimately to Xi himself. This combination of central control and emphasis on political loyalty leads to micromanagement and inefficiency in some areas of military decision-making.

The CCP’s decision-making for the military must account for the paradox of coercive power: that the very organizations with the capability to physically defend the Party and the regime from internal and external threats definitionally also possess a latent ability to threaten the regime itself. In recognition of this paradox, the CCP has granted armed forces two primary missions: to “obey the Party’s command” and be able to “fight and win”—and notably in that order.³⁰⁴ In 2015, Xi described his greatest concerns for the Chinese

*The CMC is the current iteration of a longstanding Party organ tasked with leadership of the military since before the founding of the PRC. The name and exact composition of the organ has changed several times. The current iteration, established in 1954, readopts the name “Central Military Commission,” which it has held on several previous occasions. *People’s Daily*, “CCP Central Military Commission” (中共中央军事委员会), Translation; *People’s Daily*, “Military History Today September 28: CCP Central Military Commission Established” (军史今日9月28日: 中共中央军事委员会成立), September 28, 2018. Translation.

military, saying, “What I think about most is, when the Party and the people most need it, will our military be able to always adhere to the absolute leadership of the Party, will it be able to take on the challenge to fight and win.”³⁰⁵ Reforms of the decision-making structure under Xi have sought to improve the armed forces’ ability to fulfil both missions.³⁰⁶

Military Decision-Making Prior to Xi

Previous leaders’ inability to assert operational authority over the military amid a fragmented decision-making system or to address corruption raised concerns among the top leadership about the erosion of CCP control over the military.³⁰⁷ The PLA itself exercised a significant amount of autonomy from Party leaders.³⁰⁸ The PLA’s four general departments* essentially operated as “independent kingdoms” with the broad authority to make decisions in their areas of responsibility without oversight from the CMC.³⁰⁹ Decision-making was impeded by a lack of information sharing, as the PLA leveraged tight control over military intelligence and information about its own capabilities and operations as a bureaucratic advantage against both Party leadership and state ministries.³¹⁰ The amassed power of the poorly supervised general departments and military regions also led to growing financial waste and corruption throughout the force, raising serious concerns about PLA combat readiness.³¹¹ Operational decision-making was also disjointed, with command and control split between military regions and service branches.³¹² Reforms necessary for modern warfare in command and control, administration, and other areas long eluded previous leaders like Jiang and Hu due to their relatively weak position with the military and stiff resistance from the general departments that were both the strongest entrenched interests and the biggest prospective losers in such reforms.³¹³

Prior to Xi’s centralization of full Party control over the military, China’s governmental and local authorities exercised a notable amount of authority and discretion regarding the use of the military and paramilitary forces. The State Council shared authority with the CMC over the funding and operation of the People’s Armed Police (PAP, China’s paramilitary force), which then fell under the Ministry of Public Security (MPS) and subdivisions of authority tied to the provinces.³¹⁴ Local government and Party officials had some discretionary control over local PAP units.³¹⁵ Reports from the Hu era reveal that some local leaders had coopted the PAP to carry out extralegal tax collection, debt recovery, land seizure, and even political violence, causing concern that local leaders might also be able to use them to resist central authority.³¹⁶ Local Party secretaries could also take advantage of their leadership of local Party committees to direct operations by local PLA reserve units for personal gain.³¹⁷

*The four general departments of the PLA included the General Staff Department, General Political Department, General Logistics Department, and General Armaments Department. Joel Wuthnow and Phillip C. Saunders, “Introduction: Chairman Xi Remakes the PLA,” in Phillip C. Saunders et al., eds., *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, National Defense University, February 22, 2019, 6.

Centralizing Decision-Making Power in the CCP's CMC

Reconcentration of authority over the policies and operations of all China's armed security forces, both military and paramilitary, is a defining feature of Xi-era decision-making reforms. The CMC's role as the central institution responsible for making decisions about the use of China's armed forces has been greatly strengthened. This level of central control has come at the expense of previously autonomous PLA organizations, the State Council, and local officials of both the Party and the state.

Broadening the CMC's Central Control

Xi's military reforms overhauled the broad division of labor within the PLA such that the CMC provides overall management and direction, the theater commands focus on operations and warfighting, and the services are responsible for "force-building," or what the U.S. military refers to as "man, train, and equip" responsibilities.*³¹⁸ A critical element of this effort involved disbanding the PLA's four powerful general departments into 15 less individually powerful organizations in 2016 and incorporating their responsibilities directly into a restructured CMC.†³¹⁹ The change reduced the accumulated power of the PLA's "General Headquarters" (the four general departments, but primarily the General Staff Department) by placing its former functions such as training, mobilization, and strategic planning under direct CMC control with an eye toward improving information flows between the PLA and Party leadership.³²⁰ Xi's reforms also removed the heads of the individual services (PLA Army, Navy, Air Force, and Rocket Force) from direct involvement in decision-making at the CMC level and assigned responsibility for directing warfighting to the newly formed theater commands, taking away two key functions from the service chiefs.³²¹

Reforms to China's paramilitary forces, namely the PAP and Coast Guard, in 2017 and 2018 made them solely responsible to the CMC and clarified their identity as part of the broader armed forces.‡ Prior to Xi's reforms, the PAP operated under the dual leadership of both the CMC and the State Council.³²² The State Council oversaw the PAP's operations, budget, size, and composition.³²³ On January 1, 2018, the CCP Central Committee discarded this dual-leadership system and granted the CMC full control

* For more on Xi's reforms to the CMC, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, "China's Military Reorganization and Modernization, Implications for the United States," in *2018 Annual Report to Congress*, November 2018, 205–258; and U.S.-China Economic and Security Review Commission, Chapter 2, Section 1, "Year in Review: Security and Foreign Affairs," in *2016 Annual Report to Congress*, November 2016, 193–254.

† The CMC now has 15 major subordinate organizations, which replaced the previous four general departments as part of the ongoing PLA reforms in 2016. They include the General Office, Joint Staff Department, Political Work Department, Logistics Support Department, Equipment Development Department, Training Management Department, National Defense Mobilization Department, Discipline Inspection Commission, Political and Legal Affairs Commission, Science and Technology Commission, Strategic Planning Office, Reform and Organization Office, International Military Cooperation Office, Audit Bureau, and Organ Affairs General Management Bureau. Joel Wuthnow and Phillip C. Saunders, "Introduction: Chairman Xi Remakes the PLA," in Phillip C. Saunders et al., eds., *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, National Defense University, February 22, 2019, 6–7.

‡ For more on Xi's reforms to the paramilitary forces, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, "China's Military Reorganization and Modernization, Implications for the United States," in *2018 Annual Report to Congress*, November 2018, 205–258.

of the PAP.³²⁴ In March 2018 the CCP Central Committee also divested the PAP of several law enforcement, economic, and other non-paramilitary units (such as firefighters) and reassigned them to the State Council.*³²⁵ That same year, the China Coast Guard, which previously reported to the State Council's State Oceanic Administration, became the Maritime Police Contingent of the PAP.³²⁶ The result was a unified paramilitary organization with both land and sea missions incorporated directly into the line of military command.

Removing Local CCP Officials from the Chain of Command

Xi's reforms removed local CCP officials from the command structure of PLA reserve and PAP units. Prior to 2016, regional Party secretaries had frequently served as so-called "first commissars" of PLA reserve units within Provincial Military Districts, a designation that had allowed them to act as the first among equals over a reserve unit's military commander and political commissar.³²⁷ Roderick Lee, research director at the U.S. Air Force China Aerospace Studies Institute, assessed in his testimony to the Commission that this role granted local civilian leaders influence over the operations of local units and hence a level of power they could easily use for personal gain.³²⁸ After the reforms, local civilian authorities could no longer use PLA reserve units for local purposes without the relevant theater command assuming joint command over those forces.³²⁹ Similarly, prior to Xi's reforms, local Ministry of Public Security (MPS) officials held the designation of "first commissar" in local PAP detachments, affording them some discretionary control of those forces.³³⁰ As Joel Wuthnow, senior research fellow at the National Defense University Center for the Study of Chinese Military Affairs, testified before the Commission, in practice, local government and Party leaders occasionally summoned PAP units to stifle protests.³³¹ Following the changes in 2017 and 2018, local officials must request authority from the center in order to deploy the PAP.³³²

Putting Xi at the Core of Armed Forces Decision-Making

Decision-making over China's security forces is increasingly centered around Xi himself. His rise in power strengthened Party control over the armed forces, ensuring the implementation of military reforms that not only helped improve the PLA's operational capability but also further consolidated his political power in China.³³³ As a 2015 commentary in the PLA newspaper insisted, China's armed forces are responsible for "resolutely responding to the call sent out by Chairman Xi, resolutely executing the requirements put forth by Chairman Xi, and resolutely completing the tasks bestowed upon them by Chairman Xi."³³⁴

*The Border Defense Force and Guards Force were both absorbed by the MPS. The Firefighting Force and the Forestry Force (responsible for fighting forest fires) were transferred to the State Council Emergency Management Department. The Gold Force (responsible for securing gold and other resources) and the Hydropower Force (responsible for managing hydroelectric dams) were designated as "non-active-duty professional teams" and reconstituted as state-owned enterprises under the supervision of the State Council. Joel Wuthnow, "China's Other Army: The People's Armed Police in an Era of Reform," *China Strategic Perspectives* 14, *Institute for National Strategic Studies* (April 2019): 9, 15–16; CCP Central Committee, *Plan for Deepening the Reform of Party and State Agencies* (中共中央印发《深化党和国家机构改革方案》), March 21, 2018. Translation.

Emphasizing the Role of the CMC Chairman

The position of CMC chairman is the main source of Xi's authority over China's armed forces. Because the CMC chairman is the only individual to sit on both the Politburo Standing Committee and the CMC, the position gives Xi sole responsibility for coordination between the two most powerful bodies in the Party.³³⁵ Xi has also worked to strengthen the position's authority by placing a renewed emphasis on the "Chairman Responsibility System," a stipulation in the 1982 PRC Constitution that grants ultimate authority for military affairs to the CMC chairman.³³⁶ Under Xi's predecessors Jiang and Hu, the CMC's two uniformed vice chairmen took responsibility for the majority of CMC decision-making on the chairman's behalf in a pattern that became known as the "Vice Chairman Responsibility System."³³⁷ Xi identified this arrangement as a major contributor to a trend of excessive PLA autonomy and has done away with it in favor of concentrating power in his own hands.³³⁸

A 2017 amendment to the PRC Constitution and a 2020 military regulation on political work cemented this status by giving Xi final say in all CMC work and the ability to set the military's agenda on all political and operational issues.*³³⁹ According to Mr. Lee's assessment in his testimony for the Commission, the anecdotal evidence available by cataloguing Xi's military meeting agenda since becoming CMC chairman in 2012 suggests he is particularly involved in decision-making on defining PLA reform milestones and objectives, transforming the Southern Theater Command into a modern joint operations command organization, and modernizing the PLA Army and Navy.³⁴⁰

Personal Ideological Promotion

Xi has also elevated his position by using official speeches, publications, and Party media to paint himself as a great military strategist to whom the armed forces owe complete personal loyalty. Shortly after Xi came to power, a series of high-ranking senior PLA officers made public declarations of loyalty to him, with their statements receiving an unusual level of coverage in Party media.³⁴¹ Beginning in 2016, official sources began using the title "Commander in Chief" in a push to paint Xi as a leader who understands and commands respect from the military, on some occasions even showing him wearing a military uniform while sitting upon a throne-like commander's chair.³⁴² Xi has promulgated a military component of his personal ideology, so-called "Xi Jinping Thought on a Strong Military," and his treatises are required reading for soldiers.³⁴³ State media encourage the armed forces to not only study and implement

*In 2017, the PRC Constitution was amended to stipulate that the CMC chairman "assumes overall responsibility over the work of the [CMC]," indicating that Xi's voice almost certainly has the final say among the seven members of the CMC. Regulations on Party building in the armed forces promulgated in 2020 further stipulate that the CMC chairman must lead and command the national armed forces and determine all major issues of national defense and military building. This description reveals that the role of CMC chairman officially includes both political leadership and command authority over the armed forces. *Xinhua*, "Comprehensively Strengthen the Party Building of the Army in the New Era: Leaders of the Political Work Department of the Central Military Commission Answer Reporters' Questions on the Regulations on Party Building in the Military of the Chinese Communist Party" (全面加强新时代军队党的建设——中央军委政治工作部领导就《中国共产党军队党的建设条例》), September 10, 2020. Translation; *Xinhua*, "Xi's Thoughts and 'Absolute' Party Leadership of PLA Written into the Constitution," October 10, 2017.

Xi Jinping Thought on a Strong Military but also appreciate it as a “scientific” theory of military affairs.³⁴⁴ State media reinforces the message that the armed forces owe loyalty to Xi personally, repeatedly insisting that they must “listen to Chairman Xi’s command, be responsible to Chairman Xi, and reassure Chairman Xi.”³⁴⁵ In a speech in January 2017, Xi called upon the PLA to “safeguard the core and follow commands,” a phrase that was incorporated into a formal CMC opinion two months later and made the subject of a campaign to increase loyalty to Xi’s military leadership ahead of the 19th Party Congress that fall.³⁴⁶

Decreasing the Involvement of Other Party Leaders

In addition to elevating himself, Xi has gradually decreased the involvement of other civilian leaders in military affairs.³⁴⁷ The delegation on Hu Jintao’s personal inspection tours* of military organizations included senior civilian CCP members and at least one Politburo member.³⁴⁸ Until 2015, Xi’s inspection delegations also included several civilian CCP leaders, such as Politburo members Wang Huning and Li Zhanshu.³⁴⁹ Since 2015, however, Xi has ceased to include any other Party leaders, and his delegation has consisted entirely of military officers.³⁵⁰ According to Mr. Lee’s testimony before the Commission, the presence of other CCP leaders in the inspection delegations prior to 2015 suggests they previously had some hands-on involvement in military affairs, and their removal was most likely intended to signal to the rest of the Party leadership that Xi is now the only civilian who can be involved in military decision-making.†³⁵¹

Enforcing Control over the Military

Decision-making on the use of China’s armed forces, both military and paramilitary, is designed to ensure the security of the CCP regime. Xi’s experience in Party affairs positions within the PLA and familiarity with the CMC likely gave him insight into the areas where Party control over the PLA had been lacking under previous leadership.‡ The CCP under Xi has consistently and explicitly stat-

*The CCP top leader frequently conducts inspection visits to military organizations. These visits allow the top leader to strengthen his reputation as a military leader by visibly demonstrating interest in PLA affairs and underscore his attention to developments within his military area of responsibility. In addition to this performative function, inspection tours may also help the top leader better understand the situation on the ground. Mark Stokes, Executive Director, Project 2049 Institute, interview with Commission staff, September 21, 2022; Joel Wuthnow, Senior Research Fellow, Center for the Study of Chinese Military Affairs at the Institute for National Strategic Studies, National Defense University, interview with Commission staff, September 21, 2022; Phillip C. Saunders and Joel Wuthnow, “Large and in Charge: Civil Military Relations under Xi Jinping,” in Phillip C. Saunders et al., eds., *Chairman Xi Remakes the PLA*, National Defense University, February 22, 2019, 519–555, 538; *PLA Daily*, “Hu Jintao Inspection of Jinan Military Region Emphasizes Not Relaxing Preparations for Military Struggle” (胡锦涛视察济南军区强调不放松军事斗争准备), October 22, 2009. Translation; *Xinhua*, “On the Eve of the Spring Festival Xi Jinping Inspects and Central Theater Command and Expresses New Year Greetings to All of the Officers and Warriors of the People’s Liberation Army, Officers and Police of the People’s Armed Police, Civil Officials of the Armed Forces, and Militia and Reserve Personnel” (习近平春节前夕视察慰问中部战区向全体人民解放军指战员武警部队官兵军队文职人员民兵预备役人员致以新春祝福), January 28, 2022. Translation.

†Mr. Lee argued it is unlikely the change was due to Xi’s personal distrust of any particular leaders, as Xi later elevated both Wang Huning and Li Zhanshu to the elite Politburo Standing Committee in 2017. Roderick Lee, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 5.

‡Xi served on active duty in the military as a secretary in the CMC General Office beginning at the age of 26 in 1979. From the mid-1980s to early 2000s, his official biography lists a series

ed that concentration of authority over the security forces under the CMC and CMC chairman is necessary to ensure the Party remains in control and the security forces remain loyal to it rather than the state or the nation at large.

Political Work in China's Military: The Party Must Command the Gun

Loss of Party control over the armed forces is one of several factors Xi has explicitly identified as having contributed to the fall of the CPSU and the Soviet Union, making it a matter of critical importance under his leadership.³⁵² The November 2021 historical resolution reveals Xi's motivating concern for Party control over the armed forces:

*For a period of time, the Party's leadership over the military was obviously lacking. If this problem had not been completely solved, it would not only have diminished the military's combat capacity, but also undermined the key political principle that the Party commands the gun.*³⁵³

Increased emphasis on political work in the military and paramilitary under Xi's leadership has thus focused on ensuring that the armed forces' loyalty is to the Party and the Party alone.³⁵⁴ In emphasizing the danger of the Party losing its leadership role and control over the PLA, Xi has in part sought to combat discourse on the idea of "nationalization" of the PLA as a national army of the PRC rather than a Party army.³⁵⁵ Under Xi's predecessors, nationalization of the PLA had become a topic of discussion in some PLA circles, which Xi has openly sought to rectify.³⁵⁶

China's military leadership does not perceive a tradeoff between the political reliability and operational capability of its officers.³⁵⁷ Instead of officers being designated either "red" or "expert," according to Mr. Lee's testimony before the Commission, "operational proficiency and political awareness are increasingly intermingled the more senior one becomes," the ideal being to embody what CCP propaganda terms a "double expert."³⁵⁸ According to testimony by James Mulvenon, former director of the Center for Intelligence Research and Analysis at SOS International, personnel choices in the PLA are increasingly "political choices between professional officers."³⁵⁹ In other words, he argues, political criteria are employed to choose among two or more fully qualified professional officers.³⁶⁰ As the military capability and professionalism of the entire PLA have risen, the system has not resulted in widespread promotion of politically reliable people at the expense of professional military competence, as is sometimes supposed.³⁶¹

Personnel Decisions

According to the PRC's Active Military Officer Service Law, the CMC chairman officially appoints and removes all active-duty offi-

of Party affairs positions in the PLA, including as political commissar and Party committee secretary of a reserve unit, in a military garrison, in a military subdistrict at the municipal level, and at the provincial military district level. Finally, in a rare appointment of a civilian senior Party cadre to the powerful position of CMC vice chairman, Xi served for two years on the CMC prior to his appointment to general secretary of the Party and CMC chairman in 2012. *People's Daily*, "Resume of Comrade Xi Jinping" (习近平同志简历), March 2018. Translation.

cers at the division grade (typically senior colonels and major generals) and above.³⁶² This authority means that as CMC chairman, Xi has the sole authority to approve or disapprove all general and flag officer promotions in the People's Armed Forces, a category Mr. Lee estimates has almost certainly numbered in the thousands since Xi became CMC chairman.³⁶³ In his testimony, Mr. Lee noted that while it is unlikely Xi has involved himself in all of these promotions,* it is relatively safe to assume that since taking office he has had a direct say in the promotion of at least all new full generals and admirals in the PLA.³⁶⁴

Anticorruption Campaigns

Xi has used his anticorruption campaign both as a tool to attempt to address the corruption issue and as an implied threat to encourage compliance with his military reform agenda and personal control.³⁶⁵ According to a compilation by the Center on U.S.-China Relations at the Asia Society, at least 62 PLA officers had been removed for corruption by 2018, with 46 of those officers possessing a rank of major general or above.³⁶⁶ The continuous threat of investigation is a potent tool to intimidate or remove officers who might otherwise obstruct reform efforts or show insufficient loyalty to Xi.³⁶⁷ In his testimony before the Commission, Dr. Mulvenon similarly argued that the ever-present threat of replacement via the anticorruption campaign “prevents the development of resistance and factionalism within the PLA.”³⁶⁸ In particular, he assessed that the coercive threat of the anticorruption campaign was instrumental in allowing Xi to achieve such a dramatic reorganization of the PLA, which necessarily generated a lot of opposition from the losers of the reform.³⁶⁹

Xi demonstrated the centrality of anticorruption to his vision of military discipline by raising the bureaucratic status of the investigation authority. In January 2016, the PLA Discipline Inspection Commission, which had been housed in the General Political Department since 1990, was returned to the CMC, giving the inspection organization greater independence from the PLA bureaucracy.³⁷⁰ After this adjustment, CMC Vice Chairman Xu Qiliang reportedly encouraged discipline inspectors to “take advantage of their new standing” within the PLA when investigating PLA officers’ political loyalty, power, and responsibility.³⁷¹ In October 2017, the head of the newly relocated PLA Discipline Inspection Commission was elevated to the rank of a CMC member, further increasing the investigation organization’s authority and acknowledging its heightened political significance.³⁷²

Party Control inside Military Decision-Making

Xi has led a dramatic reorganization of the upper echelons of PLA decision-making, but below the CMC, the basic mechanisms for Party control of the military—political officers, and Party committees—have not changed significantly. Instead of reforming lower Party structures, Xi is reinvigorating political work within

*Mr. Lee assesses that Xi likely delegates some responsibility for such promotional decisions to the director of the CMC Political Work Department, Miao Hua. Roderick Lee, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 9.

Party Control inside Military Decision-Making— Continued

these structures and pressing political officers to focus on learning military affairs to participate more in military decision-making and make political work more relevant to success in war.

Dual Command and the Political Officer: Throughout the PLA, from company to theater command, the PLA continues its longstanding practice known as the “military and political dual-leadership system.”³⁷⁴ Under this system, every unit has two principal officers, a commander and a political officer, who serve as co-equals and share joint responsibility for issuing orders and overseeing daily tasks.³⁷⁵ The roles are designed to be complementary, with the commander responsible for military decisions and the political officer responsible for political and personnel decisions.³⁷⁶ The political officer’s functions combine activities similar to a chaplain, sergeant major, inspector general, judge advocate, human resources officer, social worker, and Party whip. His areas of responsibility range from ideological discipline to political and moral education, military law, soldier wellbeing, and professional development.³⁷⁷

Party Committees: Like the rest of society under CCP rule, the PLA also has Party organizations embedded in each military unit and major staff organization.*³⁷⁸ “This Party committee structure creates a ‘trusted agent’ in the aggregate,” explains Mr. Lee.³⁷⁹ “Instead of having a single individual whom Xi trusts, a collective group of individuals who are promoted based on both political and military affairs traits are responsible for unit control and oversight.”³⁸⁰ The political officer and unit commander usually serve as the secretary and deputy secretary of their unit’s Party committee.³⁸¹

Steady State vs. Wartime Decision-Making: In steady state, commanders direct day-to-day military activities while political officers ensure these operations are conducted in line with political goals.³⁸² In transition to crisis or wartime, Mr. Lee explains, “most of a Party committee’s functions are relatively ‘high-level’ in nature and do not involve the Party committee needing to approve every action made within a unit.”³⁸³ They do, however, have the authority to review in committee any decision an individual leader, such as the commander or political officer, makes on the spot.³⁸⁴

A House Divided? A common PLA slogan, “division of labor [does] not divide the house,” reminds commanders and political officers they have different duties but must work together.³⁸⁵ In 2019, the *PLA Daily* reminded soldiers of the Gutian All-Military Political Work Conference that CMC Chairman Xi personal-

*The term “Party committee” (党委) is used for organizations that are established at the regiment level and above. At the battalion level and in second-level functional and administrative departments of the PLA, the relevant Party organ is called a “grassroots Party committee” (基层党委). At the company level, they are referred to as “Party branches” (党支部). The term “Party small group” (党小组) is used at the platoon level and for ad hoc organizations at any level that are created for a specific purpose and have three or more Party members. Kenneth W. Allen et al., “Personnel of the People’s Liberation Army,” *BluePath Labs* (prepared for the U.S.-China Economic and Security Review Commission), November 2022, 17.

Party Control inside Military Decision-Making— *Continued*

ly hosted five years earlier where he raised concerns that some political officers had become useless because they were afraid to speak their voice or insert their hand in military affairs.³⁸⁶ Xi exhorted political officers to get more involved in operations, training, and military command and control so that they could learn to make political work a greater part of military success in wartime. In late 2021, the Ministry of National Defense again raised Xi's exhortations at the Gutian conference, recommending "Meritorious Li Yannian," a new television series about a Korean War political commissar who was an expert in both military and political affairs.³⁸⁷ Despite these continuing efforts, tensions remain that raise questions about the degree to which this political oversight will complicate or slow the PLA's military decision-making. As Mr. Lee cited in testimony to the Commission, a "PLA Navy officer who attended the Rim of the Pacific exercise in 2016" expressed clear frustration with political oversight on military affairs when he "lamented that the PLA's 'nanny command style' was inadequate for modern operations."³⁸⁸

Control over China's Internal Security and the Political-Legal Apparatus

Similar to his efforts to assert dominance over the PLA, Xi has made it a priority since the earliest days of his leadership to control China's domestic public security apparatus.³⁸⁹ In addition to the reforms to China's paramilitary forces detailed above, Xi has dedicated significant attention to reforming elements and overall control of China's political-legal system.³⁹⁰ The political-legal system is the bureaucracy responsible for law enforcement, public security, and domestic coercion in China, including the courts, procuratorates, MPS, Ministry of State Security,* Ministry of Justice, and police academies.†³⁹¹ Changes to the political-legal system under Xi have sought to ensure the strict, hierarchical Party control and political loyalty of the apparatus most directly linked to domestic regime security.³⁹²

Motivation for Enhanced Control over Political-Legal Work

Xi perceives the domestic security apparatus as a foundational guarantor of the Party's control that must remain loyal in all circumstances.³⁹³ His focus on this area most likely reflects an under-

*The MPS is responsible for domestic law enforcement in China, including riot control and the overall maintenance of "social order." The Ministry of State Security is China's main civilian intelligence and counterintelligence agency whose missions include protecting China's national security writ large, securing political and social stability, conducting counterintelligence, and implementing security-related laws. Timothy Heath, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on What Keeps Xi Up at Night: Beijing's Internal and External Challenges*, February 7, 2019, 8–9.

†The Chinese Communist Party Regulations on the Political Legal Work issued in January 2019 define "political-legal units" as "specialized forces engaged in political-legal work under the leadership of the Party, primarily including judicial organs, procuratorial organs, public security organs, national security organs, judicial administrative organs, and other units." *Xinhua*, "CCP Central Committee Publishes 'Chinese Communist Party Regulations on Political-Legal Work'" (中共中央印发《中国共产党政法工作条例》), January 18, 2019. Translation.

standing of the political-legal system as a necessary tool and weapon of the Party and top Party leadership.³⁹⁴ CCP sources commonly refer to the public security apparatus as “the knife,” and Xi has identified that a foundational principle of political-legal work must be “ensur[ing] that the handle of the knife is firmly grasped in the hand of the Party and the people.”³⁹⁵ Regulations on political-legal work issued under Xi’s tenure also make clear that political-legal work is an important channel for the Party’s leadership of so-called “dictatorial functions,”* in other words, the coercive aspects of domestic governance.³⁹⁶ This domestic monitoring and enforcement capability, while theoretically targeted at enemies of the Party-state, can nonetheless be turned even upon the CCP leadership itself.³⁹⁷ Without firm control over this lever of power, Xi would be unable to secure his desired leadership for the Party or for himself in any other policy area.

Nevertheless, upon his rise to power Xi perceived that the handle of the knife had slipped dangerously out of the control of the CCP top leadership.³⁹⁸ Under Hu Jintao, the public security apparatus had enjoyed a significant level of autonomy and policy influence vis-à-vis the CCP top leadership in a manner similar to the military.³⁹⁹ Then Politburo Standing Committee member and head of the Party’s Central Political-Legal Affairs Commission (CPLAC) Zhou Yongkang, for example, possessed a firm grip over the regime’s intelligence and security bureaucracy and became a cautionary tale of the dangers of such independent power.⁴⁰⁰ Zhou was suspected of not only corruption but also conspiring with Bo Xilai against the central Party leadership and attempting to contravene a Politburo Standing Committee consensus to purge the disgraced leader.⁴⁰¹ Corruption and clientelism were also areas of concern.⁴⁰² According to analysis by Christopher Johnson, senior fellow at the Center for Strategic and International Studies, published in conjunction with the Mercator Institute for China Studies in Berlin, Xi perceived that lax leadership by his predecessor had allowed the domestic security apparatus so much leeway as to pose a threat to the cohesion of the Party system itself.†⁴⁰³

* In his work entitled “On the People’s Democratic Dictatorship,” Mao Zedong defined the “people’s democratic dictatorship” as the exercise of “democracy within the people” and “dictatorship over the reactionaries.” He explains that “the people” who support China’s socialist revolution should enjoy political freedoms, whereas the enemies of the revolution should be constrained and oppressed. He argues that this principle is essential for the success of China’s socialist revolution, the welfare of the people, and the survival of the country. The concept of the “people’s democratic dictatorship” is still endorsed by the Chinese government and the CCP today. It is included in Article 1 of the PRC Constitution as one of the core characteristics of the Chinese socialist state. It is also mentioned three times in the opening section of the CCP charter. *Xinhua*, “Charter of the Chinese Communist Party (Amended by the Nineteenth National Congress of the Chinese Communist Party, October 24, 2017)” (中国共产党章程 (中国共产党第十九次全国代表大会部分修改, 2017年10月24日通过)), *Communist Party Members Net*, October 28, 2017. Translation; People’s Government of the People’s Republic of China, “Constitution of the People’s Republic of China” (中华人民共和国宪法), *Xinhua*, March 22, 2018. Translation; Mao Zedong, “On the People’s Democratic Dictatorship” (论人民民主专政), June 30, 1949, in *Selected Works of Mao Zedong: Volume 5* (毛泽东选集: 第五卷), People’s Publisher, 1981, 1468–1482, 1475. Translation.

† A high-level speech by then head of the CPLAC Meng Jianzhu in 2015 elaborates on these concerns, stating, “In recent years, some political and legal affairs leaders have embarked on the road of illegal crimes. The most fundamental reason for this is that there are problems with ideals and beliefs and their values are seriously distorted, breaking the bottom lines of Party discipline and state laws... We must carry out the Party’s political discipline and organizational discipline education in depth, never allow anything to override to the organization, never allow any compromises or choices in implementing the Party Central Committee’s decisions and deployments, never allow the relationship between superiors and subordinates to become personal relationships of dependency, and never allow the formation of cliques.... At present, the anti-cor-

Rewriting the Rules of Political-Legal Work under Xi

The CCP under Xi's leadership has made many organizational and personnel changes to the Party's leadership of political-legal work. The overall goal of these efforts appears to have been centralizing Party control while simultaneously preventing the reemergence of any position powerful enough to challenge the top leadership. Lines of effort have included a realignment of the Party's existing CPLAC and its associated hierarchy;* the subordination of political-legal work to Xi's newly defined national security goals and institutions; an ongoing series of campaigns to ensure loyalty from the system's leaders and personnel; and relentless promotion of Xi's leading role in political-security work.

Reorientation and Subordination of the CPLAC

In contrast to elevating the bureaucratic status of other key Party commissions, Xi lowered the bureaucratic status of the CPLAC even while expanding its areas of authority to centralize Party control. This anomaly was likely intended to prevent any leader of the domestic security apparatus from developing a unique power base. Following Zhou Yongkang's expulsion from the Party, his former portfolio as head of the CPLAC was immediately downgraded from the Politburo Standing Committee level, where it had been since the early 2000s, to the Politburo level.⁴⁰⁴ The demotion would severely limit the ability of any future commission head to contravene the decisions of the top CCP leadership the way Zhou had attempted. The CCP also began to phase out the dual-hatting of local-level political-legal committee heads as the heads of local public security bureaus.⁴⁰⁵ This reversed a practice that had become common since the late 1990s and 2000s and that had allowed the local political-legal organs to play an extremely active role in local domestic security affairs.⁴⁰⁶ With these changes in place, the CPLAC's areas of responsibility could be safely expanded as part of the broad Party-state reorganization effort. In March 2018, the CCP consolidated responsibility for additional channels of political-legal work within the CPLAC by directing it to absorb the majority of the functions of three other Party leading small groups and commissions.⁴⁰⁷ These were the Central Commission on Comprehensive Management of Societal Security, the Central Leading Small Group on Maintaining Stability Work, and the Central Leading Small Group for the Prevention and Handling of Cult Issues.[†]⁴⁰⁸

ruption struggle on the political and legal fronts is still grim. We must not only deeply reflect on the painful lessons of the Zhou Yongkang case, but also thoroughly eliminate the impact of the Zhou Yongkang case." Meng Jianzhu, "Effectively Improve the Ability and Level of Political and Legal Affairs Institutions to Serve the Overall Situation" (切实提高政法机关服务大局的能力和水平), *People's Court Daily*, March 18, 2015. Translation.

*The CPLAC sits atop a hierarchy of lower-level political-legal committees that manage political-legal work at the provincial and local levels. Minxin Pei, "The CCP's Domestic Security Taskmaster: The Central Political and Legal Affairs Commission," *China Leadership Monitor* (September 1, 2021): 3–12.

†The CPLAC absorbed all of the functions of the first two organizations, the Central Commission on Comprehensive Management of Societal Security and the Central Leading Small Group on Maintaining Stability Work. In the case of the third organization, the Central Leading Small Group for the Prevention and Handling of Cult Issues, the CPLAC took on the disbanded group's decision-making responsibilities while the MPS absorbed some of its administrative and implementation functions. The reorganization plan assigned responsibility for information gathering, analysis, and policy implementation to the MPS as a government ministry, whereas the CPLAC as a Party organization was tasked with policy coordination and making policy recommendations

Like other parts of the bureaucracy under Xi, the CPLAC and its associated hierarchy also appear to have been subject to the overall authority of the CNSC and its hierarchy. Following the establishment of the CNSC under Xi's leadership, experts have predicted that the new national security commission may supplant the leadership of the existing political-legal commission over domestic security issues.⁴⁰⁹ While the full details of the relationship between the two Party groups remain unknown, there are several indicators that the political-legal affairs organizations are required to follow the leadership of the CNSC. First, as previously indicated, the head of the CPLAC is currently a Politburo-level position, whereas the head of the CNSC is Xi himself. Second, the last available list of the full membership of the CNSC, which dates from 2017, includes the head of the CPLAC (then Meng Jianzhu) as a member of the CNSC, along with the Minister of Public Security.⁴¹⁰ Third, new regulations released in 2019 require that political-legal work "adhere to the Comprehensive National Security Concept" and explicitly direct lower-level political-legal committees to "implement the decisions and arrangements" of central and local national security commission leadership organizations at every level.⁴¹¹

Personnel Changes

Xi has also gone to great lengths to ensure the loyalty of the political-legal apparatus by replacing most of its leadership, many by means of the anticorruption campaign, with people he trusts.⁴¹² According to Dr. Wu, since taking power in 2012 Xi has presided over at least three purges of the MPS and political-legal apparatus.⁴¹³ The first wave centered around the removal of Zhou Yongkang along with many of Zhou's proteges and much of the leadership of the MPS. According to Dr. Wu, to accomplish this feat so early in his time as general secretary, Xi relied on support from not only Wang Qishan (then in charge of the CCP's Central Discipline-Inspection Committee) but also several other groups of officials both inside and outside the public security apparatus.*⁴¹⁴ Dr. Wu assesses that the ensuing purges in 2018 and 2020 have represented "an ongoing process of power redistribution" among those groups, with each wave bringing to power individuals with closer ties to Xi than those who had come before.⁴¹⁵

The Party under Xi has demonstrated a strong focus on managing and developing the political quality of both the leaders in the system and the rank-and-file public security personnel. A readout of Xi's guiding speech in January 2015 states, "It is necessary to strengthen and improve the leadership of political-legal work; choose

to the CCP Central Committee. CCP Central Committee, *Plan for Deepening the Reform of Party and State Agencies* (中共中央印发《深化党和国家机构改革方案》), March 21, 2018. Translation.

*These groups were, in order of increasing closeness to Xi: (1) former proteges of Zhou Yongkang who betrayed Zhou in order to seek patronage from Xi, most of whom already had prominent careers in public security, such as Fu Zhenghua and Huang Ming; (2) members of the so-called "Shanghai Gang" of officials with close connections to Jiang Zemin and Zeng Qinghong, most of whom were transferred into the public security system from other areas of the bureaucracy to replace Zhou and his associates, such as Meng Jianzhu and Guo Shengkun; (3) individuals affiliated with Xi allies like Li Zhanshu, such as Zhao Kezhi, who were also transferred into public security from other Party positions; and (4) Xi's longtime associates, such as Wang Xiaohong. Guoguang Wu, "Continuous Purges: Xi's Control of the Public Security Apparatus and the Changing Dynamics of CCP Elite Politics," *China Leadership Monitor*, December 1, 2020, 2-3.

and match well the leadership group of political-legal organizations; continuously raise the ranks' ideological and political quality and ability to perform their duties; [and] cultivate political-legal ranks that are loyal to the party, loyal to the country, loyal to the people, and loyal to the law.”⁴¹⁶ Later guidance from other leaders echoes the same themes, emphasizing the importance of both leaders and the broader ranks below those leaders having strong political qualifications and a good disciplinary record.⁴¹⁷ Several Party sources have mentioned a goal of building the public security forces into a so-called “iron army” that is immune to corruption.⁴¹⁸ A series of recent activities by an organization called the National Public Security Ranks Education and Rectification Leading Small Group and its office confirms this is still an area of attention for the leadership today.⁴¹⁹

Elevation of Xi

Xi's role in remaking and guiding the political-legal apparatus has been heavily emphasized. As in other policy areas, his speeches and instructions are consistently used as benchmarks for the correct policy direction by leaders and organs under him.⁴²⁰ Remarks by the heads of the CPLAC in 2015 and 2019 credit Xi's instructions with “point[ing] out the correct direction” and “provid[ing] a grand blueprint” for political-legal affairs work as well as the guidelines members of the bureaucracy need in order to “do their jobs well.”⁴²¹ The 2019 regulations on political-legal work make implementing Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era the first responsibility of political-legal commissions and committees at all levels.⁴²² In 2021, when CPLAC Secretary General Chen Yixin gave a speech outlining ten “key points” that should serve as a focus for the year ahead, the first goal he highlighted was the promotion of large-scale learning and training activities to “set off an upsurge in the study and implementation of Xi Jinping Thought on the Rule of Law.”⁴²³

Consequences for Security Decision-Making under Xi

Perhaps more than in any other field, the lack of constraints and balances on Xi's authority in the security space grants him immense discretion over the use of China's armed forces. Xi's position at the intersection of military and Party leadership, his restructuring of the PLA and paramilitary forces, and his control over personnel decisions grant him a highly streamlined and personalized command. Consequently, the use and orientation of China's military and paramilitary forces are subject to Xi's personal discretion. There are also features of China's military decision-making system that tend toward micromanagement and potential inefficiency.

Unpredictability in Crisis Management and Escalation Control

This combination of unparalleled authority and wide discretion makes it difficult to reliably predict or influence the decisions Xi will make, particularly in a crisis situation in which he may have less time or desire to confer with other leaders. As an example, Xi's centralization of control and personalization of command in the nu-

clear realm means that should China decide on a launch-on-warning posture,* he alone could have somewhere in the range of ten minutes to make a personal decision about the use of nuclear weapons, a scenario Mr. Lee described in his testimony to the Commission as “incredibly concerning.”⁴²⁴

Xi’s overwhelming authority further complicates crisis situations by decreasing the likelihood that lower-level officials or interlocutors have the authority to adapt to changing situations. In his testimony before the Commission, Dr. Mulvenon expressed concern about the personalization of command under Xi, saying, “If in fact major military decisions require Xi Jinping’s personal approval... rather than an institutional mechanism, that makes crisis management, escalation control, and strategic communications potentially difficult... during the fog of war. It makes it more difficult... to establish credible defense telephone links with what we think are the operational elements of the PLA.”⁴²⁵ Xi’s emphasis on the Chairman Responsibility System likely also gives him great discretion over which or how many subordinates he chooses to consult on major decisions, making it difficult to identify a reliable channel for crisis messaging. In a time-sensitive situation, there is no guarantee Xi will convene the entire CMC, and higher-ranking CMC members such as the CMC vice chairmen may be more likely than the Minister of Defense and other CMC members† to still be consulted.

In this context, the question of information inputs to Xi’s decision-making is paramount. Mr. Lee pointed out that the PLA’s relatively well-developed and technologically supported information flows likely present Xi with access to multiple, diverse sources of information on the same situation at once, including potentially a direct video feed from relevant tactical formations, which he can use to supplement the reports of any subordinates he chooses to consult.⁴²⁶ From this potential abundance of information, Xi has the broad authority to draw his own conclusions and formulate his own decisions absent any predictable filter or intervention from other stakeholders.⁴²⁷

*A launch-on-warning posture is one in which a state’s military would launch nuclear weapons in retaliation for an incoming strike that has been detected but not yet detonated on its territory. Although China does not currently have a launch-on-warning posture, many recent advances in the PLA’s nuclear capabilities could enable a shift to a launch-on-warning posture if desired. (For more on China’s nuclear doctrine, posture, and capabilities, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 2, “China’s Nuclear Forces: Moving beyond a Minimal Deterrent,” in *2021 Annual Report to Congress*, November 2021, 340–385; U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 358, 360.)

†Specifically, personalization of command under Xi may restrict the ability of the minister of defense, the currently designated counterpart to the U.S. secretary of defense, to act as a reliable channel to Xi in a crisis scenario. In his testimony, Dr. Wuthnow assessed that Xi’s final decision-making authority means that all CMC members will transmit messages to him at the top of the system, regardless of the messenger’s relative rank on the CMC. This means that in normal noncrisis scenarios, the minister of defense is likely a viable channel for messaging to Xi by virtue of his CMC status and his presence at CMC meetings, as is every CMC member. However, Xi’s emphasis on the Chairman Responsibility System likely means he does not necessarily need to convene the entire CMC. If in a crisis scenario, Xi does not have time or chooses not to convene the entire CMC, the Minister of Defense (currently the third-ranking uniformed member of the CMC, Wei Fenghe) by virtue of his greater distance from Xi, would be a less reliable channel than the CMC vice chairmen. Unlike Minister Wei, both CMC vice chairmen also sit on the Politburo, making them the senior defense and military advisors to the senior-most political leadership of the CCP. Joel Wuthnow, oral testimony for U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 225–226. *People’s Daily*, “China’s Important Leaders” (中国政要), 2022. Translation.

Micromanagement of Forces by Senior Leadership

Within China's military there have been longstanding concerns over micromanagement from senior leadership, a trend exacerbated by the centralization of decision-making under Xi and advances in command and control technology. As Mr. Lee explains, although the PLA appears to acknowledge warfighters' need for some level of decision-making autonomy on a theoretical level, the system nonetheless gravitates toward a highly centralized command and control structure.⁴²⁸ The CMC and theater commands both retain the formal authority to engage in "skip echelon"* command of even tactical formations and appear to actually use this capability as a matter of course.⁴²⁹ All theater command joint operations command centers appear to have live video feeds from virtually every weapons platform operating within their areas of responsibility.⁴³⁰ The upper-level leadership's tendency to push down senior officers to the tactical level appears to have become problematic enough to interfere with operations.⁴³¹ To mitigate this interference, the PLA Navy issued new guidance stipulating that single-ship formations could not have a senior officer embarked onboard, which appears to be directed at affording the ship's own commander and political officer a chance to perform their job without excessive oversight.⁴³² According to Dr. Mulvenon's assessment before the Commission, this pervasive culture of micromanagement creates risk aversion at the lower levels of the PLA and results in "paralysis" whenever they are cut off from upper-level command.⁴³³

Militarization of Internal Security Actions

Stronger central control over China's paramilitary forces could potentially also contribute to greater internal instability. The thorough militarization and establishment of central control over the PAP may raise the likelihood that the central government will conceive of domestic societal concerns in military terms and enforce its domestic agenda with military force.⁴³⁴ Local governments' loss of ability to independently deploy the PAP may also result in delays and slower response times to local emergencies.⁴³⁵ Dr. Wuthnow assessed that local governments may hesitate to request approval from the center to deploy the PAP in emergencies for fear of appearing to have lost control of the situation.⁴³⁶

Decision-Making Surrounding a Taiwan Invasion

A decision to take military action over Taiwan is ultimately a political one.⁴³⁷ Xi's preeminent role in China's military decision-making contributes to dangerous uncertainty† in the Taiwan Strait by making it difficult to predict the timing of a potential decision to invade Taiwan. As the Commission noted in its 2021 Annual Report, factors such as a misreading of U.S.

*"Skip-echelon" command refers to a practice in which high-level command authorities bypass intermediate command levels to directly command lower-level units.

† For more on decision-making surrounding a Taiwan invasion and recent changes to the military balance generating uncertainty in the Taiwan Strait, see U.S.-China Economic and Security Review Commission, Chapter 4, "A Dangerous Period for Cross-Strait Deterrence: Chinese Military Capabilities and Decision-Making for a War over Taiwan," in *2021 Annual Report to Congress*, November 2021, 387–438.

Decision-Making Surrounding a Taiwan Invasion— *Continued*

policy, a belief that a U.S. threat to intervene is not credible, or a focus on Xi's personal ambitions could all contribute to a deterrence failure whereby the CCP leadership orders the PLA to attack Taiwan.⁴³⁸ The structural changes Xi has undertaken to make military decision-making responsive to his direction mean that his personal beliefs and assessments on these matters could have an outsized or potentially even deciding role in a decision to invade. Xi possesses broad authority over the military situation by nature of his position as chairman of a restructured CMC, and he is the only individual on the Politburo Standing Committee with a military portfolio.⁴³⁹ Compounding this risk, it is uncertain whether the PLA will truthfully report to Xi about their capabilities and readiness to invade Taiwan, since it may be politically dangerous to admit to the top leader that the capabilities are not ready after being the focus of PLA modernization efforts for so long.⁴⁴⁰

Implications for the United States

In the 20 years prior to General Secretary Xi, networks of top leaders and their proteges deliberated policy choices, and an array of interest groups contributed to decision-making on key policies. Xi has claimed a decisive role for himself in formulating economic, foreign, and security policy. This reversal from the increasing institutionalization, state bureaucratic control, and consensus leadership of his predecessors back to central leadership by Party organization—with Xi at the center of most decision-making bodies—has several implications for how the United States should manage its competition with China.

The elevation of Xi's personalistic rule means U.S. policymakers can confidently interpret any decision articulated by Xi as sure to galvanize change in China's policy direction. Because of Xi's overwhelming authority, the substance of policies directly affiliated with him by name or through his public involvement is relatively unlikely to be subject to major reinterpretation, even if public messaging around them changes slightly. This may afford a degree of predictability in China's policy stance, but it also underscores that Xi has a uniquely powerful role in economic, foreign, and security decision-making. Absent avenues for communication with Xi and his immediate advisers, the United States may face increased risk.

Because of China's structure as a unified Party-state and the dramatic recentralization of Party control that has occurred over the last decade, effective diplomatic engagements and communication with China depend upon developing contact with the people within China's system who hold key Party positions and through those have the authority to make recommendations and influence policy. This requires looking beyond the government organs that most closely match the United States' own system and focusing on the positions of influence one holds in the Party structure. The central management of policymaking by the Party apparatus under Xi means that

lower-level government interlocutors from State Council ministries likely do not possess great ability to innovate or make compromises in negotiation. Decisions to adjust course on China's policy choices most likely must be initiated or approved by either Xi or potentially the head of a relevant Party commission.

Similarly, Xi's unparalleled authority and wide discretion on military affairs make it difficult to reliably predict or influence the decisions he will make or which interlocutors he will involve in decisions. This is particularly the case in a crisis situation, when he may have less time or desire to confer with other leaders before making a decision. It also means external pressure can only be effective if faithfully conveyed to key Party decision-making bodies for consideration. Typically high-sounding state positions like minister of foreign affairs and minister of defense are a full step away from the Party leaders making decisions in their areas of responsibility.

The recentralization of decision-making power within the CCP under Xi's leadership accompanies tighter CCP supervision of the entire Party-state bureaucracy to ensure adherence with Xi's policy choices. As a result, the CCP can ensure rapid mobilization of resources to advance Xi's policy objectives and execution of his decisions, but it may also limit the CCP's ability to correct its policy mistakes or adjust course. This inability to adjust course regardless of economic and security implications poses a challenge to U.S. strategic planning and responses. This may be particularly relevant in late 2022, when the CCP will reshuffle its leadership. Economic headwinds buffeting the Chinese economy are occurring just as Xi prepares to extend his leadership over the CCP at the 20th Party Congress. This politically sensitive year may push Xi to dismiss the economic costs of his policy choices as he looks to protect his position.

Finally, even though the state bodies have always been led by CCP officials and subject to Party guidance, China's policy increasingly grows out of Party structures and under the auspices of Party leaders who are concerned with ensuring the Party's continued supremacy. Effective assessments of China's strategic intent must take into account the worldview and organizational limitations of the CCP as well as the material objectives the Party judges might best suit "China" as a whole. Furthermore, because all major policy decisions made by Xi are now couched in uncompromising national security terms, the United States and other countries seeking to defend their own interests in interactions with China should anticipate and plan for vocal or even coercive retaliation against actions the CCP is likely to interpret as harmful to its interests.

Appendix: The CCP's 2022 20th National Congress

Introduction

- **Party Congress Overview:** The CCP's National Congress, usually referred to simply as the "Party Congress," convenes every five years to determine the leadership positions within the CCP.*⁴⁴¹ As of this report's writing, the CCP's 20th Party Congress is scheduled to begin on October 16, 2022.⁴⁴² The event will determine key players in the Party system and set the tone and agenda for China's policymaking for at least the next five years.⁴⁴³
- **Xi's Intentions for the 20th Party Congress:** At this year's 20th Party Congress, General Secretary Xi likely will seek to extend his leadership of the CCP, place additional individuals he trusts in positions of power, further elevate his political profile through amendments to the Party charter, further entrench his policy agenda through speeches and high-level documents, and continue the process of adjusting institutional arrangements of power within the Party.⁴⁴⁴

Party Congress Process

- **Sequence of Events:** The roughly 2,300 delegates † participating in the Party Congress will convene in the Great Hall of the People in Beijing.⁴⁴⁵ The delegates will select the new CCP Central Committee and the Central Committee for Discipline Inspection in a modestly competitive process.‡⁴⁴⁶ When the selection process is complete, a list of the new Central Committee Members and Alternate Members will be distributed and circulated to the media.§⁴⁴⁷

Immediately following the conclusion of the Congress, usually on the following day, the newly selected Central Committee con-

*The turnover of CCP positions at the Party Congress is only one of the two major events that determine the national leadership of China's Party-state system. It is followed by the turnover of state positions in the meeting of the National People's Congress in the next spring. Thus, the process of leadership turnover begun at the 20th Party Congress in the fall of 2022 will not be completed until the conclusion of the National People's Congress in March 2023. Yew Lun Tian, "Factbox: How China's Communist Party Congress Works," *Reuters*, October 14, 2022; Susan Lawrence and Mari Lee, "China's Political System in Charts: A Snapshot before the 20th Party Congress," *Congressional Research Service*, November 24, 2021, 23.

†According to Xinhua, delegates represent 38 provinces and other provincial-level entities (autonomous regions, centrally administered municipalities, and special administrative regions), certain central authorities, the central financial sector, and Beijing-based centrally administered state-owned enterprises. The election process for delegates includes five steps Xinhua describes as "the nomination of candidates by Party members; a nominee review; public notification of the candidates for feedback; candidate shortlists; and the final vote in each electoral unit." *Xinhua*, "How CPC Elects Delegates to Upcoming Party Congress," April 23, 2022.

‡At the CCP's last Party Congress in October 2017, delegates selected 204 candidates out of a list of 222 for full membership on the Central Committee. Susan Lawrence and Mari Lee, "China's Political System in Charts: A Snapshot before the 20th Party Congress," *Congressional Research Service*, November 24, 2021, 9–10.

§According to Susan Lawrence, specialist in Asian Affairs at the Congressional Research Service, if Xi's name is included in this list of Central Committee Members, it is an indication he will likely be selected for a third term as CCP general secretary, as the position of general secretary can only be held by a member of the Central Committee. If Xi's name does not appear on this list, it is an advance indication that he will not retain the position of general secretary. This could mean either that he is expected to step down entirely or that he will take a different approach to remaining in power that does not require him to be a member of the Central Committee. This was the approach taken by Jiang Zemin in 2002 when he relinquished the position of general secretary to Hu Jintao but retained the position of CMC chairman. Susan Lawrence, remarks at "Toward Xi's Third Term: China's 20th Party Congress and Beyond," January 20, 2022, 29.

venes its first plenary session.⁴⁴⁸ It is at this meeting that the new Politburo, Politburo Standing Committee, general secretary, and CMC are selected.⁴⁴⁹ After the conclusion of the Central Committee's first plenary session, the newly selected Politburo Standing Committee, headed by the general secretary, have in the past been revealed in rank order at a live, televised press conference.⁴⁵⁰

- **Indicators of Xi's Influence on the Process:** At the 17th and 18th Party Congresses in 2007 and 2012, Hu Jintao's Administration conducted straw polls for Central Committee members to express their opinions on candidates for the Politburo.⁴⁵¹ Although the results of these polls were secret and nonbinding, they reportedly did influence the ultimate selection of Politburo members.⁴⁵² At the 19th Party Congress, by contrast, Xi replaced straw polls with face-to-face consultations.⁴⁵³ Given an emphasis in Party media on the delegates' need to uphold Xi's position as the core of the Central Committee and the Party, Xi may have used his influence to adjust the process in his favor in the runup to the 20th Party Congress.⁴⁵⁴

Outcomes to Watch in 2022

- **Xi's Position and Title:** The most visible and consequential outcome of the 20th Party Congress will be a determination of Xi's status as the top leader of the CCP. Xi is widely expected to break with recent precedent and remain at the head of the CCP beyond the 20th Party Congress,* potentially securing a third term as CCP general secretary. Some analysts have even suggested Xi may use the occasion of the 20th Party Congress to claim the position of "CCP chairman," which was abolished shortly after the death of Mao Zedong.⁴⁵⁵ Any continuation of Xi's leadership would likely presage a continuation and intensification of his existing policy agenda. His resignation or removal would mark a significant shift in China's political landscape.
- **Succession:** In the event Xi remains the Party's top leader, another important outcome will be whether he identifies one or more potential successors. At the 19th Party Congress in October 2017, Xi broke with recent precedent by not indicating any presumptive successors.†⁴⁵⁶ Continued silence on this issue at the 20th Party Congress would intensify existing concerns about the potential for instability in the hypothetical event of Xi's untimely demise or departure from power.⁴⁵⁷ It may also provide clues into Xi's intended tenure at the top of the system or his level of confidence in his political control.‡

*The position of CCP general secretary does not have an explicit term limit, but Xi's two immediate predecessors, Jiang Zemin and Hu Jintao, served only two five-year terms. By this precedent, Xi, who became general secretary in 2012, would be expected to step down at the 20th Party Congress in 2022. Susan Lawrence and Mari Lee, "China's Political System in Charts: A Snapshot before the 20th Party Congress," *Congressional Research Service*, November 24, 2021, 11.

†Xi was identified alongside Li Keqiang as one of Hu Jintao's two presumptive successors at the 17th Party Congress in 2007, which began Hu's second term as general secretary. Hu was similarly anointed as the "heir apparent" to his predecessor Jiang Zemin in 1992. Congressional Research Service, "China's 17th Communist Party Congress, 2007: Leadership and Policy Implications," *EveryCRSReport.com*, December 5, 2007; Cheng Li, "China: Riding Two Horses at Once," *Brookings Institution*, October 23, 2007.

‡The meaning of this decision could be interpreted multiple ways. A decision not to designate any successors could be interpreted as a signal of Xi's confidence and his intention

- **Appointments:** Appointments to the CCP's Politburo and Politburo Standing Committee will likely reveal key supporters of the CCP top leader. Assessing the level of adherence to informal retirement and promotional norms for these senior positions could also provide clues about the top leader's political capital to advance his allies.
 - **Politburo Standing Committee:** Most new appointments to the Politburo Standing Committee have historically come from the ranks of the previous Politburo.⁴⁵⁸ From within the Politburo, male, nonmilitary members below the prevailing retirement age have accounted for most of the promotions.*⁴⁵⁹ Appointments at the 20th Party Congress that do not conform to these trends would be particularly notable. In particular, younger leaders "helicoptered" to the Politburo Standing Committee without first serving on the Politburo are relatively likely to be targeted for serving in a top leadership position in the future. For example, Hu Jintao, Xi Jinping, and Li Keqiang were all elevated from the Central Committee to the Politburo Standing Committee in this way in 1992 and 2007.⁴⁶⁰
 - **Politburo:** Most new appointments to the Politburo have historically been members of the previous Central Committee.⁴⁶¹ A few individuals have also been elevated to the Politburo directly from the lower-ranking position of Central Committee Alternate Member, skipping the intermediary step of Central Committee Member.⁴⁶² At Xi's last Party Congress in 2017, two new Politburo members came from outside the Central Committee entirely, and both had personal ties to Xi.⁴⁶³ Any further promotions of Central Committee Alternate Members or individuals without experience in the Central Committee at the 20th Party Congress would be noteworthy.
- **Retirement Ages:** Because expected retirement ages for CCP leadership positions† are informal norms that have been adjusted and manipulated by top leaders over time, appointments that contravene these prevailing norms are notable when they occur. At the 20th Party Congress, the selection of any individual aged 68 or above to serve on the Politburo or Politburo Standing Committee likely indicates a particular interest in

to remain China's top leader beyond the 21st Party Congress in 2027. Conversely, even if Xi does plan to step down in 2027, he may still refrain from publicly anointing a successor if he has concerns that doing so could provide a platform for that individual to challenge him prematurely. A decision to appoint a successor or successors could be a sign that Xi feels pressure from other leaders to identify an end date to his rule, or it could indicate he is confident enough in his political control that the identification of an eventual successor does not threaten his position in the interim.

*No woman has ever served on the Politburo Standing Committee. There are also very few recent historical cases of uniformed military officers in the Politburo moving up to the Politburo Standing Committee level. Susan Lawrence and Mari Lee, "China's Political System in Charts: A Snapshot before the 20th Party Congress," *Congressional Research Service*, November 24, 2021, 13; Joseph Fewsmith, *Rethinking Chinese Politics*, Cambridge, 2021, 79–80; Alice Miller, "Projecting the Next Politburo Standing Committee," *Hoover Institution*, March 1, 2016, 1, 4–5, 7.

†At the 15th Party Congress in 1997, the age limit to serve on the Politburo was 69 (with individuals aged 70 or older expected to retire). Since the 16th Party Congress in 2002, the age limit has been 67 (with no individuals aged 68 or older continuing to serve). Susan Lawrence and Mari Lee, "China's Political System in Charts: A Snapshot before the 20th Party Congress," *Congressional Research Service*, November 24, 2021, 11; Alice Miller, "Projecting the Next Politburo Standing Committee," *Hoover Institution*, March 1, 2016, 1.

that individual by the top leader. Similarly, a lowering of the retirement age may suggest a desire by the top leader to prevent the advancement of one or more individuals within the age band disqualified by the change.

- **Party Charter:** In the past, the CCP has used the occasion of the Party Congress to add references to the top leaders' personal contributions to Party doctrine into the CCP Charter.*⁴⁶⁴ Xi's signature contribution, Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and BRI were included in the Party charter at the 19th Party Congress in 2017.⁴⁶⁵ Any additional changes that highlight the status of Xi's contributions would signal a further elevation of his personal status in the Party.⁴⁶⁶
- **Speeches and Reports:** The CCP's political work report† is an extremely important indicator of the new leadership's policy priorities that sets the tone for the next five years.⁴⁶⁷ After the conclusion of the Party Congress, speeches and public statements by newly selected CCP leaders are also important to observe. In the event Xi retains his leadership of the Party, the level of emphasis his major initiatives and policy slogans receive in these high-level statements will provide clues about his political standing and intentions following the Party Congress.

*Similar adjustments to the text of the PRC Constitution are generally made at the National People's Congress the following spring.

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CHAPTER 2

U.S.-CHINA ECONOMIC AND TRADE RELATIONS

SECTION 1: YEAR IN REVIEW: ECONOMICS AND TRADE

Abstract

In 2022, China's economic growth slowed significantly due to the government's stringent novel coronavirus (COVID-19) containment measures, collapse in housing construction and sales, and slow infrastructure construction. Cut off from easy bank loans and other financing, China's highly indebted property developers faced a crisis of confidence as home prices faltered and owners halted mortgage payments on presold units throughout the country. Economic uncertainty amid continued lockdowns also prompted households to save rather than spend, deepening the economy's dependence on exports to drive growth. China's economic slump and weak currency prompted an exodus of foreign capital from China's financial markets and contributed to cooling enthusiasm for expanding China-based operations among multinationals. Beijing also faced continued challenges in its external economic relations throughout 2022, particularly as it has attempted to maintain economic ties with Russia while avoiding economic sanctions.

Key Findings

- China's economy faltered in the first half of 2022 as protracted Zero-COVID lockdowns caused local economies to grind to a halt. The Chinese government attempted to employ a modest infrastructure-led stimulus in the second half of the year, though its impact may be limited as local governments struggle to identify useful projects. Despite the economic damage caused by the lockdowns, the Chinese Communist Party (CCP) remains committed to its Zero-COVID policy, demonstrating its ability to maintain political control even in the absence of economic growth.
- Beijing's credit tightening toward the property sector has become a significant drag on economic growth as developers strain to deliver on presold housing projects. Mortgage boycotts throughout the country demonstrated growing public anger toward property developers as well as broader pessimism about the state of China's economy. With about 60 percent of urban household wealth concentrated in residential property, a protracted downturn in real estate values would likely exacerbate

already anemic consumption among households and continue to weigh on China's economic growth prospects.

- U.S. businesses and investors are reevaluating their engagement in China. Many multinational businesses are delaying further expansion of their China operating segments as stringent COVID-19 measures worsen the business climate and geopolitical tensions arising from Russia's unprovoked invasion of Ukraine strain global supply chains. Despite the CCP continuing to encourage foreign capital to flow into its financial markets, U.S. investors in China's financial markets have started to reduce the investment positions they built up, causing capital outflows to accelerate in 2022.
- In 2022, the Chinese government significantly reduced its lending to developing countries while developed countries pushed back against the Chinese government's use of economic coercion and pursued supply chain diversification away from China. Although it has been careful thus far to avoid triggering secondary sanctions, the Chinese government has maintained friendly relations with Russia after its invasion of Ukraine, supporting the regime by purchasing Russian oil and natural gas. Beijing likely sees coordinated sanctions against Russia as an example of potential repercussions for its intensified aggression against Taiwan, driving China to accelerate ongoing efforts to harden its economy against sanctions and undermine the dollar-led financial system.

Introduction

In 2022, China's economy suffered from strict self-imposed COVID-19 lockdowns as the highly contagious Omicron variant spread through the country's economic and industrial hubs. A collapse in housing construction and sales exacerbated the slowdown and deepened signs of financial distress among highly indebted property developers. Squeezed by slow income growth, mounting unemployment, industrial shutdowns, faltering real estate values, and continued economic uncertainty largely stemming from Zero-COVID lockdowns, households continued to consume less. Beijing's attempts to spur infrastructure spending may provide only a small cushion against economic deceleration in 2022 as local governments struggle to identify revenue-generating projects.

The CCP's external economic relations in 2022 faced challenges stemming from China's domestic economic slowdown as well as opposition to its coercive economic practices and support for Russia's unprovoked invasion of Ukraine. Frictions persisted in bilateral commercial relations between the United States and China as the Chinese government continued its unfair trade practices, and U.S. companies reconsidered their presence in the Chinese market due to the Zero-COVID policy. The Chinese government continued to pursue its coercive economic policies while providing an economic lifeline to Russia amid coordinated sanctions and export controls. As a result, China faces growing backlash from a number of countries and possible secondary sanctions or other countermeasures from countries intent on supporting Ukraine and defending the rules-based international order.

This section examines key developments and trends in China's domestic economy and external economic relations, including U.S.-China bilateral relations and other key relationships. Section 2, "Challenging China's Trade Practices," examines China's nonmarket practices and the unilateral and multilateral options the United States has to challenge them. Section 3, "China's Energy Plans and Practices," explores China's energy system and clean energy technology ambitions. Finally, Section 4, "U.S. Supply Chain Vulnerabilities and Resilience," discusses U.S. supply chain vulnerabilities vis-à-vis China and presents options for ameliorating them. For analysis of the CCP's decision-making processes, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority."

China's Economy Falters in 2022

China's growth deteriorated in 2022, due in part to government-imposed Zero-COVID lockdowns. In 2021, Chinese economic growth leveled out after the government curtailed support intended to help the economy rebound from initial Zero-COVID lockdowns in early 2020. When a series of COVID-19 outbreaks occurred in China throughout 2022, the Chinese government maintained its rigid approach to domestic COVID-19 outbreaks, enforcing strict lockdowns and movement restrictions in major cities like Shanghai, Beijing, and even Sichuan Province's capital Chengdu during September, in spite of the 6.8 magnitude earthquake that struck the city in the beginning of the month.¹ Response to locally identified cases occurred through a policy known as "Zero-COVID" and later "dynamic Zero-COVID."² Due to fear of punishment for inadequately managing the virus, local cadres throughout the country have employed a strict approach to containment. No sector of the economy has been spared from the policy, as Zero-COVID lockdowns caused consumption to plummet while causing business closures throughout the employment-driving services sector. Zero-COVID lockdowns further spurred supply chain disruptions due to factory closures and restrictions on interprovincial transport.*³ Despite significant economic damage caused by the lockdowns, the CCP expressed unwavering commitment to its Zero-COVID policy, demonstrating its willingness to accept immediate economic costs in order to use public health as a way to maintain control (for more on the CCP's COVID-19 decision-making, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority").

Meanwhile, China's property sector downturn has deepened in 2022, becoming a critical drag on overall economic growth. What began in 2021 as an attempt to stem credit to highly indebted property developers has caused a wave of defaults and bled into weakened demand for housing. China's property sector accounts for 25–30 percent of gross domestic product (GDP) according to different estimates, and slower construction is having a ripple effect on

*As of April 2022, mass testing requirements and checkpoint systems for transportation created severe supply chain disruptions. With about 75 percent of China's domestic freight shipments relying on truck drivers, differing local compulsory testing regimes and long lines at travel checkpoints clogged China's logistics system. The requirements have created onerous conditions for truck drivers, some of whom have reported being sealed into their trucks for over 24 hours while they waited at checkpoints. *Bloomberg*, "Truckers Caught in Covid Controls Snarl China Supply Chains," April 13, 2022.

other sectors of the economy.⁴ Property also accounts for the majority of urban household wealth, and sliding property valuations are likely further dampening already weak household spending.⁵ New construction sank to an 18-year low in July. Developers also lacked funding to finish construction on existing units, including those that have already been sold. Protesting delays on delivery of housing that cost many buyers their life savings, thousands of owners of incomplete homes ceased mortgage payments, further complicating developers' cashflow challenges.

Lockdowns Halt Growth in 2022

The economic impact of China's COVID-19 containment measures was evident in official data, with China's GDP reportedly growing 4.8 percent year-on-year in the first quarter of 2022, then slowing to 0.4 percent growth in the second quarter.^{*6} Mounting economic headwinds ultimately forced Beijing to walk back its 2022 growth target midyear, as dismal Q2 GDP data revealed the economic damage of Zero-COVID. In March 2022, China's National People's Congress set an annual GDP growth rate target of 5.5 percent,[†] aiming to maintain strong economic growth ahead of the 20th National Party Congress. While CCP officials appeared intent on achieving the target in the first half of the year, dismal GDP growth in Q2 combined with ongoing COVID-19 outbreaks forced Beijing to soften its exhortations of local officials to meet the target. In its July quarterly meeting, China's Politburo announced that provinces should "maintain economic operations in a reasonable range and strive to achieve the best results," while "provinces in the position to do so should strive to achieve the expected economic and social development goals."⁷

Topline Growth Claims Cast Doubt on Credibility

In the first half of 2022, Chinese data revealed an economic reality that many analysts found implausible.⁸ Already viewed with suspicion due to a lack of transparency and a history of falsified statistics, irregularities in China's economic data releases in the first half of 2022 raised additional doubt. Likely in reaction to this widespread skepticism, Beijing publicly attempted to demonstrate its resolve to crack down on rampant data falsification. Despite this, it has yet to admit that any falsification occurred in 2022.⁹

* Foreign economists, investors, and analysts remain skeptical about the reliability of China's official reported economic data. As a key metric in official performance evaluations as well as government legitimacy, economic data are highly politicized at all levels of government. For more on the reliability of China's GDP, see Jacob Koch-Weser, "The Reliability of China's Economic Data: An Analysis of National Output," *U.S.-China Economic and Security Review Commission*, January 28, 2013. For more on the reliability of China's trade data, see U.S. Congressional Research Service, *What's the Difference? Comparing U.S. and Chinese Trade Data*, May 20, 2020.

† Following China's reported growth of 0.4 percent for the second quarter of 2022, Chinese officials began openly commenting that 4 percent may be a more realistic annual target. In 2020, Chinese leaders refrained from setting a GDP growth target and claimed the economy grew 2.2 percent that year. In 2021, Chinese leaders looked to achieve growth at "above 6 percent," with the National Bureau of Statistics reporting 8.1 percent GDP growth that year. Trivium China, "Bowling to the Inevitable," *China Markets Dispatch*, July 18, 2022; World Bank, "GDP Growth (Annual %); Evelyn Chang, "China Sets 2021 GDP Growth Target of More than 6% as Premier Warns of 'Formidable Tasks' in Finance," *CNBC*, March 4, 2021.

Topline Growth Claims Cast Doubt on Credibility— *Continued*

With a deepening contraction in the property sector and Zero-COVID lockdowns impacting industrial production and supply chains, economists expressed skepticism that China's economy actually grew by 4.8 percent year-on-year in Q1. According to analysis from economic research firm Rhodium Group, when accounting for the slowing property sector, the remaining sectors of China's economy would need to have grown at 7–8 percent amid the lockdowns to achieve the growth rate posted by China's National Bureau of Statistics (NBS).¹⁰ Subcomponent data raised additional questions. For example, in May the NBS reported that steel output, an energy-intensive industry reliant on thermal power, had increased by 12.1 percent year-to-date.¹¹ This occurred despite reporting from China's Electricity Council that May utilization of fossil fuel power-generating equipment had actually declined by 5 percent year-on-year.¹²

Such data irregularities are consistent with the government's pandemic response, in which it attempts to portray the superiority of its model by masking the true extent of economic damage caused by its Zero-COVID policies. In testimony before the Commission, Shehzad Qazi, chief operating officer at economic consulting firm China Beige Book, explained that survey data from Chinese firms consistently portray the economy as weaker than official data.¹³ In 2020, the Chinese government created a political victory by claiming its economy was the first to recover from the pandemic. To do this, China's statistics bureau deflated the previous year's economic data to create the appearance of year-on-year growth at the end of 2020.¹⁴ By contrast, independent data from China Beige Book indicate that the economy actually posted a full-year contraction in 2020.¹⁵

Due to the politicized nature of economic data in China, data smoothing and falsification methods are likely already embedded within headline indicators such as GDP growth. Statements by top leaders in the first half of 2022 demonstrate a recognition of challenges to CCP credibility posed by widespread data falsification, prompting a flurry of data fraud investigations throughout the country. For example, in March 2022 the CCP's Central Commission for Discipline Inspection announced it would increasingly monitor NBS for data falsification, admitting that cases of fraud were "still relatively prevalent" despite NBS attempts to investigate and punish violators.¹⁶ Later in May, NBS claimed it had uncovered data violations stemming from 2020 and 2021 in multiple provinces, leading to the dismissal or demotion of local officials in Hebei, Henan, and Guizhou provinces.¹⁷ In citing data releases from the past two years, NBS likely intended to boost confidence in Beijing's attempts to improve data credibility without undermining data from the current year. With punished officials hailing from relatively underdeveloped provinces that contribute less to China's GDP, the campaign to identify data violators has also left officials from more economically important industrial hubs relatively untouched.

Lockdowns weakened household consumption and the services sector in 2022, contributing to rising unemployment and causing pervasive supply chain disruptions. With strict Zero-COVID lockdowns preventing Chinese consumers from going to restaurants and shopping malls, Chinese households' reduced consumption became a drag on the economy and contributed to contraction in the services sector. Because nonstate small- and medium-sized enterprises (SMEs) comprise the backbone of the services sector, China's policy response to COVID-19 continues to weaken SMEs and the nonstate sector. Households also continue to bear the brunt of lockdowns, with curtailed operations and closures among businesses contributing to worsening unemployment and slow disposable income growth in the first half of 2022, in addition to the human toll of severe containment restrictions (see textbox below). Finally, exports provided a small buffer against economic deceleration; however, supply chain disruptions continued to hamper China's manufacturing industries.

- *Consumption:* China's strict lockdowns of major population centers in the first half of 2022 contributed to a steep decline in consumer spending. Retail sales, which serve as a proxy measure for consumption within the Chinese economy, declined by 11.1 percent year-on-year during the height of the lockdowns in April.¹⁸ Even after easing lockdowns around the country, China's retail sales continued to reflect caution among households about the likelihood of future restrictions and stiffer economic headwinds, with sales declining by 6.7 percent year-on-year in May and improving only slightly by July.¹⁹ Online retail sales also showed slower growth in 2022 than in the previous two years, reflecting deepening consumer pessimism and sluggish disposable household income growth.²⁰ While some businesses and local governments have attempted to stimulate consumption by slashing prices and issuing coupons, such measures have done little to buoy consumer retail spending.²¹ Weak consumption and household borrowing may be further indications of a growing "balance sheet recession" among Chinese households as they save a greater proportion of their income while spending and investing less, deepening economic imbalances.*²²
- *Services:* China's services sector has been particularly hard hit by China's Zero-COVID policy, as local governments forced in-person businesses such as those in the tourism, entertainment, and restaurant industries to shutter operations.²³ The sector contributed to only 1 percent of China's GDP growth in Q2, marking a continual decline from its peak of 9.3 percent in Q1 2021.²⁴ The sharp downturn in labor-intensive services in particular has likely had a severe impact on employment throughout China's economy in 2022, in turn contributing to

*Chief Economist at Nomura Research Institute Richard Koo coined the term "balance sheet recession" to describe economic contraction caused by private borrowers reducing debt and therefore expenditures, rather than a contraction from a downturn in the business cycle (i.e., a decline in output, employment, income, and sales). Dr. Koo argues that a collapse in asset values is likely to trigger a balance sheet recession, as firms and households reduce borrowing and expenditures and focus on paying down debt to avoid or get out of negative equity. Richard Koo, "Balance Sheet Recession Is the Reason for 'Secular Stagnation,'" *VoxEU*, August 11, 2014.

anemic consumption, though full-year data will not be released until 2023.*²⁵

- *Unemployment:* With lockdowns forcing many service-based businesses to cut back or shutter operations, China's surveyed urban unemployment rate reached 6.1 percent in April 2022, its highest level since the first wave of COVID-19 lockdowns in February 2020.†²⁶ In July 2022, urban unemployment moderated slightly to 5.4 percent; however, unemployment among young workers aged 16–24‡ increased to 19.9 percent in July, reaching its peak since China's youth unemployment survey began in 2018.²⁷ The severe downturn in employment opportunities for youth could lead to depressed labor productivity for years to come, as young graduates are forced to accept jobs that do not match their education and skills. Despite the impact of Zero-COVID lockdowns on employment-generating sectors, the Chinese government has yet to provide sufficient assistance to households grappling with unemployment. According to a March 2022 report by a group of Chinese university professors, a 2020 survey revealed that only 8 percent of laid-off workers benefited from unemployment insurance, while 86 percent of total laid-off workers received no social assistance whatsoever.²⁸
- *Export-oriented manufacturing:* China's General Administration of Customs reported strong export data in the first half of 2022; however, China's export-oriented manufacturing sector confronted mounting challenges due to rising input prices, disruptions from lockdowns, and decreasing demand from the global economic downturn. Exports grew only 7.1 percent in August 2022 over the previous year, down from 18 percent in July and below an industry forecast of 12.8 percent.²⁹ Industrial value added, an indicator for the amount China's manufacturing and extractive industries contribute to aggregate economic output, contracted sharply in April, posting a 2.9 percent year-on-year decline before moderating in the summer months.³⁰ The slowdown was caused by strict COVID-19 lockdowns between March and May that snarled domestic supply chains and caused widespread factory closures de-

*Chinese official statistics indicate the services sector accounted for 48 percent of employment in 2021 versus 46.1 percent in 2018, but job growth was not in industries most impacted by the pandemic, such as restaurants and tourism. C. Textor, "Distribution of the Workforce across Economic Sectors in China from 2010 to 2020," *Statista*, July 27, 2022; China's National Bureau of Statistics, *The Director of the National Bureau of Statistics Answers Reporters' Questions on the Operation of the National Economy in 2021* (国家统计局局长就2021年国民经济运行情况答记者问), July 17, 2022. Translation.

†According to China's Ministry of Human Resources and Social Security, there were about 11 million unemployed people in China as of Q1 2022, increasing from about 9.5 million people in Q3 2019. China's urban unemployment rate likely understates the actual level of unemployment in China's economy as it does not account for China's migrant workforce, estimated at 300 million people. Because these individuals are increasingly concentrated within China's low-end services sector and gig economy, both sectors hard-hit by COVID-19 lockdowns, they likely suffer from disproportionately high unemployment rates. Emily Feng, "Migrant Workers in China Find New Jobs—and Precarious Conditions—in COVID Control," *NPR*, April 20, 2022; Eli Friedman, "China's Record Urban Youth Unemployment," *ChinaFile*, June 16, 2022. China's Ministry of Human Resources and Social Security, "China Unemployed Persons," *Trading Economics*, 2022.

‡China's Compulsory Education Law of 1986 mandates that all children receive nine years of education, usually through the age of 15. Children aged 16 and above are therefore considered to be part of China's young workforce. State Council of China, *Compulsory Education Law of the People's Republic of China*.

spite attempts to keep companies like Tesla and Semiconductor Manufacturing International Corporation running by forcing workers to live onsite.*³¹ Highly industrialized provinces were particularly hard hit by lockdowns and transportation restrictions, with the GDP of Jilin, China's automotive manufacturing hub, shrinking by 6.6 percent and 5.9 percent year-on-year in Q1 and Q2, respectively.³² Amid lockdowns, China's government continued to report strong exports, with the total value of May exports rising by 16.8 percent year-on-year.³³ Global inflationary pressures likely account for a proportion of the 16.8 percent increase, however, as export volumes only increased by 1.1 percent year-on-year in the same period.³⁴ Export data may also reflect a surge in shipments as backlogged orders are filled and factories resume operation. China's initial COVID-19 export boom is dissipating, however, as demand from key export markets like the United States and Europe weakens amid mounting inflationary pressures.³⁵

The Human Toll of China's Zero-COVID Policy

Aside from immediate economic disruption, China's extreme containment measures in response to COVID-19 outbreaks in Shanghai and other cities in 2022 have had human consequences on individual wellness and long-term livelihoods. While city residents have been confined to their houses for weeks or months, travel restrictions have resulted in homelessness for migrant workers who could not access transportation to return to their hometowns and were not provided with shelter through an employer. For those that have had housing through an employer, such shelter has often amounted to a cramped dormitory or even sleeping on a factory floor.³⁶ Strained by the response to stringent testing measures, China's under-equipped hospitals have also refused healthcare to patients with non-COVID illnesses or who had not taken or were waiting for results of COVID tests.³⁷ In January 2022, a pregnant woman in the central city of Xi'an lost her baby after she was denied entry to the hospital because her negative test result was four hours old, according to reporting from the *Guardian*.³⁸ Multiple sources similarly reported that patients had died while waiting for negative tests in order to gain entry to hospitals. In other instances, small children who tested positive were separated from their parents to quarantine.³⁹

The compounding effects of social isolation and fear of food and water shortages during lockdowns, as well as economic uncertainty in the wake of the pandemic, are likely to deepen China's challenges in addressing inadequate access to treatment for mental health disorders. A June editorial in the med-

*Local governments allowed companies in critical sectors such as advanced technology components to maintain operations amid COVID-19 lockdowns. Companies like battery manufacturer Contemporary Ampere Technology Co Ltd. and chip producer Semiconductor Manufacturing International Corporation maintained operations using "closed-loop systems" that forced workers to live onsite. *Bloomberg*, "Shanghai Factories Isolate Staff to Keep Operating in Lockdown," March 28, 2022; *Assembly*, "Closed-Loop Systems Allow Chinese Plants to Operate during Lockdown," March 28, 2022.

The Human Toll of China's Zero-COVID Policy— Continued

ical journal the *Lancet* noted, “China’s lockdowns have had a huge human cost. This cost will continue to be paid in the future, with the shadow of mental ill-health adversely affecting China’s culture and economy for years to come.”⁴⁰ In a national survey on psychological distress after the outbreak of COVID-19 in 2020, 35 percent of respondents reported experiencing distress, including anxiety and depression.⁴¹ A survey of more than 1,000 residents of Shanghai just two weeks into the city’s seven-week lockdown similarly reported 40 percent were on the brink of depression.⁴²

Fears of Healthcare System Strain Drive Zero-COVID

China’s weak healthcare system and minimally effective vaccine have driven Beijing to deepen its commitment to the Zero-COVID policy. In May 2022, researchers at China’s Fudan University and the U.S. National Institutes of Health published a report predicting that China would incur approximately 1.55 million deaths if it were to abandon its Zero-COVID policy in the near term.⁴³ In testimony before the Commission, Yanzhong Huang, senior fellow for Global Health at the Council on Foreign Relations, discussed China’s dangerous immunity gap. He noted that despite a population-wide vaccination rate of about 90 percent, the lower efficacy of vaccines from Chinese companies Sinovac and Sinopharm* mean China’s population is less protected from the virus compared to countries using more effective mRNA vaccines.⁴⁴ In order for foreign drugmakers to secure approval to sell COVID-19 vaccines in the domestic market, China’s government has required them either to transfer technology or to establish production facilities in China with a local partner.⁴⁵ As of the beginning of October 2022, Chinese regulators had not approved any mRNA products for therapeutic purposes, and Moderna’s negotiations to sell mRNA vaccines in China had reportedly collapsed because of the tech transfer prerequisite.⁴⁶ China has also struggled to fully vaccinate its elderly population likely due to widespread skepticism about vaccine side effects on seniors, as a very small proportion of seniors participated in China’s vaccine clinical trials.⁴⁷ Furthermore, China’s population also lacks immunity gained from prior infection due to low levels of community spread.⁴⁸ Ultimately, a nationwide outbreak would likely overwhelm China’s already weakened healthcare system. The risk of such an outbreak is compounded by other societies reopening and people engaging in more travel after obtaining immunity through stronger vaccines or herd immunity.

*According to the World Health Organization, Sinopharm’s vaccine has a 79 percent efficacy rate after two doses. By comparison, the Pfizer BioNTech vaccine is 95 percent effective after two doses and the Moderna vaccine is 94.1 percent effective after two doses. World Health Organization, “The Sinopharm COVID-19 Vaccine: What You Need to Know,” June 10, 2022; World Health Organization, “The Moderna COVID-19 (mRNA-1273) Vaccine: What You Need to Know,” June 10, 2022. World Health Organization, “The Pfizer BioNTech (BNT162b2) COVID-19 Vaccine: What You Need to Know,” June 10, 2022.

China's Healthcare System Underequipped for a Nationwide COVID-19 Outbreak

Geography and income level determine the quality of healthcare accessible to much of China's population. Due to pervasive funding gaps and fewer opportunities to attract talented medical professionals, most rural healthcare institutions offer lower-quality care. Many Chinese patients therefore prefer to receive care from urban institutions, even if they are forced to travel long distances and pay higher fees to access it. China's system has therefore become over-reliant on large urban hospitals to provide even basic and preventative care. Urban hospitals provided about 44 percent of national outpatient services despite only accounting for 3.5 percent of nationwide healthcare institutions in 2019.⁴⁹ With outsized demands on its hospital systems, China's hospitals suffer from acute capacity shortfalls despite better access to funding and higher skilled doctors compared to private clinics. For example, with only 3.6 intensive care unit beds for every 100,000 citizens, compared with 25.8 and 33.9 in the United States and Germany, respectively, China's hospital system lacks sufficient resources to care for a nationwide COVID-19 health crisis.⁵⁰

After two years of propaganda proclaiming the CCP's superiority in containing COVID-19, strict adherence to China's Zero-COVID policy in spite of the economic and human costs likely reflects a belief that easing restrictions will undermine CCP legitimacy. Since 2020, China has trumpeted a strict zero-tolerance approach to fighting COVID-19 as a successful model worthy of emulation by other countries, crediting China's top-down mobilization of resources and strict containment measures as key to China's low reported case count and death toll* and relatively quick economic recovery from the initial wave of COVID-19.⁵¹ In 2022, the reopening of other economies has challenged the CCP's narrative, as China's intensified lockdowns to contain the spread of more transmissible variants have precipitated considerable economic slowdown and human catastrophe. Faced with this challenge, General Secretary of the CCP Xi Jinping and state media have redoubled emphasis of Zero-COVID as continued evidence of the CCP's superiority and the best policy option for China, claiming short-term economic disruption is necessary for long-term economic stability achieved from fewer cases and deaths.⁵² After censors were

* China's official case count and death toll likely far understate the actual impact of COVID-19. As of September 26, 2022, China's National Health Commission reported 5,226 deaths, just over one-third of the 15,260 deaths from COVID-19 on the Mainland estimated by John Hopkins University's Coronavirus Resource Center as of September 23, 2022. China's National Health Commission claimed there had not been a death from COVID-19 on the Mainland since May 2022, while John Hopkins estimated there were 165 deaths on the day of September 23, 2022. China National Health Commission, *The Latest Situation of Novel Coronavirus as of Midnight on September 26* (截至9月26日24时新型冠状病毒肺炎疫情最新情况), September 26, 2022. Translation; John Hopkins University's Coronavirus Resource Center China National Health Commission, China, September 26, 2022; *The Latest Situation of Novel Coronavirus as of Midnight on May 26* (截至5月26日24时新型冠状病毒肺炎疫情最新情况), May 26, 2022. Translation; China National Health Commission, *The Latest Situation of Novel Coronavirus as of Midnight on May 25* (截至5月25日24时新型冠状病毒肺炎疫情最新情况), May 25, 2022. Translation.

initially overwhelmed by an outpouring of public backlash on social media from the Shanghai lockdown in April and May 2022, China's extensive censorship apparatus has increased suppression of any content critical of Zero-COVID. A May Politburo meeting similarly stressed the importance of "resolutely fighting any attempts to distort, question, or dismiss China's anti-COVID policy," signaling to Party officials across China to maintain tight controls even as the central government exhorted localities to increase economic growth. In testimony before the Commission, Manoj Kewalramani, fellow in China studies and chair of the Indo-Pacific studies program at the Takshashila Institution, assessed that China's leaders likely fear that lower efficacy of Chinese vaccines, weak public health infrastructure, and lack of herd immunity will lead to devastating consequences if China eases restrictions.⁵³

Beijing's Efforts to Rein in Debt Sap Key Growth Drivers in 2022

Tight credit sapped China's traditional growth drivers like property, contributing to weak economic performance in 2022. In 2021, the Chinese government imposed greater restrictions on access to credit for property developers and local governments as it looked to reduce rising debt levels following its investment-driven 2020 rebound. China's total outstanding debt, according to the Bank for International Settlements, stood at \$51.5 trillion, or 286.6 percent of GDP, at year-end 2021.* Credit tightening in 2021 caused economic growth to slow by 2022 as property developers were forced to reign in investments on new construction and the central government cracked down on off-balance-sheet lending to local governments for infrastructure projects. According to surveys conducted by China Beige Book, tight credit conditions impacted borrowing across China's economy in 2021 and 2022, with only 14–16 percent of surveyed firms taking out loans and only 9–11 percent of firms issuing bonds in 2022 Q2, both lows not seen since China's government initiated its deleveraging campaign in 2016.†⁵⁴ A substantial portion of new lending in the first half of 2022 has come in the form of short-term loans commonly used to manage operating expenses, however, rather than medium and long-term loans, which are often used to finance investments supporting long-term economic expansion.⁵⁵ With credit demand weakening throughout China's economy, by July year-to-date medium- and long-term lending had decreased by 24.4 percent year-on-year.⁵⁶

China's Property Crisis Continues to Weigh on Growth

China's property sector continued to post negative growth in 2022 following the government's 2021 imposition of the "three red lines," a campaign to cut off new bank loans to real estate developers that do not meet specific prudential

*For comparison, total outstanding debt stood at \$5.3 trillion, or 142.5 percent of GDP, just prior to 2008. Household debt grew from \$694.8 billion (18.9 percent of GDP) just prior to 2008 to \$11.1 trillion (61.6 percent of GDP) at year-end 2021, corporate debt grew from \$3.5 trillion (94.3 percent of GDP) to \$27.5 trillion (152.8 percent of GDP), and general government debt grew from \$1 trillion (29.3 percent of GDP) to \$12.9 trillion (72.2 percent of GDP). Bank for International Settlements, "Credit to the Non-Financial Sector," June 13, 2022.

†China Beige Book derived Q2 credit data based on 4,354 interviews: 1,050 between April 22 and 27 and 3,304 between May 18 and June 15.

requirements.* Chinese policymakers' campaign to tighten financing to the highly leveraged property sector created a meaningful drag on economic growth in 2022, as new activity in the sector virtually collapsed. By July 2022, developer financing fell by 26 percent year-on-year.⁵⁷ With developers' funding channels narrowing, they have been forced to cut down on new investments, and new starts declined by 45.8 percent year-on-year in July 2022, marking the deepest decline since 2004, according to data from Trivium China.[†]⁵⁸ Furthermore, presales, which account for 87 percent of home sales, have faltered in particular.⁵⁹ This undermines a major source of cashflow for developers, which have relied on presales to fund their operations since the Chinese government started tightening off-balance-sheet lending to the property sector in its deleveraging campaign beginning in 2016.⁶⁰

Credit tightening in 2021 has trickled down to housing demand in 2022, with new transactions grinding to a halt. High-profile developer defaults, developers' inability to deliver pre-paid homes, and broader economic headwinds cut into demand for new housing in 2022. Reflecting this, the balance of outstanding residential mortgage debt grew by only 5.6 percent in Q2 2022 to reach \$6 trillion (renminbi [RMB] 40.2 trillion),‡ compared to the double-digit year-on-year residential mortgage growth reported by the People's Bank of China (PBOC) from the beginning of the dataset in 2005 to 2021.⁶¹ With fewer households investing in new housing, property sales and prices have declined. July sales declined by 28.8 percent year-on-year and average prices also fell by 7.4 percent year-on-year.⁶² Slowing sales have impacted real estate values throughout the country, including within the wealthiest areas that usually see less volatility in prices. For example, average housing prices in southeastern Guangdong Province have decreased year-on-year for six straight months, dropping by 13.4 percent year-on-year in April, the steepest decline on record.⁶³ Peaking demand for housing in Guangdong's first-tier cities§ Shenzhen and Guangzhou had previously driven average property prices in the province to increase by roughly 350 percent since 2003.⁶⁴ Guangzhou is not an anomaly, as property prices in two-thirds of China's 70 largest cities have declined since the imposition of the three red lines in fall 2021.⁶⁵

*Chinese policymakers instilled the three red lines in an attempt to deleverage the property sector amid rising debt levels. These requirements include the following: (1) setting a ceiling for developers' debt-to-asset ratios at 70 percent, (2) setting net debt-to-equity ratios at 100 percent, and (3) capping short-term borrowing on par with cash reserves. For more on the impact of the three red lines campaign on China's property sector, see U.S.-China Economic and Security Commission, "In Focus: Evergrande Debt Crisis Forces Tough Choices," in *Economics and Trade Bulletin*, October 20, 2021, 8–12. Pearl Liu, "Chinese Developers Face Potential Price War in Second Half amid Glut as State Issues 'Red Lines' in Deleveraging Campaign," *South China Morning Post*, September 2, 2020.

†China's National Bureau of Statistics reported that new starts had only declined by 36.1 percent year-on-year. China's National Bureau of Statistics via CEIC Database.

‡Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022, throughout: 1 U.S. dollar = 6.70 RMB.

§Chinese cities are unofficially but widely grouped into four "tiers" based on population, affluence, and whether they are governed at a provincial level (e.g., Shanghai, Chongqing, Beijing, and Tianjin are provincial-level municipalities), as provincial capitals, or at lower echelons of administrative hierarchy. For example, Shanghai is a first-tier city; Chengdu, the populous capital of Sichuan Province and a regional hub in the southwest, is a second-tier city; Wenzhou, a prefecture-level port city and tourist destination on the coast of Zhejiang Province, is a third-tier city; and Xiangcheng, a county-level city in Henan Province famous foremost as the birthplace of the first president of the Republic of China, Yuan Shikai, is a fourth-tier city. Dorcas Wong, "China's City-Tier Classification: How Does It Work?" *China Briefing*, February 27, 2019.

Mortgage boycotts in the summer of 2022 reflect growing unrest concerning China's property downturn. Reports emerged beginning in late June of numerous Chinese households refusing to make mortgage payments on presold real estate development projects that had not yet been constructed. Given extensive demand for real estate in China, developers often sell properties before they are complete and use mortgage payments toward construction costs. Property developers are struggling to finish housing projects amid an ongoing debt and liquidity crisis stemming from Beijing's credit tightening. Protests were initially focused on a stalled project by highly indebted property developer Evergrande in Jingdezhen, Jiangxi, but they spread throughout the country to at least 319 projects in about 113 cities by late July.⁶⁶ Independent assessments estimate that the total value of mortgages affected by the boycotts could range from \$270 billion to \$600 billion (RMB 1.8–4 trillion).⁶⁷ Suppliers for Evergrande and other struggling property developers similarly threatened to suspend work and pause debt payments as they had yet to receive compensation for their completed work.⁶⁸ In a joint statement signed by hundreds of suppliers and sent to local authorities, suppliers claimed that developers like Evergrande had stopped paying some of them for over a year.⁶⁹

The downturn in property construction and sales has exacerbated financial risks and led to initial signs of financial distress in China's highly indebted economy. In August 2022, Bloomberg indicated Chinese developers had defaulted on a record \$28.8 billion of offshore bonds in 2022, nearly all from property developers.⁷⁰ Developer defaults and halted mortgage payments likely do not pose systemic risk to the Chinese financial system: the vast majority of developer defaults have been in China's offshore bond market, and much of the debt was rated as "junk bonds" because of developers' poor balance sheets, while the value of mortgages involved in the boycotts is only about \$164.2 billion (RMB 1.1 trillion), or about 15 percent of the value of losses required to trigger a systemic financial crisis according to a report from DBS Group.^{*71} Nonetheless, the slowdown in construction is causing ripple effects through China's economy and turbulence in housing values is harming already stressed households.

- *The downturn in land sales resulting from stressed property developers has created financial risks for local governments that depend on land sales as a key source of revenue.* With land sales declining by 33.2 percent year-on-year in July, local governments may be more inclined to raise funds through alternative methods, including off-balance-sheet loans, or by using the proceeds from special purpose bonds† for operating expenses rather than their intended use for revenue-generating infrastructure projects (see Beijing's Fiscal Response Stresses Local

* In July, 15 banks announced their exposures to the mortgage boycotts, reporting that only about 0.01 percent of their mortgage lending had been impacted. Iris Ouyang, "Mortgage Boycott Risks Manageable for China's Banking System, but Small Lenders Vulnerable, Experts Say," *South China Morning Post*, July 10, 2022.

† Special purpose bonds are municipal debt local governments may issue to fund revenue-generating items such as infrastructure projects and other long-term expenditures. China's Ministry of Finance sets an annual special purpose bond quota, which sets the maximum value of debt local governments may issue per year through the bonds. Special purpose bonds are commonly purchased by Chinese state-owned banks.

Governments below for more discussion of China's local government finances).⁷²

- *The decline in construction cuts into a key growth driver of the Chinese economy.* China's property sector and related industries together account for 25 to 30 percent of GDP according to different estimates.⁷³ Construction fuels employment within numerous ancillary industries including the steel and cement industries.
- *The downturn in housing values may generate broader financial panic among households, who have most of their wealth tied up in property.* A 2019 survey conducted by the PBOC found residential real estate accounted for 59.1 percent of the average urban Chinese household's wealth.⁷⁴ China's economy may slow even more as would-be buyers no longer view property as a safe investment and mortgage holders reduce spending for fear of going into negative equity.

Amid China's 2022 economic downturn, authorities are walking back elements of their strict crackdown on the property sector and attempting to prevent financial panic.

In response to mortgage boycotts, the China Banking and Insurance Regulatory Commission (CBIRC) urged local governments and banks to support property developers in delivering homes to buyers as quickly as possible, while financial regulators also discussed the possibility of allowing households to pause mortgage payments on stalled projects.⁷⁵ By early August, the local government of Zhengzhou, the capital of Henan Province, launched a \$1.48 billion (RMB 9.9 billion) bailout fund to channel capital to struggling developers unable to complete projects.⁷⁶ Reports also indicate that local state-owned asset management companies, financial institutions tasked with acquiring nonperforming assets, intend to set up similar bailout funds in other provinces.⁷⁷ Chinese policymakers will likely continue to pursue solutions that avoid fully reversing credit tightening in the property sector while providing relief for households and suppliers to stave off popular unrest and deeper market pessimism.

Beijing's Fiscal Response Stresses Local Governments

Infrastructure investment did not provide a significant boost to the Chinese economy in the first half of 2022 but is likely to bolster the economy later in the year as new projects get underway. In 2022, China's central government set local governments' special purpose bond quota at about \$545 billion (3.65 trillion RMB), keeping the quota constant with the previous year.⁷⁸ By the end of May, local governments issued approximately half (54 percent) of their special purpose bond quota.⁷⁹ To jumpstart economic growth in the second half of the year, however, China's Ministry of Finance mandated that local governments complete issuing their bond allocations by the end of June, with deployment of funds to occur in August.⁸⁰ Rushing to meet the Ministry of Finance deadline, China's local governments set a new record for the most special purpose bonds issued within a single month, with nearly \$210 billion (RMB 1.41 trillion) in bonds sold in June alone.⁸¹ In contrast to the diverse group of institutional and retail investors that purchase municipal bonds in the United States, in China roughly 85

percent of local government bonds are bought by state-controlled banks.*⁸² The ongoing turn from local bank lending to central government-approved bond issuance may render local debt accumulation more visible and strengthen central government financial control over localities, but it nonetheless still reflects a continuation of China's state-centric and debt-fueled growth model. With local governments racing to issue as many bonds as possible, and given the oversaturation of infrastructure building in China over the last decade, it is unlikely they have successfully identified an equivalent number of high-quality revenue-generating infrastructure projects on which to spend the bonds' proceeds.⁸³ These investments may drive up short-term economic data in 2022, yet they may ultimately constitute wasteful spending with low returns.

The Chinese government's plan to shore up growth through investment-oriented fiscal stimulus threatens to create additional wasteful investment. To achieve growth in the second half of 2022, the central government is encouraging localities to initiate more infrastructure projects funded by special purpose bonds. Unlike the period following China's massive stimulus in 2008, when much of China's high-speed rail network was still under construction, there are far fewer nationwide infrastructure projects likely to generate a return on investment.⁸⁴ As the International Monetary Fund (IMF) argued even prior to Beijing's current infrastructure push, China's "investment-driven recovery has reversed earlier, hard-won progress in rebalancing, adding to the challenges of achieving sustainable high-quality growth over the medium term."⁸⁵

Beijing is pushing local governments to issue more debt to fund fiscal expenditures. While calls for increased local expenditure have been routine in pursuit of Beijing's politically motivated growth target and COVID-related economic "stabilization" efforts, Chinese Premier Li Keqiang's May 25th speech to over 100,000 Party and state officials represented a campaign-style inducement to increase these efforts.⁸⁶ Further, in June the State Council ordered the PBOC to provide an additional \$120 billion (RMB 800 billion) credit line to Chinese policy banks to support infrastructure investments by local governments.†⁸⁷ The central government's incitement to focus on infrastructure-induced growth, however, not only directs increasingly scarce funds into likely unproductive investment but also may come at the expense of already inadequate social welfare funding.

Limited central government support is likely insufficient to alleviate local governments' already overburdened finances, increasing risk of misallocations. Local governments only collect

*Nearly 80 percent of local government bonds in China are purchased by national commercial banks, city commercial banks, and rural financial institutions. Contrary to their name, almost all such banks are Party-state-controlled entities. China's policy banks hold another 5–10 percent of local government bonds. Alex Holmes and David Lancaster, "China's Local Government Bond Market," *Reserve Bank of Australia*, June 2019.

†China has three national state-owned policy banks: China Development Bank, Export-Import Bank of China (China EXIM Bank), and Agricultural Development Bank of China. The policy banks were established as part of a restructuring effort in 1994 to separate commercial and policy financing functions, with each bank charged with specific policy domains. For example, China Development Bank was formed specifically to finance domestic and international development projects, while China EXIM Bank provides financial services for importers and exporters. For more information on China's banking sector, see Virgilio Bisio, "China's Banking Sector Risks and Implications for the United States," *U.S.-China Economic and Security Review Commission*, May 27, 2020.

roughly half of China's fiscal revenue, but they are responsible for as much as 85 percent of expenditure obligations, including infrastructure and public services like healthcare, pensions, and education.⁸⁸ Although the central government has been increasing transfers and funding for localities, these transfers remain inadequate to cover the budgetary shortfall. This shortfall is now particularly pressing as local governments are increasingly unable to use off-balance-sheet funding via sales of land usage rights to bridge the gap.⁸⁹ Local government sales of land usage rights to property developers, which typically represent roughly 50 percent of their revenue, have experienced precipitous declines throughout 2021 and 2022 owing both to COVID lockdowns and the crackdown on the property sector.^{*90} Further, while centrally approved bond issuance for infrastructure has increased, extensive local social welfare mandates continue to be underfunded by China's central government.⁹¹ As a result, local governments are reallocating proceeds from bond issuance originally earmarked for infrastructure to pay for other unfunded obligations. According to China's National Audit Office, an inspection at the beginning of the year found ten regions had "misused" \$3 billion (RMB 13.7 billion) raised from special purpose bonds to pay wages and cover operating costs rather than fund infrastructure, while others used the proceeds to pay down debt.⁹² According to data from China's Ministry of Finance, total officially recognized local government debt at the end of May 2022 stood at \$5 trillion (RMB 33.3 trillion) or 28.4 percent of GDP, up from \$3.8 trillion (RMB 25.7 trillion) or 25 percent of GDP at the end of 2020.⁹³ Actual local government debt is substantially larger, owing to "implicit debt" issued by local government financing vehicles, local state-owned enterprises (SOEs) used by local governments to raise additional capital.^{†94} The IMF estimates local government financing vehicle debt was equivalent to 48 percent of China's total GDP in 2022.⁹⁵

In spite of the PBOC setting historically low rates in an attempt to boost lending and spur economic activity, Chinese banks are struggling to lend. Beijing's ongoing deleveraging campaign[‡] and related policies, including the three red lines campaign, have contributed to a cautious atmosphere in bank lending

*The difference between revenue and expenditure drives local government reliance on land sales and debt. Jonathan Cheng, "China's 'Common Prosperity' to Squeeze Cash-Strapped Local Governments," *Wall Street Journal*, January 25, 2022. Philippe Wingender, "Intergovernmental Fiscal Reform in China," *International Monetary Fund Working Paper 18/88*, April 2018, 5–6.

†Prior to 2015, municipal governments could not issue debt directly, with exception to a few pilot programs authorized by China's central government. Because local governments' revenue bases were often insufficient to meet their expenditure obligations, they used local government financial vehicles to evade these restrictions, a practice that has continued since China legalized municipal debt issuance in 2015. China's Ministry of Finance refers to funding raised through local government financial vehicles as "implicit debt," and it is explicitly recognized as corporate debt rather than a government obligation, but investors often treat these debt obligations as backed by the government, creating moral hazard. Frank Tang, "China Debt: State Council Says Local Governments Must 'Tighten Their Belts' and Cut Debt to Reduce Financial Risks," *South China Morning Post*, March 16, 2021; Zhiguo He, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Quest for Capital: Motivations, Methods, and Implications*, January 23, 2020, 6, 10.

‡The deleveraging campaign began in 2016 principally as a de-risking effort as regulators sought to curb rapid credit growth in shadow financing channels, such as wealth management products, that provided opaque financing largely to property developers and local government financial vehicles. The three red lines campaign, which aggressively limits bank lending to the property sector, is a continuation of that effort. Christopher J. Kushlis, "China Deleveraging: Domestic and Global Impacts," *T. Rowe Price*, February 2022; Logan Wright, Lauren Gloudeman, and Daniel H. Rosen, "The China Economic Risk Matrix," *Rhodium Group*, September 2020, 71–76.

departments, just as corporate and household demand for credit has plummeted amid Zero-COVID lockdowns.⁹⁶ While the PBOC has been lowering banks' funding costs via lower deposit rates and interbank lending rates, including guiding the loan prime rate* lower by 20 basis points between December 2021 and August 2022, the effect on credit growth has been muted, reflecting the depressed state of China's economy.⁹⁷ Government guidance has lacked consistency as pushes for rapid increases in lending are set against admonishments to do so "reasonably" and prioritize "sound" fundamentals.⁹⁸ As regulatory goals hinder state bank credit growth on the supply side and COVID-19 lockdowns hinder credit growth on the demand side, Beijing has turned to fiscal policy to spur growth.

While Beijing is consciously signaling support to SMEs, particularly those in the manufacturing and technology industries, success in implementation remains questionable. A plethora of fiscal policies and tax rebates have been promulgated in support of SMEs, with the most high profile of these initiatives being the ongoing campaign to support so-called "little giants."⁹⁹ Of the \$385 billion (RMB 2.58 trillion) China's State Taxation Administration has recorded in tax rebates and refunds through June 2022, an estimated 70 percent went to SMEs.¹⁰⁰ China's financial system, however, remains dominated by state-owned banks that face systemic incentives to lend to SOEs. This is due to the fact that SOEs are, by design, massive firms, often with quasi-monopolies and more stable revenue. SMEs, meanwhile, are the most vulnerable to shocks such as the ongoing Zero-COVID disruptions. This makes them relatively less attractive to lend to and, Beijing's recent policy pronouncements notwithstanding, places them at a disadvantage.¹⁰¹ The manufacturing Purchasing Managers' Index (PMI), a numerical index based on survey data tracking the performance of the manufacturing sector, reveals the dichotomy between large firms and SMEs. In July 2022, China's National Bureau of Statistics recorded the PMI of large enterprises as 49.8, while that for small enterprises was 47.9.¹⁰² Anything below the 50-point mark indicates contraction, while values above indicate expansion.

The Party's fiscal expenditures in support of consumption and individual households remain extremely weak. The IMF noted in 2021 that despite improvements, China's "social protection system is still incomplete."¹⁰³ In particular, the IMF report highlights that fewer than half of all urban employees are covered by unemployment insurance. Among the uninsured are over 230 million internal migrant workers (roughly 60 percent of the migrant

*The loan prime rate is the average lending rate that 18 of China's largest banks offer their most credit-worthy customers. The PBOC guides the loan prime rate by linking it to its Medium-Term Lending Facility, which is a monetary policy instrument the central bank relies on to increase liquidity in the bank system. This lending facility is in turn based on the effective short-term (seven-day) interest rate the PBOC offers banks through its extensive reverse repurchase agreement lending operations. Virgilio Bisio, "China's Banking Sector Risks and Implications for the United States," *U.S.-China Economic and Security Review Commission*, May 27, 2020.

†Beijing directs local governments to select and financially support cohorts of thousands of ostensibly innovative technology-focused SMEs, which are referred to as "little giants." General Office of the Ministry of Industry and Information Technology, *Notice of the General Office of the Ministry of Industry and Information Technology on Carrying Out the Cultivation of the Fourth Batch of Specialized and New "Little Giant" Enterprises and the Review of the First Batch of Specialized and New "Little Giant" Enterprises*, (工业和信息化部办公厅关于开展第四批专精特新"小巨人"企业培育和第一批专精特新"小巨人"企业复核工作的通知), June 15, 2022. Translation.

population).^{*104} These limitations, in addition to those in healthcare and education spending, induce households to save at an extremely high rate to take care of themselves, a phenomenon known as precautionary savings.¹⁰⁵ Analysts Allen Feng and Logan Wright at Rhodium Group note that the ratio of time deposits to demand deposits at banks, which is an indicator of precautionary savings among households, has strengthened substantially through 2022.¹⁰⁶ Beijing's ongoing response to the pandemic has been unique among major economies in the degree to which it prioritizes supply-side interventions at the expense of support to households.¹⁰⁷ Justifying this approach at the start of the pandemic, Jia Kang, former head of the Chinese Finance Ministry's in-house think tank, argued that China's government should concentrate fiscal spending on development projects that lift people out of poverty.¹⁰⁸ He also suggested, to the extent it supports household consumption, that China's government should issue vouchers for specific goods so the state can guide households to consume what it determines is necessary.¹⁰⁹ Beijing has maintained this approach in spite of worsening household consumption. A May 2022 State Council compendium of 33 measures to stabilize the economy focused almost exclusively on businesses. The measures included tax relief, value-added tax (VAT) rebates, fee reduction, loan support, deferred social security contributions, deferred principal and interest repayment, and encouragement of local governments to boost infrastructure investment.¹¹⁰

Financial Market Regulation Creates Policy Mechanisms to Enhance Control

CCP leaders developed tools to contain financial risk and strengthen control over capital market development as volatility plagued China's markets in 2022. In further ensuring a role for the state in managing financial markets, however, CCP leaders are moving the development of China's financial system farther away from market economy norms. Foreign investors cut their investments in China's markets throughout 2022. Increased market volatility and signals of increased state control heightened the risks associated with U.S. financial exposure to China.

CCP Leaders Prioritize Financial Stability as Uncertainty Plagues Markets

As lockdowns spread from China's financial center Shanghai to the capital Beijing, investors responded to the economic toll of the Chinese government's Zero-COVID policy. Market sentiment temporarily improved when the Chinese government pledged to stabilize the economy on March 16,[†] but the rally

* China's rapid urbanization coincided with substantial internal migration from the countryside to urban centers. This process was complicated by China's internal passport system, termed *hukou*, which linked social benefits to the passport and broadly divided residents between urban and rural. As a result, rural *hukou* holders have not been able to receive healthcare, education, or social security benefits in the cities they live and work in. Kam Wing Chan, "China's Hukou Reform Remains a Major Challenge to Domestic Migrants in Cities," *World Bank*, December 17, 2021.

† Amid the rout of Chinese technology stocks in mid-March, Chinese Vice Premier Liu He convened an emergency meeting of the State Council's Financial Stability and Development Committee where he pledged the government would intervene with "policies favorable to the market." In linking together discussion of China's property market slowdown, regulatory uncertainty for U.S.-listed Chinese stocks, and the Chinese government's "rectification of the platform economy," Vice Premier Liu's speech at the meeting appeared aimed at broadly shoring up equity market

in stock prices shortly reversed.¹¹¹ On April 25, the Shanghai Composite and CSI 300 indices* fell 5.1 percent and 4.9 percent, respectively, after a reported outbreak in Beijing. The decline marked the largest single-day drops for both benchmarks since February 2020, when anxiety over the COVID-19 outbreak in Wuhan drove sharp falls in Chinese markets.¹¹² Narrowing yield spreads between U.S. and Chinese government bonds further drove outflows of foreign and Hong Kong capital† from China's financial market as Beijing eased monetary policy to spur credit growth and Washington hiked rates to tame inflation.¹¹³ As capital flowed out of China, the RMB depreciated 7.9 percent against the dollar from January 1, 2022, to August 25, 2022.¹¹⁴

In the first quarter of 2022, the value of RMB-denominated assets held by foreigners fell by more than \$150 billion (1 trillion RMB).¹¹⁵ The selloff of onshore and offshore Chinese stocks by Chinese, Hong Kong, and foreign investors intensified in March 2022 after Russia's unprovoked invasion of Ukraine and following the U.S. Securities and Exchange Commission's (SEC) identification of Chinese firms to be delisted from U.S. markets.¹¹⁶ Between January and June 2022, foreign and Hong Kong holdings of onshore Chinese bonds fell by a record \$75.2 billion (RMB 504.1 billion), from \$606.07 billion (RMB 4.1 trillion) to \$532.2 billion (RMB 3.6 trillion).¹¹⁷ Widespread forecasts that China's economy would fall short of the government's 2022 target of 5.5 percent GDP growth further dragged on investors' willingness to hold Chinese assets. Foreign investor holdings of Chinese government bonds are unlikely to rebound as Beijing's fiscal policy has not ramped up to stimulate the economy and the weaker RMB makes Chinese assets relatively unattractive compared to safe-haven assets.¹¹⁸ The Institute of International Finance forecasts that China could see \$300 billion of foreign and Chinese capital outflows by the end of 2022, up from \$129 billion in outflows in 2021.¹¹⁹

The Chinese government introduced draft legislation requiring banks to contribute to a fund for bailing out troubled financial institutions, increasing the central government's control over financial intervention and reducing local government autonomy. Premier Li announced the financial stability fund,‡ intended to deal with troubled but systemically important

sentiment. Daniel H. Rosen and Logan Wright, "Beijing's Message to Financial Markets: We're Listening," *Atlantic Council*, March 25, 2022. State Council of the People's Republic of China, *Liu He Presides over Meeting of the State Council Financial Stability and Development Committee to Study the Current Situation* (刘鹤主持国务院金融委会议研究当前形势), March 16, 2022. Translation.

*The Shanghai Composite is a stock market index of all companies traded on the Shanghai Stock Exchange, the largest stock exchange in China. The CSI 300 is an index of 300 of the largest companies listed on the Shanghai and Shenzhen stock exchanges.

†Foreign investors include companies and individuals located in Hong Kong, many of which are subsidiaries of mainland Chinese companies. Residents of Hong Kong and Macau are treated as foreigners for the purposes of constructing China's balance of payments data. International Monetary Fund, "Special Data Dissemination Standard," January 30, 2022.

‡The United States and EU have established similar funds to provide the money needed to rescue or liquidate systemically important financial institutions. Such funds seek to guard against the financial contagion that could arise if a particularly large business that is interconnected with the rest of the economy fails, thereby putting stress on the broader economy. In 2010, Congress enacted the Dodd-Frank Act, which established an Orderly Liquidation Fund within the Federal Deposit Insurance Commission to provide funds needed in the liquidation of failed businesses. In 2016, the EU established a Single Resolution Fund responsible for resolving failed banks. Tang Ziyi and Peng Qinqin, "Caixin Explains: Why China's Creating a Financial Security Fund," *Caixin*, March 8, 2022.

financial institutions, at the March legislative session.¹²⁰ Details on the fund were provided in a draft Financial Stability Law released the following month.¹²¹ The draft law codifies the existing processes for financial risk management and disposal, effectively institutionalizing a bailout process over which the central government can exercise direct control.¹²² The planned fund and legislation follow a series of ad hoc interventions by China's central government to bail out risky financial institutions, including Anbang Insurance Group, Tomorrow Holding Co. Ltd., Baoshang Bank, and Huarong Asset Management Company.¹²³ To capitalize the fund, the PBOC—together with six other State Council ministries—raised \$9.6 billion from state-owned banks in May 2022.¹²⁴ China's government announced its intent to transfer a total upward of \$100 billion into the fund by September 2022, but by the end of that month it had not disclosed any further contributions following the initial \$9.6 billion.¹²⁵ In creating the fund, the central government seeks to impose greater discipline on financial risk management to limit the ability of local governments to engage in indiscriminate lending. However, the law simply reshuffles the moral hazard created by the state's backstopping of the financial system.¹²⁶

Runs on Small Banks Highlight Pressures Facing the Banking System

In April 2022, five rural banks in China prevented depositors from accessing their savings after becoming insolvent. The banks, four of which are located in Henan Province and the fifth of which is located in neighboring Anhui Province,* drew depositors with high interest rate savings accounts, using online platforms to attract funds beyond their limited home bases.¹²⁷ Instead of placing the savings in accounts protected by China's depository insurance,† the banks fabricated lending agreements to fund off-the-book activities through Henan New Fortune Group, a company that is the largest shareholder in each bank.¹²⁸ According to reporting from Chinese state-owned magazine *Sanlian Life-week*, more than 3,000 depositors with over \$210 million (RMB 1.4 billion) in funds were impacted.¹²⁹ On July 10, around 1,000 protestors gathered outside the Zhengzhou branch of the PBOC seeking redress.‡¹³⁰ Plainclothes security forces clashed with the crowd to disperse the protest, with some protestors taken away by police.¹³¹ Henan officials have pledged to repay the deposits in batches, but they did not specify a timeframe for larger accounts

*The banks are Yuzhou Xinminsheng Rural Bank, Shangcai Huimin County Bank, Zhecheng Huanghuai Community Bank, Kaifeng New Oriental Rural Bank, and Guzhen Xinhuaihe Village Bank. In China, local banks may only obtain deposits from a local customer base, but the banks used third-party platforms to acquire customers from outside the region online. Amanda Lee and Ji Siqu, "How China's Henan Bank Scandal Threatens a 'Crisis of Confidence' in Nation's Financial System," *South China Morning Post*, July 14, 2022.

† China introduced a national deposit insurance system in 2015, covering deposits up to \$74,627 (RMB 500,000). People's Bank of China, *Deposit Insurance Regulation*, February 17, 2015.

‡ Groups of depositors unable to access funds had traveled to Zhengzhou prior to the July 10 gathering and the Zhengzhou government reportedly modified their health codes, a system China uses to track COVID-19 cases, imposing travel and quarantine restrictions on the depositors. One depositor from Beijing reported his code turned back to normal after local police escorted him to a train home. Nectar Gan, "China's Bank Run Victims Planned to Protest. Then Their Covid Health Codes Turned Red," *CNN*, June 15, 2022.

Runs on Small Banks Highlight Pressures Facing the Banking System—Continued

or a maximum on the size of repayment, potentially leaving some depositors with a fraction of their savings.¹³²

The bank runs underscore the deterioration of asset quality and profits of small rural lenders during the pandemic. According to the CBIRC, rural commercial bank earnings did not recover with the rest of the economy between the first quarter of 2020 and the first quarter of 2021, as loans to SMEs constitute a much larger proportion of their portfolios.¹³³ While deposits held at small banks accounted for 28.8 percent of all deposits at domestic banks at the end of 2021, the PBOC does not view the Henan and Anhui bank runs as indicative of a systemic problem.¹³⁴ Nonetheless, the CBIRC will allocate \$47.8 billion (RMB 320 billion) in special purpose bonds for recapitalizing small banks by September 2022.¹³⁵

CCP Leaders Underscore Intent for Capital Markets to Serve National Priorities

At the 2021 Central Economic Work Conference (CEWC),* Chinese leaders announced they would establish a “**traffic light**” mechanism to enhance the supervision and development of capital markets. As of October 2022, no formal policy has been released, but numerous officials and financial commentators have penned articles describing a potential regulatory mechanism that would incentivize investment in “green light” priority areas and prevent investment in “red light” areas, which will be identified by financial regulators and the Cybersecurity Administration of China based on risks to the financial system and data security.[†]¹³⁶ The stated goals of the mechanism are to ensure capital markets serve overall national development objectives and “prevent capital from growing wildly.”¹³⁷ Numerous opinions published in state media sources suggest the red light would be aimed primarily at “platform monopolies,” referring to the consumer technology companies that provide a platform or marketplace connecting consumers with sellers or providers, such as e-commerce giant Alibaba.¹³⁸ Platform monopolies were targeted by regulatory action throughout 2021 and 2022. The CBIRC also noted in its 2022 work report that it would set up “traffic lights” to curb the use of funds by banks and insurers for “blind overleveraging,” financial monopolies and unfair competition, and unlicensed financial business.¹³⁹ The “traffic light” system would supplement existing levers the CCP uses to guide capital toward priority investments and maintain overall financial stability, including government guidance funds that blend state and nonstate capital to support investment in strategic technologies, and the national team, a group of brokerages China’s government has directed to buy up equities during market downturns.

*The CEWC is China’s preeminent annual economic conference, attended by top leadership from the CCP, the State Council, and the National People’s Congress. General Secretary Xi and Premier Li both attended the 2021 conference. *Xinhua*, “China Holds Key Economic Meeting to Plan for 2022,” December 10, 2021.

†As the CEWC does not formally publish any laws or regulations, the resulting “guidance” from the CEWC annual meeting is transmitted through Party and government internal communications, with key themes made public in limited readouts and propaganda.

Regulatory Tightening Eases, but Tech Sector Recovery Shaky

The Chinese government eased regulatory tightening against tech companies in 2022, though many of the previous year's new regulations came into effect in early 2022. Beginning in late 2020 and through 2021, CCP leaders launched a series of investigations, issued numerous penalties, and introduced new regulations targeting nonstate consumer technology and e-commerce companies.* Key drivers of this campaign included establishing state control over consumer data, containing tech firms' expansion into financial services, and ending e-commerce giants' anticompetitive practices.† In addition to securing data within China's borders, new regulations reflect Chinese policymakers' desires to better direct technological developments in China and control the expansion and influence of nonstate companies. The shift in the government's approach to a more predictable style of enforcement came as confidence in the Chinese economy was dimming from Zero-COVID lockdowns and slowing growth. In a clear move to ease investor concerns around stability, the Politburo announced easing on the tech sector in April 2022. Chinese officials later met with tech executives to assure them that the government would be taking a more predictable and consistent approach to regulating companies.¹⁴⁰ China's Vice Premier Liu He followed up the meeting with a public statement of support for the digital economy and its role in sustaining China's growth.¹⁴¹

Chinese tech company performance and continued confidence in the sector remain uncertain. Following the government's public assurances, U.S.-listed Chinese tech company valuations rose between 5.5 percent and 13.5 percent after the year-long downturn caused by regulatory investigations and fines.¹⁴² At the same time, in May 2022 Chinese ride-sharing company Didi Chuxing announced it would delist from the New York Stock Exchange and finally exited on June 10.¹⁴³ The company had been under intense pressure from Chinese regulators since its listing on the New York Stock Exchange in June 2021, when regulators also launched a cybersecurity investigation into the company and prohibited new downloads of the app in China.¹⁴⁴ Didi Chuxing has indicated it may relist on the Hong Kong Stock Exchange once the delisting process in the United States is complete.¹⁴⁵ Even for companies that have survived regulatory probes, reporting indicates that during the spring of 2022, platform companies also laid off large numbers of employees in response to regulatory and economic uncertainty.¹⁴⁶ In early July 2022, Chinese company valuations suffered again, dragging the

* For more on the campaign, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 1, "Year-in-Review: Economics and Trade," in *2021 Annual Report to Congress*, November 2021, 134–136.

† For example, in April 2021 China's financial regulators met with 13 nonstate technology firms, including embattled ride-hailing giant Didi Chuxing and Tencent, and signaled more stringent scrutiny of their financial businesses. Among other things, the regulators stated that companies must obtain licenses to provide financial services, cut "improper links" between their payment services and other financial products, and restructure their financial assets into holding companies to bring the businesses under proper supervision. Hu Yue and Han Wei, "China Orders 13 Tech Companies to Overhaul Fintech Operations," *Caixin*, April 30, 2021.

Hang Seng Tech Index down by as much as 3.7 percent after the State Administration for Market Regulation fined internet platforms Alibaba and Tencent for improper disclosure of prior transactions.¹⁴⁷ The drop demonstrated low investor faith and perceptions of an exceptionally unpredictable regulatory enforcement.

China's government has introduced new measures on data regulation and strengthened coordination on data governance between agencies. In late 2021 and early 2022, several new laws and regulations came into effect that limit the transfer of data and constrain companies' abilities to collect and use data. Although some of these new rules address consumer protection, they also reinforce China's mercantilist data strategy. While these policies affect all companies, foreign firms are likely to have the most difficulty in continuing to access China's market and Chinese consumers, as these data protection laws restrict cross-border data flows and technical functionality. March 2022 provisions on regulating algorithms broadly prohibit firms from using algorithms to "over-recommend, manipulate topic lists or search result rankings, or control hot search terms" as well as to "carry out acts influencing online public opinion."¹⁴⁸ Both prohibitions may be broadly interpreted by Chinese regulators and present significant risk to firms operating in the Chinese market. These restrictions can be particularly challenging for e-commerce companies as well as entertainment and social media platforms that rely on algorithms to boost popular products and content. Meanwhile, the Chinese government has emphasized the importance of data collection and processing for the development of key technologies that have significant commercial and national security implications. Between late 2021 and 2022, China released several technology-specific, five-year plans for smart manufacturing, robotics, national informationization, big data, and bioeconomy development.¹⁴⁹ These plans build on the 14th Five-Year Plan (2021–2025) and Long-Term Objectives for 2035 released in March 2021 and underscore the importance of these technologies for China's near- and long-term growth strategy. Each of these plans also emphasizes the role of data in the effective development of these technologies and the importance of data-driven applications.

U.S.-China Commercial Relations

U.S. businesses are reevaluating their engagement with China and investors are reducing their investment positions in China's financial markets. Although many U.S. firms remain attracted to what they believe are economic opportunities in China's market, developments in 2022 raised the risks and costs associated with engagement in China's economy. U.S. imports of Chinese goods remained robust in the first half of 2022, but U.S. firms were reluctant to deepen their long-term investments in the Chinese market. This uncertainty is driven chiefly by the consequences of the Zero-COVID policy for China's economy. Geopolitical tensions and regulatory misalignment with the United States on issues including auditing standards and forced labor protections have further contributed to a fraying of the bilateral trade and investment relation-

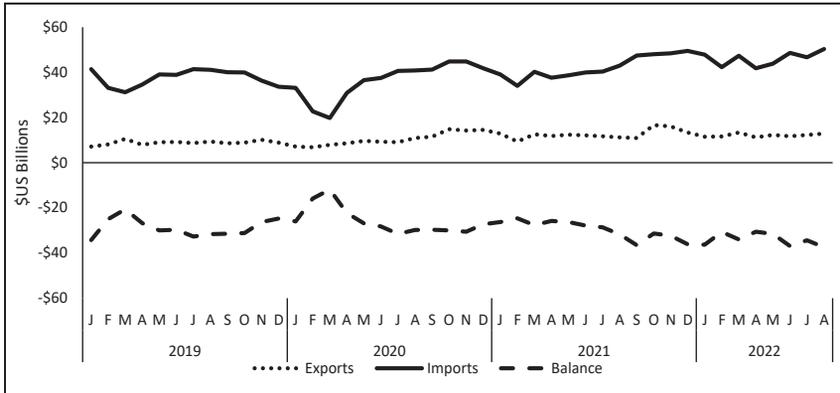
ship. The U.S. government is promoting efforts to mitigate supply chain vulnerabilities from Chinese sources and promote alternative trading arrangements, including the Indo-Pacific Economic Framework for Prosperity (IPEF).

Trade

Bilateral Trade Deficit Continues to Widen as Phase One Expires

The U.S. goods deficit with China continued to expand in 2022 as China structured its pandemic control measures to enable export industries to continue operating. In the first eight months of 2022, the U.S. goods trade deficit with China totaled \$271.9 billion, increasing by 24.2 percent year-on-year (see Figure 1).¹⁵⁰ This increase was led by U.S. imports from China, which rose through August by 17.8 percent to reach \$368.8 billion.¹⁵¹ Chinese local governments' support to the export sector even in the face of stringent pandemic control measures enabled Chinese producers to meet resilient U.S. demand. To keep factory lines open and production humming despite broader lockdowns, local authorities in manufacturing hubs such as Shenzhen, Dongguan, and Changchun allowed firms to use a "closed-loop" system.¹⁵² Under this system, workers at certain firms—including major Chinese battery manufacturer Contemporary Amperex Technology Ltd. (CATL)—could continue to work but had to confine themselves to the worksite to eliminate outside exposure to COVID-19.¹⁵³ These workers were forced to live in onsite dormitories or temporary housing, many of which lacked adequate amenities, such as beds.¹⁵⁴ In May 2022, the poor living and working conditions led hundreds of workers at a Shanghai factory of Quanta Computer, a Taiwan-owned supplier to Apple, to protest and clash violently with guards who were trying to keep workers in isolation.¹⁵⁵

China's Zero-COVID policies and rising inflation cooled overall demand for U.S. exports. Although the value of U.S. exports to China in the first eight months of 2022 increased 2.4 percent year-on-year, totaling \$96.8 billion, the total value of exports was inflated by rising commodity prices. Exports by volume moderated or declined, especially for agriculture products. The price of agriculture commodities rose sharply due to Russia's unprovoked invasion of Ukraine, higher global demand, and adverse supply factors, causing the value of U.S. agriculture exports to rise 17.0 percent year-on-year in the first half of 2022 despite export shipments falling 2.7 million tons, equivalent to a 9.3 percent decline.¹⁵⁶ Other major U.S. exports to China, including computer and electronic products, fell in value terms as China's declining industrial output and weak consumption slowed demand for inputs and finished goods.¹⁵⁷

Figure 1: U.S. Bilateral Trade with China, January 2018–August 2022

Source: U.S. Census Bureau, *Trade in Goods with China*, October 5, 2022.

The U.S. trade deficit in advanced technology products (ATP) widened as Chinese demand for U.S. exports weakened. Through August 2022, the U.S. trade deficit in ATP with China increased 15.1 percent year-on-year to \$73.7 billion, which is the largest deficit over the same period since 2018, when the United States and China began imposing tariffs amid heightened trade tensions.¹⁵⁸ U.S. imports of Chinese technology products rose 10.3 percent, while U.S. ATP exports to China declined by 1.7 percent.¹⁵⁹ The growth in the trade deficit was driven by increases in U.S. imports of Chinese information and communications technology and a fall in Chinese demand for U.S. advanced electronics products.¹⁶⁰ Biotechnology product imports from China, including pharmaceutical products,* also increased sharply, rising by 385.4 percent to reach \$1.8 billion.¹⁶¹ Purchases of immunological products containing monoclonal antibodies led this increase.†

The Office of the U.S. Trade Representative (USTR) signaled that tariffs serve as a source of leverage in bilateral negotiations with Beijing following China's failure to comply with the Phase One Economic and Trade Agreement. In an October 4, 2021, speech on U.S.-China economic and trade relations and the

*Pharmaceutical imports from China are subject to product safety risks because Chinese facilities frequently impede inspections by the U.S. Food and Drug Administration's (FDA) field office in China. Additionally, since the outbreak of COVID-19, the FDA has conducted far fewer inspections in China, with only 25 pre-approval, for-cause, and current good manufacturing practices (CGMP) surveillance inspections in fiscal year 2021, and 11 in fiscal year 2022 as of early July. In contrast, the FDA conducted an average of 165 inspections per year in China between fiscal years 2016 and 2019. The FDA has also been unable to implement a pilot program for unannounced foreign inspections of drug manufacturers in China due to COVID-19 lockdowns and travel restrictions. For more on China's pharmaceutical production and limitations on FDA inspection in China, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 3, "Growing U.S. Reliance on China's Biotech and Pharmaceutical Products," in *2019 Annual Report to Congress*; U.S. Government Accountability Office, *DRUG SAFETY: FDA Should Take Additional Steps to Improve Its Foreign Inspection Program*, January 2022, 20; U.S. Food and Drug Administration, *Resiliency Roadmap for FDA Inspectional Oversight*, May 2021, 3.

†The U.S. government has increased its procurement of antibody therapy treatments for COVID-19, including contracts for etesevimab, which is codeveloped by Eli Lilly and Shanghai Junshi Biosciences. U.S. Census Bureau, *USA Trade Online*, August 18, 2022; Sasha Pezenik and Cheyenne Haslett, "Government Nearly Exhausts Monoclonal COVID Treatment Funding with New Purchase," *ABC News*, June 30, 2022; Eli Lilly, "Lilly to Supply 614,000 Additional Doses of Bamlanivimab and Etesevimab to the U.S. Government for the Treatment or Post-Exposure Prevention of COVID-19," November 2, 2021.

future of the Phase One agreement, USTR Katherine Tai noted the Chinese government has “doubled down on its state-centered economic system” and does not have plans to address longstanding U.S. trade concerns.¹⁶² Ambassador Tai stated that China’s performance under the Phase One deal would serve as a starting point for negotiation with Beijing over its economic and trade practices.¹⁶³ The Chinese government failed to meet its purchase commitments under the terms of the agreement. According to Chad Bown, senior fellow at the Peterson Institute for International Economics, China bought only 57 percent of the additional \$200 billion of covered U.S. goods China committed to buy under the agreement.¹⁶⁴ China began paring back its purchases of U.S. agriculture products in the first half of 2022, after the Phase One deal commitments expired.¹⁶⁵

The tariffs imposed under the Trump-era Section 301 investigation remain in place, though inflation has increased pressure on the Administration to remove them. There is clear disagreement among cabinet officials in the Biden Administration about the purpose and potential benefit of these tariffs. In June 2022, U.S. Secretary of the Treasury Janet Yellen said some tariff cuts “may be warranted” and that some of the tariffs serve “no strategic purpose.”¹⁶⁶ That same month, Ambassador Tai said the tariffs provide “significant leverage.”¹⁶⁷ Both officials have noted that cutting tariffs is not a “panacea” to addressing inflation.¹⁶⁸ USTR is currently conducting a review of tariffs on Chinese goods. Reporting from several outlets in early 2022 revealed that USTR was contemplating launching another Section 301 investigation into China’s subsidies, but no such investigation has been announced.¹⁶⁹

Finance and Investment

Economic Headwinds and Geopolitical Tensions Stem Foreign Portfolio Investment Flows

U.S. and foreign investor interest in China’s financial markets moderated in 2022 due to China’s slowing economic growth, refusal to condemn Russia, and declining interest rates and currency value. After years of surging U.S. and foreign investor participation in China’s equity and bond markets,* foreign investment tightened as capital outflows began to accelerate in 2022 due to uncertainty plaguing China’s markets. Weakening economic growth and increasing political risk weighed on stock valuations, while the interest rate advantage narrowed for Chinese government bonds. In mid-March, analysts at JPMorgan signaled their caution toward investments in Chinese companies, describing shares of Chinese internet companies as “uninvestable.”¹⁷⁰ According to index provider EurekaHedge, between January and July 2022 hedge funds focused on China, Hong Kong, Macau, and Taiwan reported \$3.6 billion in net outflows—the largest drop in the dataset’s 15-year history.¹⁷¹ By contrast, the index showed net inflows of \$1.8 billion in 2021 and \$8.7 billion in 2020.¹⁷² The analysis was not universal on Wall Street, however, as some major banks, including

*U.S. holdings of Chinese equity and debt securities grew nearly twofold from \$387.9 billion in 2015 to \$1.14 trillion at the end of 2020, the latest year for which data are available from the U.S. Department of the Treasury. U.S. Department of the Treasury, *Treasury International Capital (TIC) System: Securities (C): Annual Cross-Border Portfolio Holdings*, December 30, 2021.

Bank of America and Goldman Sachs, advised clients to “buy the dip,” assuring U.S. investors that Chinese securities would recover quickly as soon as COVID-19 containment measures ameliorated.¹⁷³

U.S. fund managers pursue new opportunities in China’s private pension market. The Chinese government will pilot a private pension scheme, enabling foreign investors to enter China’s state-dominated pension system.* According to an April 21 circular from China’s State Council, workers participating in China’s basic pension schemes can join a new private pension scheme.†¹⁷⁴ Draft rules published by the China Securities Regulatory Commission (CSRC) in June 2022 state that mutual funds with at least \$7.5 million (RMB 50 million) of assets over the preceding four quarters will be eligible to participate in the scheme.¹⁷⁵ The launch of private pensions comes as slowing population growth strains China’s fragmented public pension system, which is largely managed at the local level rather than operating as a national system.¹⁷⁶ A 2019 report from the state-backed Chinese Academy of Social Sciences warned that China’s national urban enterprise employee basic pension insurance fund, which covers nearly half of individuals participating in a government-based pension scheme, will become insolvent by 2035.¹⁷⁷ Allowing foreign fund managers to invest in Chinese pensions enables the Chinese government to utilize foreign expertise in developing its pension management market and alternative savings outlets for Chinese households. This task is assuming increased urgency in 2022 because urban residents keep the majority of their wealth in China’s slumping property market and need alternative investments.¹⁷⁸ The private pension scheme initiative underscores how the Chinese government permits foreign participation in China’s financial markets when it suits the national interest. Four U.S. firms have received approval to establish wealth management and/or mutual fund businesses: BlackRock and Goldman Sachs for majority-owned wealth management joint ventures in May 2021; Neuberger Berman Group for a wholly owned mutual fund business in September 2021; and Fidelity and BlackRock for wholly owned mutual fund businesses in August 2021 and August 2020, respectively.¹⁷⁹ While details on how the scheme will operate are scant, foreign asset managers are already making moves to participate in a market slated to grow from \$300 billion currently to at least \$1.7 trillion by 2025.¹⁸⁰ U.S. asset manager BlackRock plans to launch a pilot pension wealth management product in Chengdu and Guangzhou later this year, while JPMorgan has applied for regula-

*China has a multilayered pension system. The first layer consists of several public pension schemes, some mandatory, such as the Basic Old Age Insurance and Public Employee Pension, and some voluntary, such as the Urban Resident Pension and New Rural Resident Pension. These schemes provide basic social security to all residents when they retire, regardless of whether they were employed. The second layer consists of employer-sponsored annuity programs, which employers voluntarily provide as a supplement to the public pension scheme. The third and most underdeveloped layer is the household savings-based annuity insurance policies, or private personal pension funds. According to analysts at Chinese brokerage Industrial Securities Co. Ltd., these personal pension funds accounted for less than 0.01 percent of China’s total pension funds in 2020. Zhang Yukun. “Five Things to Know about China’s Private Pension System,” *Caixin*, April 21, 2022; Hanming Fang and Jin Feng, “The Chinese Pension System,” in Marlene Amstad, Guofeng Sun, and Wei Xiong, eds., *The Handbook of China’s Financial System*, Princeton University Press, 2020, 421–443.

†According to Chinese state news agency Xinhua, 1.025 billion people were covered by China’s basic pension scheme as of November 2021. *Xinhua*, “National Basic Pension Insurance Participation Amount Grows to 1.025 Billion” (全国基本养老保险参保人数达10.25亿人), February 1, 2022. Translation.

tory approval of its 100 percent takeover of China Investment Fund Management, its onshore fund manager and joint venture partner with Shanghai International Trust Company.¹⁸¹

China Takes Steps to Comply with U.S. Listing Standards

U.S. and Chinese regulators reached an agreement allowing the Public Company Accounting Oversight Board (PCAOB) to inspect auditors of U.S.-listed Chinese firms, which may resolve a decades-long impasse and potentially prevent the mass-delisting of Chinese issuers from U.S. exchanges.¹⁸² Following the SEC's implementation of the Holding Foreign Companies Accountable Act (HFCAA),* on August 26, 2022, the CSRC and China's Ministry of Finance signed a Statement of Protocol for U.S. inspections of auditors based in China and Hong Kong. In September 2022, PCAOB inspectors traveled to Hong Kong and began reviewing the audit work done by PricewaterhouseCoopers Hong Kong and KPMG China for U.S.-listed issuers under the conditions of the framework deal.¹⁸³ PCAOB personnel are reportedly traveling to Hong Kong instead of the Mainland due to uncertainty over travel restrictions and adverse quarantine conditions,† meaning that U.S. investigators are relying on Chinese regulators to provide access to the work papers and personnel of auditors located in mainland China.‡¹⁸⁴ The text of the agreement has not been publicly released and the Commission has not reviewed the document.§

Despite the agreement, PCAOB investigators may still be unable to access the material they require to perform their oversight activities, a gap that would likely lead to more delistings. According to the Sarbanes-Oxley Act, the PCAOB must review complete audit papers of publicly traded companies on U.S.

*The HFCAA was signed into law on December 18, 2020. The law requires certain issuers of securities to establish that they are not owned or controlled by a foreign government. Issuers must make this certification if the PCAOB is unable to inspect an issuer's audit work papers. Securities from issuers whose audit work papers cannot be inspected by the PCAOB for three consecutive years are then prohibited from being traded on U.S. exchanges. On December 2, 2021, the SEC adopted amendments to finalize rules to implement strengthened disclosure requirements for U.S.-listed Chinese companies as directed in the HFCAA. Those companies whose auditors cannot be inspected by the PCAOB are then designated "Commission-Identified Issuers" and are required to disclose the percentage of their shares owned by a government entity, whether a government entity has a controlling financial interest in the company, the name of each CCP official who is a member of the company's board of directors, and whether the company's articles of incorporation contain any charter of the CCP. If a company is designated as a Commission-Identified Issuer for three consecutive years, trading of its securities on U.S. exchanges becomes prohibited.

†For over two years, Chinese COVID-19 restrictions on foreign travel have hampered the ability of multiple U.S. agencies to carry out on-the-ground inspections and ensure regulatory compliance. The Department of Commerce's Bureau of Industry and Security has also been unable to perform its usual inspections of verified Chinese end users of controlled U.S. exports due to China's COVID-19 restrictions. As noted above, the FDA is also unable to implement a pilot program for unannounced foreign inspections of Chinese drug manufacturers. Judith McMeekin, "Webinar with Dr. Judith McMeekin, Director of the Office of Regulatory Affairs," *Alliance for a Stronger FDA*, April 6, 2022, 21; U.S. Government Accountability Office, *Drug Safety: FDA Should Take Additional Steps to Improve Its Foreign Inspection Program*, January 7, 2022; Jeremy Pelter, oral testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Relations in 2021: Emerging Risks*, September 8, 2021, 173.

‡Neither the PCAOB nor the CSRC have commented on whether the agreement will enable PCAOB personnel to travel to mainland China in the future. Qianer Liu and Tabby Kinder, "Alibaba and Yum China First in Line for Audit Checks by U.S. Regulator," *Financial Times*, August 31, 2022; U.S. Embassy & Consulates in China, *Fact Sheet—PCAOB Agreement with China on Audit Inspections and Investigations*, August 27, 2022.

§The PCAOB has signed cooperative arrangements with 26 foreign audit regulators to facilitate U.S. regulatory inspections, and it has released the text for all but five of these agreements. It has not published the Statement of Protocols signed with Australia, Canada, China, South Korea, and Singapore. U.S. Public Company Accounting Oversight Board, *PCAOB Cooperative Arrangements with Non-U.S. Regulators*, 2022.

exchanges.¹⁸⁵ The audit agreement does not permit any redactions within audit papers, although the PCAOB has agreed to confidentiality measures when reviewing sensitive data and personal identifiable information.¹⁸⁶ The CSRC indicated, however, that Chinese laws and regulations may require it to use “specialized handling procedures” for sensitive information.¹⁸⁷ The framework may permit agencies like China’s Ministry of Finance and the Cyberspace Administration of China to review information requested before it is provided to the PCAOB, potentially limiting the completeness of its inspection.¹⁸⁸ In addition, the CSRC’s April 2022 draft revisions to confidentiality rules governing offshore listings of Chinese companies stipulate that Chinese firms must first submit in writing an overview of information that they will make available to foreign audit regulators to the CSRC for approval.¹⁸⁹ While these rules are not yet in effect, they underline the priority the CCP places on control over the transmission of data collected by Chinese companies. SEC Chair Gary Gensler stated that the PCAOB will determine by December 2022 whether China has denied it the level of access agreed to in the deal, which could lead to delistings of noncompliant Chinese companies in accordance with the HFCAA.¹⁹⁰

Until the PCAOB rules on the compliance of Chinese regulators with the audit deals, Chinese companies that are non-compliant with the HFCAA face an uncertain future. As of September 30, 2022, the SEC designated 164 Chinese companies as Commission-Identified Issuers, including 33 issuers trading over-the-counter or that have no substantial operations in China.¹⁹¹ The 131 noncompliant Chinese companies listed on major U.S. exchanges had a total market capitalization of \$760.2 billion on September 30, 2022.*¹⁹² Should the PCAOB determine that it is not granted full access in accordance with the deal, Chinese companies that remain noncompliant with the HFCAA will likely preemptively delist, rather than face forced delisting under the HFCAA. A number of companies that have been designated as Commission-Identified Issuers—including Alibaba, the largest Chinese company on U.S. exchanges by market capitalization—have applied for primary listings† on the Hong Kong Stock Exchange.¹⁹³ This approach could

*In total, as of September 30, 2022, 262 Chinese firms are listed on major U.S. exchanges, with a combined market capitalization of \$776 billion. U.S.-China Economic and Security Review Commission, *Chinese Companies Listed on Major U.S. Stock Exchanges*, September 30, 2022.

†Chinese issuers listed on U.S. stock exchanges can list on the Hong Kong Stock Exchange by applying for either a secondary listing or a dual-primary listing. In a dual-primary listing, the Chinese company must comply with all the regulatory requirements of both the U.S. exchange and the Hong Kong Stock Exchange. The Hong Kong Stock Exchange applies less stringent regulatory requirements for companies under a secondary listing, but a qualifying U.S. exchange (the New York Stock Exchange or the Nasdaq) must remain the main trading market for the issuers’ shares. If the Chinese issuer’s securities are delisted from U.S. exchanges while it holds secondary-listing status on the Hong Kong Stock Exchange and does not otherwise satisfy the requirements for a primary listing, it may also be delisted in Hong Kong. Prior to 2022, Alibaba and other overseas-listed issuers in high-tech sectors that utilize certain dual-class share structures and/or variable interest entities were not eligible for primary listings on the HKEX, but they could apply for secondary listings. The HKEX revised the rules for overseas issuers seeking to apply for dual listings to permit these ownership structures, and the amendments took effect on January 1, 2022. Kelsey Cheng, “Why U.S.-Traded Chinese Firms Are Choosing Dual Primary Listings in Hong Kong,” *Caixin Global*, September 6, 2022; Hong Kong Stock Exchange, “Change of Listing Status from Secondary Listing to Dual-Primary or Primary Listing on the Main Board,” HKEX GL 112-22, January 2022, 18; Skadden, Arps, Slate, Meagher & Flom LLP, “HKEX Finalizes New Rules on Listings for Overseas Issuers,” December 14, 2021; Gordon Tsang and Rain Huang, “Homecoming Listings of China Concept Stocks on the HKEX: The Three Pathways,” *Hong Kong Lawyer*, August 2020.

create a pathway for investors to convert American Depository Receipts (ADRs) of delisted Chinese issuers into shares of their Hong Kong listings.*¹⁹⁴

Chinese companies that control data and information deemed sensitive by the CCP may be compelled to delist by China's government in spite of the audit deal. On August 12, 2022, five Chinese SOEs† announced their plans to delist their ADRs from the New York Stock Exchange.¹⁹⁵ Although the SOEs cited the low turnover in the United States and “high administrative burden and costs” as the reasons for delisting, the coordination of the delistings on the same day suggests that China's Ministry of Finance directed these companies to do so, likely due to the possibility of an audit deal and the sensitivity of information they oversee.¹⁹⁶ More Chinese companies that control information and data the CCP deems sensitive may be compelled to delist to shield their financial documents from U.S. regulators.¹⁹⁷ Because the PCAOB is tasked with retrospectively investigating fraud by U.S. issuers, investigations could require Chinese regulators to provide access to the auditors and work papers for Chinese issuers even if they have voluntarily delisted from U.S. exchanges.¹⁹⁸

Foreign Direct Investment

U.S. direct investment into China stalls as multinational companies face an uncertain business environment in China. According to preliminary data compiled by Rhodium Group, U.S. foreign direct investment (FDI) transactions in China fell to their lowest level since 2004, with U.S. companies investing \$8.5 billion into new projects, expansions, and acquisitions in China.¹⁹⁹ The value of U.S. FDI flows into China in 2021 remained below the 2020 total of \$8.7 billion, when the COVID-19 pandemic caused a sharp decline in investment activity (see Table 1).²⁰⁰ The multiyear slowdown in FDI underlines a reevaluation of China as an investment priority for U.S. multinational businesses.

Table 1: Value of U.S. FDI in China (2019–2021)

Year	U.S. FDI transactions in China	Year-on-year change
2019	\$13.1 billion	4.8 percent
2020	\$8.7 billion	-35.1 percent
2021	\$8.5 billion	-2.3 percent

Note: FDI data compiled by Rhodium Group includes completed transactions of over \$1 million and encompasses acquisitions and greenfield investment with over 10 percent ownership stakes and the expansion of existing FDI operations. Thilo Hanemann et al., “Two-Way Street: 2021 Update U.S.-China Investment Trends,” *Rhodium Group*, May 2021, 36.

Source: Various.²⁰¹

*ADRs are certificates issued by U.S. banks that trade in the United States but represent shares of a foreign stock. Most foreign issuers prefer ADRs because they are easier to transfer and manage than foreign shares directly listed on U.S. exchanges. U.S. Securities and Exchange Commission, *Investor Bulletin: American Depository Receipts*, August 2012.

†The five Chinese SOEs are China Petroleum and Chemical Corporation (Sinopec), China Life Insurance, Aluminum Corporation of China (Chalco), PetroChina, and Shanghai Sinopec Petrochemical Company. Another SOE, Huaneng Power International, delisted on July 7, 2022; These SOEs remain listed on the Shanghai Stock Exchange. *Reuters*, “Five Chinese State-Owned Companies, under Scrutiny in U.S., Will Delist from NYSE,” August 12, 2022; Huaneng Power International Inc., “Announcement of Intention to Delist American Depository Shares from the New York Stock Exchange and Intention to Deregister and Terminate Reporting Obligations under the U.S. Securities Exchange Act,” June 21, 2022.

U.S. firms indicate plans to moderate their operations in the Chinese market as Beijing’s stringent pandemic control measures upset the operating environment. In testimony before the Commission, Harvard Business School professor Willy Shih observed that the Chinese government’s Zero-COVID policy has injected a “major degree of uncertainty” into the business environment and cooled multinational firms’ commitment to operating in China.²⁰² Business survey data bear out Dr. Shih’s observation. According to a “flash survey” conducted by business chamber American Chamber of Commerce (AmCham) in China from April 29 to May 5, at the height of an extensive lockdown in Shanghai, half of the 121 responding U.S. companies said they already plan to delay or decrease investment in China as a result of the Chinese government’s pandemic control measures.²⁰³ Just over half of respondents indicated they would continue to pare back investment if pandemic controls persisted into 2023.²⁰⁴ In its separate 2022 Business Climate Survey, an annual review of the operating environment facing U.S. firms in China, AmCham China member firms underscored their increased concern with sporadic pandemic controls: “inconsistent/unclear laws and/or regulations and enforcement” became U.S. firms’ second-biggest challenge in 2022, up from the third spot in 2021 (see Table 2).²⁰⁵ U.S. firms are not alone in reconsidering their exposure to the Chinese market. According to an EU Chamber of Commerce in China survey conducted at the end of April, nearly one in four European firms operating in China are considering shifting production out of the country.²⁰⁶

Table 2: Top Five Challenges Facing U.S. Businesses in China, AmCham China 2022 Business Climate Survey Report

2022 Business Climate Survey Rank	2022 Business Climate Survey Challenge	2021 Business Climate Survey Rank
1	Rising tensions in U.S.-China relations	1
2	Inconsistent/unclear laws and/or regulations and enforcement	3
3	Rising labor costs	2
4	Regulatory compliance risks	6
5	Concerns about data security	5

Source: AmCham China, “2022 American Business in China White Paper,” May 2022, 8. <https://www.amchamchina.org/wp-content/uploads/2022/05/WP2022-Final.pdf>.

China’s politicized regulatory environment is forcing some U.S. businesses to terminate their operations in China. According to the AmCham China survey, an increasing number of firms cited “regulatory compliance risks” as a top challenge.²⁰⁷ In July 2022, the multinational automotive corporation Stellantis announced it would terminate its joint venture with Guangzhou Automobile Group that produces and distributes Jeep vehicles for the

Chinese market.*²⁰⁸ Stellantis CEO Carlos Tavares stated that the decision was made due to the “growing political interference in the way we do business as a western company in China.”²⁰⁹ U.S.-run web service providers, including Airbnb, Amazon’s Kindle, and Yahoo!, have also stopped operating in China since 2021, when China began implementing new cybersecurity laws that increase government control over data transfers and companies’ use and collection of data.²¹⁰ An increasing number of U.S. manufacturers are pursuing “China + 1” strategies to move portions of their manufacturing processes outside of China.²¹¹ (For more on China’s position in multinational firms’ supply chains, see Chapter 2, Section 4, “U.S. Supply Chain Vulnerabilities and Resilience.”)

China’s External Economic Relations and Diplomacy

China’s economic outreach to other countries continued to slow in 2022. Although this slowdown has occurred with both developing and developed countries, the nature of the slowdown differs. China has continued to slow its lending to many developing countries, even as it attempts to extend its economic influence among these countries through efforts such as the newly announced Global Development Initiative. Meanwhile, China’s economic relations with advanced economies have continued to experience setbacks. Developed countries have shown increasing awareness of the risks of economic overreliance on China and increasing willingness to push back against the Chinese government’s use of economic coercion, particularly its punishment of Lithuania for allowing Taiwan to set up a de facto embassy in Vilnius. Russia’s unprovoked invasion of Ukraine has also affected China’s external economic policies, as Beijing has sought to avoid running afoul of economic sanctions on Russia while simultaneously searching for ways to lessen its own vulnerability to financial sanctions and other economic policy responses from the United States and its partners.

Lending to Developing Countries Slows, but Debt Problems Persist

Beijing’s lending to developing countries has slowed down sharply compared with pre-pandemic levels. While the Chinese government does not publish official data on China’s overseas lending, research by outside experts has shown a considerable slowdown in different regions. According to the Inter-American Dialogue’s China-Latin America Finance Database, in both 2020 and 2021 Chinese policy banks did not provide any lending to countries in Latin America and the Caribbean, down from \$1.9 billion in 2019.²¹² Similarly,

*Earlier in 2022, Stellantis announced intentions to increase its stake in the joint venture from 50 to 75 percent, following China’s government’s removal of a cap on foreign ownership in passenger vehicle joint venture at the start of 2022. In February 2022, BMW also paid \$4.2 billion to increase its 50 percent stake with troubled Brilliance China Automotive Holdings Ltd. to 75 percent. In a September 2, 2022, regulatory filing, Hong Kong-listed Brilliance revealed its state-owned parent Huacheng Automotive Group Holdings Co. Ltd conducted illegal transfers and guarantees amounting to \$7.7 billion (RMB 52 billion) from Brilliance and its subsidiaries without approval from the company’s board of directors or notification of the company’s shareholders. An Min and Guo Yingzhe, “\$1.2 Billion Sucked Out of BMW’s Chinese Partner through ‘Ghost’ Transactions,” *Caixin Global*, September 6, 2022. Peter Campbell, “Boss of Carmaker Stellantis Warns of Growing China Interference in Business,” *Financial Times*, July 29, 2022.

the Boston University Global Development Center's Chinese Loans to Africa Database recorded \$1.9 billion in loans to Africa in 2020, down from \$8.2 billion in 2019.²¹³ While comprehensive data for 2022 are not yet available, comments from developing countries suggest China's lending has continued to slow down. In February 2022, Rotimi Amaechi, the transport minister of Nigeria, said the Nigerian government was seeking money from European lenders because "the Chinese are no longer funding."²¹⁴

Even as China's new lending has slowed down, obligations under existing loans have placed a strain on developing countries' finances. This effect has been exacerbated by the expiration of COVID-related debt relief. According to the World Bank, of the \$35 billion in debt service payments due from the world's 74 lowest-income countries in 2022 to bilateral and private sector lenders, \$13.1 billion is due to Chinese lenders, with bilateral debt to all other countries accounting for \$8.6 billion.* In August 2022, the Kenyan government disclosed that its debt service payments to Chinese lenders for the fiscal year from July 2021 to June 2022 totaled \$641.2 million (73.5 billion Kenyan shillings), an increase of 135.1 percent from the previous fiscal year.†²¹⁵ The Chinese government's historical unwillingness to significantly renegotiate debt terms with borrowing countries has also led to delays in debt relief from international financial institutions, which often require recipient countries to restructure debt owed to other creditors. For example, in April 2021 Suriname reached a deal with the IMF to receive a \$690 million loan in exchange for debt restructuring and economic reforms.²¹⁶ Disbursements from the loan were delayed until late 2021, reportedly due in part to China Exim Bank's refusal to renegotiate approximately \$1 billion in debt owed to it by Suriname.‡²¹⁷ The Chinese government's reluctance to renegotiate its debt has also contributed to Sri Lanka's ongoing economic and political crisis. (For more on Sri Lanka's debt crisis, see "Chinese Lending to Sri Lanka Exacerbates Ongoing Financial Crisis" in Chapter 3, Section 3, "China's Activities and Influence in South and Central Asia.") In August 2022, Chinese Foreign Minister Wang Yi announced the Chinese government would cancel the debt of 23 interest-free loans to 17 African countries that had matured by the end of 2021, without specifying the countries or the amount of the loans.²¹⁸ According

*A further \$13.4 billion is due to private sector lenders. Shabtai Gold, "China Is Owed 36% of Poor Countries' Debt Payments in 2022: World Bank," *Devex*, January 19, 2022.

†Payments to China accounted for 72 percent of the Kenyan government's \$842 million (102.1 billion Kenyan shillings) in bilateral debt service payments from July 2021 to June 2022. The Kenyan government's debt service to multilateral lenders over the same period amounted to \$42 million (51 billion Kenyan shillings), while debt service to commercial lenders totaled \$1.3 billion (152.3 billion Kenyan shillings). As of August 2022, Kenya's total external public and publicly guaranteed debt stands at \$36.4 billion, of which \$6.8 billion is bilateral debt to China. Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = 114.6 Kenyan shillings. Kenya's National Treasury, *Quarterly Economic and Budgetary Review*, August 2022, 25–27; Kenya's National Treasury, *Quarterly Economic and Budgetary Review*, May 2022, 25–27.

‡The IMF began disbursements in December 2021, despite the fact that Suriname had not reached an agreement with China or India. In general, the IMF does not allow disbursements to be made to a country that remains in arrears to its creditors, though such lending is allowed in limited circumstances. In September 2022, Gerry Rice, the director of the communications department for the IMF, cited negotiations with China and India as part of the work that needed to be done in order to get the IMF's Suriname program "back on track." International Monetary Fund, "Transcript of IMF Press Briefing," September 15, 2022. International Monetary Fund, "Suriname: Request for an Extended Arrangement under the Extended Fund Facility-Press Release," December 23, 2021.

to a range of estimates by Boston University's Global Development Policy Center, the value of the loans could not have exceeded \$609.6 million and was likely close to \$200 million.²¹⁹ The Global Development Policy Center noted that interest-free loans such as these account for only 1 percent of China's loan commitments to Africa between 2000 and 2020.²²⁰

In 2022, the Chinese government cochaired the creditor committee as part of the G20's efforts to restructure Zambia's debt, signaling a greater willingness to participate in multilateral debt relief efforts. Zambia, the first country to default in the wake of the COVID-19 pandemic, had a debt burden of approximately \$32 billion at the end of 2021, of which \$17 billion was owed to external creditors.²²¹ Debt to China accounted for approximately one-third of this external debt, according to Zambian government data.²²² In May 2022, Zambia's president announced that France and China agreed to cochair a creditors' committee to renegotiate the country's external debt, with the first meeting occurring in June 2022.²²³ According to a French official, debt relief for Zambia was delayed due to China's relative inexperience in coordinating the process as well as disagreement between Chinese agencies: while the PBOC was reportedly prepared to move ahead, China's Ministry of Finance was wary of "setting a costly precedent" for other countries by accepting significant losses on its Zambian debt.²²⁴ In July, Zambia's creditors' panel released a statement pledging to renegotiate the country's debt, paving the way for a \$1.4-billion IMF bailout package that had been agreed to in December 2021, conditional on Zambia's ability to reduce debt to sustainable levels.²²⁵ Shortly before reaching this agreement with the creditors' panel, the Zambian government announced the cancelation of \$2 billion in undisbursed loans from external creditors, including \$1.6 billion in loans from Chinese creditors.²²⁶

Outreach Efforts to Developing Countries Encounter Mixed Success

While China's lending activity has slowed down, the Chinese government has nevertheless continued to promote itself as a key development and economic partner. At a speech before the UN General Assembly in September 2021, General Secretary Xi proposed a "Global Development Initiative" whose aims included "foster[ing] global development partnerships that are more equal and balanced, forg[ing] greater synergy among multilateral development cooperation processes, and speed[ing] up the implementation of the UN 2030 Agenda for Sustainable Development."^{*} Chinese state media have likened the Global Development Initiative to the Global Security Initiative proposed by Xi in April 2022. (For more on the Global Security Initiative, see Chapter 3, Section 1, "Year in Review: Security and Foreign Affairs.") Specifics of the Global Development Initiative remain unclear. According to Yu Jie, senior

^{*}The UN 2030 Agenda for Sustainable Development is a resolution adopted by all UN members in 2015. The resolution contains 17 "sustainable development goals," including ending poverty in all forms, achieving gender equality, ensuring sustainable consumption and production patterns, and ensuring access to affordable, reliable, sustainable, and modern energy for all. United Nations General Assembly, "Transforming Our World: The 2030 Agenda for Sustainable Development," October 21, 2015.

research fellow on China at Chatham House, Beijing likely hopes to use the initiative to supplement, though not replace, its signature Belt and Road Initiative. In particular, according to Dr. Yu, the Global Development Initiative could focus on digital infrastructure and co-financing projects with international financial institutions while acting as a means for Beijing to influence development assistance to the “Global South.”²²⁷ In January 2022, China’s mission to the UN launched the Group of Friends of the Global Development Initiative, a platform within the UN, to implement the initiative.²²⁸ The Chinese government’s promotion of the Global Development Initiative has led to concerns it could be used as part of Beijing’s ongoing efforts to undermine widely accepted development norms that emphasize human rights as well as economic progress.²²⁹

Reaction among developing countries to the Chinese government’s most recent outreach efforts has been mixed. Chinese state media and officials have cited international support for the Global Development Initiative. According to Foreign Minister Wang, “More than 100 countries have expressed their support for the [Global Development Initiative], and more than 50 countries have joined the Group of Friends of the Global Development Initiative.”²³⁰ Despite these claims of widespread support, several other notable efforts by the Chinese government to further economic integration with certain countries have met with less enthusiastic responses from other countries:

- In June 2022, leaders of ten Pacific island countries rejected China’s draft “Common Development Vision,” a proposal that called for cooperation across a range of political, strategic, and economic issues. The document included a proposal for a regional free trade area and encouraged the China-led Asian Infrastructure Investment Bank to engage more in the region.²³¹ In rejecting the proposal, Pacific island leaders voiced concern that agreeing to the deal could spark a larger confrontation between China and other countries active in the Pacific.²³² Despite their rejection of the proposed deal, however, some Pacific island countries continue to pursue economic deals with China. In August 2022, the Solomon Islands signed a deal to borrow approximately \$67 million (RMB 448.9 million) from China Exim Bank to fund the construction of 161 mobile phone towers built by Chinese telecommunications giant Huawei.²³³ The deal marks the first time the Solomon Islands government has borrowed money from a major Chinese lending institution and has added to concerns about debt in Pacific island countries. According to World Bank and IMF figures, seven Pacific island countries—Kiribati, the Marshall Islands, Micronesia, Papua New Guinea, Samoa, Tonga, and Tuvalu—are at high risk for overall and external debt distress. Additionally, the Solomon Islands and Vanuatu are at moderate risk for overall and external debt distress.²³⁴ In some of these countries, a significant portion of this debt is owed to China.*²³⁵

*For instance, Tonga’s external debt accounts for more than 35 percent of its GDP, and two-thirds of this debt is owed to China Exim Bank. In his testimony before the Commission, Derek Grossman, senior defense analyst at the RAND Corporation, said that highly indebted Pacific island countries could “make some trade-offs with China in the future to sustain the level of engagement they have with the Chinese.” Derek Grossman, oral testimony for the U.S.- China

- At the BRICS* summit in June 2022, China’s Vice Minister of Commerce Wang Shouwen proposed a free trade bloc among the five BRICS countries.²³⁶ The summit’s final communique did not include any mention of the free trade proposal, however.²³⁷ India’s government has been particularly reluctant to join any trade agreements with China, and since 2020 it has been taking increasing steps to restrict the extent of its economic ties to China. (For more, see “India Attempts to Reduce Economic Reliance on China” in Chapter 3, Section 3, “China’s Activities and Influence in South and Central Asia.”)

China Encounters Continued Pushback from Developed Countries

In 2022, the Chinese government’s growing use of economic coercion saw continued pushback from other countries. Over the past several years, Beijing has shown increasing willingness to use economic measures to punish countries that do not adhere to the Chinese government’s preferred policies. One of the most notable instances of this economic coercion occurred with Lithuania, whose government announced in July 2021 that it would allow Taiwan to set up a representative office in Vilnius to serve as its de facto embassy.† Beijing retaliated by downgrading diplomatic ties with the country and placing restrictions on Lithuanian products, with Lithuanian exports to China falling by 91 percent year-on-year in December 2021.²³⁸ In response, a number of countries and organizations took measures to both support Lithuania’s economy and safeguard against further instances of Chinese economic coercion:

- In November 2021, the U.S. Export-Import Bank also signed a memorandum of understanding with Lithuania pledging \$600 million in export credits with a focus on manufacturing, renewable energy, and business services.²³⁹
- In December 2021, the European Commission published a proposal for an anti-coercion instrument, with potential tools including the suspension of tariff concessions, restrictions on FDI, and broader export controls.²⁴⁰ (For more, see Chapter 2, Section 2, “Challenging China’s Trade Practices.”)
- In January 2022, the Taiwan government announced a \$200 million fund to invest in Lithuania as well as a \$1 billion fund for joint projects between Lithuanian and Taiwan companies.²⁴¹

Economic and Security Review Commission, *Hearing on Challenges from Chinese Policy in 2022: Zero-COVID, Ukraine, and Pacific Diplomacy*, August 3, 2022; Taina Kami Enoka, “China Insists Tonga Loans Come with ‘No Political Strings Attached,’” *Guardian*, June 28, 2022.

* BRICS refers to five major developing economies: Brazil, Russia, India, China, and South Africa. The countries have held annual summits since 2009 (with South Africa joining in 2010).

† Taiwan maintains “representative offices” that function as de facto embassies in over 20 other European countries and more than 50 countries globally. These are generally called “Taipei representative offices,” using a naming convention similar to other subnational representative offices, like consulates, which typically use the name of the city they are located in. Following this convention is viewed as a way to avoid direct challenge to China’s unresolved claim that Taiwan is part of its sovereign territory and still allow Taiwan its own representation. By contrast, Taiwan’s office in Lithuania will be called a “Taiwan representative office,” implying the senior official is the “Taiwan Representative to Lithuania” and the counterpart Lithuanian in Taipei is the “Lithuanian Representative to Taiwan.” These titles are more akin to those used by ambassadors than consuls. Reid Standish, “Beijing’s Spat with Lithuania Sets the Stage for Shaky New Era of Europe-China Ties,” *Radio Free Europe Radio Liberty*, August 17, 2021.

- Also in January 2022, the EU filed a suit against China at the WTO alleging that its treatment of Lithuanian goods violated China's obligations under international trade agreements.²⁴² As of August 2022, there are no updates on the status of the WTO suit.

Policymakers from developed countries have also discussed the need to diversify supply chains away from China. In May 2022, for instance, South Korean President Yoon Suk-Yeol said South Korea needed to reduce the country's economic dependence on China by diversifying imports and forming supply chain alliances.²⁴³ Policymakers in some advanced economies have already begun to enact new provisions that would strengthen governmental oversight over supply chains. For example, in May 2022 Japan's government passed an economic security law that, among other provisions, requires policymakers to draw up resiliency plans for certain strategic resources.²⁴⁴ Shortly before the passage of the law, a Japanese government trade analysis found that Chinese goods had a greater than 50 percent share in 1,133 categories of Japanese imports, accounting for 23 percent of Japan's imports in 2019—a level of reliance on China nearly twice as high as that of the United States using the same measurement.²⁴⁵ (For more on efforts to reduce supply chain dependence on China, see Chapter 2, Section 4, "U.S. Supply Chain Vulnerabilities and Resilience.")

Russia's Unprovoked Invasion of Ukraine: Economic Lessons for China

China is attempting to walk a narrow middle path in its economic relations with Russia that supports the bilateral partnership without running afoul of wide-reaching sanctions regimes. Chinese officials continue to promote a narrative that blames the United States and NATO for Russia's unprovoked invasion of Ukraine, and China's Ministry of Commerce urged Chinese companies "not to submit to external coercion and make improper external statements." (For more on China's attempts to discredit the United States and NATO, see Chapter 3, Section 1, "Year in Review: Security and Foreign Affairs.") Several major Chinese technology firms have quietly backed out of the Russian market due to sanctions and export controls, including smartphone maker Xiaomi and personal computer manufacturer Lenovo.*²⁴⁶ Drone maker DJI also withdrew after reports that its drones had been used in the military conflict in Ukraine, issuing a rare public statement as it halted Russian sales.²⁴⁷ According to the U.S. Department of Commerce, by March Chinese laptop and telecommunications equipment exports to Russia declined by 40 percent and 98 percent month-on-month, respectively.²⁴⁸ Despite the precipitous decline in Chinese consumer technology exports to Russia, some Chinese technology services, such as ridesharing app Didi, are still also operating in Russia to maintain a show of support.²⁴⁹

*Xiaomi uses semiconductors from U.S. chip designer Qualcomm and U.S. chipmakers Qorvo and Skyworks Solutions, while Lenovo relies on Advanced Micro Devices and Intel's processors for its personal computing products. Both firms' businesses would be devastated if they were cut off from U.S. technology for selling to Russia. Debby Wu and Jenny Leonard, "U.S. Expects Chinese Tech Firms to Help Choke Off Russia Supply," *Bloomberg*, February 28, 2022.

China continues to trade with Russia, becoming its predominant trading partner and primary customer for now-discounted commodities like agricultural products and energy.

As other markets for Russian exports dry up amid broad-based sanctions on the Russian economy, China continues to provide Moscow with an economic lifeline by increasing its purchases of Russian energy and agricultural goods. With the market price of Russian exports declining, China has managed to purchase commodities from Russia at a discount and using RMB.²⁵⁰ Despite a brief decline following Russia's invasion of Ukraine, Chinese imports of Russian goods resumed by March 2022, and by August 2022 had increased 51.3 percent year-to-date compared to the same period in 2021, according to China's General Administration of Customs.²⁵¹

The Department of Commerce says it does not believe China is systematically supporting Russia's war effort, yet Chinese companies continue to export items to Russia that could assist its war effort. On June 28, the Department of Commerce added five Chinese companies to the Entity List for supplying controlled technologies to Russia's military.* The Department of Commerce also announced it had evidence that two Chinese companies already on the Entity List—both of which are subsidiaries of major Chinese defense Chinese Electronic Technology Group Corporation (CETC)—continued to supply technologies subject to export controls to the Russian military.²⁵² Overall Chinese exports to Russia had declined 17.4 percent year-on-year during Q2 2022, but Chinese exports of potentially dual-use items and materials to Russia have increased.²⁵³ Year-to-date exports of microchips to Russia more than doubled by May, while other electronic components like printed circuits also demonstrated double-digit growth.²⁵⁴ Chinese exports of other materials vital to Russian military production have also increased. After Australia halted aluminum oxide exports to Russia in March, citing its use in weapons development, Chinese aluminum oxide exports to Russia surged, reaching 153,000 metric tons in May 2022 versus 227 metric tons in May 2021.²⁵⁵

China sees the coordinated response to Russia's invasion as an example of what could happen if it intensified aggression against Taiwan.

Indicating that Chinese leaders may believe they could one day be the target of coordinated economic reprisals, the Chinese government ordered a "stress test" to study the impact of similar sanctions on the Chinese economy. According to reporting from the *Financial Times*, in April 2022 Chinese regulators from the PBOC, CSRC, and Ministry of Finance met with top domestic and

*In response to Russia's unprovoked invasion of Ukraine, the United States in coordination with its allies and partners added significant controls on the export and reexport to, and transfer within, Russia and Belarus of a multitude of previously uncontrolled items produced both in the United States and abroad. The Department of Commerce also added 322 entities to its Entity List for supporting the Russian military. The Department of Commerce's Bureau of Industry and Security implements and enforces export controls on the export, reexport, and in-country transfer of some less sensitive military items, commercial items that have both commercial and military or proliferation applications, and purely commercial items without an obvious military use. Exporters must apply for a license for goods depending on their technical characteristics, destination, end user, and end use. For more on export control reform, see Emma Rafaelof, "Unfinished Business: Export Control and Foreign Investment Reforms," *U.S.-China Economic and Security Review Commission*, June 1, 2021. Akin Gump, "U.S. Government Imposes Expansive, Novel and Plurilateral Export Controls against Russia and Belarus," March 8, 2022. U.S. Bureau of Industry and Security, *Export Controls Basics*, 2020. U.S. Department of Commerce, *Commerce Adds 71 Entities to Entity List in Latest Response to Russia's Invasion of Ukraine*, June 2, 2022.

foreign banks to assess exposure of Chinese overseas assets to U.S.-led sanctions.²⁵⁶ Using the Organization for Economic Cooperation and Development's Trade in Value Added (TiVA) database, Nikkei estimated that if the United States, EU, and Japan were to levy sanctions on China following an invasion of Taiwan, China would lose approximately \$1.34 trillion in export revenues while sanctioning countries would lose \$1.27 trillion.²⁵⁷ The report further noted that China would likely face a food crisis in such a scenario, as China relies upon the United States for 30 percent of its soybean imports, a key feedstock for Chinese pig farms.²⁵⁸ With a globalized economy that is still heavily dollar dependent, China is highly susceptible to foreign sanctions. At the same time, the breadth and depth of U.S. and U.S. allies and partners' sanctions on Russia would be far more difficult to achieve on China without significant disruption to many key supply chain networks due to the size and global integration of the Chinese economy. Despite the difficulty some may see in taking similar actions against China, these April impact studies suggest Beijing sees the potential exposure to sanctions and export controls as real. This perception is driving China even further to consider workarounds to the U.S.-led financial system and dependencies on foreign imports, including through promotion of RMB settlement in cross-border e-commerce and domestic innovation of genetically modified crops.²⁵⁹

China Attempts to Mitigate Its Exposure to Financial Chokepoints

China's imports are subject to two chokepoints in the international financial system: (1) the interbank communication system used by the vast majority of banks globally to process transactions, known as SWIFT; and (2) the U.S. dollar clearing system known as the U.S. Clearing House Interbank Payments System, or CHIPS.²⁶⁰ The United States can target Chinese transactions via either or both.

- **SWIFT:** SWIFT is a secure electronic messaging service used to coordinate payments between banks. It is a Belgium-based cooperative society collectively owned by its more than 11,000 member institutions.*²⁶¹ In part because of SWIFT's speed and security, it has become a dominant mechanism in international trade, processing 38 million messages per day and coordinating the transfer of trillions of dollars per year by 2020.²⁶² Removal from SWIFT is a significant impediment for banks coordinating major cross-border transactions, but less efficient workarounds such as encrypted telegrams and email may enable banks to continue conducting trade even after removal from SWIFT.†²⁶³

*SWIFT is collectively supervised by the European Central Bank and G-10 central banks (Belgium, Canada, France, Germany, Italy, Japan, Netherlands, UK, United States, Switzerland, and Sweden), and use of SWIFT in international sanctions requires political agreement across the overseeing countries. The Belgium Central Bank is the primary supervisor, while a board of directors exercises governance and oversight functions. The board of directors is composed of 25 independent directors whose nationality is determined by SWIFT's shareholder composition. SWIFT, "SWIFT and Sanctions." Henry Farrell and Abraham L. Newman, "Weaponized Interdependence: How Global Economic Networks Shape State Coercion," *International Security* 44:1 (2019): 42–79, 66–67. SWIFT, "SWIFT's Organization and Governance," 2022.

†Removal from SWIFT is not equivalent to being sanctioned. As a Belgium-based company, however, SWIFT must comply with EU and Belgian sanctions law.

Workarounds to using SWIFT would almost certainly be less efficient and secure, potentially leading to a fall in transaction volumes and increases in costs for each transaction.²⁶⁴

- **CHIPS:** CHIPS is a private sector system that facilitates large transactions denominated in dollars. For example, the vast majority of international oil sales are denominated in U.S. dollars regardless of the resources' origin or destination and are therefore subject to U.S. government intervention. Most international transactions are ultimately cleared in dollars by U.S. correspondent banks; even for transactions between two non-U.S. banks, foreign banks must comply with U.S. sanctions requests in order to access CHIPS.*²⁶⁵ If Chinese customers or banks were blocked from the system, they would face significant challenges purchasing bulk dollar-denominated commodities like oil.²⁶⁶

China's government has thus far been largely unsuccessful in bypassing U.S. influence over the financial chokepoints of global trade. While China's central bank has launched the Cross-Border Interbank Payment System (CIPS)† as an alternative for financial messaging and interbank payments, its network of participating institutions remains too limited for CIPS to be a tool to circumvent SWIFT altogether. According to the CIPS website, only 1,322 financial institutions participate in the network, with 545 of the institutions residing in China.²⁶⁷ In comparison, over 11,000 institutions participate in SWIFT.²⁶⁸ CIPS continues to face significant challenges as a potential replacement for SWIFT given the dollar's dominance as a global currency and because financial institutions currently using SWIFT have little incentive to participate in an alternative system.²⁶⁹

China Is Dependent on the U.S. Dollar for Energy Trade

China has no functional alternative to the U.S. financial clearing system to process transactions denominated in U.S. dollars. While China's government has attempted to denominate oil transactions in currency other than dollars, oil producers will likely resist de-dollarizing transactions given the historical abundance and reliability of the dollar.²⁷⁰ Further, China cannot fully secure its oil trade against foreign sanctions unless its oil exporters agree to conduct transactions denominated in RMB. Denominating energy transactions in euros, as

*Banks using FedWire or the Automated Clearing House (specifically the International ACH transactions, or IAT) to access the U.S. financial system must also comply with U.S. Office of Foreign Assets Control sanctions screening protocols. U.S. Office of the Comptroller of the Currency, Payment Systems, *Comptroller's Handbook*, October 2021, 8–12, 25. Karen Young, "How the US Uses the Dollar Payments System to Impose Sanctions on a Global Scale," *South China Morning Post*, August 25, 2020. *Economist*, "America's Aggressive Use of Sanctions Endangers the Dollar's Reign," January 18, 2020.

†CIPS is not a dedicated financial messaging service and currently partners with SWIFT for messaging. While serving as the founding director of the Brookings Institution's China Strategy Center, Rush Doshi noted, however, that "China is clearly investing in the ability for CIPS to act as a messaging system, allowing Beijing to bypass SWIFT entirely for interbank communications." He assessed that CIPS would not challenge SWIFT until it becomes better established. Mr. Doshi is currently director for China at the National Security Council. Rush Doshi, "China's Ten-Year Struggle against U.S. Financial Power," *National Bureau of Asian Research*, January 6, 2020.

China Is Dependent on the U.S. Dollar for Energy Trade—Continued

China and Russia agreed to do in a February 2022 30-year gas deal, continues to expose Chinese purchasers to European sanctions that deny Chinese banks access to the requisite euro-clearing system.²⁷¹ To date, the United States has not imposed sanctions on Chinese energy importers, though it has imposed secondary sanctions on China and Hong Kong-based entities for conducting energy trade with sanctioned countries, including sanction on four Hong-Kong based entities for facilitating oil purchases from Iran in August 2022.*²⁷² If the United States were to impose broad-based financial sanctions on Chinese entities akin to embargoes on North Korea and Iran, China would find it difficult to pay for energy imports. China's vulnerability to these financial chokepoints was made clear in February 2022 after Russia's unprovoked invasion of Ukraine, when Chinese oil importers announced a pause to new seaborne purchases of Russian crude oil following European banks' restrictions of commodity-trade finance and letters of credit against cargo originating in Russia.²⁷³

Whether the U.S. dollar retains its dominance in global oil sales, however, is currently being tested. In March 2022, the *Wall Street Journal* reported the governments of Saudi Arabia and China were actively discussing denominating some of their oil transactions in RMB.²⁷⁴ While Saudi Arabia has denominated its oil sales exclusively in dollars since 1974, it has previously threatened to accept other currencies as a means of political leverage against the United States.[†]²⁷⁵ In prior years, China's government has repeatedly sought to buy Saudi oil using RMB.²⁷⁶ While these efforts have not been successful, in 2022 Saudi Arabia's government signaled that it would consider denominating some oil sales in RMB, though as of July it has not taken any steps to do so. The Saudi Arabian riyal is pegged to the U.S. dollar, and contracting oil sales in the less stable, tightly controlled RMB could undermine the Saudi government's fiscal outlook.[‡]²⁷⁷

Still, China's government would face potentially prohibitive barriers to denominating its oil transactions with foreign firms in RMB. The RMB is currently uncompetitive as a global currency when compared to the dollar.²⁷⁸ Because the RMB

*As of September 27, 2022, the United States had imposed sanctions on 275 China and Hong Kong-based organizations under various sanctions programs. U.S. Department of Treasury Office of Foreign Asset Control, *Sanctions List Search*.

† In April 2019, Saudi Arabia threatened to sell its oil in non-U.S. dollar currencies in response to a bill being considered by Congress that would expose members of the Organization of Petroleum Exporting Countries (OPEC) to antitrust lawsuits. The bill, known as the No Oil Producing and Exporting Cartels Act (NOPEC), did not pass in 2019 and was later reintroduced in March 2021 by Republican Senator Chuck Grassley of Iowa. Dmitry Zhdannikov, Rania El Gamal, and Alex Lawler, "Exclusive: Saudi Arabia Threatens to Ditch Dollar Oil Trades to Stop 'NOPEC'—Sources," *Reuters*, April 4, 2019. U.S. Congress, "S.977—NOPEC," May 5, 2022.

‡ In 2021, Saudi Arabia sold about \$43.7 billion worth of oil to China while importing \$30.4 billion worth of goods from China. With oil exports to China alone exceeding total imports by \$13.3 billion, denominating a significant proportion of these transactions in RMB could expose Saudi Arabia to currency risk should the RMB significantly depreciate. China's General Administration of Customs via CEIC Database.

is subject to the Chinese government's strict capital controls, which restrict the flow of RMB into and out of the Chinese monetary system, it is less attractive as a global reserve currency.²⁷⁹ According to the Bank of International Settlement's 2019 triennial Central Bank Survey on Foreign Exchange, the RMB accounted for a mere 4.3 percent of over-the-counter conversion* while the dollar accounted for about 88.3 percent.²⁸⁰

*Because two currencies are involved in any conversion or settlement, the total sums to 200 percent. "Over the counter" refers to exchanges conducted directly between counterparties rather than mediated through an exchange. Chinese state media often tout alternative metrics of a currency's international prominence, such as trade settlement and payment receipts, for which the RMB's share of global transaction is much higher. However, in many cases these metrics double-count transactions between mainland entities and foreign counterparties that are intermediated through Hong Kong. Callan Windsor and David Halperin, "RMB Internationalisation: Where to Next?" *Reserve Bank of Australia Bulletin*, September 2018, 23.

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SECTION 2: CHALLENGING CHINA'S TRADE PRACTICES

Abstract

After many years of attempting to engage China and persuade it to abandon its distortive trade practices, it is clear this approach has not been successful. The United States has an opportunity to develop a new strategy based on building resilience against China's state capitalism and blunting its harmful effects rather than seeking to change it. With the WTO unable to introduce meaningful new rules and procedures, the United States can pursue approaches that advance its own national interests as well as cooperate with like-minded partners. A number of different policy options can support a future strategy.

Key Findings

- China has subverted the global trade system and moved further from the spirit and letter of its obligations under its WTO accession protocol. China's subsidies, overcapacity, intellectual property (IP) theft, and protectionist nonmarket policies exacerbate distortions to the global economy. These practices have harmed workers, producers, and innovators in the United States and other market-based countries.
- Having tried and failed to compel China to change its policies, the United States has begun to focus increasingly on defending themselves against market-distorting effects of China's policies. The United States can do so by following two concurrent paths: first, it can build its ability to understand and monitor China's trade policies and mitigate their harmful impact through a variety of trade remediation tools and interventions; second, it can coordinate its defensive policies with those of other countries that face similar challenges.
- Years of paralysis and inadequate rules on nonmarket actors have shown that the WTO cannot adequately address the challenges stemming from China's practices. Where the WTO has not succeeded in introducing new rules or combating the economic threat of these practices, the United States and its allies may be able to create new fora of collaboration along discrete topics and sectors.
- The current ability of the United States to overcome the scale and scope of China's harmful policies is undermined by the lack of a coherent strategy and fragmented authorities to mobilize resources, coupled with a deficiency in new tools to address economic injury. The United States is also impeded by its self-im-

posed barriers to employing and underutilization of available tools and its difficulties in data sharing and analysis.

- Beijing's unrelenting economic manipulation and growing willingness to weaponize its economic position are prompting market-based economies to seek new and alternative frameworks for collaboration on trade. At the same time, Russia's unprovoked invasion of Ukraine is causing advanced democracies to reconsider the national security implications of economic interdependence with authoritarian regimes.
- The United States and likeminded partners have begun to explore new mechanisms that may promote more sustainable and equitable trade while better protecting market-oriented economies from China's state capitalist distortions. New rules and approaches could strengthen supply chain resilience and ensure high standards for services, IP protection, digital trade, and other emerging disciplines that remain unresolved under the WTO. Alternative regional fora and new structures developed with likeminded partners and allies provide the United States potential additional avenues to meet its trade and security goals.

Recommendations

The Commission recommends:

- Congress consider legislation providing the authority to impose retaliatory trade measures against China in support of an ally or partner subject to Chinese economic coercion. Such legislation shall authorize coordinated trade action with U.S. allies and partners.
- Congress direct the Administration to produce within 90 days an interagency report coordinated by the Office of the U.S. Trade Representative to assess China's compliance with the terms and conditions of the 1999 Agreement on Market Access between the People's Republic of China and the United States of America. The assessment should be presented as a summary list of comply/noncomply status of the provisions under the agreement. If the report concludes that China has failed to comply with the provisions agreed to for its accession to the WTO, Congress should consider legislation to immediately suspend China's Permanent Normal Trade Relations (PNTR) treatment. Following the suspension of PNTR, Congress should assess new conditions for renewal of normal trade relations with China.
- Congress direct that any entity subject to national security restrictions or sanctions by a U.S. department or agency, including but not limited to the Entity List, should be denied access to the Clearing House Interbank Payments System (CHIPS), the Automated Clearing House (ACH), and the Federal Reserve's funds transfer system (Fedwire).
- Congress direct the U.S. Department of Commerce to provide regular (semiannual) reports on its enforcement of the foreign direct product rules and its approval of export license applications for entities seeking to export to China items produced from technology or software controlled for national security rea-

sons. Such a report shall not identify U.S. exporters, but it shall include:

- The number of licenses granted;
 - The number of licenses granted per export destination;
 - Item classifications for such licenses;
 - The value of such exports; and
 - The rationale for granting the licenses.
- Congress direct the U.S. Patent and Trademark Office to mandate that any applicant for a U.S. patent that has received support under a program administered directly or indirectly by the Chinese government provide the same disclosures that recipients of U.S. federal support must provide.
 - Congress direct the U.S. Department of Commerce to develop a process to identify and self-initiate antidumping and countervailing duty petitions covering products from China. In developing the methodology to support such a process, the department shall utilize existing government data and develop new data collection efforts prioritizing the identification of products injuring or threatening to injure small- and medium-sized enterprises or industries facing long-term harm from Chinese industrial overcapacity. The department shall also develop the capabilities for the U.S. government to identify and pursue self-initiation of circumvention, evasion, and transshipment enforcement cases to address products originating from China.
 - Congress direct the U.S. Department of Commerce to update its methodology in determining antidumping duty rates for products from China to net out the subsidy or dumping impact of Chinese-sourced inputs utilized in identifying relevant third-country proxy rates to determine dumping margins. This approach should allow for the adjustment of rates used to identify an appropriate proxy for market-based producers where China's impact on such rates may skew the true market equivalent value of such products to determine dumping margins.
 - Congress consider legislation that would address the Chinese Communist Party's efforts to undermine U.S. intellectual property protections through its use of antisuit injunctions. In considering such legislation, Congress should seek to ensure the integrity of U.S. patent laws and the strength of our nation's patent system and its support for U.S. innovation by protecting patent rights and the sovereignty of U.S. courts and the U.S. adjudicatory system.
 - In enacting legislation subsidizing research or production, Congress should evaluate whether China can legally gain access to that research or to the knowledge and equipment needed to produce that good to prevent the United States from indirectly subsidizing or supporting Chinese competitors.
 - Congress direct the Office of the U.S. Trade Representative to monitor and publicly identify in an annual report the industries wherein China's subsidies, including state monopolization and

evergreen loans, pose the greatest risk to U.S. production and employment. A rebuttable presumption of guilt in antidumping and countervailing duty processes shall result from the findings of this report.

- Congress create an authority under which the president can require specific U.S. entities or U.S. entities operating in specific sectors to divest in a timely manner from their operations, assets, and investments in China, to be invoked in any instance where China uses or threatens imminent military force against the United States or one of its allies and partners.

Introduction

The United States has arrived at a critical moment to reevaluate its economic and trade policies to address harmful Chinese practices. Trade complications stemming from the novel coronavirus (COVID-19) pandemic and Russia’s war on Ukraine have exposed the vulnerabilities of the current system. The United States has spent years trying to change Chinese trade and industrial policy approaches through multilateral mechanisms such as the WTO, bilateral engagement, and significant unilateral pressure—to little or no avail. Since China’s WTO accession, Beijing has continued to engage in predatory trade practices that distort the global economy. The impact of these actions has only grown as the Chinese economy has expanded, eroding U.S. manufacturing employment, undermining competitiveness of U.S. businesses, and creating vulnerabilities in supply chains. The negative effect on the global economy will continue as Beijing is recommitting rather than moving away from these policies (for more on increasing Party-state control over China’s economy, see Chapter 1, “CCP Decision-Making and Xi Jinping’s Centralization of Authority”).

Addressing these challenges will require assessing how to use existing tools more effectively and where new tools are required, as well as where new partnerships may be needed. This section first describes two sets of possible domestic U.S. measures: one to strengthen U.S. domestic capacity against Chinese policies and the other to constrict U.S. market access to those goods and services that have benefited from China’s state capitalism. This discussion of domestic U.S. measures includes a review of both existing tools and some proposed mechanisms. The section then surveys a number of options for the United States to work with allies to coordinate on economic policy. Finally, the section examines the potential advantages and drawbacks of regional trade agreements, which may have strategic benefits in the Indo-Pacific but could also perpetuate other economic woes in the United States. This section draws on the Commission’s April 2022 hearing on “Challenging China’s Trade Practices: Promoting Interests of U.S. Workers, Farmers, Producers, and Innovators,” the Commission’s staff and contracted research, consultations with policy experts, and open source research and analysis.

Liabilities under the Current Trade System

The United States has an opportunity to amend its trade approach to China as countries face unprecedented challenges from the interconnection of global trade and China’s state-led industrial policies.

Certain U.S. policy tools have gone underused or become outdated, ultimately dulling U.S. ability to ameliorate distortions from China's trade practices.¹ The multilateral trading system itself has proved increasingly brittle and slow to meet contemporary challenges not only from China's state capitalism but also from overstretched supply chains, increasing inequality, and immense changes in technology. Traditional approaches to trade agreements that seek to broaden partnerships and lower tariffs are premised on the behaviors of free markets, but in the face of China's state-driven distortions to the global economy these approaches run the risk of widening U.S. vulnerabilities. China's wage suppression, forced labor, carbon-intensive production, industrial policy, and multiple nontariff trade barriers create an uneven playing field for market economies like the United States.

Even where Chinese markets have opened up, foreign firms' gains are often short-lived by the Chinese Communist Party's (CCP) design. Chinese restrictions are only lifted after Chinese firms have been protected and supported long enough to cement market dominance and essentially crowd foreign competitors out of the market, such as in the financial services, e-commerce, and electric vehicle sectors.* In recent years, Beijing's state-led economic and technological ambitions have only increased, leading to more support for strategic sectors and state-owned enterprises (SOEs), greater urgency in acquiring foreign technologies, and tightening control over nonstate firms (for more, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority"). Agencies across multiple U.S. administrations, analysts in governments across the globe, prominent global think tanks, academics, and business groups have documented these patterns extensively. A full accounting of China's non-market practices is beyond the scope of this section, but to frame the responses to China's state capitalism discussed below, the practices can be broadly characterized into the following three categories:

1. **Subsidies and overcapacity, wherein anticompetitive regulations and state funding often facilitate high rates of production, artificially distorting prices with below-market sales and crowding out competitors.** A recent report from the Center for Strategic and International Studies conservatively estimated China's industrial policy spending in 2019 at \$248 billion (renminbi [RMB] 1.71 trillion),[†] or 1.73 percent of gross domestic product (GDP), far more than any other major economy.[‡]² While much of the subsidization occurs at the local

*China maintained foreign investment restrictions on electric vehicle production until 2018. Although the market opened to foreign participants, China's decade-long scheme to subsidize domestic firms effectively protected China's domestic market and oversaturated it with local producers by the time foreign firms could fully participate. Norihiko Shirouzu, "Global Automakers Face Electric Shock in China," *Reuters*, May 26, 2022.

[†]Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB.

[‡]U.S. government spending on programs similar to these, by comparison, was \$84 billion, or 0.39 percent of GDP the same year. As the Center for Strategic and International Studies report notes, however, due to the opacity of China's system, these estimates are extremely conservative and almost certainly understate the true extent of China's subsidy regime. Due to data limitations, subsidies for unlisted nonstate companies—which constitute the vast majority of China's firms—were not included in the assessment, nor were China's massive government and SOE procurements. Gerard DiPippo, Ilaria Mazzocco, and Scott Kennedy, "Red Ink: Estimating Chinese Industrial Policy Spending in Comparative Perspective," *Center for Strategic and International Studies*, May 2022.

level and supports overcapacity in traditional industries like steel and machinery, Beijing also deploys extensive subsidies to develop more advanced strategic and emerging industries via more than 1,800 “government guidance funds,” which have thus far raised over \$900 billion of mostly state money, with a target of \$1.8 trillion.*³

2. **IP rights abuse and theft, including through malicious cyber activities, trade secret theft, and forced technology transfer.** Beijing has encouraged an aggressive strategy of overseas acquisitions, taking advantage of open investment environments elsewhere to obtain valuable IP in emerging technologies. Due to the United States’ technological lead, Beijing has found it expedient to engage in large-scale, state-sanctioned theft of U.S. IP, with a great deal of theft facilitated through cyberespionage. In 2015, the U.S. Office of the Director of National Intelligence estimated that cyberespionage costs the United States \$400 billion annually.⁴ In 2022, Federal Bureau of Investigation Director Christopher Wray indicated that China was by far the government actor responsible for the greatest number of cyberespionage incidents targeting U.S. commerce.⁵ Meanwhile, the Commission on the Theft of American Intellectual Property estimates that the United States loses between \$225 billion and \$600 billion annually from IP theft.⁶ China is responsible for 50 to 80 percent of this theft.⁷ The Chinese government expedites and magnifies the deleterious impact of this theft on U.S. companies via subsidies to the firms that exploit the stolen IP.⁸
3. **Protectionism, market access restrictions, and other nonmarket interventions designed to bolster and concentrate global manufacturing production within China.** (See Chapter 2, Section 4, “U.S. Supply Chain Vulnerabilities and Resilience” for more on this localization of manufacturing production.) These practices, which China carries out in violation of its WTO commitments, include: procurement and local content requirements,[†] which discriminate broadly against for-

*While many guidance fund documents proclaim that only 20 to 30 percent of their capital will come from the government, close analysis done by research firm Gavekal Dragonomics indicates it is typical for funds to derive upward of 90 percent of their capital from the state via state-controlled banks and enterprises, with China’s National Integrated Circuit Industry Investment Fund being one prominent example. Despite the large amount raised, China’s government guidance funds fall far short of their target funding. As the Commission detailed in its 2021 Annual Report, of a target \$1.6 trillion as of early 2020, the funds had only succeeded in raising just under \$700 billion. U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 232–233; Lance Noble, “Paying for Industrial Policy,” *Gavekal Dragonomics*, December 4, 2018.

†As part of its accession protocol in 2001, China agreed to accede to the WTO’s Government Procurement Agreement (GPA), which requires transparent competition and limits national discrimination in government procurement. As of October 2022, China is still negotiating accession to the GPA. It has submitted six separate market access proposals for GPA accession that were rejected by other signatories to the GPA due to falling short of expectations. China reiterated its promise to accede quickly in the January 2020 Phase One trade agreement. In contrast to this pledge, China continues to leverage its extensive state sector to enact far-reaching procurement and local content practices. For instance, in August 2021, Reuters reported that China’s Ministry of Finance and Ministry of Industry and Information Technology had issued a 70-page catalog to SOEs, hospitals, and other entities setting local content requirements from 25 to 100 percent for some 315 items. The catalog included medical devices, which China’s government had agreed to import more from the United States under the terms Phase One agreement. Andrea Shalal, “China Quietly Sets New ‘Buy Chinese’ Targets for State Companies - U.S. Sources,” *Reuters*, August 2, 2021; Stephen Ezell, “False Promises II: The Continuing Gap between China’s WTO Commitments and Its Practices,” *Information Technology and Innovation Foundation*, July 26,

eign firms and can require partnerships with domestic firms; investment restrictions, which deny foreign firms access to certain sectors; technical barriers to trade, including but not limited to China-specific standards, conformity assessments, licensing requirements, and nonscientific safety regulations; tariffs and value-added tax rebates, which protect domestic firms; and export restraints, where China imposes export bans, quotas, and taxes on intermediate goods to create competitive advantages for Chinese-based manufacturers.

The effect of China's practices is clear from the sheer scale of its trade imbalance with the United States and its preponderant share of the U.S. trade deficit over the last two decades. China's intentional overproduction, aggressive state-led investment, and repression of household consumption cost U.S. jobs, undermine U.S. innovation, and hamper U.S. competitiveness. With China's entry into the WTO encouraging extensive offshoring, U.S. employment in manufacturing has declined over the last 20 years and the manufacturing sector's share of GDP has declined by 3 percent.⁹ Economists have also found that U.S. patent filings decline across sectors that face import competition.¹⁰

The Limits of Bilateral Engagement

The U.S. government across many administrations has struggled to change China's behavior through different tactics of both engagement and pressure. Formalized U.S.-China bilateral engagement began long before the United States granted China permanent normal trade relations, with the Joint Commission on Commerce and Trade beginning in 1983 and ending in 2017.¹¹ Other dialogues, like the Strategic and Economic Dialogue (2009–2017) and the even shorter-lived Comprehensive Economic Dialogue (2017–2018), also struggled to ensure fundamental changes to China's industrial policies.* Each of these dialogues took significant time and effort for minimal results.¹² A U.S. Government Accountability Office report from 2014 notes that these dialogues lacked timelines and consistent accountability mechanisms for China's commitments.¹³ The report also demonstrates inconsistencies across agencies in tracking Chinese adherence to agreements under these dialogues.¹⁴ In meetings across multiple years, Chinese policymakers were also able to avoid progress by posing restatements of supposedly forthcoming policy as commitments without concrete implementation plans.¹⁵

China's unfulfilled commitments under the Phase One Economic and Trade agreement more recently demonstrate the limits of bilateral negotiation and U.S. enforcement capabilities. Signed in January 2020 and put in effect the following month, the bilateral deal included provisions on IP, agriculture, forced tech transfer, and

2021; World Trade Organization, "Agreement on Government Procurement: Parties, Observers and Accessions."

*The Office of the U.S. Trade Representative and the U.S. Department of Commerce led the Joint Committee on Commerce and Trade, while the Strategic and Economic Dialogue was led by the U.S. Department of State and the U.S. Department of the Treasury. The later Comprehensive Economic Dialogue was led by the Department of Commerce. Other agencies, such as the U.S. Department of Agriculture, would also participate in these dialogues for specific, relevant issues both at the working and official levels. Government Accountability Office, *Report to Congressional Requesters, U.S.-China Trade: United States Has Secured Commitments in Key Bilateral Dialogues, but U.S. Agency Reporting on Status Should Be Improved*, February 2014.

financial services. In the agreement, China also pledged to increase combined purchases of U.S. manufactures, agricultural goods, energy products, and services by at least \$200 billion over 2017 levels.*¹⁶ The purchase agreements have fallen short of their prescribed goal, with China meeting only 58 percent of the two-year target of imports from the United States.†¹⁷ The purchase agreements are the most easily discernable way to measure China's progress in fulfilling its Phase One commitments, but they are certainly not the only areas where Chinese implementation of the deal has fallen short. The Office of the U.S. Trade Representative (USTR) reported, "China has not yet implemented some of the more significant commitments," such as in agricultural biotechnology and agriculture.‡¹⁸

The Limits of the WTO

Since acceding to the WTO in 2001, China has consistently failed to fulfill the spirit and letter of its WTO commitments but has faced practically no consequences under a dispute resolution system that is virtually inoperable against state-led economies. The WTO's dispute resolution system suffers from long adjudication times, lack of enforcement, and limitations on providing remedies. The United States has brought 23 cases against China at the WTO, but even in the 20 cases where the WTO has ruled in its favor, remedies or fulfillment of commitments following a judgment have often been deferred or altogether neglected.¹⁹ The U.S. case against China on electronic payment services is one key example, where U.S. companies like American Express, Visa, and Mastercard were consistently denied licenses to provide domestic payments services in China.²⁰ The United States won the case in 2012 due to clear discrimination against its providers, but U.S. providers did not receive due approvals to operate in China until 2020, by which time indigenous providers had cemented their position in the market.²¹

Action within the WTO is further impeded by the body's requirement for consensus. Inability to reach consensus in recent negotiations such as the Doha Round, which languished for over a decade, drove members to seek alternate plurilateral or bilateral arrangements to make additional progress on trade liberalization and develop rules to address harmful modern trade practices.²² Some advocates of the international trading system continue to favor the WTO as a means to change China's behavior through international norms and concerted pressure. China has been unwilling to adjust rules on subsidies and has increased fractures between developed and developing countries.²³ Objections to politicization of WTO disputes and concerns about overreach of Dispute Settlement Body decisions have led to U.S. obstruction of WTO Appellate Body appointments, leaving it unable to hear cases with the current appellate bench

*The Phase One trade agreement was signed on January 15, 2020, and formed part of an effort to resolve trade tensions ongoing since March 2018, when the USTR published its Section 301 investigation into China's unfair trade practices related to forced technology transfer, IP theft, and innovation. For more on the Phase One agreement, see U.S.-China Economic and Security Review Commission, *The U.S.-China "Phase One" Deal: A Backgrounder*, February 4, 2020.

†These purchase commitments were also initially impeded by the outbreak of COVID-19, which first overwhelmed China in early 2020. Ana Swanson and Keith Bradsher, "Trump Says He's 'Torn' on China Deal as Advisers Signal Harmony on Trade," *New York Times*, July 22, 2020.

‡For a description of the Phase One trade agreement commitments and China's progress in implementation, see U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 153–154.

completely vacant. The WTO's appeals process has consequently been suspended, while efforts to reform the WTO have made little progress.*²⁴

In spite of many inherent difficulties in the WTO process, the forum nonetheless remains a key venue for global discussion and consensus building around international trade.²⁵ With the goal of portraying itself as a leader in global free trade, China will continue to invest time and effort to influence outcomes at the WTO.

U.S. Trade Remedies for China's Distortions

Paralysis at the WTO has made utilizing national policies and turning to other plurilateral solutions more appealing. The United States may respond to China's nonmarket practices at its border or domestically, potentially creating a template for other economies to follow. Rather than seeking to change China's behavior, many of these responses focus on building resilience against China's practices. Others aim to limit their impact to the U.S. economy, often by forcing the price of subsidized and dumped goods to reflect a rational market price.²⁶ U.S. tools to address distortions from China face several important limitations. First, the U.S. government does not have adequate information on China's harmful practices, which limits its ability to fully utilize several existing trade remedy tools or develop new responses. Second, current U.S. tools are largely reactive and effectively place the onus of responding to China's malign practices on private sector entities, often encumbering petitioners with large costs, time commitments, and heavy burdens of proof. Finally, there are several gaps in the U.S. policy arsenal, such as the regulation of outbound investment to countries of concern, that may necessitate development of new tools and approaches.

Building Resilience against China's Nonmarket Practices

Building resilience involves leveraging domestic strengths to ensure the United States' free market system is resilient to China's nonmarket practices. The U.S. government currently faces challenges in its capacity to analyze China's policies and practices, coordinate across agencies, and perform due diligence. Addressing some of these weaknesses could support coordination with allies and partners, assist U.S. companies competing with Chinese firms, and allow for a nimbler, more informed federal response and strategy around China's economic distortions.

Analytic Capacity to Understand and Counter Foreign Industrial Policy

The U.S. government currently has at least 15 agencies and offices with some capacity to examine the impact of unfair foreign competition, including the U.S. Department of Commerce's International Trade Administration's (ITA) Office of Trade Enforcement and Compliance; U.S. International Trade Commission's (USITC) Office

*In looking for a temporary stopgap for these cases, 52 countries have formed a temporary body, the Multi-Party Interim Appeal Arbitration Arrangement (MPIA), to process appeals. Under article 25 of the WTO Dispute Settlement Understanding, WTO members may pursue an alternate form of dispute resolution. The EU has led this approach since 2020 due to gridlock at the WTO Appellate Body. China is a member, but the United States is not. Geneva Trade Platform, "Multi-Party Interim Appeal Arbitration Arrangement (MPIA)," July 26, 2022.

of Economics and Office of Industry; and the USTR's Interagency Center on Trade, Implementation, Monitoring, and Enforcement, to name a few (see Appendix I for full list). These offices all provide valuable research relevant to U.S. economic competitiveness, but the research tends to be reactive in nature and is often underutilized.²⁷ Most research on distortions from overseas industrial policies, for example, arises only after impacted U.S. actors file complaints with the USTR, Commerce, or the USITC.²⁸ Domestically, the Commerce Department and the USITC infrequently self-initiate trade remedy investigations despite possessing the authority to do so (see “Blunting the Impact of China’s Nonmarket Practices” below for more detail).²⁹ Both rely primarily upon private firms, workers and unions, and industry associations to file complaints and seek to initiate the investigations.³⁰

Reactive U.S. Trade Remedy System Renders U.S. Firms Vulnerable to China’s Distortions

Although U.S. trade tools (e.g., countervailing duties, Section 201, etc.) empower agencies to undertake future-oriented threat assessments, in practice agencies almost exclusively use trade tools to analyze past and ongoing distortions. Remedies under the current system, however, are only offered prospectively, meaning firms receive no retroactive relief to past injury, only the possibility of future safeguards.* The Chinese government openly publicizes areas of intended subsidization in its five-year planning documents, a fact that makes it feasible to predict and prepare for distortions in advance. The overwhelmingly reactive deployment of U.S. trade tools limits the U.S. government’s ability to adequately assist workers and firms in confronting China’s predictable market distortions.

Interoperable Nomenclature for Controlled Goods, Services, and Investment

The United States’ unilateral and multilateral export controls, investment restrictions, and IP enforcement rely on disparate classification systems that lack cohesion and create opportunities for evasion and abuse. Tactics used by sanctioned Chinese entities to circumvent controls on U.S. technology transfers to China are difficult to detect.† The multiple nomenclatures used to classify goods, services, and IP create additional space for Chinese companies to undermine export and investment controls by exploiting loopholes or obfuscating reporting requirements. For example, sanctioned Chinese entities have continued to purchase certain products and technologies through U.S. exporters designating these exports under

*The Department of Commerce’s Economic Development Administration previously offered loan assistance and loan guarantees to firms adversely impacted by unfair competition via the Trade Adjustment Assistance for Firms program, but Congress eliminated all direct financial assistance in 1986. Rachel F. Fefer, “Trade Adjustment Assistance for Firms,” *Congressional Research Service RS20210*, October 13, 2020.

†Efforts by Chinese companies to undermine U.S. export controls include utilizing falsified end-user certificates, front companies, or transshipments. U.S. Department of Commerce, Bureau of Industry and Security, *Don’t Let This Happen to You!* July 2022, 28–37.

the U.S. Export Administration Regulations (EAR) as EAR99. The EAR99 classification permits the exporter to determine, without confirmation by any government agency, that the transfer is covered by a “No License Required” exception.³¹ EAR99 exports are not reported until an investigatory request is made by U.S. regulators, even when the counterparty to the transaction is a sanctioned entity.* In testimony before the Commission in 2021, former Assistant Secretary for Industry and Analysis at the U.S. Department of Commerce Nazak Nikakhtar explained that Chinese companies investing in the United States have misrepresented their classification under the North American Industry Classification System to avoid mandatory filings requirements under the Committee on Foreign Investment in the United States (CFIUS) pilot program † for reviewing critical technology transactions.³²

Detection of efforts to undermine U.S. export and investment controls is frustrated by a lack of available data and misaligned definitions and categorizations of critical technologies. Academics, independent researchers, industry specialists, and other interest groups are key to improving the implementation of export controls and investment screening by using novel approaches ‡ to track circumvention efforts and providing technical expertise to identify vulnerabilities. For example, CFIUS relies on referrals from other government agencies, the public, media reports, commercial databases, and congressional notifications, in addition to monitoring by CFIUS’s own dedicated team, to identify non-notified or non-declared transactions that may have national security implications.³³ According to senior fellow at the Center for a New American Security Emily Kilcrease, differences in the classifications § of goods, services, and technolo-

*Scrutiny of efforts to evade export controls on EAR99 goods, services, and technologies has increased following the imposition of wide-reaching sanctions on Russia and Belarus over Russia’s invasion of Ukraine. The Treasury Department’s Financial Crimes Enforcement Network and the Department of Commerce’s Bureau of Industry and Security jointly issued a notice to EAR99 exporters on June 28, 2022, listing red flag indicators that a sanctioned actor is seeking to circumvent export controls. U.S. Department of the Treasury, Financial Crimes Enforcement Network and the U.S. Department of Commerce, Bureau of Industry and Security, *FinCEN and the U.S. Department of Commerce’s Bureau of Industry and Security Urge Increased Vigilance for Potential Russian and Belarusian Export Control Evasion Attempts*, June 28, 2022; Giovanna Cinelli, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Relations in 2021: Emerging Risks*, September 8, 2021, 4.

† Since October 2020, CFIUS moved away from using these voluntarily designated industry codes to classifying covered transactions based on whether the critical technology is covered by the U.S. export control regime and requires regulatory approval before exporting, reexporting, transferring in-country, or retransferring. This change obviates the abuse of the industry code-based classification system. But using the export control system—which aims to control single transactions of goods—to guide the investment screening process—which involves control over the U.S. company’s business operations—creates additional vulnerabilities. Giovanna Cinelli, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Relations in 2021: Emerging Risks*, September 8, 2021, 10; Christian Kozlowski and Carl A. Valenstein, “CFIUS Says Farewell to NAICS, Hello to Export Licensing in Mandatory Declarations,” *Morgan Lewis*, June 3, 2020.

‡ For example, researchers at the Center for Security and Emerging Technology created a dataset based on metadata from People’s Liberation Army (PLA) procurement tenders for artificial intelligence (AI) technologies in 2020, finding that only 8 percent of a total 273 PLA AI suppliers are named in the U.S. export control and sanctions regime. In another report, an analyst at C4ADS used Chinese corporate records to identify shipments of defense technologies between 2014 to 2022 from a Chinese state-owned conglomerate to Russian companies sanctioned for supporting Russia’s invasion of Ukraine. Naomi Garcia, “Trade Secrets: Exposing China-Russia Defense Trade in Global Supply Chains,” *Center for Advanced Defense Studies*, July 2022, 3; Ryan Fedasiuk, Jennifer Melot, and Ben Murphy, “Harnessed Lightning: How the Chinese Military Is Adopting Artificial Intelligence,” *Center for Strategic and Emerging Technology*, October 2021, 34.

§ The differing objectives of these controls led to the creation of numerous, conflicting methods of categorizing those goods, services, technologies, and industries that relate to national security. The EAR uses a unique export control classification system, leading to discrepancies in defini-

gies complicate identification of trade and technology vulnerabilities, analysis of the effectiveness of controls, and detection of efforts to evade controls.³⁴ Inconsistent statistical reporting by government agencies limits robust analysis of trade and investment flows in critical technologies by nongovernmental analysts and researchers.³⁵

Addressing Chinese Courts' Assertion of Extraterritorial Jurisdiction

U.S. IP holders are facing significant legal hurdles to enforcing their rights as Chinese courts seek to prevent litigation outside of China. Chinese courts are using an aggressive interpretation of judicial doctrine to disrupt litigation outside of China on IP issues. China has begun issuing global antisuit injunctions (ASIs),* which prohibit patent holders from pursuing IP legal action in non-Chinese courts and can place monetary consequences on companies that violate the order.†³⁶ These antisuit injunctions aim to drive down the fair, reasonable, and nondiscriminatory (FRAND) royalty rates for standard-essential patents (SEPs)‡ owned by overseas companies, which consequently reduces the cost of foreign technology inputs for Chinese manufacturers.³⁷ By blocking foreign plaintiffs from pursuing parallel litigation in the United States, Germany, Japan, or any other judicial system, Chinese litigants in domestic courts seek to obtain more favorable licensing terms than would be afforded outside of China. Chinese courts have issued at least four global

tions even with the United States' partners in multilateral export control forums. There is no universal database linking export control classification numbers from the EAR to the customs codes—known as the Harmonized System—that U.S. Customs and Border Protection and 211 customs agencies around the world use to categorize traded goods and assess tariffs. Similarly, it is difficult to correlate investment flows, which are categorized according to the North American Industry Classification System in the United States, with the list of critical industries and infrastructure that require review by CFIUS. World Customs Organization, “List of Contracting Parties to the HS Convention and Countries Using the HS,” October 1, 2020.

*Chinese courts' implementation of ASIs differs from the practice of using ASIs in common law jurisdictions. In these jurisdictions, ASIs are used by courts primarily to minimize friction with other courts. In contrast, China's ASIs, according to Mark Cohen, “are a legal tool used by a non-independent judiciary at the urging of China's political leadership. They are also used exclusively to address foreign litigation, are highly non-transparent, have a limited legislative basis, and have no domestic application.” Mark Cohen, “The Pushmi-Pullyu of Chinese Anti-Suit Injunctions and Antitrust in SEP Licensing,” *China IPR*, July 31, 2022.

†The Shenzhen Intermediate People's Court determined in October 2020 that Chinese courts can rule on global licensing terms for SEPs, even when courts in foreign countries, including the United States, Germany, and Japan, are considering parallel litigations. This ruling was later upheld on August 19, 2021 by the Intellectual Property Tribunal of the Supreme People's Court of China. ASIs are intended to prevent foreign courts from intervening when Chinese IP courts decide SEP matters. European Union, *Request for Consultations by the European Union*, February 18, 2022, 3; Zhongren Cheng, “The Chinese Supreme Court Affirms Chinese Courts' Jurisdiction over Global Royalty Rates of Standard-Essential Patents: Sharp v. Oppo,” *Berkeley Technology Law Journal*, January 3, 2022; Aaron Winger, “China's Supreme People's Court Affirms Right to Set Royalty Rates Worldwide in OPPO/Sharp Standard Essential Patent Case,” *National Law Review*, September 5, 2021.

‡Technical standards for emerging technologies often incorporate cutting-edge features held under patent by the original developer. Because this IP may become essential to following the standard, or “standard-essential,” other companies that adopt the standard are required to license the SEP from the patent holder. This can guarantee billions in revenue for widely licensed patents, as complying with a standard generally means a producer is locked into using features specified by the standard—and paying royalties to the SEP holder—until another standard becomes dominant. To prevent SEP holders from abusing their market position and charging unreasonable licensing fees, the standards-making bodies obligate the holder to license the SEP under “fair, reasonable, and non-discriminatory” terms, or FRAND. FRAND terms apply globally, but SEP holders must often enforce their IP in multiple jurisdictions in order to assert their claim to licensing fees. Michael T. Renaud, James Wodarski, and Matthew S. Galica, “Key Considerations for Global SEP Litigation—Part 1,” *Mintz*, October 30, 2019; Abraham Kasdan and Michael J. Kasdan, “Recent Developments in the Licensing of Standards Essential Patents,” *National Law Review*, August 30, 2019.

antisuit injunctions in patent litigation.*³⁸ Highlighting the damage these injunctions pose to global IP rights, the EU filed a case against China at the WTO on February 18, 2022 over its use of antisuit injunctions to restrict EU companies from going to foreign courts to defend their SEPs.†³⁹ In March 2022, the United States, Canada, and Japan requested to join the consultations as third parties.⁴⁰

This expansive extraterritorial assertion of judicial power by Chinese courts furthers the CCP's objectives to influence global standards and regulatory norms on IP and distort the global business environment in favor of Chinese firms. In a speech delivered at a Politburo study session in November 2020, General Secretary of the CCP Xi Jinping called for China to "promote the extraterritorial application" of China's IP laws and regulations.⁴¹ Zhu Jianjun, judge of the Shenzhen Intellectual Property Court, stated that antisuit injunctions are needed "to build the main battlefield for foreign-related dispute resolution."⁴² Chinese judicial efforts could undermine the innovation ecosystem in the United States.⁴³

Global antisuit injunctions are part of a broader trend of the CCP using China's politicized court system to undermine and exploit court proceedings outside of China. These risks are heightened for litigants in U.S. courts, who may be unaccustomed to dealing with illiberal systems and broader international implications of related decisions.⁴⁴ Director and distinguished senior fellow at the Berkeley Center for Law and Technology Mark Cohen noted repeated instances when U.S. courts complied with requests from litigants in China to provide information, including sensitive business documentation, to Chinese courts.⁴⁵ Through legal discovery, Chinese courts can extort trade secrets and other confidential business information frequently leaked or misused by Chinese public officials.‡⁴⁶ In this way, Chinese courts may undermine U.S. IP rights through the U.S. court system and "may contribute to trade secret misappropriation in China."⁴⁷ The CCP's interference in proceedings in U.S. courts was further highlighted by the antitrust lawsuit *Animal Sci-*

*In one of the cases, the Chinese smartphone manufacturer Xiaomi sold phones using SEPs owned by U.S.-based InterDigital since 2013 while the two companies negotiated licensing terms. After negotiations broke down in June 2020, Xiaomi filed a case with the Wuhan Intermediate People's Court in relation to the license fee for the SEP held by InterDigital, while InterDigital sued Xiaomi in court in Delhi, India. The Wuhan court subsequently issued an ASI requiring InterDigital to withdraw or suspend its legal action before the Indian court and prohibiting InterDigital from pursuing legal action in any other jurisdiction. It set a daily fine of \$152,000 (1 million RMB) if InterDigital violated the order. InterDigital filed for a counter-ASI from the Indian court and a court in Munich, Germany. Both courts issued rulings preventing Xiaomi from enforcing the ASI. The two companies reached a settlement in August 2021. Josh Zumbun, "China Wields New Legal Weapon to Fight Claims of Intellectual Property Theft," *Wall Street Journal*, September 26, 2021; Josh Ye, "China Tests the Long Arm of Its Law in Xiaomi and Huawei's International Patent Battles," *South China Morning Post*, April 2, 2021.

†On March 8, 2022, a group of U.S. senators introduced the Defending American Courts Act, which proposes a penalty on foreign litigants who seek to interfere with U.S. court proceedings through the use of an ASI. Andrei Iancu and Paul R. Michel, "The Solution to Chinese Courts' Increasingly Aggressive Overreach," *Center for Strategic and International Studies*, April 6, 2022; Defending American Courts Act, S. 3772, March 8, 2022.

‡China committed in the Phase One trade agreement to prohibit the unauthorized disclosure of confidential business information by government personnel, including information produced as part of judicial proceedings. China has not, however, implemented any measures to penalize these disclosures. Paolo Beconcini, "The State of Trade Secret Protection in China in Light of the U.S.-China Trade Wars: Trade Secret Protection in China before and after the U.S.-China Trade Agreement of January 15, 2020," *UIC Review of Intellectual Property Law* 20:108 (2021): 117–118; Office of the U.S. Trade Representative, *Economic and Trade Agreement between the Government of the United States of America and the Government of the People's Republic of China*, January 15, 2020.

ence Products, Inc. v. Hebei Welcome Pharmaceutical Co. Ltd. about price fixing of vitamin C nutrients by Chinese companies. The case demonstrated the Chinese government's ability to misrepresent its own laws to give an advantage to Chinese companies in overseas legal proceedings. The U.S. Second Circuit Court of Appeals dismissed the case on international comity grounds in 2016 based solely on a statement provided by China's Ministry of Commerce purportedly showing a conflict between U.S. and Chinese laws.*⁴⁸ Donald C. Clarke, professor of law at George Washington University, finds that when judges consider cases similar to the vitamin C exports, U.S. courts often avoid addressing questions about the quality of Chinese law due to a lack of information and the opacity of China's legal system. According to Professor Clarke, the "system operates on principles quite different from those that judges are accustomed to, and the very depth of that difference, which would require extensive research and expert testimony to explain, makes it hard to overcome the presumption that it doesn't even exist."⁴⁹

China Makes Limited Progress on Increasing Domestic IP Protections

Under the Phase One agreement, China committed to align its administrative and criminal enforcement of IP infringement with the norms of developed economies and create a level playing field for foreign firms. While some of these commitments require China to enact new reforms, many of the changes involve implementing administrative regulations and processes under its existing laws.⁵⁰ In May 2021, the China National Intellectual Property Association released a list of 100 tasks to implement regarding its IP protection strategy, including measures to implement its Phase One commitments.⁵¹ Some of these measures were included in amendments to China's Copyright Law, Patent Law, and Criminal Law, each of which went into effect in 2021.⁵² These amendments increased the penalties for IP theft and lowered certain thresholds and procedural requirements for litigating trade secret and copyright infringement cases.⁵³ The amendments to the Patent Law additionally expanded protections on design patents and created a patent linkage system for pharmaceuticals.[†]⁵⁴

*China's Ministry of Commerce asserted in its amicus brief to the court that Chinese regulations forced Hebei Welcome Pharmaceutical to fix its prices. The Ministry of Commerce's interpretation of Chinese law contradicted a separate statement in the WTO that it did not have price requirements for vitamin C exports. The U.S. Supreme Court reviewed the case and remanded it back to the Second Circuit in 2018, stating that U.S. courts are "neither bound to adopt the foreign government's characterization nor required to ignore other relevant materials." In August 2021, the Second Circuit Court of Appeals once again dismissed the case, stating that foreign law must be taken "at face value," even though weak rule of law in China means laws are not necessarily enforced the way they are written. William S. Dodge, "Cert Petition Challenges Second Circuits Comity Abstention Doctrine," *Transnational Litigation Blog*, April 7, 2022; *Animal Science Products, Inc., et al., Petitioners v. Hebei Welcome Pharmaceutical Co. Ltd., et al.* In re Vitamin C. Antitrust Litig, August 10, 2021; Mark Jia, "Illiberal Law in American Courts," *University of Pennsylvania Law Review* 168 (December 2020): 1733; U.S. Supreme Court, *Animal Science Products, Inc., et al. v. Hebei Welcome Pharmaceutical Co. Ltd. et al.: Certiorari to the United States Court of Appeals for the Second Circuit*, June 14, 2018.

† Patent linkage systems protect branded pharmaceuticals from infringement but also allow potential generic competitors to challenge whether a patent holder's claim is valid or applicable to a proposed generic drug. Such systems prevent expensive and time-consuming litigation by requiring pharmaceutical regulators to review claims directly before they go to court. Under the system, patent holders would be notified and have a chance to respond any time a potential generic competitor claimed they were not infringing on the patent holder's IP. Virgil Bisio et al.,

China Makes Limited Progress on Increasing Domestic IP Protections—*Continued*

While in principle these amendments to Chinese law, along with other policy statements and guidelines, bring China's IP protections closer to international best practice, it remains to be seen whether the rules are implemented effectively, consistently, and in a manner that treats foreign IP rights holders and domestic parties equally. There has also been limited demonstration that China has fulfilled commitments to prevent forced technology transfer. Since the Phase One agreement, Beijing has amended some legal and administrative text to discourage technology transfer, but proving compliance is complicated by the sensitivity of relevant business information and U.S. business concerns about retaliation for disclosure.⁵⁵ According to the USTR in its Special 301 report for 2022, which documents the state of IP protection and enforcement abroad, China remains on the report's "priority watch list" of countries with the most problematic IP practices.⁵⁶ The USTR maintained this status despite the abovementioned amendments and guidelines issued and enacted in 2021. The report notes that while China's efforts to address inadequate IP protection and enforcement are positive developments, China still needs "to address weak enforcement channels and a lack of transparency and judicial independence."⁵⁷ The International Intellectual Property Association, a trade association representing 3,200 companies in copyright-related industries, reported in 2022 to the USTR that the amendments to China's Copyright Law brought notable improvements to the enforcement of copyright infringement, but the incentive structure to discourage piracy and other rights violations had not significantly changed.⁵⁸

Congress Prepares New Tools

Throughout 2022, the 117th Congress debated a number of different legislative proposals to boost U.S. technological competitiveness with China and guard against the flow of capital, goods, and critical research to predatory Chinese entities or China's military-industrial complex. In August 2022, U.S. President Joe Biden signed into law the first of these pieces of legislation to be passed by Congress: the Creating Helpful Incentives for Producing Semiconductors (CHIPS) and Science Act. Besides providing U.S. semiconductor firms with tax credits and funding for domestic semiconductor production, the act also includes provisions for sustained funding increases to support research and standards development in emerging technologies.⁵⁹ (For more on semiconductors, see Chapter 2, Section 4, "U.S. Supply Chain Vulnerabilities and Resilience.") The law provides this support for the National Science Foundation, the National Institute for Standards and Technology, and the Department of Energy, among others. In August 2022, Congress also passed the Inflation Reduction Act, which contains provisions that would encourage U.S.

⁵⁵The U.S.-China "Phase One" Deal: A Backgrounder," *U.S.-China Economic and Security Review Commission*, February 4, 2020, 4.

production of clean energy vehicles through a tax credit program. The combination of these incentives may spur much-needed horizon-scanning efforts on science and technology that can enable U.S. research advancement and sustain competitiveness with China in critical technologies.

The 117th Congress contemplated expanded proposals for outbound investment review to scrutinize critical supply chains and offshoring, strengthen reporting requirements and resources to combat Chinese overcapacity, and reduce the de minimis threshold to curb Chinese imports that circumvent tariffs and prohibitions against the import of products made with forced labor. The de minimis threshold refers to the amount below which an import is considered too small to be subject to tariffs, penalties, or other close inspection by customs authorities. The U.S. de minimis threshold was \$200 until 2016, when it was raised to \$800.⁶⁰ China likely accounts for the bulk of de minimis shipments as Chinese exporters, particularly e-commerce companies, take advantage of the higher threshold to send millions of goods into the United States tariff-free with little visibility from customs authorities.⁶¹ The America Creating Opportunities for Manufacturing, Pre-Eminence in Technology, and Economic Strength (COMPETES) Bill of 2022 contained a proposal to remove de minimis privileges for goods sourced from non-market economies with known IP rights violations, like China.⁶² In June 2022, U.S. Customs and Border Protection recorded a volume of 521 million de minimis packages, meaning that the fiscal year's* total de minimis imports may exceed their fiscal year 2021 volume of 771.5 million packages.⁶³ De minimis shipments in fiscal year 2021 increased by 21.3 percent from fiscal year 2020. De minimis treatment allows many imports to escape detailed record-keeping, making it difficult to calculate the total value of these imports by country of origin.

The National Critical Capabilities Defense Act included in the COMPETES bill was revised most recently in June 2022 and originally proposed by Senators John Cornyn (R-TX) and Bob Casey (D-PA) in 2021. The legislation proposes a review of outbound U.S. investments overseas modeled on the CFIUS process.⁶⁴ The outbound-facing mechanism would require mandatory filings and review of the investments and investment guidance related to outsourcing production of “national critical capabilities” or that would facilitate the transfer or disclosure of related technologies.⁶⁵ The Level the Playing Field Act, introduced by Representatives Terri Sewell (D-AL-07) and Bill Johnson (R-OH-6), is another feature of the COMPETES bill focused on enhancing rules against unfair trade.⁶⁶ Congress has proposed these and several other measures related to Chinese trade and investment that have not yet passed.

Blunting the Impact of China’s Nonmarket Practices

Blunting efforts seek to reduce the negative impact of China’s distortions on U.S. producers and workers in the United States’ domestic market if competing products and services have benefited from subsidies, IP or trade secret theft, other nonmarket interventions, or

*Fiscal year 2022 for U.S. Customs and Border Protection runs from October 2021 to October 2022.

abuse of human rights. These efforts also address ways to curb the flow of U.S. capital and goods to China that may enable the CCP's military-civil fusion* objectives and their predatory acquisition of research and technology. The menu of blunting options presented below begins by highlighting areas wherein existing tools (e.g., anti-dumping and countervailing duties [AD/CVD] cases) may be better utilized, and it concludes with a discussion of several novel policy options.

Existing Tools

Antidumping and Countervailing Duties

AD/CVD cases are the most frequently used domestic trade remedies. AD cases are designed to provide relief for domestic industries adversely impacted by large quantities of underpriced imports, while CVD cases are designed to protect against subsidized imports. Of all U.S. trading partners, China is by far the subject of the largest number of AD/CVD orders. Orders on imported Chinese products have risen in absolute terms, though they have fallen slightly on a relative basis from 170 of all 462 active orders in late 2018 to 234 of all 662 active orders as of September 2022.^{†67} However, from January to September 2022, only 16 AD/CVD orders were initiated, compared to 93 orders initiated during the same period in 2021.⁶⁸

In the case of an affirmative finding in an AD or CVD case, tariffs are imposed to offset the calculated dumping or subsidy rate. Orders are tailored to specific products, countries of origin, and/or individual companies. In general, CVD cases are less commonly pursued by firms because they carry a substantial burden of proof, requiring petitioners to document the existence of foreign subsidies, which can be particularly difficult in the context of China's opaque subsidy regime. AD cases, on the other hand, only require evidence that sales in the United States are priced at "less than fair value" (determined by Commerce's ITA) and that this is causing "material injury" or the threat thereof (determined by the USITC). In practice, the ITA solely seeks to establish that average sales prices in the United States are lower than in the home market.⁶⁹ As a result, in the United States, AD cases have become the principal means for relief from foreign competition.⁷⁰ Between 1980 and 2016, there were 1,379 AD investigations compared to 631 CVD investigations, according to data compiled by Chad Bown, senior fellow at the Peterson Institute for International Economics.⁷¹ Of those, 47 percent of AD cases and 44 percent of CVD cases resulted in trade restrictions being imposed on foreign imports.

Despite their frequent application, there are several areas in which AD/CVD cases may be better utilized. The Tariff Act of 1930, the legislation authorizing AD and CVD cases, specifically enables the secretary of commerce to self-initiate investigations.⁷² However,

*Military-civil fusion is a guiding vision to align government agencies, state and nonstate firms, research centers, and investors in fostering emerging and foundational technologies with dual-use applications. For more on the objectives of military-civil fusion, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 2, "Emerging Technologies and Military-Civil Fusion: Artificial Intelligence, New Materials, and New Energy," in *2019 Annual Report to Congress*, November 2019, 205–247.

[†]After China, India and South Korea are subject to the largest share with 62 (9.4 percent) and 42 (6.3 percent) active orders, respectively. International Trade Administration, *ADCVD Proceedings*, 2022.

such self-initiated inquiries have only ever been undertaken several times.⁷³ U.S. industry, especially small and medium enterprises (SMEs), faces notable obstacles in petitioning for relief, in particular high legal costs and difficulty obtaining data on foreign companies' pricing practices required to initiate an investigation.⁷⁴ In addition, the globalization of many industries can impede the filing of petitions.* Clyde Prestowitz, former lead trade negotiator during the Reagan Administration, argued in testimony before the Commission that "the Secretary of Commerce should become aggressive in identifying and combating Chinese dumping."⁷⁵ The Commerce Department has identified lack of self-initiation as related to lack of capacity. The Commerce Department indicated to the Government Accountability Office in 2019, in the context of AD/CVD cases, that it faced "historically high workloads, loss of experienced staff, and little increase in overall staff levels," issues that may impede capacity to self-initiate.⁷⁶ Further, in the Commerce Department's Fiscal Year 2021–2023 Performance Plan and Report, it identified "enhancing capacity to enforce fair and secure trade" as a top management challenge, specifically noting that filling vacant positions at the ITA was a key milestone it still needed to reach.⁷⁷ The ITA's fiscal year 2023 budget estimate requested an additional "enforcement office to handle increasing antidumping and countervailing duty (AD/CVD) caseloads that have reached historic levels," including 30 new enforcement staff positions, a more than 8 percent increase.⁷⁸

Another consideration is the methodology for determining a fair price against which a dumping determination can be made. In AD proceedings on imports from nonmarket economy countries, the ITA calculates a theoretical market price of the dumped good by valuing the exporter's factors of production. The ITA's calculation uses prices from a surrogate country: a market economy at a comparable level of economic development that produces similar goods.⁷⁹ However, as Ms. Nikakhtar argued in testimony before the Commission:

Because PRC [People's Republic of China] goods have penetrated global markets so aggressively, it is nearly impossible to find a surrogate country that has not been adversely affected by the PRC's predatory pricing. Prices around the world have been depressed so extensively that virtually all benchmark prices in trade cases are now understated and inadequate for measuring underselling by the PRC. The result is that the tariffs ultimately imposed by the U.S. Government on Chinese imports to offset dumping are inadequate to "level the playing field," and consequently proper relief is denied to American firms.⁸⁰

Section 201 of the Trade Act of 1974

Section 201, historically referred to as the "escape clause," was meant to be "the principal means by which industries harmed by imports could receive temporary relief from foreign competition."⁸¹

*In order for an AD/CVD investigation to move forward, for example, "domestic producers or workers who support the petition [must] account for at least 25 percent of the total production of the domestic like product." As industries globalize, U.S. firms with substantial operations overseas may face a different set of incentives than those primarily operating domestically, leading them to block investigations. Tariff Act of 1930 § 1671, 1930.

Procedurally, following an administration or industry petition, the USITC investigates to determine whether a product's import volume is a "substantial cause of serious injury, or the threat thereof, to the domestic industry."⁸² The USITC then submits its findings to the president, who determines whether to implement trade restrictions. Relief under Section 201 is meant to serve as a temporary "global" safeguard, meaning relief is intended to deal with temporary import surges, and import restrictions are applied to imports from all countries in a manner compliant with the WTO's safeguard provisions.⁸³ By not singling out particular countries, issues like transshipment that have plagued AD/CVD cases are avoided. The tradeoff is that allies and partners may be adversely impacted when only one country is at fault, unnecessarily irritating partners and increasing the risk of retaliation.* Exclusions from Section 201 remediation may occur, however, as is intended for parties in the free trade agreement (FTA) between the United States, Mexico, and Canada (USMCA).⁸⁴ The most recent use of Section 201 occurred under the Trump Administration, when President Trump applied safeguard tariffs on imported washing machines and solar cells and modules based on the investigations, findings, and recommendations of the USITC.⁸⁵ Previously, the Bush Administration last used Section 201 in 2002 to impose quotas and tariffs on certain steel imports, but it withdrew the action in 2003 following a WTO challenge.⁸⁶ Prior to that, "the ITC conducted 73 Section 201 investigations from 1975 to 2001. In 26 of those cases, the ITC determined imports were a threat to a domestic industry and the President decided to grant some form of relief."⁸⁷

Section 201 is based upon the premise that a surge in imports represents a passing market disruption from which domestic industry simply needs temporary protection so as to make a "positive adjustment to import competition" characterized by "freer international competition."⁸⁸ However, as China's industrial practices intentionally aim to take global market share via sustained Chinese overcapacity, the logic undergirding Section 201 often does not hold. Section 201's standard of "substantial cause" has also proven very difficult to establish, while its requirement of "serious" injury entails a much more onerous burden of proof than the "material" injury standard under AD/CVD.⁸⁹

Section 232 of the Trade Expansion Act of 1962

Section 232 allows the Commerce Department to 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."⁹⁰ Although the statute does not provide a definition of national security, Section 232 investigations, undertaken by Commerce's Bureau of Industry and Security (BIS), must consider several factors, including "domestic production needed for projected national defense requirements; domestic capacity; the

* From October 2000 until December 2013, the United States was also able to use Section 421 of the Trade Act of 1974, which was partly based on the mechanics of Section 201. Section 421 was specific to China, designed as a temporary safeguard for the initial period of China's accession to the WTO. Jeanne J. Grimmer, "Chinese Tire Imports: Section 421 Safeguards and the World Trade Organization (WTO)," *Congressional Research Service* CRS R 40844, July 12, 2011, 10–15.

availability of human resources and supplies essential to the national defense; and potential unemployment, loss of skills or investment, or decline in government revenues resulting from displacement of any domestic products by excessive imports.”⁹¹ Dependent on the findings, the president can impose tariffs or quotas and can target specific countries. The Trump Administration’s application of tariffs on aluminum and steel imports in 2018 occurred after positive determinations following Commerce’s first Section 232 self-initiations since 1999.⁹²

Although a wide array of actors may trigger the initiation of a Section 232 investigation, including any “interested party,” the head of “any department or agency,” and the secretary of commerce, investigations have historically been rare.⁹³ Brock Williams of the Congressional Research Service notes that prior to the steel and aluminum investigations in 2017 that resulted in the imposition of tariffs, a president last utilized Section 232 in 1986, and there had only ever been 26 investigations and six actual trade enforcement actions.⁹⁴ However, the evolving relationship between U.S. national security and economic security in light of China’s damaging non-market distortions may make Section 232 an increasingly useful policy tool to ensure U.S. competitiveness in certain industries and product categories. One recent example is imports of neodymium permanent magnets, a critical component for electric vehicles. China dominates global production of neodymium magnets as a result of a variety of nonmarket practices in the automotive industry, leading the United States to rely on China for roughly 75 percent of its imports of neodymium magnets in 2021.⁹⁵ The Commerce Department, in response to the Biden Administration’s identification of this potential threat in its *100-Day Supply Chain Review*, launched an investigation into the national security implications of these imports in September 2021.⁹⁶ The investigation, released in a redacted format in September 2022, determined that overreliance on foreign imports of neodymium magnets is a threat to U.S. national security but did not recommend imposing tariffs on imports.⁹⁷ Instead, the Administration will encourage domestic production through mechanisms such as the Defense Production Act (DPA), tax credits for neodymium magnets, collaboration with allies and partners on supply chains, and workforce development.⁹⁸

Section 301 of the 1974 Trade Act

Congress has delegated the executive branch broad discretion under Section 301 of the Trade Act of 1974. Specifically, Section 301 empowers the USTR to suspend trade agreement concessions or impose import restrictions if a U.S. trading partner is found violating commitments or engaging in an act, practice, or policy that is “unreasonable or discriminatory and burdens or restricts [U.S.] commerce.”⁹⁹ As the Commission noted in 2018, “Section 301 investigations are ‘more open-ended’ than AD/CVD orders and Section 201 and 232 cases [as well as 337 cases], leaving a wide range of actions available to the administration.”¹⁰⁰ Unlike AD/CVD, Section 232, and Section 337 investigations, Section 301 investigations are more routinely self-initiated by the agency.¹⁰¹ The possible remedies available to the USTR are wide ranging. Though they typically have

entailed tariffs, these remedies include a variety of tools such as quotas, tariff-rate quotas, and restrictions on services and licensing arrangements. Prior to 2017, Section 301 had largely fallen out of use as a trade remedy tool, with 119 investigations having occurred from 1975 to 2000 and only five between 2000 and 2016.*¹⁰²

Section 301 provides the USTR with a great deal of flexibility and can allow for novel remedies. While this capability may be useful as a negotiating tactic, Section 301 investigations themselves are also a useful means of gathering data. Further, experts across different fields have proposed extending usage of Section 301 to other clearly abused industries and trade issues. As Celeste Drake, who was then Trade and Globalization Policy Specialist at the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), argued before the Commission in 2018, “Section 301 has been woefully underused to address violations of labor and environmental obligations in trade agreements—the violation of which not only acts as an inducement to transfer production abroad, but also creates downward pressure on wages and standards in the United States.”¹⁰³ Such practices are rampant across China and continuously contribute to the U.S.-China trade imbalance. As the *Financial Times* reported in May 2022, local governments across China have been intentionally ignoring labor violations to spur economic output.¹⁰⁴ Imposing costs for failing to live up to high standards can incentivize a race to the top rather than the bottom.

Meanwhile, according to Stephen Ezell of the Information Technology and Innovation Foundation, the United States “has never used [Section 301’s] services trade-related provisions.”¹⁰⁵ The statute currently lacks details on what kind of U.S. remedies are applicable. These might entail import quotas or reciprocity in requirements for the creation of new ventures. Several multilateral organizations, such as the G7, the Organization for Economic Cooperation and Development (OECD), the Global Forum on Steel Excess Capacity, and the U.S.-EU Trade and Technology Council, are making progress on common actions that could be taken against trade-distorting industrial subsidies and abuses of environmental, labor, and human rights.¹⁰⁶ Until these mechanisms come to fruition, however, Section 301 investigations and actions can protect against China’s harmful practices and serve as a leading example for other countries facing similar challenges.

Section 337 of the Tariff Act of 1930

Section 337 cases play a critical role in protecting the U.S. innovation base. A complainant can bring a Section 337 case to the USITC in instances where specific imported products can be shown to have used “unfair practices in import trade.”¹⁰⁷ In practice, this has meant the imported product improperly benefited from misappropriated IP. Corporate entities from China routinely engage in industrial espionage, steal trade secrets, and ransack the open U.S. patent database. After saving money on research and development by engaging in this theft, the firms may then receive subsidies to

*Among the five Section 301 investigations, in 2010 the Obama Administration launched an investigation into China’s policies affecting green technologies, following industry petition. Office of the U.S. Trade Representative, *United States Launches Section 301 Investigation into China’s Policies Affecting Trade and Investment in Green Technologies*, October 15, 2010.

scale up production and export to the United States and other markets. This likely happened in the case of Datang Telecom Group, a Chinese SOE, and U.S. firm Lucent, once the world's largest telecommunications equipment company, wherein the former's IP theft contributed to driving the latter out of business.¹⁰⁸ Section 337 is distinctive in the remedies it provides. In lieu of tariffs, if a violation is found the USITC can directly issue exclusion orders to Customs and Border Protection, completely prohibiting imports of the violating product.

As with AD/CVD cases, however, data limitations may hamper more comprehensive use of Section 337. The USITC almost exclusively relies on private firms to file complaints, and these firms cannot have their cases "accepted by the USITC unless a lengthy complaint is submitted."¹⁰⁹ Many firms, however, are hesitant to come forward publicly for fear of retaliation in China.¹¹⁰ Mr. Ezell recommends working broadly with a coalition of allies to produce a large "bill of particulars" that can be used to identify and catalogue all Chinese firms that engage in illicit technology practices.¹¹¹ The USITC could help maintain and contribute to this database and potentially use it as the basis for self-initiating cases to take the onus off the private sector.

Section 337 may also be more useful if its purview is expanded beyond IP law issues, a narrow remit for a remediation mechanism that was originally considered a "catch-all" statute. Ms. Drake argues that the myopic focus on IP represents a narrowing of the scope of Section 337 in a manner unintended by Congress:

*Section 337 is a statute that has much broader applications than have been successfully utilized by the private sector. The ITC has essentially limited its utility to addressing violations of intellectual property despite the expansive scope provided for in its authority. For example, a recent case filed by U.S. Steel under 337 was undermined by the misreading of the statute to eliminate an antitrust claim. As a result, future Section 337 claims asserting that foreign companies are fixing prices at below-market prices and thereby undercutting the prices of domestic competitors are unlikely to be successful, which is contrary to Congressional intent.*¹¹²

The USITC itself recognized in 2003 that it "has great latitude in what constitutes unfair methods of competition or unfair acts in importation and, thereby, whether jurisdiction exists."¹¹³

Defense Production Act

The DPA confers expansive authorities upon the president to influence and ensure the U.S. domestic industrial base can meet national security requirements. Migration of U.S. production capacity to China and increasing dependence on Chinese supply chains from the country's intentional overproduction have raised concerns that the United States lacks sufficient domestic capacity across a range of key industrial and technological domains. The DPA has subsequently become an attractive tool to overcome some of the negative impacts of China's distortions. The DPA states that the "President shall take appropriate actions to assure that critical components,

critical technology items, essential materials, and industrial resources are available from reliable sources when needed to meet defense requirements.”¹¹⁴ Such actions may occur, the act elaborates, not only during times of active conflict but also “during peacetime, graduated mobilization, and national emergency.”¹¹⁵ The president is specifically empowered to issue “rated orders” that “prioritize government contracts for goods and services over competing customers.”¹¹⁶ The DPA also grants the president the authority to provide incentives within the domestic market, including direct purchases, purchase commitments, loans, and loan guarantees, to “enhance the production and supply of critical materials and technologies when necessary for national defense.”*¹¹⁷

A steadily expanding scope of industries making use of the DPA in peacetime raises the potential for the act to be used for more preventative or proactive strengthening of U.S. production. The act has been routinely used since its creation in 1950, principally for military equipment and vehicles.¹¹⁸ In the last several years, it has been used outside of military-related areas to address industrial base shortfalls. The Trump and Biden Administrations have utilized DPA authorities extensively in response to the COVID-19 pandemic, with the latter using it to stimulate production of COVID vaccines, testing kits, and various types of personal protective equipment (PPE).¹¹⁹ In March 2022, the Biden Administration invoked DPA authorities to order the U.S. Department of Defense to bolster sustainable domestic production of strategic minerals, in coordination with other agencies.¹²⁰

Export Controls

There are additional opportunities to continue improving and building out the U.S. domestic export controls system to prevent foreign access to sensitive, dual-use technologies from the United States. While the passage of the Export Control Reform Act (ECRA) of 2018 remains a significant Congressional achievement, fulfilling ECRA’s cornerstone authorities remains a challenge. There are continued gaps in implementation between development of tighter controls, information sharing, and monitoring end use. Alongside permanently codifying longstanding export control practices, ECRA also tasked Commerce’s BIS with identifying “emerging and foundational” technologies and imposing controls where necessary. Between 2018 and 2020, BIS released separate requests for public comment to produce a methodology for identifying emerging and foundational

*The act includes three primary tools for coordinating and expanding domestic production: Title I: Priorities and Allocation: Title I authorities under the DPA allow the president to direct businesses or corporations to prioritize contracts, known as “rated orders,” with the government for materials or services necessary for promoting national defense. Title III: Expansion of Productive Capacity and Supply. Title III authorities give the president the ability to incentivize the U.S. industrial base to expand the production and supply of certain materials or goods for the purpose of national security. These incentives may include loans, direct purchases, and purchase commitments. Title III of the DPA also establishes the Defense Production Act Fund, which is an account with the Department of the Treasury to pay for Title III projects. Title VII: General Provisions: Title VII of the DPA authorizes the president to consult with industry and other representatives to develop voluntary agreements with private businesses, as well as the authority to block foreign mergers or acquisitions that may harm national security. Title VII provisions also include the authority to assemble industry executives whom the government can call upon in the interest of national security. Michael H. Cecire and Heidi M. Peters, “The Defense Production Act of 1950: History, Authorities, and Considerations for Congress,” *Congressional Research Service* CRS R 4376, March 2, 2020.

technologies. After more than four years of ECRA implementation, BIS has not identified any foundational technologies, and in a May 2022 statement it announced it would not attempt to do so despite Congressional direction in 2018.¹²¹ Many researchers already in the government, such as those in the Department of Energy’s system of national labs, have direct, hands-on experience in analyzing and building these kinds of technologies. Together with policymakers, these experts may better anticipate potential uses of the technologies contrary to U.S. interests. Importantly, technologists are also equipped to understand the depth of scientific and technical capabilities in other countries, being familiar with research and metrics of their respective fields.

Another important issue is the increasing difficulty of performing end-use checks, either pre-license or post-export, in jurisdictions like China, wherein BIS has traditionally performed these onsite at the product destinations.* To suspend exports to such countries would have some sweeping effects, almost certainly disrupting ongoing Chinese accumulation of technologies but also potentially damaging U.S. exporters and their perceived reliability. Another emerging proposal is to digitize parts of the export controls process to make end-use and end-user verification simpler. In this approach, a combined hardware and software solution would track the movement of some controlled goods and remain operable for authorized users but would also potentially act as a “kill switch” for technology that finds its way to an adversary or unverified user.¹²² The Center for Strategic and International Studies found that digitization of these processes might be feasible for certain types of products, such as Internet of Things products. Researchers cautioned that such a tool could increase compliance but, if applied too broadly, could have a negative effect on U.S. export competitiveness. The study also emphasized the importance of this mechanism’s cybersecurity and resistance to hacking, and it specified that any digitization would need to be designed with particular attention to international data privacy regimes to ensure that any data collected would be done so lawfully.¹²³

Additional Controls to Address Advanced Technology Threats

On October 7, BIS announced two rules on export controls intended to curb development of military technologies in China. The first of these rules is an interim final rule to prevent the export of advanced computing chips, particularly those relevant to the development of AI, and semiconductor manufacturing equipment to entities based in China.†¹²⁴ The rule sets forth several other updates, including:

*End-use verification or end-use checks refer to the process of confirming that end users of exported controlled goods are using such goods in a legitimate fashion consistent with applicable export control rules. This confirmation process is typically done in person and by government agencies responsible for administering export controls. In the United States, these agencies include the Departments of Commerce, Defense, and State. Kevin J. Kurland, “End-Use Monitoring and Effective Export Compliance,” Conference on Export Controls and Policy, U.S. Department of Commerce, Bureau of Industry and Security, Washington, DC, October 30, 2016, 1–2.

†BIS will also grant a temporary general license “to permit specific, limited manufacturing activities in China related to items destined for use outside China.” U.S. Department of Commerce, Bureau of Industry and Security, “Implementation of Additional Export Controls: Certain Advanced Computing Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification,” *Federal Register* 87:62186 (October 13, 2022).

Additional Controls to Address Advanced Technology Threats—Continued

- A range of new licensing obligations for U.S. persons who may sell or otherwise seek to support Chinese entities in developing these technologies;
- Expansion of a foreign direct product rule* to 28 Chinese entities already on the Entity List; and,
- End-use restrictions for supercomputers.

Older, less advanced chips will be covered by the new licensing restrictions to prevent adversarial Chinese companies from developing more advanced generations from legacy technology.¹²⁵ Elements of this first rule will be implemented in phases throughout October 2022, and may be subject to refinement or expansion, including for related Entity List designations, following the end of the public comment period in early December 2022.¹²⁶ The second rule strengthens the BIS process relating to entities on the Unverified List, clarifying that failure of host governments to cooperate on end-use checks could result in the designation of those entities directly to the Entity List.[†]¹²⁷ Along with the rule change, BIS announced the addition of 31 new Chinese entities to the Unverified List while removing nine entities, making for a total of 117 Chinese entities on the list as of October 2022.[‡]

Inbound Investment Screening

With the passage of the Foreign Investment Risk Review Modernization Act (FIRRMA) in 2018, the inbound investment screening system has gone through considerable improvements.¹²⁸ The law allows for some flexibility to meet emerging challenges from predatory investment, such as targeted Chinese investment and acqui-

*Foreign direct product rules prohibit foreign countries from exporting or reexporting controlled items made with a certain portion of U.S.-origin technology or software (as defined by the EAR) to restricted end users unless the exporter receives a license or license exception. Kevin Wolf et al., “US Government Clarifies, Reorganizes and Renames Descriptions of How Foreign-Produced Items outside the United States Are Subject to US Export Controls as the US Contemplates New Restrictions on Russia,” *Akin Gump Strauss Hauer & Feld LLP*, February 9, 2022.

†The Unverified List includes entities whose end-use of items subject to the EAR cannot be verified by the U.S. government. U.S. Department of Commerce, Bureau of Industry and Security, *Export Administration Regulations, Part 744*, March 16, 2021.

‡BIS removed the following nine entities from the Unverified List: Anhui Institute of Metrology, Chuzhou HKC Optoelectronics Technology Co., Hefei Anxin Reed Precision Co., Hefei Institutes of Physical Science, Jiutian Intelligent Equipment Co., Suzhou Gyz Electronic Technology Co., Suzhou Lylap Mould Technology Co., Wuxi Biologics Co., and Wuxi Turbine Blade Co. Additions included: Beijing Naura Magnetolectric Technology Co., Beijing PowerMac Company, CCIC Southern Electronic Product Testing Co., Chang Zhou Jin Tan Teng Yuan Machinery Parts Co., Chinese Academy of Geological Sciences Institute of Mineral Resources, Chinese Academy of Science (CAS) Institute of Chemistry, Chongqing Optel Telecom, Chongqing Xinyuhang Technology Co., Dandong Nondestructive Electronics, DK Laser Company Ltd., Foshan Huaguo Optical Co., GRG Metrology & Test (Chongqing) Co., Guangdong Dongling Carbon Tech. Co., Guangxi Yuchai Machinery Co., Guangzhou GRG Metrology & Test (Beijing) Co., Jialin Precision Optics (Shanghai) Co., Lishui Zhengyang Electric Power Construction, Nanjing Gova Technology Co., Ningbo III Lasers Technology Co., Qingdao Sci-Tech Innovation Quality Testing Co., Shanghai Tech University, Suzhou Sen-Chuan Machinery Technology Co., Tianjin Optical Valley Technology Co., University of Chinese Academy of Sciences, University of Shanghai for Science and Technology, Vital Advanced Materials Co., Ltd., Wuhan Institute of Biological Products Co., Ltd., Wuhan Juhere Photonic Tech Co., Wuxi Hengling Technology Co., Xian Zhongsheng Shengyuan Technology Co., Yangtze Memory Technologies Co.

sitions that are designed to appropriate U.S. innovation. Congress could still benefit from more information gathering in areas like greenfield investment. Even though FIRRMA expanded the purview of CFIUS to review greenfield investments involving covered real estate, the U.S. government does not closely monitor or publicly report greenfield investments themselves.¹²⁹ Ms. Nikakhtar testified that the Commerce Department retains statutory authority to collect information on greenfield investments, but there are barriers to making such information publicly useable.¹³⁰

Modifications to the inbound investment screening mechanism and scope can have significant effects on the flow of investment into the United States and implications for sustaining growth. Some fear that restrictions on greenfield investment could have an immense chilling effect on foreign direct investment (FDI) into the United States. Detractors also worry that such restrictions would mar the United States' reputation as a free and open economy, potentially impeding its ability to eliminate barriers to investment in future negotiations abroad. Any such prohibition would also increase already growing concerns about the transparency and consistency of the CFIUS process. U.S. enforcement of mitigation agreements is ultimately untenable as Chinese parties in a transaction can obfuscate or obscure information and state connections, leading some experts to believe that such firms should not be granted mitigation agreements writ large.¹³¹

Executive Order (EO) Details CFIUS's National Security Mandate and Lists Technologies

On September 15, 2022, the Biden Administration released an EO that detailed specific elements of national security CFIUS must include in its review process and also provided an explicit list of technologies meant to garner additional scrutiny.¹³² The EO specifically identified five areas related to national security for CFIUS to consider when assessing transactions: (1) the impact on the resilience of critical U.S. supply chains, (2) the effect on U.S. technological leadership in key areas, (3) relationship to other industry investment trends that may cumulatively create U.S. national security vulnerabilities, (4) cybersecurity risks, and (5) risks to sensitive U.S. data.¹³³ Senior Administration officials noted to the press that while CFIUS had already been incorporating these national security concerns into its review process, the order was intended not only to direct existing practice but also to send "a very clear message, a public message, to the private sector" on the process and better inform private sector stakeholders and firms.¹³⁴

Prospective Tools

Outbound Investment Screening

Where CFIUS scrutinizes foreign investments into the United States, an outbound investment screening mechanism would scrutinize U.S. investments into foreign countries. This process would complement existing export controls, which, as Ms. Kilcrease argued

in testimony before the Commission, prevent the *transfer* of technology to China but not the *development* of technology in China.¹³⁵

According to former CFIUS Lead Counsel Ben Joseloff, there are three different risk scenarios related to outbound investment that an outbound investment-screening mechanism could seek to address: (1) technology development via FDI and joint ventures; (2) offshoring and supply chain development concerns; and (3) financial flows—including venture capital, private equity, and potentially portfolio investments—that assist with the development of certain companies, technologies, and sectors in countries of concern.¹³⁶ An important preliminary consideration is which of these three areas (or combination of areas) an outbound investment screening mechanism would address. In testimony before the Commission, Ms. Kilcrease argued that an outbound investment screening mechanism should aim for a clearly specified set of objectives. The objectives could “include maintaining U.S. technological leadership in domains that are directly or indirectly important for future U.S. military dominance, U.S. intelligence capabilities, and resilient operation of U.S. critical supply chains and physical and digital infrastructure, as well as preventing the use of technology to undermine democratic institutions and human rights.”¹³⁷

A more tailored and bounded objective of an outbound investment screening process would be to protect critical U.S. supply chains via ex-ante screening of proposed FDI that could lead to offshoring to China in critical supply chain segments. By contrast, a more expansive outbound investment mechanism would take into consideration China’s technology development vis-à-vis that of the United States and include within its mandate an aim to constrain the development of advanced technology and critical capabilities on national and economic security grounds. Such an outbound review process would involve—but also go beyond—screening joint ventures and FDI to potentially include consulting, advisory, venture capital, private equity, portfolio investment, and other forms of knowledge and capital transfer. According to independent research firm Rhodium Group, implementing a sweeping outbound investment mechanism would make the United States “one of only a handful of OECD economies that have such formal restrictions or review requirements in place” and potentially contravene the U.S. tradition of supporting the free movement of capital.¹³⁸ Private industry groups, meanwhile, have expressed concern that such a mechanism, particularly if deployed unilaterally, could hurt U.S. companies’ relative global competitiveness.¹³⁹

Divestment Authority

Russia’s war on Ukraine has prompted a range of U.S. and allied responses to cut ties with Russia, but it has also demonstrated the challenge of comprehensively divesting U.S. capital and commerce from potential adversary countries. A divestment authority could provide such a mechanism, enabling the executive branch to respond to security threats emanating from existing U.S. investment overseas. Currently, the U.S. government does not have an explicit

divestment authority that is broadly applicable.* The International Emergency Economic Powers Act (IEEPA) grants the president sweeping authority to “nullify, void, prevent, or prohibit” transactions in response to “any unusual and extraordinary threat . . . to the national security, foreign policy, or economy of the United States.”¹⁴⁰ In testimony before the Commission, then Vanderbilt University professor of law Timothy Meyer noted this authority could theoretically encompass ex-post transactions, though there is no clear process for doing so.¹⁴¹

IEEPA could be broadly interpreted to compel U.S. entities to divest from stocks abroad, but it has some limitations. IEEPA authority exclusively applies to property where a foreign country or national retains an interest, but it does not explicitly authorize divestment. For instance, it is possible that IEEPA could nullify U.S. stakes in Chinese joint ventures, but it may not be applicable to wholly owned U.S. entities located in China. The law provides the president great discretion to determine how it can prevent or prohibit transactions, though increased use of the law has inspired additional debate on whether Congress should prescribe additional parameters.¹⁴² The Trump Administration’s 2019 efforts to use IEEPA as a basis for tariff application on Mexican imports was met with controversy, and industry groups indicated they would challenge the action in court if implemented.†¹⁴³

A lack of specifics in IEEPA could have consequences for future applications and be subject to abuse. The scope of the law’s application has increased over the last two decades beyond specific geographies or nationalities, and the duration of these emergencies has extended as long as 40 years.¹⁴⁴ Presidents have invoked the law in response to events widely regarded as emergencies, such as the 1979 Iran hostage crisis and the spread of biological weapons, but no executive has yet fully utilized IEEPA in response to economic security threats.¹⁴⁵ While there have been several lawsuits from private U.S. entities against the government on account of its use of IEEPA, none of these legal challenges have been successful, pointing to potential gaps in process and public consultation, particularly with increased reliance on IEEPA.¹⁴⁶ In anticipating such legal challenges,‡ Dr. Meyer advised legislating a more precise authority

*For two years following the act’s passage in July 2010, the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 supported state and local governments divesting from any entity that had more than \$20 million invested in Iran’s energy sector along with prohibiting further government funds or contracts with ties to Iran. In December 2007, the United States also enacted the Sudan Accountability and Divestment Act to support divestment of state and local governments, along with fund managers and investment advisers from companies with interests in four of Sudan’s business sectors. Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 §202, Pub. L. 111–195, 2010; Sudan Accountability and Divestment Act of 2007 §3, Pub. L. 110–174, 2007.

†In May 2019, then President Donald Trump announced his intent to use IEEPA to declare a national emergency around migration flows from the southern border. In response to this emergency, then President Trump moved to apply a 5 percent tariff to all imported goods from Mexico that would have gradually been raised to 25 percent absent “effective actions taken by Mexico.” However, the United States and Mexico subsequently reached an agreement that resulted in the indefinite suspension of the tariffs. The use of IEEPA to impose tariffs is less common, but there is precedent from then President Richard Nixon’s 1971 use of the Trading with the Enemy Act (IEEPA’s predecessor law) to apply tariffs in response to a balance of payments crisis. Scott R. Anderson and Kathleen Claussen, “The Legal Authority behind Trump’s New Tariffs on Mexico,” *Lawfare*, June 3, 2019. Liam Stack, “U.S. and Mexico Issue Joint Declaration on Migration and Tariffs,” *The New York Times*, June 7, 2019.

‡For instance, Chinese smartphone maker Xiaomi and big data processor Luokung both successfully challenged prohibitions on U.S. investment in their publicly traded securities. The pro-

with a clearly defined scope and set of conditions under which it may be invoked. Greater regulatory certainty could prevent overuse, better withstand judicial scrutiny, and provide an adequate channel for public input and recourse.

Market Access Charge

Most policy tools, such as those identified above, aim to remedy unfair trade practices with China via the current account (i.e., trade), principally through tariffs, tariff-rate quotas, and exclusion orders. Tools targeting the financial account—comprising portfolio, FDI flows, and reserve flows—are much less frequently considered. As Douglas Irwin describes in his book *Clashing over Commerce*, however, it may be the financial account at the root of the problem. After the fixed exchange rate system collapsed in 1973, capital controls—which had been a pervasive and fundamental part of the Bretton Woods system—similarly disappeared, and floating exchange rates became the norm. Financial flows between countries increased massively, which “allowed large trade imbalances to emerge. In the U.S. case, other countries wanted to use dollars they earned exporting to the United States to buy U.S. assets rather than American-made goods. As a result, the dollar appreciated in value and exports began to fall short of imports as foreign investment in the United States surged.”¹⁴⁷

The obverse of surplus capital inflows is a trade deficit. Because of this fundamental accounting identity, some economists and policy-makers have argued that the United States can correct trade imbalances by implementing a fee or a tax on acquisitions of U.S.-dollar denominated assets.¹⁴⁸ Such a tax would deter acquisition of U.S. financial assets, lead to a devaluation of the U.S. dollar, and ultimately rebalance trade. A market access charge (MAC) would be one such implementation method. Joseph Gagnon, an expert on monetary and currency policy at the Peterson Institute, has expressed tentative support for the measure so long as a MAC is uniform across all types of financial inflows. This would ensure minimum ability to “game” the policy, minimize distortions, and otherwise allow market forces to operate normally.¹⁴⁹ A MAC would also raise substantial revenue—a 5 percent MAC could raise \$300 billion over five years—which could fund various domestic priorities.¹⁵⁰

Instituting a MAC, however, raises several serious concerns. First, taxing financial inflows would be inconsistent with the United States’ post-Bretton Woods support for financial account liberalization. Second, a number of private sector stakeholders would object to such a measure. And third, instituting a MAC would not be costless: limiting foreign inflows could lead to a rise in short- and long-term domestic interest rates.¹⁵¹

hibitions relied on IEEPA authority invoked under EO 13959, which restricted investment in Chinese companies designated as contributing to China’s military by the U.S. Department of Defense (DOD). The U.S. District Court for the District of Columbia granted Xiaomi and Luokung preliminary injunctions in March and May 2021, respectively, arguing that the designation by DOD failed the “arbitrary and capricious test” established by the Administration Procedure Act (APA). Section 706(2)(A) of the APA indicates courts reviewing regulation may overturn agency actions if they find factual assertions or underlying rationale “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” United States District Court for the District of Columbia, *Xiaomi Corporation v. Department of Defense, et al., Memorandum Opinion: Granting Plaintiffs’ Motion for Preliminary Injunction; Granting Plaintiffs’ Motion for Leave to File Supplemental Declaration*, March 12, 2021, 7–9.

Opportunities for New or Alternative Structures

In addition to adjustments of its own national policies, the United States can take steps to better defend against China's predatory policies through close cooperation with likeminded countries.

U.S. Cooperation with Allies and Partners

The United States is focused on cooperating with allies in smaller-scale partnerships that may be able to achieve commitments with high standards for ensuring labor rights, lowering emissions, and guaranteeing supply chain security. Ongoing initiatives at the bilateral or trilateral levels also offer potential models for other plurilateral arrangements that can be narrowly tailored while filling gaps unaddressed by larger multilateral arrangements.

U.S.-EU Trade and Technology Council

Launched in June 2021, the U.S.-EU Trade and Technology Council (TTC) is a forum for bilateral cooperation centered on key issues confronting democracies and market economies. Agreement and cooperation achieved on both sides may be a useful foundation for broader coalitions in the future, as the partnership represents 28 countries that accounted for nearly 42 percent of global GDP in 2021.*¹⁵² While neither the United States nor the EU explicitly name China as a focus of the TTC's mission, the May 2022 Joint Statement notes that the TTC "will continue to oppose actors who threaten the multilateral rules-based order and fundamental principles of international law."¹⁵³ The TTC has divided its efforts into ten working groups,† many of which will have a bearing on global trade and economic rules and norms.

Technology

In addition to facilitating greater transatlantic trade, successful cooperation on technology standards can bolster coordination of both sides to counter Chinese influence in the formation of international standards. The United States and the EU are dedicating particular attention to artificial intelligence (AI), which connects to multiple working areas under the TTC.¹⁵⁴ These efforts parallel key risks emanating from Chinese industrial policies. Chinese government bodies and firms have focused on creating standards for particular AI applications, like facial recognition, that are essential for the operation of mass surveillance systems. The United States and the EU are likely to address global surveillance and facial recognition standards from a human rights-based perspective. Experts also anticipate that the two sides will collaborate more effectively on export controls in the wake of Russia's invasion of Ukraine. Within less than a month of the invasion in February 2022, several democratic

*Although the EU is composed of 27 sovereign nations, it has the sole responsibility of negotiating trade agreements and other trade policy with third countries. The EU also holds exclusive responsibilities over matters concerning commercial aspects of IP, public procurement, and FDI. European Commission, "Making Trade Policy."

†The ten working groups include: tech standards, climate and green tech, secure supply chains, information and communications technology and services (ICTS) security and competitiveness, data governance and tech platform regulation, misuse of technology threatening security and human rights, export controls, investment screening, promoting SME access to and use of digital technologies, and global trade challenges. European Commission, "Factsheet: EU-US Relations EU-US Trade and Technology Council," June 2021.

countries coordinated the application of new export controls to stem the flow of technologies to Russia.¹⁵⁵ (For more on China's actions related to the invasion of Ukraine, see Chapter 2, Section 1, "Year in Review: Economics and Trade.")

Even as there are welcome opportunities for transatlantic cooperation, there are also longstanding differences in the United States' and the EU's approaches to technology, regulation, and trade that may be difficult to reconcile. As the United States continues to oppose China's promotion of internet sovereignty, the EU began developing its own strategy for managing technology and consumer protection in 2019 centered on strengthening European innovation and regulation of technology to find "European solutions."¹⁵⁶ EU officials also emphasize increased consumer control and government supervision in their approach, similar to principles already outlined in the EU's General Data Protection Regulation.¹⁵⁷ While the European vision of tech sovereignty is distinct from China's, it is nonetheless still at odds with the U.S. approach. The recent slate of EU regulations related to online advertising, antitrust, and digital taxation often directly target U.S. tech companies in moves that U.S. industry has claimed are discriminatory and protectionist on the part of EU regulators.¹⁵⁸ On technical standards in particular, the EU approach remains far more top-down in nature than that of the United States. Domestic industry leads U.S. standards-setting efforts while the government supports but does not coordinate this development. Meanwhile, the EU has considerably more government involvement in setting direction and prescription over which standards are necessary and must be drafted in accordance with regulations.¹⁵⁹ The difference in these approaches stands to be a key obstacle in collaborating on technical standards setting vis-à-vis China.

Trade and Investment

The TTC will likely be a channel for continued transatlantic partnership around investment screening practices, measures to prevent Chinese circumvention of trade defense measures (e.g., AD/CVD, etc.), and related data sharing. The United States was an early adopter in scrutinizing Chinese FDI, passing FIRREA in 2018 to better target predatory investments. Chinese appliance maker and SOE Midea Group's 2016 acquisition of German robotics firm Kuka has also helped to prompt the EU to become increasingly cautious about China's investment activities within its borders.¹⁶⁰ CFIUS has considerable experience in this area that may help the EU's evolving investment screening regime. Similarly, both sides can continue to collaborate on identifying and blocking Chinese products that attempt to circumvent AD measures by moving production to

¹⁵⁵The EU's General Data Protection Regulation came into effect in May 2018. These regulations are fundamental to EU privacy and human rights law, focused largely on individual rights to data and personally identifiable information. The regulations guarantee an individual's right to access or erase their data, along with portability and ability to restrict automated decision-making on the basis of such personal data. The regulations include certain security and cross-border transfer obligations for controllers and processors in collecting and using personal data. The General Data Protection Regulation has become a highly influential model for privacy regulation, particularly in that it requires other jurisdictions to obtain "adequacy," or recognized protections on par with those of the EU, for EU organizations to easily transfer data to organizations in another jurisdiction. Jennifer Bryant, "3 Years In, GDPR Highlights Global Privacy Landscape," *International Association of Privacy Professionals*, May 25, 2021; European Commission General Data Protection Regulations, Chapter 3, "Rights of the Data Subject," 2016.

a new jurisdiction.¹⁶¹ These areas are ripe for cooperation and also correspond closely to the TTC's working group for supply chain security. (For more on supply chain security, see Chapter 2, Section 4, "U.S. Supply Chain Vulnerabilities and Resilience.")

Continued Trilateral Efforts

Cooperative work among developed and democratic countries is not limited to the United States and the EU. Since 2018, trade ministers from Japan, the United States, and the EU have been working together to fill gaps in current WTO discipline with new rules and principles. These trilateral efforts may pave the way for future agreement on new rules that might be broadly adopted by other developed countries, either in existing forums or under new arrangements. Respective trade ministers met six times between May 2018 and November 2021 to identify common problems, often with China as the underlying focus of their discussions around non-market economies.¹⁶² In January 2020, trade ministers from each of the three sides announced proposed amendments to WTO rules on subsidies and countervailing measures, including new notification obligations and measures to target overcapacity.¹⁶³ The three sides agreed to work on broadening the WTO subsidies discipline, which could potentially allow WTO members to pursue AD/CVDs against more Chinese entities like SOEs and respond to subsidization from state banks.* The three sides also highlighted the need to confront forced tech transfer through "export controls, investment review for national security purposes, their respective enforcement tools, and the development of new rules."¹⁶⁴ In the past four years, the trilateral group has also committed to working together on digital trade initiatives at the WTO, helping to drive agreement on some new rules related to e-commerce and electronic transfer of data.¹⁶⁵ The group continues to work on other matters such as developing a fair export credits system and creating rules that target other forms of state support aside from subsidies.¹⁶⁶

Sector-Specific Managed Trade Arrangements

U.S. cooperation with the EU and Japan is also manifesting on a sector-specific basis while focusing on environmental goals. In October 2021, the United States launched the U.S.-EU Arrangements on Global Steel and Aluminum Excess Capacity and Carbon Intensity (also called the Global Arrangement on Sustainable Steel and Aluminum). The deal replaced U.S. tariffs on EU steel and aluminum imports the Trump Administration applied in 2018 under Section 232 and established tariff-rate quotas, which permit a certain quantity of imports to be traded tariff free or at a reduced rate. The deal also eliminated retaliatory EU tariffs on a range of U.S. goods,

* Under WTO disciplines, "for a financial contribution to be a subsidy, it must be made by or at the direction of a government or any public body within the territory of a Member." As a result of another U.S.-China dispute in 2008, the WTO determined that Chinese SOEs and Chinese state commercial banks would not be considered "public bodies." The WTO opined that the United States was imposing excess AD/CVDs because it was too broad in its interpretation of "public body" and, consequently, its assessment of China's state subsidies. "The mere fact that a government is the majority shareholder of an entity does not demonstrate that the government exercises meaningful control over the conduct of that entity, much less that the government has bestowed it with governmental authority." World Trade Organization Appellate Body Report, *United States—Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, 123.

including motorcycles and bourbon.¹⁶⁷ Under the Global Arrangement, the United States and EU have committed to negotiate an agreement to address “nonmarket excess capacity” and to establish high standards for carbon emissions in the production process.¹⁶⁸ The two sides are still developing exact standards to assess these conditions, and the process may be open to other economies.¹⁶⁹ Japan has not been invited to join the Global Arrangement, but in February 2022 Japanese and U.S. negotiators did reach a separate agreement on Section 232 whereby qualifying Japanese steel imports would no longer be subject to tariffs and instead imported under a tariff-rate quota.¹⁷⁰

Sector-specific trade arrangements could serve as an alternative to typical trade agreements that capture both economic and other public policy goals. Instead of further opening markets, these trade arrangements focus on a small group of market-oriented partners coordinating to ensure high standards of production among participants. Emissions reduction and climate change mitigation are the goals of these arrangements, but the true novelty is their readjustment of import policies. Future arrangements modeled on the U.S.-EU deal could address goals other than carbon emissions, targeting other forms of sustainability or resource intensity. Such arrangements might also focus on other sectors and set standards for non-environmental goals such as labor rights. Through these kinds of arrangements, the United States and its allies could target Chinese excess capacity in carbon-intensive sectors like concrete and cement, of which over half of global capacity is sourced from China.¹⁷¹ The Global Arrangement’s forthcoming negotiations will specify “trade defense instruments,” which could be an easily adaptable model for safeguards in any new sector-specific arrangement. As international trade expert Jennifer Hillman wrote, the arrangement can also serve as an important foundation for technological exchange.¹⁷² Similarly, establishing other arrangements based on this model could lead to increased data sharing, monitoring of supply chains, and collective analysis of Chinese practices among partners.

New Export Control Regimes

Export controls are a powerful but procedurally complex tool of U.S. security and trade policy. According to former U.S. Assistant Secretary for Export Administration Kevin Wolf, the multilateral export control system traditionally sought to control commercial technologies with “a direct link to weapons of mass destruction, conventional weapons and other military items, space- and launch-related items, or the dual-use commodities, software, and technologies necessary for their development, production, or use.”¹⁷³ China’s military-civil fusion efforts uniquely challenge assumptions about the definition of dual use and pose complex questions regarding how to anticipate and thus best control emerging technologies for which the dual-use application is not yet clear. The rapidly evolving nature of technology, particularly in emerging areas like AI, makes it increasingly easy to repurpose commercial hardware and software for offensive applications. The Chinese government also prioritizes development of technologies for surveillance and information control, components that are key to its domestic political aims but increasingly make

up part of China's exports and appeal to other authoritarian-leaning or illiberal countries. Many surveillance technology inputs like cameras, sensors, processors, and even related software are often sourced from the United States. The definition of "dual use" has subsequently expanded in the face of China's extensive reliance on surveillance technology, which not only is used to perpetuate human rights violations but also presents some potential new security risks for military and nonmilitary uses.¹⁷⁴

The multilateral export controls system suffers from slow decision-making and, in some cases, is too outdated or inflexible to address these questions. The Wassenaar Arrangement is the broadest of the multilateral control groups in terms of technology coverage, but progress on new controls has languished due to Russia's membership in the agreement.*¹⁷⁵ Current processes and need for consensus within Wassenaar, along with prohibition on targeting specific countries, make accomplishing new controls particularly difficult.

In testimony before the Commission, Ms. Kilcrease proposed that the United States pursue a new multilateral controls regime that can work alongside Wassenaar but exclude Russia and act as more of a values-based regime.¹⁷⁶ This new structure would allow for members "to coordinate export controls for a broader range of strategic objectives, including those that are specific to China, Russia, or other countries of concern as may be identified."¹⁷⁷ A new multilateral export controls regime could introduce controls based on protecting human rights and democracy, which would articulate a clearer vision for national security in the face of contemporary weaponization of technologies. Smaller multilateral export control regimes focused on certain technology groups might also be effective and potentially more flexible. The United States currently participates in three other groups that have a narrow technology focus: the Nuclear Suppliers Group, the Missile Technology Control Regime, and the Australia Group, the last of which is specific to chemical weapons precursors.¹⁷⁸ These three technology-specific groups offer a potential model for new multilateral control groups that can better coordinate on supply chain security for optimally quick and effective controls.

Other fora may also provide a helpful backdrop to these export control efforts. The United States, Australia, India, and Japan lead the Quadrilateral Security Dialogue ("Quad"), a group that also encourages like-minded countries to cooperate on a range of security issues. The Quad also has a broader network called "Quad Plus" that meets on a separate agenda and includes countries such as New Zealand, South Korea, and Vietnam.¹⁷⁹ In March 2021, the Quad announced the formation of a Critical and Emerging Technologies Working Group, which has focused on a range of issues, particularly (1) technology design, development, and use; (2) tech-

*The Wassenaar Arrangement is a voluntary export control regime with 42 member countries. The arrangement was established in 1996 following the dissolution of the Coordinating Committee for Multilateral Exports Controls (also known as COCOM), which was focused on preventing weapons and dual-use goods exports to the Soviet Union. The Wassenaar Arrangement is focused on promoting "transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies." Members agree to some guidelines and procedures, including reporting requirements and domestic application of controls to a particular list of items generated by consensus. Secretariat of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, "About Us."

nology standards; (3) telecommunications deployment and supplier diversification; (4) horizon-scanning for technologies, particularly biotechnology; and (5) critical technology supply chains.¹⁸⁰ While the agenda of this group is not specific to export controls, these focus areas parallel ongoing conversations about updating or expanding multilateral controls, and Quad discussions may provide a useful forum to tackle technology transfer in this regard.¹⁸¹

Economic NATO

China's escalation of economic coercion has increased calls for a coordinated counterresponse.¹⁸² While the CCP has a history of weaponizing its economic position, two recent outstanding examples have spurred these calls.¹⁸³ The first is the CCP's treatment of Lithuania following the opening of the Taiwanese Representative Office in the country. Lithuania suffered a number of coercive actions in response: its diplomatic status was downgraded; it was removed as an option on Chinese customs forms, which effectively blocked all imports from Lithuania into China; and companies from other European nations were allegedly pressured into cutting Lithuania out of their supply chains.¹⁸⁴ The second case is that of Australia, following its calls for an open investigation into the origins of COVID-19. China, in response, imposed large tariffs on a number of Australian exports, including barley and wine; instituted arbitrary restrictions on Australian timber by claiming pests were found in logs; and unofficially banned Australia's coal exports.*¹⁸⁵

Several experts, former government officials, and scholars have contemplated the possibility of an economic defense pact or "economic NATO" in response to Beijing's economic coercion among a group of aligned countries.¹⁸⁶ Matthew Pottinger, former National Security Council advisor and distinguished visiting fellow at the Hoover Institution, suggests that such a coalition would allow any goods arbitrarily banned by China under its coercive efforts "to be absorbed into the [other] economies equitably" and thus "create a deterrent against China."¹⁸⁷ In another vision of this coalition, Clyde Prestowitz, testified before the Commission that it "would have to refrain from any significant dependence on China" across a range of advanced technologies.¹⁸⁸ In late 2021, the European Commission proposed a similar mechanism, known as its anti-coercion instrument (ACI), that would be inclusive of the EU and its Member States.¹⁸⁹ Although it did not specifically name China, the ACI was drafted to provide defense in situations like that of Lithuania.¹⁹⁰ The European Commission describes the ACI as a formal legislative framework that would enable a quick, collective response to acts of economic coercion, with consequences ranging "from imposing tariffs and restricting imports from the country in question, to restrictions on services or investment or steps to limit the country's access to the EU's internal market."¹⁹¹ The European Parliament's Committee on International Trade is expected to vote on the legislation in late 2022.¹⁹² It is possible that under the U.S.-EU TTC, both sides

*For more on China's economic coercion, see U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 150–152.

could further coordinate on these policies and share best practices with other likeminded countries.

In addition to the measures highlighted via the ACI, further mechanisms under a mutual economic defense pact could also be implemented. One such mechanism, proposed by founder of the Overshoot economics research service Matthew Klein, Rhodium Group analyst Jordan Schneider, and former policy advisor at the Commerce Department David Talbot, would be to create a supranational fund that would compensate victims of coercion and spread the pain across a wide array of aligned countries.¹⁹³ Such a fund could potentially deter countries from attempting acts of economic coercion in the first place. As the authors argue:

*A fully operational Freedom Fund would neuter these attempts to bully. By pledging to support one another's businesses through boycotts, embargoes, and other measures, the allies would be able to maintain an almost impenetrable financial defense. Buying Australian wine and holding it in storage, for example, would be trivial for the allies but a meaningful response to Chinese bullying—and it might not even cost anything. This defensive capacity should encourage more countries to join the mutual economic defense pact, which also expands the potential power of any future offensive operations supported by the Freedom Fund.*¹⁹⁴

As China's willingness and ability to deploy economic coercion grow, a mutual economic defense pact comprising both defensive and offensive measures could serve to reduce the efficacy of such tactics.

Regional Trade Engagement Strategies

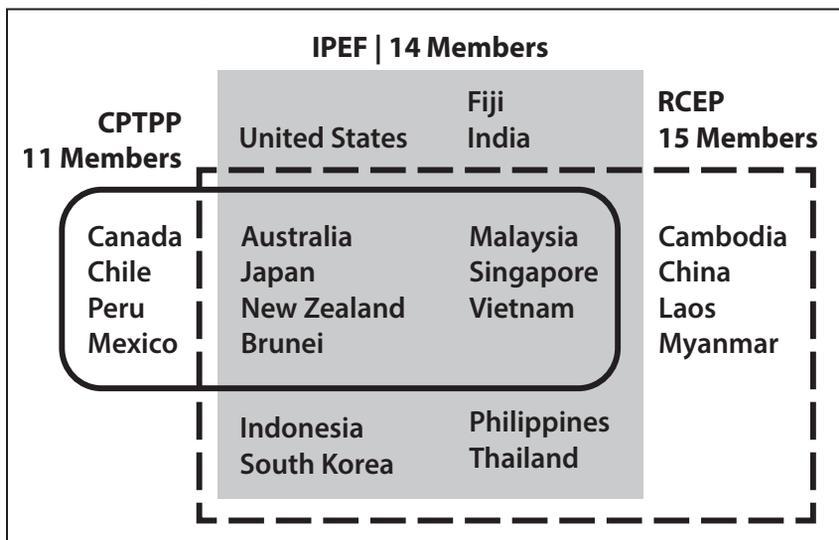
Trade in the Indo-Pacific is a key priority for both the United States and China. The Indo-Pacific is a huge, economically diverse region critical to global trade, accounting for 60 percent of both global GDP and maritime trade.¹⁹⁵ The region's role in global commerce has driven strong interest in forming trade agreements and increasing economic engagement, both from within the region and from external trading partners. U.S. economic engagement is built on a strong legacy of security guarantees and partnerships as well as assistance for trade, development, and capacity building. Meanwhile, Chinese policymakers are seeking to use trade and trade agreements to mold the Indo-Pacific into its sphere of influence.¹⁹⁶ Beijing sees U.S. efforts to increase economic engagement as a threat to its regional leadership, supply chain security, and broader regional security. Due to strong U.S. security ties in the region, Chinese policymakers are particularly eager to deepen economic ties and lean primarily on economic incentives to influence countries in the region. Over the last decade, China has already become the largest trading partner for many of its neighbors, trading twice the value of goods with the region compared to the United States in 2021.¹⁹⁷

Consistent with China's increased investment in international organizations over the last decade, Chinese policymakers have

emphasized participation in trade agreements in a bid to expand exports and claim international leadership in free trade. Since 2010, China has nearly doubled its participation in trade agreements, holding 17 FTAs with a total of 24 countries and its two special administrative regions, Macau and Hong Kong, as of June 2022.¹⁹⁸ China's FTAs have generally been with nearby partners and signed with relatively low-ambition commitments, meaning they have focused primarily on tariffs rather than standards or regulatory harmonization.¹⁹⁹ As China's government has started to develop more of its own laws, such as those related to data and cybersecurity, it sees these as a basis for rulemaking within the region and globally.²⁰⁰ Governments in the region frequently express that their countries should not be made to "choose" between both powers. High variation in economic and governance styles along with respective interests among countries in the region make exact alignment with either the United States or China difficult. This is particularly true for countries with strong U.S. security ties that struggle to meet high standards for labor and environmental regulations. While several of China's closest neighbors are concerned about Chinese infringement on their territorial and maritime sovereignty, China also remains their largest trade partner in the region. In particular, China remains a large export market for some countries farther upstream in the global value chain. The United States and China nonetheless remain peer competitors in the region for influence and greater alignment to their respective standards, regulatory models, and governance styles. The Regional Comprehensive Economic Partnership (RCEP) and the Comprehensive Progressive Trans-Pacific Partnership (CPTPP) have become symbols of this regional competition. ASEAN countries have principally steered RCEP, though China claims the passage as a key geopolitical success and has framed the deal as evidence of its regional leadership.²⁰¹ CPTPP is the legacy of the Trans-Pacific Partnership (TPP), which the United States steered significantly even though it did not initiate the deal.*²⁰² Neither the United States nor China is currently part of CPTPP, but China has applied to the trade pact while the Biden Administration has expressed concerns related to CPTPP and thus far committed to a different trade initiative, its Indo-Pacific Economic Framework (IPEF). There is significant overlap in membership between these three arrangements, which represent large chunks of the global economy (Figure 1).

*TPP originated from a 2005 trade agreement between Brunei, Chile, New Zealand, and Singapore, with the United States joining in 2008 and bringing along Australia, Vietnam, and Peru. The group eventually expanded to Canada, Japan, Malaysia, and Mexico. After 19 meetings and six years of negotiation, the countries came to a consensus on text in 2015 and signed the agreement in 2016, with several countries ratifying the deal between 2016 and 2017. The United States did not ratify the deal and withdrew altogether in 2017. James McBride, Andrew Chatzky, and Anshu Siripurapu. "What's Next for the Trans-Pacific Partnership (TPP)?" *Council on Foreign Relations*, September 20, 2021.

Figure 1: CPTPP, RCEP, and IPEF Members



Source: Adapted from Peter A. Petri and Michael Plummer, “RCEP: A New Trade Agreement That Will Shape Global Economics and Politics,” *Brookings Institution*, November 16, 2020.

Note: China and the United Kingdom have applied to CPTPP, while as of September 2022 South Korea was preparing an application it has not yet submitted to join the agreement. Brunei has not yet ratified CPTPP.

Comprehensive and Progressive Trans-Pacific Partnership

The rechristened CPTPP came into effect in 2018 with much of the deal still intact from its prior form as TPP. TPP’s provisions to reduce the role of SOEs remain in CPTPP. In total, 22 individual provisions were changed or suspended from TPP’s conversion into CPTPP in an agreement of several hundred provisions.*²⁰³ These 22 provisions mostly related to IP rights and investor-state dispute settlement and specific IP issues concerning pharmaceuticals and length of copyright terms, leaving most of the rest of the deal intact.²⁰⁴ CPTPP was nonetheless the first FTA to include rules on e-commerce and the first agreement with a digital trade chapter designed to secure the free flow of data.²⁰⁵

CPTPP membership may offer fewer discrete economic advantages to the United States than membership in its predecessor in terms of both substance and circumstance. The agreement has retained some provisions that were key priorities for U.S. negotiators under TPP, but the underlying commitments of these provisions have weakened in several cases. Special exceptions or “side letters” signed among the remaining 11 countries have weakened or delayed the ability to enforce standards across the trade bloc.²⁰⁶

CPTPP for China: An Opportunity or a Challenge

Despite not currently being a party to the agreement, China could still gain from the agreement’s implementation whether or not its

*TPP consisted of 30 chapters with around a dozen individual provisions each, not counting the 117 general and chapter-specific annexes that contain various numbers of detailed provisions each. Office of the U.S. Trade Representative, *TPP Full Text*.

application advances. Chinese firms may benefit from increasing regional integration along the Pacific Rim as well as potential advantages from the agreement's rules of origin. While lower, more flexible rules of origin are advantageous to CPTPP producers who can receive preferential tariff treatment on exports within the trade bloc, such rules also raise concerns that Chinese producers could find "back doors" to dump inputs in CPTPP countries.²⁰⁷ Chinese dumping and overcapacity are already a serious problem for U.S. trading partners. In third country markets like Vietnam, the United States has pursued cases against hot-rolled steel, which relied on dumped Chinese imports that were underpriced due to government subsidies. From India to Germany, steel overcapacity from China caused widespread job shortages and subsequent protests.²⁰⁸

In recent years, many across the political spectrum have endorsed a U.S. reentry to CPTPP, believing it has geostrategic potential to strengthen U.S. influence in the Indo-Pacific. Supporters of CPTPP believe that enlarging U.S. presence in the region can provide countries with an alternative to China's model while also potentially pressuring China to change its economic behavior.²⁰⁹ Others are skeptical that any such agreement could effectively contain China or force fundamental changes to its economic policy, particularly given past examples of failure to change China's behavior in other pluri- and multilateral forums.²¹⁰ While some experts argue that CPTPP's value is primarily strategic rather than economic, others also hold that the United States provides ample security guarantees to partners in the region and does not need a trade agreement to demonstrate regional influence.²¹¹

China's CPTPP Application Adds Complexity

In September 2021, China officially applied to join CPTPP, presenting a challenge to consensus among current members of the bloc.²¹² Its application followed news that Taiwan would submit its own application to CPTPP.²¹³ While China's application was surprising to some, there have been signs of interest as far back as 2015 and General Secretary Xi made a direct allusion to joining in 2017.²¹⁴ China's intent to meet CPTPP's high standards remains unclear, but the application underscores its repeated geopolitical narrative that China will assume leadership in the absence of the United States. In 2016, Chinese official opinions about TPP had appeared to shift, with the Ministry of Commerce calling it "one of the key agreements."²¹⁵

While there has not been clear signaling that China will pursue accession negotiations, the road to CPTPP membership will likely be difficult both politically and economically.²¹⁶ Public statements from the Japanese government have indicated hesitance to allow China to join; they also signal Japan's intent to apply CPTPP standards stringently to China's application should Beijing move forward in negotiating.²¹⁷ Similarly, Australia's trade minister said China would need to "meet, implement, and adhere to the high standards of the agreement" and retain a "track record of compliance" with the WTO.²¹⁸ Malaysia, meanwhile, has welcomed China's participation in the agreement as well as Taiwan's.²¹⁹ Along with facing push-back from current CPTPP members about joining the agreement,

China would also require exceptions or adoption of “nonconforming measures” related to SOEs in any CPTPP accession to comply with the basic provisions of the agreement. Such exceptions are not uncommon, with Vietnam successfully obtaining 14 nonconforming measures that allow the Vietnamese government to engage in price setting and to provide financial support to SOEs.²²⁰

Renegotiation and Incentive Structure

There is widespread disagreement on how much more U.S. exporters could gain relative to potential U.S. employment losses as a result of rejoining CPTPP. This debate stems from both original concerns regarding the former TPP agreement and the current state of trade among CPTPP members. TPP faced particular criticism in the United States for potentially weak protections, and it has attracted skepticism for the strength of its enforcement in key areas like labor.²²¹ CPTPP has three separate mechanisms for dispute settlement: investor-state, labor and environmental, and government-to-government.²²² With only one government-to-government case so far between New Zealand and Canada, it remains to be seen whether members will proactively use them and whether they can be effective in reining in behavior that violates the CPTPP agreement.²²³ U.S. firms retain significant interest in restoring TPP’s IP and investor-state dispute settlement provisions the USTR secured under TPP negotiations. Although many CPTPP members would welcome the United States into the agreement, several countries lack the desire to return to these discarded TPP-era commitments, which may make any potential U.S. reentry or attempted renegotiation difficult.

Even without these gaps of implementation and enforcement, the economic incentives for U.S. reentry into CPTPP today may be less compelling for both the United States and CPTPP members. The United States today remains the largest destination market for goods exports produced in the CPTPP area.²²⁴ While the significance of the trade relationships in the region can make a compelling case for U.S. reentry into the deal, tariff rates are already quite low and the United States now holds FTAs or limited trade agreements with seven of CPTPP’s 11 members.²²⁵ Tariff liberalization would be a U.S. negotiating priority for only a few countries, such as non-FTA partners like Malaysia and Brunei.²²⁶ In her May 2021 testimony before the House Ways and Means Committee, U.S. Trade Representative Katherine Tai said she intends to pursue a new version of trade promotion authority that would garner “robust bipartisan support,” but she did not specify a timeline.²²⁷

New Frameworks in the Indo-Pacific

The recently developed IPEF offers an alternative vision of economic engagement in the region emphasizing sustainability, labor, and supply chain goals. Different from an FTA, IPEF will not include negotiations on market access. As of September 2022, 13 other countries have signed on to the Biden Administration’s new IPEF, identifying four key areas of cooperation: (1) trade; (2) supply chains; (3) clean energy, decarbonization, and infrastructure; and (4) tax and anticorruption.²²⁸ While Taiwan is not currently an IPEF

member, in June 2022 the USTR launched the U.S.-Taiwan Initiative on 21st-Century Trade.²²⁹ The initiative currently covers 11 different areas that both correspond to IPEF elements and build on prior bilateral discussions, such as the 2021 U.S.-Taiwan Economic Prosperity Partnership Dialogue.²³⁰ (For more on Taiwan’s economic dialogue, see Chapter 4, “Taiwan.”)

Biden Administration officials have stated that IPEF is not intended to be a “traditional trade agreement” but rather potentially a trade executive agreement that would not require congressional approval through a vote or rely on “fast track” trade promotion authority.²³¹ Trade executive agreements, similar to the U.S.-Japan deal of 2019, must be limited in scope but can include binding commitments on certain rules.*²³² Such agreements may be considered “trade and investment framework agreements” or “relational agreements” that have a number of discrete binding commitments, which may fall on state or nonstate actors. Their content may focus largely on establishing engagement among trade partners without precise market access or tariff liberalization agreements.†²³³ This approach may provide negotiators broad latitude to pursue initiatives under IPEF, potentially focusing first on standards and regulatory aspects, capacity building, and trade facilitation. At the same time, the approach is specifically designed without relying on TPA, meaning there is limited transparency into IPEF’s implementation and few clear channels for congressional visibility into and direction over IPEF’s more specific goals.²³⁴

It may be challenging for IPEF members to achieve ambitious commitments among all of its 14 members within the next year. Still in its early stages, IPEF is expected to deliver stringent, high-standard rules while having a wide scope of countries and topics. IPEF member countries have significant differences in governance styles and levels of economic development along with varying degrees of tolerance for state economic intervention that make determining a widely applicable but high-standard rule difficult. As IPEF members may choose which pillars to participate in, economies already challenged by decarbonization goals or corruption may choose to avoid participating in these pillars entirely rather than committing to all of the pillars. Reports also circulated following a July 2022 meeting of IPEF ministers that many governments—from Japan to Malaysia—had requested that additional transition times be built into any commitments.²³⁵ In September 2022, IPEF members further published their negotiating objectives in all four pillars. All members

*In 2019, the United States negotiated a “mini deal” with Japan focused on digital trade and agriculture, “a departure from past U.S. FTA practice.” In lieu of a comprehensive, multisector negotiation, the Trump Administration negotiated the deal in a relatively short timeframe of around one year. While the deal was framed as a first-stage agreement, no additional talks on progressive phases have taken place. Content of the agreement did not require changes to U.S. law and relied on delegated tariff authorities under the 2015 TPA. Cathleen D. Cimino-Isaacs and Brock R. Williams, “U.S.-Japan Trade Agreement Negotiations,” *Congressional Research Service* IF11120, April 18, 2022.

†Congress has regularly delegated authority on tariff bargaining to the president with few limitations across different statutes. Additional legislation has established further delegation of negotiating authority to the president on agreements with nontariff barriers, though Congress maintains authority through voting power over nontariff barrier agreements that would significantly alter U.S. federal law. Jane M. Smith, Daniel T. Shedd, and Brandon J. Murrill, “Why Certain Trade Agreements Are Approved as Congressional-Executive Agreements Rather than Treaties,” *Congressional Research Service* 97-896, April 15, 2013.

signed onto almost all of the pillars—with the exception of India on the trade pillar. The trade pillar outlined goals in nine areas:

- Labor rights protection and workforce development;
- Environmental protection, conservation, and sustainability;
- Digital economy growth built on trusted and secure cross-border data flows and responsible development and use of emerging technologies;
- Food security and sustainable agriculture,
- Transparency and good regulatory practices;
- Competition policy and consumer protection policies;
- Trade facilitation and customs cooperation;
- Inclusive distribution of trade benefits across communities; and
- Technical assistance and economic cooperation.²³⁶

Even if IPEF does not follow the format of a traditional trade agreement, agreement on standards and norms between developing and developed countries is likely to prove difficult around the tax and anticorruption pillar as well as the decarbonization and infrastructure pillar. These can be particularly difficult for governments in developing countries with less interest or fewer resources to dedicate to anticorruption efforts or that lack the capital to make significant changes to emissions and infrastructure.²³⁷ Experts such as Wendy Cutler, vice president of the Asia Society Policy Institute and former USTR negotiator for TPP, believe it will be easier and faster for members to reach consensus on digital trade commitments.²³⁸

The Chinese government clearly sees IPEF as a threat to its position and relative influence in the Indo-Pacific. In an interview with Chinese media, Foreign Minister Wang Yi indicated it was an initiative designed to “create division and confrontation.”²³⁹ Chinese officials appear particularly concerned with IPEF’s focus on supply chains, viewing this effort as a direct threat to China’s predominance in supply chains and technological advancement.²⁴⁰ Minister Wang has also repeatedly decried IPEF for encouraging “technological decoupling” despite the Chinese government’s own recently intensified drive for self-sufficiency and its dual circulation strategy.²⁴¹ In another sign of Beijing’s insecurities, Chinese officials have publicly tried to dissuade other governments from joining IPEF, such as Bangladesh and South Korea.²⁴² Despite Chinese pressure, South Korea is one of the founding members of IPEF, while Bangladesh’s Foreign Minister Abu Kalam Abdul Momen stated in June 2022 that the government is still studying IPEF and considering Bangladesh’s specific interests.²⁴³

Implications for the United States

China’s abuses of the global trading system have cost U.S. workers millions of jobs in the years since the country’s accession into the WTO, leaving deep and lasting scars on U.S. industries and communities. Through repeated bad faith commitments under its multilateral and bilateral agreements, Beijing has also severely undermined the rules-based system. Neither dialogue nor previous action has

changed Beijing's behavior, forcing the United States to reconsider the approach it has taken over the last two decades. As Beijing increases state direction over the economy, becomes more inclined to weaponize supply chains, and pursues other coercive economic actions, the United States and likeminded allies are seeking a better understanding of the broad economic and security vulnerabilities from overdependency on China.

To be effective, new policy approaches must consider not only the effects on Chinese firms but also the influence on U.S. companies and investors. In the effort to expand market access into China, U.S. companies have both willingly and unwittingly surrendered sensitive technologies and information to Chinese partners and the Chinese government. In the face of China's massive subsidization and excess capacity, U.S. firms will continue to struggle on an uneven global playing field. Absent policy changes, U.S. government assistance may be insufficient for U.S. firms that have been harmed by these practices. Meanwhile, U.S. investment continues to flow into China, directly funding state-driven initiatives for Chinese firms as well as China's military-industrial complex. The transfer of U.S. technologies in both of these processes may have increased short-term profits, but it has long-term consequences for U.S. industrial competitiveness.

Appendix I: U.S. Agencies' Role in Assessing the Impact of Foreign Economic Policies on the United States

Agency	Analytical Capabilities
Central Intelligence Agency	<p><i>Responsibilities:</i> Monitor macroeconomic and microeconomic issues, analyze economic-related threats to U.S. security, address global issues critical to U.S. competitiveness, assess illicit financial activities.</p> <p><i>Key Offices:</i> China Mission Center, Transnational and Technology Mission Center.</p>
Department of Commerce, International Trade Administration	<p><i>Responsibilities:</i> Monitor foreign governments' compliance with their obligations under the WTO Subsidies Agreement, track subsidy practices worldwide, monitor the effect of international trade and investment policies on U.S. manufacturing competitiveness, research specific sectors and industries abroad.</p> <p><i>Main Publications:</i> <i>Subsidies Enforcement Annual Report</i> (published with the USTR).</p> <p><i>Key Offices:</i> Enforcement and Compliance, Industry and Analysis.</p>
Department of Labor, Employment and Training Administration	<p><i>Responsibilities:</i> Monitor eligibility of Trade Adjustment Assistance (TAA)* applicants, investigate trade-related job losses in the United States, conduct Section 224 of the Trade Act of 1974 investigations on TAA eligibility in a trade-affected domestic industry.</p> <p><i>Main Publications:</i> <i>Annual Report to Congress</i>.</p>
Department of State, Division for Trade Policy and Negotiation	<p><i>Responsibilities:</i> Negotiate and enforce bilateral and multilateral trade agreements, hold dialogues at the bilateral and multilateral levels on trade issues, coordinate with U.S. ambassadors and diplomats located abroad on economic issues.</p> <p><i>Key Offices:</i> Office of Multilateral Trade Affairs, Office of Bilateral Trade Affairs, Office of Agricultural Policy, Office of Intellectual Property Enforcement.</p>
Department of the Treasury	<p><i>Responsibilities:</i> Monitor and provide support for international monetary and financial policy coordination, monitor the foreign exchange and macroeconomic policies of trading partners, provide technical assistance to developing countries' finance ministries and central banks, gather information about the financial affairs and malign financial activity of foreign entities to support law enforcement and related activity, assess financial risks to the U.S. economy, analyze foreign entities to target economic and trade sanctions.</p> <p><i>Main Publications:</i> <i>Macroeconomic and Foreign Exchange Policies of Major Trading Partners</i>.</p> <p><i>Key Offices:</i> Office of International Affairs, Office of Intelligence and Analysis, Office of Technical Assistance.</p>

*The TAA program entered a phased termination on July 1, 2022 under the provisions of the Trade Adjustment Assistance Reauthorization Act of 2015. Eligible workers whose petitions were certified prior to that date will continue to receive benefits, however the agency is not able to conduct new investigations or certify petitions for new groups of workers. Congressional Research Service, "Trade Adjustment Assistance for Workers: Background and Current Status," CRS R 47200, August 2, 2022; U.S. Department of Labor, Employment and Training Administration, *TAA Termination Impacts: By the Numbers*, 2022.

**Appendix I: U.S. Agencies' Role in Assessing the Impact
of Foreign Economic Policies on the United States—
Continued**

Agency	Analytical Capabilities
Director of National Intelligence	<p><i>Responsibilities:</i> Incorporate the intelligence community's economic analysis with non-U.S. government intelligence reports; support the counterintelligence and security activities of the intelligence community, the U.S. government, and relevant U.S. private sector entities.</p> <p><i>Main Publications:</i> <i>Global Trends</i> report, <i>Foreign Economic Espionage in Cyberspace</i>.</p> <p><i>Key Offices:</i> National Intelligence Council, National Counterintelligence and Security Center.</p>
International Trade Commission	<p><i>Responsibilities:</i> Conduct AD/CVD investigations; conduct Section 332 of the Trade Act of 1932 general fact-finding investigations on issues involving tariffs, international trade, and the conditions of competition between U.S. and foreign industries; investigate IP rights infringement; analyze trade, tariff, and competitiveness issues.</p> <p><i>Main Publications:</i> <i>Year in Trade</i>, <i>Executive Briefings on Trade</i>, <i>Journal of International Commerce and Economics</i>, <i>Tariff Database and Harmonized Tariff Schedule</i>, <i>Staff Research</i>.</p> <p><i>Key Offices:</i> Office of Analysis and Research Services, Office of Economics, Office of Industries, Office of Investigations, Office of Unfair Import Investigations.</p>
U.S. Trade Representative	<p><i>Responsibilities:</i> Negotiate bilateral and multilateral agreements, resolve disputes, hold dialogues in global trade policy organizations, assess the development and implementation of U.S. trade and investment policy with foreign economies, track the compliance of trade partners with WTO commitments, coordinate efforts to monitor and enforce FTAs across the U.S. government.</p> <p><i>Main Publications:</i> <i>Report to Congress on China's WTO Compliance</i>, <i>Special 301 Report</i>.</p> <p><i>Key Offices:</i> Interagency Center on Trade Implementation, Monitoring, and Enforcement.</p>

Appendix II: Arsenal of U.S. Trade Tools

Statutory Tool	Brief Summary
Antidumping & Countervailing Duty Orders Tariff Act of 1930	<p><i>Intended Use:</i> Addresses dumping and subsidization of imports into the United States and material or threat of injury caused thereby.</p> <p><i>Possible End Result:</i> Imposition of AD/CVD orders/duties on imports.</p> <p><i>Presidential Involvement:</i> None; done via U.S. International Trade Commission (USITC) and Commerce's International Trade Administration (ITA).</p> <p><i>Historical Frequency and Current Usage:</i> Most frequently used remedies (mostly via antidumping).</p>
Section 337 (Intellectual Property Violations & Other Unfair Trade Practices) Tariff Act of 1930	<p><i>Intended Use:</i> Addresses violations of IP, theft of trade secrets, and other similar unfair trade acts.</p> <p><i>Possible End Result:</i> Exclusion from U.S. market.</p> <p><i>Presidential Involvement:</i> President retains authority to deny relief.</p> <p><i>Historical Frequency and Current Usage:</i> Historically used for patent violations; recently broadened to include anti-trust violations and false designation of origin.</p>
Section 338 (Discrimination) Tariff Act of 1930	<p><i>Intended Use:</i> Addresses discrimination against U.S. commerce.</p> <p><i>Possible End Result:</i> New or additional duties up to 50 percent ad valorem and exclusion from U.S. market in some cases.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Unused since 1949.</p>
Section 232 (National Security) Trade Expansion Act of 1962	<p><i>Intended Use:</i> The Commerce Department can be petitioned or self-initiate an investigation to determine if certain imports pose a threat to U.S. national security.</p> <p><i>Possible End Result:</i> Various forms of adjustment to imports.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Historically common but unused for nearly two decades; most recently used in 2018 to impose tariffs following the Section 232 investigations on steel and aluminum imports.</p>
Section 122 (Balance of Payments) Trade Act of 1974	<p><i>Intended Use:</i> Addresses balance-of-payment deficits and disequilibrium or potential significant dollar depreciation.</p> <p><i>Possible End Result:</i> Imposition of import tariffs or quotas.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Never been used.</p>

Appendix II: Arsenal of U.S. Trade Tools—Continued

Statutory Tool	Brief Summary
Section 201 (Global Safeguard) Trade Act of 1974	<p><i>Intended Use:</i> Following an administration or industry petition, the USITC investigates whether a product's import volume causes serious injury to a domestic industry.</p> <p><i>Possible End Result:</i> Imposition of import restrictions such as tariffs, quotas, tariff-rate quotas, and other negotiated agreements.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Frequently used in the 1970s and early 1980s with sharp decline in usage thereafter; two cases filed with the USITC in 2017.</p>
Section 301 (Burden/Restriction on U.S. Commerce) Trade Act of 1974	<p><i>Intended Use:</i> The USTR can be petitioned by industry or self-initiate an investigation to impose trade remedies on foreign countries that are “unjustifiable” or “unreasonable” and that burden U.S. commerce.</p> <p><i>Possible End Result:</i> Imposition of import duties or other restrictions on commerce.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Historically a common avenue of trade relief unused for several decades before USTR initiation of investigation on China's practices in 2017.</p>
Section 406 Trade Act of 1974	<p><i>Intended Use:</i> Addresses market disruptions caused by imports from a communist country (i.e., countries not receiving nondiscriminatory tariff treatment, or Most Favored Nation [MFN]).</p> <p><i>Possible End Result:</i> Imposition of tariffs, quotas, or other restrictions as determined by the president.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> Used from late 1970s into early 1990s, mostly against China; unused since 1993.</p>
Defense Production Act (DPA) 1950	<p><i>Intended Use:</i> Grants the president expansive authority to influence and ensure the domestic industrial base is prepared to serve national security.</p> <p><i>Possible End Result:</i> The president can allocate and prioritize contracts for critical and strategic goods (Title I), expand productive capacity through direct financial incentives (e.g., loans and purchase agreements) (Title III), and engage in voluntary agreements with private industry (Title VII).</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> The DPA has been in near constant use by the Department of Defense, has more recently been used extensively during the COVID-19 pandemic, and is being actively considered for other uses (such as increasing rare earth mineral processing).</p>

Appendix II: Arsenal of U.S. Trade Tools—Continued

Statutory Tool	Brief Summary
International Emergency Economic Powers Act (IEEPA) 1977	<p><i>Intended Use:</i> Grants the president the ability to declare a “national emergency” in the face of “unusual and extraordinary threat[s] to the national security and foreign policy of the United States” and take sweeping authority over international economic transactions.</p> <p><i>Possible End Result:</i> Under this authority, the president can impose tariffs, quotas, or outright denials on any and all foreign trade and financial transactions globally or between specific geographies.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Current Usage:</i> IEEPA has been used to block all imports and exports from specific countries (e.g., Nicaragua in 1985). The act has not yet been used to impose tariffs, though the Trump Administration threatened to do so against Mexico. In 1971, then President Richard Nixon used the predecessor law, the Trading with the Enemy Act, to impose 10 percent tariffs on all dutiable imports into the United States.</p>
Committee on Foreign Investment in the United States (CFIUS)	<p><i>Intended Use:</i> An interagency committee chaired by the U.S. Department of the Treasury to review “covered” inbound FDI for national security threats, in particular mergers and acquisitions, which—following FIRRMA—includes minority private equity investments and U.S.-Chinese joint ventures.</p> <p><i>Possible End Result:</i> Forced divestiture, blocking of financial transactions, or negotiation of mitigation agreements.</p> <p><i>Presidential Involvement:</i> Presidential action required.</p> <p><i>Historical Frequency and Usage:</i> Prior to 2007, CFIUS investigated fewer than ten cases every year. However, investigations have increased substantially, with over 150 in 2017 and 2018 and 88 in 2020.</p>
Export Controls	<p><i>Intended Use:</i> Prevents adversaries from accessing specific dual-use or defense technologies.</p> <p><i>Possible End Result:</i> Export controls are applied in three ways: technology-based controls (e.g., Commerce Control List); end use (targets the anticipated use of technology exports); and end user (targets entities).</p> <p><i>Presidential Involvement:</i> The executive branch is responsible for identifying and controlling technologies for export, principally falling on the Department of Commerce for dual-use technologies, while the U.S. Department of State is responsible for controlling defense technologies.</p> <p><i>Historical Frequency and Current Usage:</i> The current system of export controls is based on the Export Administration Act of 1979. The Export Control Reform Act of 2018 created a permanent statutory authority to control the export of dual-use goods as well as certain military items.</p>

Source: Adapted from Bruce Malashevich and Mark Love, “Trade Defense Instruments: The Leading Edge of U.S. Trade Policy,” in Marc Bungenberg et al., eds., *The Future of Trade Defense Instruments*, October 2018, 233–260.

ENDNOTES FOR SECTION 2

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SECTION 3: CHINA'S ENERGY PLANS AND PRACTICES

Abstract

Despite Chinese leaders' stated commitments to decarbonize the economy, China remains heavily reliant upon energy-intensive and carbon-intensive industries and is the world's largest emitter of greenhouse gases. Its growing energy demand and significant import reliance on fossil fuels drive the government's focus on securing sufficient energy supplies to meet its needs. China thus employs a comprehensive energy strategy that seeks to ensure adequate energy supply and to reduce its vulnerabilities to maritime energy import chokepoints. By cultivating leadership in clean energy technologies, Beijing is seeking to profit from a global clean energy transition while further deepening its geoeconomic leverage. Ultimately, Beijing's energy strategy will intensify U.S.-China technology competition.

Key Findings

- China's demand for imported energy has significantly expanded in tandem with its growing economy, leading it to become a net crude oil importer in 1993. China depends on imports for 72 percent of its oil consumption, and the overwhelming majority of China's oil imports must pass through maritime chokepoints over which the United States has significant influence. To mitigate its vulnerabilities, China's government has invested billions of dollars in overland pipelines, launched a national tanker fleet it can direct to sail through conflict zones and potentially run blockades, and begun building out its capabilities for long-range power projection.
- Through its powerful economic planning agency, the National Development and Reform Commission (NDRC), the Chinese central government imposes strict energy price controls as levers that can be adjusted to remedy imbalances and allocate resources within China's energy system. These controls contribute to pervasive energy market distortions. Inconsistent and conflicting central government guidance contributes further to local energy system mismanagement. The resulting system is too brittle to correct for sudden energy supply disruptions and price shocks, and it contributed to a domestic energy crisis in 2021 that caused ripple effects throughout the global economy.
- Despite climate pledges by Chinese leaders, China remains the world's largest carbon dioxide emitter, and it continues to build out its coal-fired power plants with unprecedented speed. More-

over, decarbonization of China's energy-intensive economy sufficient to meet its stated goals would require large-scale economic restructuring, and policymakers have yet to make significant progress toward this goal. China's international and domestic climate targets intentionally delay the politically difficult policies required to meaningfully reduce emissions.

- Chinese national oil companies (NOCs) have also cultivated close relations with suppliers in the developing world, using local corruption in supplier countries as a competitive advantage and targeting oil-rich countries with low transparency to secure access to resources. Chinese NOCs exert growing control over global oil supplies by coopting foreign oil production through oil-backed loans or by pursuing ownership stakes in foreign oil-producing assets to secure "equity oil."
- Beijing is cultivating leadership in clean energy technologies in order to secure future markets and supply chains. A secondary goal is for domestically produced clean energy technologies to support China's decarbonization efforts. China's status as a global clean energy technology manufacturing hub and the fastest-growing renewable energy market affords it unique advantages in commercializing the next generation of clean energy technologies.

Recommendations

The Commission recommends:

- Congress direct the U.S. Department of Defense to produce a classified report on the feasibility of and the military requirements for an effective blockade of energy shipments bound for China in the event of military conflict involving China. The report should place particular attention on the Strait of Malacca and the feasibility of operationalizing a blockade of shipping bound for China intending to transit that waterway. The report should also consider the extent to which China may be able to satisfy its energy needs during a crisis or conflict through stockpiles, by rationing supplies, and by relying on overland shipments through current and planned cross-border oil and gas pipelines.
- Congress direct the U.S. Department of Energy to produce an annual report detailing the extent to which U.S. supply chains for key energy technologies, components, and materials are subject to Chinese control or manipulation.

Introduction

China's economic model is energy- and carbon-inefficient. This system is a product of sustained Chinese government policy decisions to prioritize economic growth over energy efficiency or climate considerations. This model has delivered decades of breakneck economic growth while supporting the political and economic interests of powerful state-owned enterprises (SOEs) and local governments. The Chinese economy is powered by a coal-dependent energy system and energy-intensive infrastruc-

ture. Prescriptive planning targets and a system of price controls managed by China's NDRC overlay this infrastructure and generate significant market distortions. Meanwhile, a deeply fragmented energy policymaking system remains unable to implement system-wide rectifications. In part because of these systemic inefficiencies, Chinese leaders harbor a sense of energy insecurity, or a concern that sufficient energy supply might not be readily available to meet domestic demand, like during the energy crisis of 2021. Dependence on oil imports by sea is central to this sense of energy insecurity because it creates a significant vulnerability to foreign interdiction in the event of conflict.

The Chinese Communist Party's (CCP) need for economic growth and energy security drives Chinese policies that challenge U.S. naval dominance along key sea lanes. China's government actively seeks to circumvent or break what it perceives to be U.S.-controlled chokepoints in sea lanes vital to China's commercial access to oil. It does so largely by attempting to advance the People's Liberation Army (PLA) naval power projection farther from China's shores. At the same time, Chinese firms are racing to outpace the United States in innovating and commercializing the next generation of new energy technologies, with the potential to further embed them within clean energy supply chains.

This section identifies the drivers of China's energy and climate policy and assesses energy initiatives to address its energy insecurity and climate-related vulnerabilities. First, the section overviews China's energy mix and consumption patterns to contextualize its energy supply vulnerabilities. The section then analyzes these vulnerabilities, including sensitivity to global energy price shocks and policy-induced crises as well as susceptibility to maritime chokepoints. Next, it discusses climate-related vulnerabilities for which China sees technology as an immediate solution despite the necessity of long-term economic restructuring. Finally, the section considers the implications for the United States of China's energy and climate policies and efforts to mitigate related vulnerabilities. This section is based on the Commission's March 2022 hearing on "China's Energy Plans and Practices," consultations with academics and industry experts, and open source research and analysis.

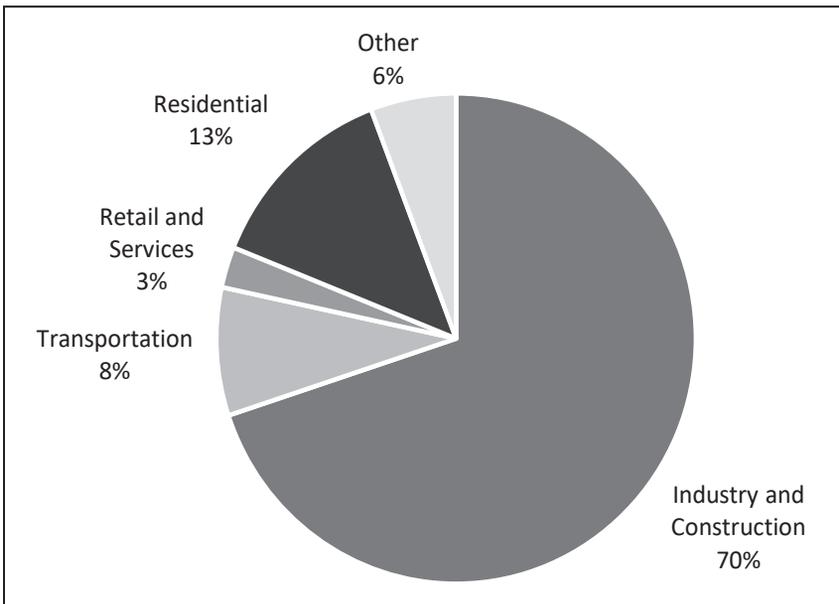
China's Economy Is Energy and Carbon Intensive

Energy intensity* is a central feature of China's economic model, causing an enduring link between economic growth and voracious energy consumption. For example, the Chinese economy requires more than twice as much energy to produce the same amount of economic growth as more energy-efficient countries, like the United Kingdom (UK), that have transitioned away from heavy industries.¹ Along with this energy intensity, the sheer size of China's economy makes it the world's largest consumer of energy, accounting for

*Energy intensity refers to the amount of energy required to produce one unit of output. As of 2021, China's economy required 0.144 kilograms of oil equivalent (a proxy measure for energy intensity) to produce \$15 worth of GDP (adjusted for purchasing power parity), while the U.S., Indian, and Russian economies respectively required 0.104, 0.100, and 0.212 kilograms to produce the same amount. Notably, purchasing power parity adjustments artificially increase the value of GDP in countries like China with a low cost of living, causing energy intensity indicators to appear lower than they are. Enerdata, "Energy Intensity," 2021.

approximately 25 percent of global energy consumption in 2021.² China's heavy industries, including steel, aluminum, and concrete, combined with the construction industry, together account for the vast majority of energy demand and drive China's carbon footprint, with these sectors accounting for approximately 70 percent of total energy consumption by 2019 (see Figure 1).^{*} These sectors also contributed to at least 38.6 percent of China's gross domestic product (GDP) for all years between 1970 and 2019, making them essential drivers of Chinese economic growth.³

Figure 1: China's Energy Consumption by Sector, 2019



Source: China's National Bureau of Statistics via CEIC database.

China's economy runs primarily on fossil fuels, making it the world's largest emitter of carbon dioxide. Between 2000 and 2021, China's total energy consumption posted a 256.5 percent expansion, with coal dominating China's energy mix due to extensive domestic reserves.[†]⁴ Coal reserves and imports of foreign oil and natural gas have long served as the backbone of China's energy system, supplying much of the energy used for industrial factories, transportation, and residential heating. While China is the world's largest

^{*} Because heavy industries require high levels of heat to produce materials like steel and aluminum, they contribute to an enormous demand for energy that is usually generated from coal. As such, the power, steel, cement, and coal-chemicals industries were responsible for approximately 72 percent of China's carbon emissions and 86 percent of coal consumption in 2019. Jake Schmidt, "China's Top Industries Can Peak Collective Emissions in 2025," *National Resource Defense Council*, January 18, 2022; China's National Bureau of Statistics via CEIC database.

[†] China is home to the world's fourth-largest proven coal reserves as of 2018, yet it also imports coal from countries like Indonesia to reduce the cost of transporting it to industrial centers on the east coast. China's industrial clusters in the northeast are primarily supplied by nearby coal mines, while China's eastern and coastal industrial hubs rely upon imported coal from nearby suppliers like Indonesia. Mining Technology, "Countries with the Biggest Coal Reserves," January 6, 2020; *Reuters*, "China Coal Futures Surge on Supply Worries amid Indonesia Export Ban," January 4, 2022.

coal consumer, producer, and importer, it is simultaneously home to the world's largest renewable energy capacity buildout, accounting for 33 percent of the world's total installed renewable energy capacity.⁵ (For more on the market structure, key policy goals, and challenges related to individual energy sources in China's energy mix, see Appendix.) Despite Beijing's desire for renewable energy to account for a larger percentage of China's energy mix, institutional and technical barriers prevent renewable energy from being a significant contender with coal for space on China's energy grid, detailed further below. As a result, renewable energy sources only contributed to about 14 percent of China's total energy mix in 2020 (see Table 1).⁶

Outsized Importance of Oil

Though it represents only one-fifth of China's energy mix, oil is and will remain a largely irreplaceable energy resource in China until the development and widespread use of new energy technologies. Chinese leaders appear to separate oil disruptions from the broader array of potential energy supply problems, considering them national security issues while regarding electricity supply disruptions as issues of social or economic management.⁷ Oil is vital not only to PLA operations but also to China's civilian transportation sector, where few substitutes for road fuels exist at scale. In addition to oil's role as China's premier road fuel, it remains the principal energy source for several sectors that are difficult to electrify, including heavy transport, aviation, and shipping.⁸ Even as China aims to develop its electric vehicle (EV) industry, these new energy vehicles only represent 2.06 percent of the total 292 million vehicles in China, with the rest relying on some form of petroleum-consuming internal combustion engine.⁹

Table 1: Share of China's Total Energy Consumption by Source, 2000–2020

Year	Coal	Oil	Natural Gas	Renewables	Nuclear
2000	69.6%	22.2%	2.1%	5.7%	0.4%
2005	73.3%	18.3%	2.2%	5.5%	0.7%
2010	70.0%	18.0%	3.8%	7.5%	0.7%
2015	63.7%	18.7%	5.5%	10.7%	1.2%
2020	55.9%	19.5%	8.2%	14.2%	2.2%

Note: Renewables include solar, wind, hydro, biofuels, geothermal, and biomass.

Source: BP Statistical Review of World Energy Database; BP, "Energy Outlook 2020—China," 2020.

Challenges to Renewable Energy Integration in China

China's installed capacity in renewable energy sources far outstrips its actual use of these sources because of geographic constraints, technological limitations, and local protectionism.

- *Geographic constraints:* Renewable energy sources are cultivated according to the presence of geographic features like rivers, steady and unimpeded sunlight, and predictable wind patterns, and they have therefore developed within clusters, some in China's hinterlands.¹⁰ Geographic clustering has led to high rates of wasted renewable energy,* as local electricity grids do not always have the capacity to accept all of the renewable energy generated by nearby plants. China continues to invest in nationwide high voltage transmission lines to connect renewable energy from where it is generated to consumers across the country.
- *Technology limitations:* China's electricity grid cannot yet reliably incorporate renewable energy without technical upgrades. Renewable energy sources like solar and wind are intermittent energy sources because they cannot always produce steady flows of energy due to fluctuations in sunlight and wind. As a result, energy grids must be able to adjust for fluctuations in the amount of renewable energy provided to the grid at different periods in time, often relying on fossil fuels to compensate for dips in renewable energy supply.¹¹
- *Local protectionism:* Local grids in coal-prevalent regions have historically attempted to avoid buying renewable energy generated from other regions in order to support energy generated locally by coal-fired power plants. China's central government passed the Renewable Energy Law of 2005 to address this, mandating that all grid operators purchase all renewable energy connected to their grid; however, implementation and enforcement of the law has been inconsistent.¹²

Supply Vulnerabilities Drive China's Energy Policy

Chinese policymakers are acutely concerned about the nation's energy security due to the Chinese economy's significant energy intensity and reliance on imported fossil fuels. Chinese leaders define energy security as the ensured uninterrupted availability of energy resources sufficient to meet China's needs at an affordable price. On June 13, 2014, General Secretary of the CCP Xi Jinping announced

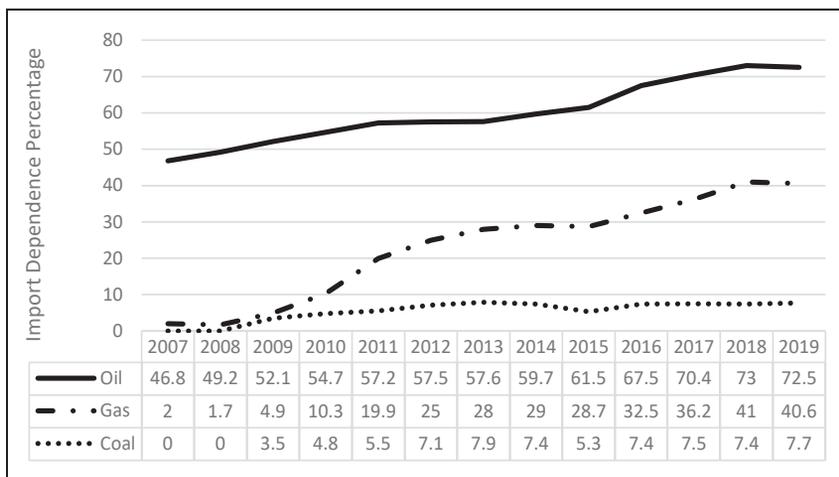
*In power generation, "wasted renewable energy" refers to the phenomenon of curtailment, or the deliberate reduction of a source's output below what it could produce. China has particularly high curtailment in renewables, as its electricity grid often cannot accept all of the energy generated by solar and wind farms. Oversupply of renewables may occur due to a number of factors, including weather patterns such as peaking sunlight during midday or strong winds during a storm. Curtailment also results from local grid companies simply choosing not to purchase renewable energy from local generators due to a preference for energy generated from other sources. California Independent System Operator, "Impacts of Renewable Energy on Grid Operations," May 2017.

five energy security strategic objectives called the “Four Transformations and One Cooperation” to guide China’s energy policies. The “Four Transformations” are (1) curb unnecessary energy consumption, (2) build a diversified domestic energy supply structure not reliant on any one energy source, (3) invest in new energy technologies to upgrade China’s domestic industries, and (4) use energy system regulations to promote the growth of China’s energy sector.¹³ The “One Cooperation” refers to enhancing international cooperation in every aspect but doing so with the premise that domestic needs and solutions must have priority.¹⁴ China’s international initiatives prioritize domestic energy needs using coercive measures such as securing highly volatile oil-backed loans and corrosive measures such as engaging with highly corrupt countries to more quickly secure access to their resources.

China’s reliance on imported fossil fuels increases its economy’s sensitivity to global energy price shocks, with Chinese government attempts to control domestic energy prices causing pervasive market distortions. Exemplified by an energy crisis in the fall of 2021, strict NDRC price controls and unclear CCP guidance to local governments on emissions reductions has resulted in pervasive mismanagement of the Chinese energy system. Distortions caused by central- and local-level market interventions generate ripple effects throughout the global economy, contributing to supply chain disruptions and global inflationary pressures while exacerbating China’s feeling of energy insecurity. China is also the world’s top importer of crude oil and coal, contributing to its perceived vulnerability to foreign-imposed disruptions.¹⁵ The Chinese government is absorbing enormous costs to mitigate potential disruptions to its energy imports, revealing leaders’ concerns that a U.S.-China military conflict could cut off its access to oil.

China’s Economy Is Vulnerable to Energy Crises

China’s energy intensity increases its import reliance for coal, natural gas, and oil. This represents a key vulnerability for China’s leaders, who have repeatedly stated that the Chinese people “must hold [their] energy supplies firmly in [their] own hands.”¹⁶ In 2018, China was 73 percent and 41 percent import dependent on oil and natural gas, respectively (see Figure 2).¹⁷ According to Michal Meidan, director of the Gas and China Programs at the Oxford Institute for Energy Studies, Chinese policymakers are concerned that China’s import dependency leaves it vulnerable to the actions of a hostile foreign power.¹⁸ To mitigate these risks, China has attempted to increase domestic production and diversify its energy mix. China is unlikely to achieve either objective fast enough, as its demand for natural gas and oil are predicted to peak in 2040 and 2030, respectively.¹⁹ Despite efforts to expand domestic natural gas exploration and production, China’s production cannot keep pace with its demand, thereby intensifying its future import dependency.²⁰ Similarly, while Chinese oil companies are heavily investing in domestic oilfield development and exploration, production of crude oil decreased by 2 percent over the last ten years.²¹

Figure 2: China's Oil, Gas, and Coal Import Dependency, 2007–2019

Note: Figure illustrates the percentage of China's total oil, gas, and coal consumption from imported sources.

Source: International Energy Agency, "Oil, Gas and Coal Import Dependency in China, 2007–2019."

China's energy-intensive model increases its economic vulnerability to energy crises, with the Chinese government's energy price control system attempting to buffer against exogenous price shocks. China's NDRC uses price controls as levers that can be adjusted to remedy imbalances and allocate resources within China's energy system according to policy goals. For example, the NDRC currently sets a fluctuating 20 percent price band with a maximum price that utilities can pay power generators for electricity. Furthermore, this price varies according to region, energy source, and type of electricity consumer (e.g., household or industrial).²² Such price controls distort national energy markets, as the NDRC manages the price of electricity according to policy goals such as the promotion or restriction of certain technologies or energy sources.²³ Electricity prices in China thus do not fully reflect the economic costs of electricity production, thereby forcing power generators to rely on government subsidies or suffer reduced profit margins when costs outstrip the price cap.* When this mechanism fails to effectively coordinate state behavior, it can exacerbate the impact of energy price shocks and cause disruptions throughout China's economy.

An energy crisis in the fall of 2021 exemplified China's vulnerability to its own policy-induced energy shortages. The crisis was chiefly due to the inability of China's price control mechanisms to adjust to sudden fluctuations in global energy commodity prices, causing

*National, provincial, and local governments subsidize power generators by supplying fossil fuels at reduced costs, as well as soft loans and land-use rights. Some state-owned generators also cross-subsidize operations by using profits from a parent or subsidiary business to cover losses. The Chinese government also directly subsidizes renewable energy power generators through feed-in tariffs that guarantee that the price paid for electricity covers the firm's costs. Bertrand Rioux et al., "How Do Price Caps in China's Electricity Sector Impact the Economics of Coal, Power and Wind? Potential Gains from Reforms," *Energy Journal* 28 (2017): 68.

power generators to face significant financial losses.²⁴ At the time, a 10 percent fluctuating benchmark ensured that electricity prices could not increase above a set price, though the NDRC later widened the benchmark to allow a 20 percent fluctuation.²⁵ These price controls prevented power generators from passing on globally rising coal prices to consumers, instead forcing them to either shutter their operations or produce electricity at a financial loss.²⁶ Power generators across the country closed their operations “for repairs,” causing rolling blackouts in 20 provinces as well as factory closures and residential power rationing.²⁷ Due to the pervasive economic disruptions caused by energy shortages, industrial value added, which measures the contribution of industry to China’s economy, slowed dramatically. During the height of the energy crisis in September 2021, industrial value added increased by only 3.1 percent year-on-year, marking its lowest level since 2002, aside from pandemic-related interruptions in 2020 and 2022.²⁸ China’s energy crisis exacerbated existing global inflationary pressures for commodities, causing the global trading price of steel to increase by almost 20 percent between August and October 2021.²⁹ One year later, in August 2022, Chinese officials made a similar decision to ration industrial power during an energy shortage in southwest China, once again forcing factory closures that disrupted supply chains and curtailed industrial output (see textbox “Drought and Heatwave Cause Second Summer Energy Crunch in a Row”).³⁰

Drought and Heatwave Cause Second Summer Energy Crunch in a Row

A drought and a coinciding heatwave in China’s southwestern provinces have caused energy shortages throughout China in August into September 2022, forcing major manufacturers to halt production.³¹ The southwestern province of Sichuan experienced an energy crisis due to severe droughts that curtailed hydroelectric power, which provides over 80 percent of Sichuan’s energy.³² Excess hydroelectric power from Sichuan also provided approximately 30 percent of China’s hydroelectric power, equivalent to approximately 2.3 percent of China’s overall energy mix in 2021 (for more on China’s hydropower sector, see “Appendix, Renewable Energy: Hydropower, Wind, Solar, Geothermal, and Biofuels”).³³ The droughts caused the Yangtze River to fall to its lowest level on record, contributing to a nearly 14 percent year-on-year drop in Sichuan’s hydropower output.³⁴

Additionally, a record heat wave drove temperatures up to 113 degrees in neighboring Chongqing during August 2022, 22 degrees above the average monthly high temperature during the month.³⁵ Residential demand for air conditioning has skyrocketed throughout the region, further exacerbating the gap between energy supply and demand. To preserve power for residential use amid the heat wave, local officials in at least 19 provinces instituted a system of power rationing that cut power to factories, local small businesses, shopping malls, and city light displays.³⁶

China's state-directed style of energy management introduces systemic inefficiencies that can augment the country's sense of energy insecurity through sudden energy disruptions. In her testimony to the Commission, Dr. Meidan explained that since 2003 each of China's power outages and supply interruptions have been caused by domestic policies rather than external forces.³⁷ For example, in 2005 a misalignment between China's domestic pricing mechanisms and global prices caused a gasoline shortage, as Chinese oil companies preferred to export their supplies to offset losses caused by the domestic pricing mechanism.³⁸ Mismatched policy priorities and conflicting government directives can also contribute to policy-induced disruptions, as local cadres attempt to promote both economic growth and emissions reductions. On numerous occasions, centrally mandated energy intensity reduction targets have incentivized local governments to suddenly shut off residential heating in their jurisdictions or dramatically reduce industrial output to meet the targets.³⁹ Power rationing generated popular discontent in affected regions, as citizens complained that critical aspects of everyday life, including the ability to take online classes, work from home, and even cook meals, were suddenly disrupted for days on end.⁴⁰

While state dominance of the energy sector creates both market inefficiencies and vested fossil fuel interests, it also supports responsiveness in times of crisis when interests are aligned. In the fall of 2021, coal prices skyrocketed due to a global supply shortage and sudden rebound in demand driven by China's economic recovery.⁴¹ To rectify the shortage, Chinese regulators, including the NDRC and the National Energy Administration (NEA), directed the most efficient domestic mines in Inner Mongolia, Shanxi, and Shaanxi to boost production, while provincial governments and state-owned power generators increased their coal imports from Russia, Indonesia, and Mongolia.⁴² Combined with the NDRC's decision to relax its price controls, the government's coordinated actions to increase domestic coal production helped to alleviate the crisis.

China's Oil Insecurity and the Shadow of Conflict

Chinese leaders have adopted policies to mitigate perceived vulnerabilities in China's access to oil while undermining U.S. naval power. Central to China's vulnerabilities are maritime chokepoints, through which the overwhelming majority of China's oil imports must transit and over which the U.S. government has significant influence. The Chinese government's fears of U.S. naval interdiction of its sea lanes have led the PLA and Chinese SOEs to develop capabilities that could challenge U.S. naval supremacy in the Indian Ocean. Additionally, China's government is attempting to create alternative patterns of seaborne transit through Southeast Asia to avoid the chokepoint at the Strait of Malacca. The efforts are costly and would marginally reduce but not solve China's dependency on seaborne oil imports, but their success would work toward addressing China's self-assessed vulnerability to a naval blockade in the event of a major conflict.

Maritime Chokepoints: Beyond the “Malacca Dilemma”

One key vulnerability in China’s seaborne oil imports is the series of maritime chokepoints inherent in Asia’s geography. The Strait of Malacca is China’s most critical maritime chokepoint, and approximately 80 percent of China’s oil imports transit the strait.⁴³ Chinese leaders and strategists are keenly aware of this vulnerability. As early as 2003, Chinese state media commented on concerns raised by then General Secretary Hu Jintao warning of overreliance on the sea route passing through the Strait of Malacca, labeling China’s dependence the “Malacca Dilemma.”⁴⁴ In addition to Malacca, sea routes from China’s coast to the Middle East and Europe must pass through a series of maritime chokepoints, including the Strait of Hormuz, Bab El Mandab, and the Suez Canal.⁴⁵ Researchers with the Naval Research Academy, the PLA Navy’s only designated scientific research institution, described this route through the Strait of Malacca to the Middle East and North Africa as China’s “distant-ocean lifeline.”⁴⁶ Similarly, the 2020 edition of the *Science of Military Strategy*, one of the PLA’s leading textbooks on China’s military strategy, notes that China’s principal maritime transport route runs from the South China Sea, through the Strait of Malacca, through the Suez Canal, and into the Mediterranean Sea.⁴⁷

A second challenge geography poses to maritime oil imports is the sheer distance tankers must transit to reach oil suppliers, leading to longer transit times. Gabriel Collins, Baker Botts Fellow in Energy and Environmental Regulatory Affairs at Rice University’s Baker Institute, identified a clear trend in Chinese tankers “having to go further from home to buy barrels” of oil, as China’s share of oil imports from Asia-Pacific countries fell from 21 percent in 2005 to only 3.5 percent in 2020.⁴⁸ Emily Meierding, assistant professor at the Naval Postgraduate School, notes that a one-way Very Large Crude Carrier (VLCC)* transit from the Persian Gulf to a VLCC-capable port on China’s coast would likely take approximately 21 days, with each round-trip voyage taking at least 40 days.⁴⁹ This is a median transit time. Smaller tankers and VLCCs directly transiting oil from Russia’s east coast to China typically complete a round-trip voyage in less than two weeks, while a round-trip VLCC voyage from Russia’s western ports to a compatible port in China would take up to four months.⁵⁰ The growing transit distance involved in China’s oil imports is in part the result of Chinese leaders’ concerted effort to hedge against overdependence on a small number of suppliers by diversifying China’s import partners and delivery methods (see Table 2). For example, since 2015 Saudi Arabia and Russia have remained in close competition to be China’s top source of crude oil, and as of 2021 China’s top five oil providers are Saudi Arabia, Russia, Iraq, Oman, and Angola.⁵¹ Sourcing oil across regions diversifies China’s oil suppliers as well as its oil import routes, reducing the risk along any one energy supply route.⁵²

*One VLCC can carry between 1.9 and 2.2 million barrels of oil, or between 160,000 and 320,000 metric tons. U.S. Energy Information Administration, *Oil Tanker Sizes Range from General Purpose to Ultra-Large Crude Carriers on AFRA Scale*, September 16, 2014.

Table 2: China's Top Ten Crude Oil Suppliers in 2021

Supplier	Volume (MMbpd)	Import Share
Saudi Arabia	1.8	17.1%
Russia	1.6	15.5%
Iraq	1.1	10.5%
Oman	0.9	8.7%
Angola	0.8	7.6%
United Arab Emirates	0.6	6.2%
Brazil	0.6	5.9%
Kuwait	0.6	5.9%
Malaysia	0.4	3.7%
Norway	0.3	2.6%

Note: "MMbpd" refers to millions of barrels per day.
Source: General Administration of Customs via CEIC.

China's Tanker Fleet and Navy Deployments Move to Secure Critical Sea Lanes

China's government has attempted to mitigate its perceived risk caused by maritime chokepoints by increasing its PLA Navy deployments in the Indian Ocean and constructing a national tanker fleet. These efforts appear to respond to Chinese strategists' concerns that the U.S. Navy might interdict ships transiting oil to China along extended Indian Ocean sea lanes or at a maritime chokepoint.⁵³ In a 2021 speech to a think tank affiliated with China's State Oceanic Administration, Hu Bo, director of the Center for Maritime Strategy Studies at Peking University, noted that the prevailing assessment within China's strategy community is that the United States demonstrated the will to interdict China's seaborne energy imports during the 1993 "Yinhe Incident"* and has the opportunity to do so in the future.⁵⁴

Driven largely by anxieties regarding a U.S. naval blockade, in the early 2000s Chinese leaders directed the construction of a large† domestic tanker fleet.⁵⁵ China's two leading energy shipping companies, China Ocean Shipping Company, Limited

* In 1993, U.S. Navy vessels surveilled and shadowed the Chinese container ship *Yinhe* (*Milky Way*)—which U.S. intelligence reports indicated may have been carrying a large quantity of materials useful for developing chemical weapons—as it was en route to Iran. U.S. diplomats persuaded countries in the Persian Gulf to deny *Yinhe* docking permissions until the crew submitted to cargo inspection, which occurred after a delay of approximately one month. U.S. and Saudi officials did not find materials for chemical weapons on board. In testimony before the Commission, Christopher Colley, assistant professor of security studies at the National Defense College of the United Arab Emirates, explained that Chinese maritime security experts commonly consider this event a "national humiliation" that "must never be allowed to happen again." Although the 1993 *Yinhe* incident took place almost three decades ago, it continues to shape perceptions in China of risks to Chinese maritime security. Christopher Colley, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Activities and Influence in South and Central Asia*, May 12, 2022, 1–2; Kai He, *China's Crisis Behavior: Political Survival and Foreign Policy after the Cold War*, Cambridge University Press, April 2016, 49–50; Patrick E. Tyler, "No Chemical Arms aboard China Ship," *New York Times*, September 6, 1993.

† In 2020, China's fleet was the third-largest domestic oil tanker fleet in the world. Greece had the world's largest oil tanker fleet valued at \$38 billion, followed by Singapore's valued at \$14 billion and then China's valued at \$13 billion. UN Trade and Development, "Maritime Transport Services and Infrastructure Supply," 2020, 42.

(COSCO) Shipping Energy Transportation and China Merchants Energy Shipping, likely do not have sufficient combined tanker capacity to fulfill all of China's oil import demand.⁵⁶ China would need approximately 4.5 fully laden VLCC deliveries per day to maintain current seaborne import levels, and the two companies combined would need a VLCC fleet nearly twice as large to sustain this rate of delivery.⁵⁷

An important driver of China's national tanker fleet is preparation for future conflict. China's national tanker fleet exists to ensure a continued flow of seaborne oil and gas imports through conflict zones and potentially U.S. Navy blockades. Non-Chinese commercial tankers are unlikely to be willing to operate in areas that pose heightened risk to the vessel, its crew, and its cargo, whereas China's government can provide significant financial incentives for its national tanker fleet to do so.* Similarly, China's government can compel the SOE owners of the Chinese tanker fleet to run a potential U.S. Navy blockade, forcing U.S. sailors to forcibly board or fire † on the tanker to enforce the blockade.⁵⁸

China's leaders are also moving to secure its "distant-ocean lifeline" with larger PLA Navy deployments in the Indian Ocean. PLA documents clearly state that the PLA Navy is attempting to develop into a force capable of rapidly deploying and defeating U.S. naval interdiction along key sea lanes west of the Strait of Malacca. According to the 2020 *Science of Military Strategy*, the current PLA Navy deployment conducting antipiracy operations in the Indian Ocean "may expand" the scope of its missions if "hegemonic countries" (referring to the United States) "exercise control over important transit routes that are vital to China."⁵⁹ The PLA Navy is also already exercising the capabilities it would need in such a conflict. Between December 2008 and January 2022, the PLA Navy conducted 40 antipiracy deployments in the Gulf of Aden, including many from its base in Djibouti since it began operations in 2017, exercising capabilities almost certainly designed to develop PLA Navy sailors' ability to project power along sea lanes in the Indian Ocean.⁶⁰ These efforts may include building PLA bases or facilities in the Indian Ocean. The U.S. Department of Defense's 2021 report on China's military power notes China's government has likely considered several countries near the Persian Gulf, including Pakistan and the United Arab Emirates, as locations for future PLA bases.⁶¹ Also in 2021, the *Wall Street Journal* reported that China's government was

*State-owned and -flagged ships that self-insure are financially incentivized to accept higher risks of operating near or through a conflict zone. In contrast, independent insurance firms are likely to increase insurance rates from as low as 2.5 percent of ship value on an annual basis to as much as 10 percent of ship value on a daily basis if the ship operates in what the firms designate a War Risk Exclusion Zone. Andrew Erickson and Gabe Collins, "Beijing's Energy Security Strategy: The Significance of a Chinese State-Owned Tanker Fleet," *Orbis*, 2007, 681.

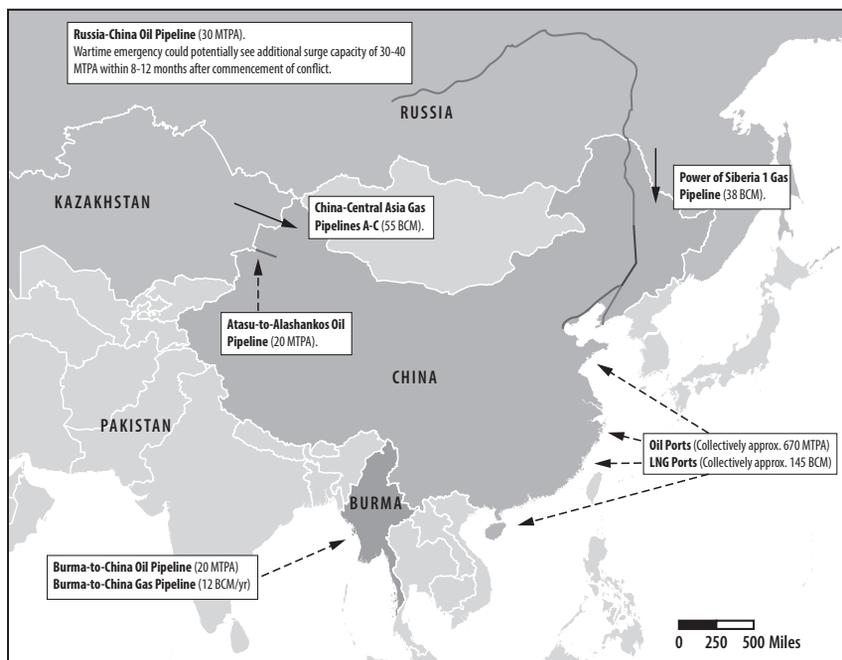
† Firing on a vessel is not necessarily an attempt to sink the vessel. The U.S. Navy is actively developing nonlethal means of stopping ships, representing a capability to kinetically enforce a naval blockade while controlling escalation by dramatically reducing the risk of death and destruction. Examples of nonlethal means to stop ships include materials designed to entangle or otherwise disable ship propellers or directed-energy weapons such as microwave systems that interfere with the vessel's electronics. Krista Romita et al., "How to Effectively Assess the Impact of Non-Lethal Weapons as Intermediate Force Capabilities," *RAND Corporation*, 2022, 1, 5; Peter von Bleichert, "Nonlethal Weapons Bridge the Gap between Shouting & Shooting," *Proceedings*, November 2017.

constructing what U.S. intelligence agencies suspected to be a military facility in the United Arab Emirates.⁶²

China's Limited Overland Solutions to Reduce Dependence on Seaborne Energy Imports

China's government seeks to increase overland energy imports to reduce reliance on seaborne transit through the Strait of Malacca (see Figure 3).⁶³ Operating at full capacity, China's three inbound oil pipelines from Russia, Kazakhstan, and Burma (Myanmar) are able to provide a combined 70 million metric tons of oil per year, or approximately 14 percent of China's overall oil imports in 2021.⁶⁴ Natural gas pipelines are particularly significant for China's energy consumption. As of 2017, China received 46 percent of its natural gas imports through pipelines from Central Asia.⁶⁵ China continues expanding its overall pipeline import capacity, most recently through a 30-year contract to purchase ten billion cubic meters of gas each year, or approximately 3 percent of China's natural gas consumption, from Russia through a new pipeline.⁶⁶ This new pipeline is scheduled to begin delivering gas within three years and will connect to the Power of Siberia pipeline, which began delivering gas to China in 2019 after five years of construction and a decade of negotiations.⁶⁷

Figure 3: China's Energy Import Routes



Source: Adapted from Gabriel Collins, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on China's Energy Plans and Practices*, March 17, 2022, 11.

Table 3: China's Pipeline and Port Import Dependence, 2021

	Oil Pipelines	Oil Ports	LNG Pipelines	LNG Ports
Volume	70 million metric tons	670 million metric tons	105 billion cubic meters	145 billion cubic meters
Percent of Imported Demand	13.6%	130.5%	111.7%	154.3%
Percent of Total Demand	9.8%	93%	27.7%	38.3%
Percent of Energy Consumption	1.9%	18.6%	2.5%	3.4%

Note: Capacity exceeds total demand. All figures for 2021. In 2021, China consumed about 718.5 million metric tons of oil, of which 513.2 million metric tons were imported, and 378.7 billion cubic meters of natural gas, of which 94 billion cubic meters were imported.

Source: Various.⁶⁸

China's government has also explored projects in Thailand and invested in infrastructure in Burma to bypass the Strait of Malacca. Key among these projects is a proposed canal or railway through the Isthmus of Kra in Thailand, linking the Gulf of Thailand with the Andaman Sea.⁶⁹ Although the government of Thailand has been open to these projects, diplomatic pressure from the United States and Japan have so far prevented formal approval of a canal or railway system.⁷⁰ China's government investments have targeted extensive oil and gas pipelines connecting southern China to Burma's Kyaukpyu city, where Chinese investors are also funding a deep sea port project.⁷¹ These pipelines are currently operating well below their full capacities of 12 billion cubic meters per year for natural gas and 22 million metric tons per year of oil, which combined represent 6.6 percent of the liquified natural gas and 4 percent of the oil China imported in 2021.⁷²

Like China's national tanker fleet, however, China's overland oil and gas pipelines lack the capacity required to replace China's over-all seaborne energy imports. As stated earlier, China's inbound oil pipelines could only transport roughly 14 percent of China's total oil imports in 2021.⁷³ While China's inbound gas pipelines have the capacity to supply a larger portion of China's natural gas consumption, growth in China's demand for natural gas will likely outstrip growth in pipeline capacity this decade. China's gas pipelines have a collective capacity of 105 billion cubic meters per year, supplying over half of the 169 billion cubic meters of gas China imported in 2021.⁷⁴ The Power of Siberia 2 pipeline, scheduled to come online by the late 2020s, would likely add another 80 billion cubic meters to China's inbound gas pipeline capacity.⁷⁵ China's gas pipelines are limited by geography, primarily connecting to Russia and Central Asia. By 2030, the Central Asian countries currently supplying the majority of China's imported gas will likely be able to provide an additional 25 billion cubic meters of natural gas a year, bringing China's collective inbound gas pipeline capacity to 210 billion cubic meters per year.⁷⁶ An official from China Oil & Gas Pipeline Network Corporation (PipeChina), a Chinese state-owned oil and gas

pipeline firm, however, projects China's gas consumption will reach 526 billion cubic meters per year by 2030 and continue growing to 650 billion cubic meters per year by 2035.⁷⁷ This growth in China's demand for natural gas would likely need to be resourced by Russian imports in addition to seaborne sources, the latter of which continue to exceed China's inbound pipeline capacity by 40 billion cubic meters per year and are projected to grow at a faster rate than pipeline capacity.⁷⁸

China's Commercial Energy Strategy and Key Suppliers

In addition to conducting commercial energy trade, Chinese NOCs* bolster China's energy security by gaining access to foreign oil supplies via "equity oil" and resource-backed loans, often in authoritarian countries. The confluence of these activities extends the Chinese government's market-manipulating influence into other countries under the auspices of energy trade. Moreover, these activities expose recipient countries to financial risk while undermining international sanctions against rogue countries such as Russia and Iran.

Equity Oil: A Commercial Stockpile

Securing equity oil is a longstanding objective of China's NOCs. Dr. Meierding defines equity oil as "a share of resource output that [a purchaser] could book as reserves and sell wherever it chose" through gaining an ownership stake in foreign oil-producing assets.⁷⁹ While the complete network of China's equity oil agreements is not public, in 2020 PetroChina reported equity oil holdings equivalent to 76.4 million metric tons.⁸⁰ Similarly, a 2018 report by the China Petroleum Enterprises Association stated that the previous year China held 160 million metric tons of equity oil—roughly 24 percent of its consumption in 2017—and an additional 50 billion cubic meters of equity natural gas, representing a total of 201 million tons of oil equivalent across countries participating in the Belt and Road Initiative (BRI).⁸¹

As explained by an expert on China's National Energy Expert Advisory Committee, "equity oil is superior to oil traded on the market because the former would give Chinese NOCs additional security in time of market turbulence and supply disruptions."⁸² Although China's NOCs generally sell their equity oil on international markets to maximize profit, China's government can require NOCs to ship equity oil to China for domestic consumption or stockpiling.⁸³ Currently, China's NOCs do not appear to be pursuing overseas energy engagements strictly to build China's energy stockpiles, and the oil produced overseas by Chinese companies is not typically shipped back to China, given prospects of greater profit in other markets.⁸⁴

As early as 1993, China's NOCs pursued overseas acquisitions to obtain the oilfields, resources, and technologies a foreign company might hold.⁸⁵ Given the dominance of other multinational oil conglomerates over easily accessible sources of oil, Chinese NOCs were willing to pay a premium for oil assets, including riskier assets like unproven oil reserves in politically unstable countries.⁸⁶ Between 2005 and 2015, China's NOCs spent \$134 billion on overseas oil as-

*These include China National Petroleum Corporation (CNPC), China Petroleum and Chemical Corporation (Sinopec), and the China National Offshore Oil Corporation (CNOOC).

sets, with the majority of purchases taking place between 2009 and 2013 following the global financial crisis.⁸⁷ Beginning in 2015, China's NOCs began rebalancing their acquisition strategies by making direct purchases of oil on international markets in addition to purchasing foreign oil-producing assets.⁸⁸ The collapse of oil prices in 2014–2016 almost certainly also contributed to this shift in China's oil security strategy, as the collapse drastically undercut the profitability of the many oil-producing assets China's NOCs had procured and began to disincentivize purchases of more such assets.⁸⁹

Oil-Backed Loans: Driving Volatility and Funding Corruption

Chinese NOCs have also moved to secure control over oil flows from other countries' NOCs through the use of oil-backed loans supported by the China Development Bank and China Export-Import Bank.⁹⁰ Under an oil-backed loan agreement, a recipient government or NOC repays a loan from one of China's policy banks through oil sales to a Chinese NOC.⁹¹ Oil-backed loans theoretically give China's government an option to claim some amount of other countries' oil production, ensuring supplementary oil supply secured against state-owned infrastructure.⁹² Additionally, debtors holding oil-backed loans are vulnerable to price crashes that can force borrowers to devote greater volumes of oil to paying back the loan.⁹³

China's government has used oil-backed loans to exert leverage over African and Latin American countries.⁹⁴ Between 2005 and 2010, Chinese aid to Angola, one of China's major oil suppliers and an early customer of Chinese oil-backed loans, coincided with Chinese NOC acquisition of exploitation rights to multiple oil blocks in Angola.*⁹⁵ Similarly, Venezuela and Ecuador took advantage of Chinese policy bank financing at below-market rates secured by discounted oil. In part because Chinese oil-backed loans use revenue from daily oil sales as collateral for the loans,† both countries struggled with repayment terms when commodity prices crashed between 2014 and 2016.⁹⁶ In 2018, Ecuador's government committed 80 percent of its oil exports, negotiated down from 90 percent, to repay its oil-backed loans from China.⁹⁷ While China has used oil-backed loans as a strategic hedge against risk, oil-backed loans may conversely expose China to risk when oil prices rise, as countries would require smaller volumes of oil to pay off the value of the loan.

*China's government used oil-backed loans in concert with elite capture and corruption to extract maximum leverage in negotiations with Angola. For example, Isabel dos Santos, daughter of former Angolan president Jose Eduardo dos Santos and a former board member of Angolan NOC Sonangol, was accused by fraud authorities of funneling over \$1 billion in funds linked to Chinese firms to accounts and companies under the control of Santos or her husband. Similarly, the China International Fund was implicated in a 2020 seizure of funds from corrupt Angolan officials. Emily de La Bruyere and Nathan Picarsic, "Two Markets, Two Resources: Documenting China's Engagement in Africa," *Horizon Advisory* (prepared for the U.S.-China Economic and Security Review Commission), November 2020, 18–19.

†China's loan agreements with Ecuador and Venezuela were predicated on daily oil transactions that were especially susceptible to price shocks. Both Ecuador and Venezuela paid for Chinese investment by committing their NOCs, Petroecuador and Petróleos de Venezuela, S.A., to ship oil to China on a daily basis through the life of the loan. Following the shipment, Chinese NOCs buy the oil in accordance with a pricing formula generally indexed to market prices with occasional discounts. The Chinese NOCs' payments for that oil become funds from which the China Development Bank can withdraw for loan repayment. As oil prices declined, Ecuador and Venezuela were obligated to sell larger volumes of oil to China's NOCs to meet their loan repayment obligations. Oil prices are currently rising, which carries the risk that China may receive smaller volumes of oil to repay loan obligations. Stephen B. Kaplan and Michael Penfold, "China-Venezuela Economic Relations: Hedging Venezuelan Bets with Chinese Characteristics," *Wilson Center*, 2019, 10; Michal Meidan, "China's Loans for Oil: Asset or Liability?" *Oxford Institute for Energy Studies*, 2016, 10.

China's government and NOCs demonstrate a pattern of engaging with oil-rich countries with low transparency and high levels of local corruption.⁹⁸ In oral testimony before the Commission, senior associate for the Center for Strategic and International Studies' Energy Security and Climate Change Program Edward Chow explained the corrosive nature of China's energy investments. According to Mr. Chow, Chinese NOCs seeking opportunities to invest in foreign oil-producing assets considered their indifference to corruption among host country officials to be a competitive advantage over major U.S. or European oil companies.⁹⁹ One study examining two decades of Chinese investment in 49 African countries found that China implements a policy of investing in resource-rich countries with high perceived corruption on the basis that "paying bribes is a faster way to secure a license and gain access to the natural resource deposit than following long bureaucratic processes that are mostly met with resistance from the locals."¹⁰⁰

China's Authoritarian Energy Suppliers

China's energy strategy balances its sources of fossil fuels between its suppliers, many of which are authoritarian regimes, to avoid dependence on any individual country. By sourcing a significant portion of its fossil fuels from authoritarian regimes, China gives a lifeline to some countries sanctioned by the United States while granting China significant leverage over those countries.¹⁰¹ Although the Chinese government has worked to diversify its energy import sources, it continues to source nearly one-third of its oil from Russia and Saudi Arabia, and it sources nearly 40 percent of its natural gas from Russia and Central Asia.¹⁰²

China's energy trade with authoritarian regimes undermines international sanctions, particularly through its oil purchases and energy investments in Iran, Venezuela, and Russia.¹⁰³ China undermines international sanctions on Iran and Venezuela by rebranding* shipments of Iranian and Venezuelan crude oil as imported from Oman or Malaysia.¹⁰⁴ China's oil imports from Iran reached record highs in 2021, and according to Refinitiv Oil Research, 75 percent of the oil Iran moved to China between January 2020 and February 2021 was labeled as coming from Oman, the United Arab Emirates, or Malaysia.¹⁰⁵ China often provides capital and technology in exchange for Iranian oil and opportunities to invest in upstream† oil production.¹⁰⁶ In January 2022, Chinese Foreign Minister Wang Yi and Iranian Foreign Minister Hossein Amir-Abdollahian announced that the two countries would begin implementing a broad agreement on energy and infrastructure projects.¹⁰⁷ For Venezuela, Chi-

*To avoid detection when loading or transferring oil, ships will disable their automated identification system (AIS) transponders in a practice called "going dark." This practice is considered dangerous and an indication of violating sanctions compliance. In 2019, the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) called this a "deceptive shipping practice" in an advisory warning against activity that violates sanctions on Iran and Syria. Irene Anastassiou, "Going Dark' Is a Red Flag—AIS Tracking and Sanctions Compliance," *Gard*, May 29, 2019; U.S. Department of the Treasury, *OFAC Advisory to the Maritime Petroleum Shipping Community*, March 25, 2019.

†Upstream production refers to the processes of locating and extracting crude oil; another name for this is exploration and production (E&P). Midstream production includes transportation, storage, and marketing of oil, and downstream production occurs in distribution companies, refineries, petrochemical plants, and retail outlets such as a gas station. These three distinct sectors comprise the petroleum industry. BWAB Oil & Gas, "What Is Upstream Oil and Gas Production?" June 2, 2016.

na offers a market for its uniquely heavy, tar-like crude oil that requires a special refinery unit called a coker.¹⁰⁸ China has the world's second-largest coking capacity, and discounted Venezuelan crude oil has a large appeal for Chinese companies. According to a Bloomberg investigation into the now-sanctioned trading company Swissoil, shipping documents reveal that over 11.3 million barrels of Venezuelan oil arrived in China under disguised origins in 2020.¹⁰⁹ China's rising oil and gas purchases from Russia in the first half of 2022 have sustained Russian energy export revenues despite international sanctions against Russia for its unprovoked invasion of Ukraine.¹¹⁰ New phases of international sanctions on Russian crude oil and petroleum products throughout 2022, however, will likely constrain China's flexibility to capitalize on Russia's cheap oil.¹¹¹ Chinese state-owned petrochemical companies such as China Petrochemical Corporation (Sinopec), China National Offshore Oil Corporation, PetroChina, and Sinochem have already demonstrated a reluctance to cooperate with directly sanctioned entities for fear of being hit by secondary sanctions.¹¹² With Iran, Venezuela, and Russia, China feigns compliance with international sanctions regimes while simultaneously ensuring a market for oil from these states.

The China-Russia energy relationship will likely remain aligned for the next decade, but China's efforts to transition to a less carbon-intensive economic model raises the possibility the two countries' energy relationship could potentially diverge in the long term. For years, China has maintained parity in the level of oil imports from Russia and Saudi Arabia, and through the end of 2021 China ensured that Saudi Arabia was its primary oil supplier by a small margin.¹¹³ In 2022, China allowed Russian oil imports to surpass—at least temporarily—the amount of Saudi oil imports to take advantage of Russia's low prices after international demand for Russian oil waned in the wake of its unprovoked invasion of Ukraine.¹¹⁴ China has also strengthened its gas trade with Central Asian states and uses the competition between Central Asian states and Russia to drive down gas prices.¹¹⁵ (For more on China's relationship with Central Asian states and its competition with Russia in the region, see Chapter 3, Section 3, "China's Activities and Influence in South and Central Asia.") This confluence of interests will likely continue until China transitions to a less carbon-intensive economic model and reduces its dependence on fossil fuels. (For more on China's carbon transition, see the section below, "Economic Restructuring: A Prerequisite for Decarbonization"). Mr. Chow argued that "although China's and Russia's energy interests converge in the short run, they diverge in the long run as China seeks energy transition away from fossil fuels for both environmental and national security reasons. China's long-term energy interests are more compatible with those of other advanced economies."¹¹⁶

China remains heavily dependent on fossil fuels, particularly oil, and will almost certainly remain so for the next decade. This dependence could potentially decrease, however, over the course of decades as new energy technologies become available to assist China's efforts to transition away from carbon.

China's government ensures continued access to oil from the Persian Gulf by balancing steady state relationships with Iran and

Saudi Arabia. Although China imports significantly more energy resources from Saudi Arabia than Iran, it maintains a balanced approach to both countries in order to ensure a broadly permissive environment to expand its economic influence and military activities.¹¹⁷ Demonstrating commitment to balancing its relationships with Iran and Saudi Arabia, China elevated its diplomatic ties with both countries in the same week to “comprehensive strategic partnership,” the highest level in China’s diplomatic hierarchy.¹¹⁸ Maintaining positive relationships with the Gulf States is key for China’s oil supply because the region, which already supplies nearly half of Chinese oil imports, is likely to double its exports to China by 2035.¹¹⁹ This energy connection is likely a key motivator of Chinese commitments in development financing and the growing level of trade between China and the Gulf States, which exceeded \$200 billion for the first time in 2021.¹²⁰

Table 4: China’s Current Fossil Fuel Dependence on Persian Gulf Countries and Russia, 2019

Country	Percent of China’s Total Oil Imports, 2019	Percent of China’s Total Natural Gas Imports, 2019
Iran	3	0
Iraq	10	0
Kuwait	4	0
Oman	7	0
Qatar	0	9
Russia	15	3
Saudi Arabia	16	0
United Arab Emirates	3	0
TOTAL	58	12

Source: U.S. Energy Information Administration, *Country Analysis Executive Summary: China*, September 30, 2020, 6.

China’s Climate Liability

The Chinese economy’s carbon intensity creates vulnerabilities for the CCP. Specifically, the country’s economic boom, fueled primarily on coal, has come at a great cost to public health and environmental sustainability, generating both international condemnation and domestic discontent. Fundamental economic restructuring is required to realize Beijing’s vision for sustainable economic growth, but Chinese policymakers have yet to make meaningful changes to China’s energy-intensive economic model. When faced with crises like a severe economic downturn due to domestic novel coronavirus (COVID-19) lockdowns or policy-induced energy shortages, Chinese leaders preserve stability through short-term measures like encouraging infrastructure construction and expanding coal mining. These policies ultimately undercut long-term energy and climate-related goals. Deeply entrenched corporate and local government interests further delay China’s realization of its stated decarbonization goals,

as energy- and carbon- intensive industries form the backbone of many local economies throughout China. While political and institutional barriers drag on China's ability to decarbonize, policymakers envision China's domination of clean energy technologies providing the technical solutions for decarbonization, creating competitiveness challenges for the United States.

China's Carbon Footprint: An Economic and Reputational Liability

Chinese leaders have set unambitious public climate commitments and carbon reduction targets, yet China's ability to meet these targets is undermined by its accelerating coal infrastructure buildout. In September 2020, General Secretary Xi announced that China would peak its carbon emissions by 2030 and achieve net zero carbon emissions before 2060* (also known as the 30–60 goals) as its Nationally Determined Contribution under the Paris Climate Agreement.¹²¹ Researchers from the New Climate Institute predict that China could peak its carbon emissions in 2025, making the target relatively unambitious in the absence of a “carbon cap.”¹²² Furthermore, in “peaking” its carbon emissions, China must only demonstrate a small decline or plateau of emissions by 2031 to meet the target, while carbon emissions can significantly increase before that time. By contrast, China's target to achieve net zero carbon emissions before 2060 is likely unachievable, as it would require policymakers to confront unprecedented logistical, technical, and institutional constraints to restructure China's energy system and its economy.¹²³ With China accounting for more than half of newly added global coal power capacity in 2021, only a large-scale investment in carbon capture, utilization, and sequestration (CCUS) technologies that remove carbon emissions from the atmosphere could allow China to achieve net zero carbon emissions before 2060.¹²⁴ Rather, CCUS investment and deployment are still in their nascent stages in China. Models predict that China could only achieve net zero before 2060 by significantly reducing energy intensity, replacing the role of fossil fuels with renewable energy, and by rebalancing the economy away from energy- and carbon-intensive heavy industries.¹²⁵ Despite the fact that China is unlikely to achieve its 2060 target without significant data manipulation, its sheer time frame also relieves current Chinese leadership of accountability should it not be achieved.¹²⁶

China's rhetoric intends to position China as a global leader and a champion of climate concerns of developing countries, particularly those likely to be most impacted by climate change. This messaging constitutes part of its effort to build alignment against the United States at multilateral institutions like the UN while pursuing other objectives like diplomatically isolating Taiwan. China has leveraged this messaging strategy in its engagement with island nations prone to the environmental impacts of climate change, promising to pay attention to their climate-related “special concerns and legitimate

*Net zero carbon emissions means that for all carbon emissions released into the atmosphere, the same amount of emissions must be removed. Countries attempt to achieve net zero carbon emissions through a combination of policies to increase renewable energy and decrease use of fossil fuels and by implementing negative emissions technologies such as carbon capture, utilization, and sequestration systems.

demands.”¹²⁷ In 2019, the Solomon Islands switched diplomatic recognition from Taiwan to Beijing, citing China’s eagerness to help the country manage climate change through economic development opportunities.¹²⁸ Kiribati, another island in the South Pacific, re-established its diplomatic relations with Beijing less than a week later, explicitly pointing to Chinese promises to help islands in the region mitigate climate change and implement the Paris Climate Accords.¹²⁹ The majority of the 14 countries that diplomatically recognize Taiwan* are either islands or located in low-lying coastal regions, making them likely targets for China’s climate courtship strategy. While China capitalizes upon opportunities to cast itself as a responsible climate stakeholder, it simultaneously advocates for developing countries to be given a longer runway to develop economically before being expected to implement emissions mitigation measures. This strategy aims to court developing countries and cast the United States and other developed countries as responsible for climate change despite China’s status as the world’s top carbon dioxide emitter.

Domestically, Beijing’s climate commitments are part of a broader effort to build legitimacy through alternative indicators to economic growth, an improved environment, and “human centered development.” Lauri Myllyvirta, lead analyst at the Center for Research on Energy and Clean Air, similarly emphasized in his testimony that growing domestic concern about air pollution and environmental health threaten the CCP’s legitimacy, thereby acting as a strong driver of China’s climate policy.¹³⁰ Domestic calls to combat air pollution caused by burning coal further amplify international pressure, with the 2015 documentary *Under the Dome* revealing unprecedented air pollution levels in Chinese cities as well as regulatory failures to hold polluters accountable.[†]¹³¹ The documentary catalyzed strong public debate on the issue in China, with small protests reportedly breaking out in the province of Shaanxi.¹³² While the documentary was quickly banned by Chinese media censors and protesters were arrested, the film demonstrated to Chinese leadership that growing discontent over air quality and other environmental issues could easily foment domestic unrest.¹³³ A week after the film’s release, General Secretary Xi promised to punish polluters “with an iron hand,” while the former head of the Ministry of Environmental Protection‡ acknowledged the film’s portrayal of “growing public concern over environmental protection and threats to human health.”¹³⁴

Beijing’s economic goals consistently outweigh its climate concerns. Statements by Chinese leadership toward domestic energy

*Taiwan maintains diplomatic relations with Belize, Guatemala, Haiti, Honduras, Paraguay, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, eSwatini (formerly known as Swaziland), the Holy See (the central administration of the Roman Catholic Church), the Marshall Islands, Nauru, Palau, and Tuvalu.

†Carbon dioxide emissions and air pollution are closely related, as they are both caused by burning fossil fuels; however, air pollution broadly refers to air particles that have a detrimental impact on human health, while greenhouse gases like carbon dioxide have a warming effect on the earth’s atmosphere. Institute for Advanced Sustainability Studies, “Air Pollution and Climate Change”; UN Environmental Program, “Air Pollution and Climate Change: Two Sides of the Same Coin,” April 23, 2019.

‡The Ministry of Environmental Protection was folded into the Ministry of Environment and Ecology in March 2018. Jackson Ewing, “Tough Tasks for China’s New Environment Ministry,” *Diplomat*, March 17, 2018.

stakeholders continue to portray a belief that coal is central to China's immediate energy security and economic stability, with leaders stressing a "realistic" approach to decarbonization that leverages the "clean and efficient" use of coal.¹³⁵ Chinese energy policymakers therefore follow the maxim of "first building [new energy supplies] then breaking [old supplies]."¹³⁶ Under this guidance, China continues to ramp up coal-fired power plant development and coal mining domestically, thereby locking in coal-based infrastructure for years to come despite its climate targets. New energy supplies include not only renewable energy but also "clean" coal-fired power plants that emit fewer carbon emissions than the older generation plants being slowly phased out.¹³⁷ In 2021, China commissioned over three times as much new coal power capacity (38.4 gigawatts) as all other countries in the world combined.¹³⁸ China continued to build out its coal-fired power plant fleet in 2022 and accounted for 52 percent of globally operational coal-fired power capacity and 66 percent of newly announced and permitted coal projects.¹³⁹ China has also increased its support for domestic coal mining to feed its growing coal-fired power fleet, with domestic coal production reaching a new peak in March 2022 at 395.79 million tons.¹⁴⁰

Chinese leaders also recognize that the carbon intensity of China's industries may become a threat to industries' role in international supply chains in an increasingly climate-conscious world.¹⁴¹ Because Chinese industries like steel are more carbon intensive than their global competitors, any broad-based effort to incorporate the price of carbon into international trade would significantly reduce their cost competitiveness within global supply chains compared to competitors.¹⁴² For example, in response to the EU's proposed carbon border adjustment mechanism (CBAM), which would act as an import tariff on the carbon dioxide emitted by producers of certain carbon-intensive goods like steel, Chinese leaders have criticized attempts to "extend the climate change issue to the trade sector."¹⁴³ In 2021, the United States and the EU also began a working group to combat carbon intensity and overcapacity within the steel and aluminum industries, marking a continuation of U.S. and EU efforts to counter Chinese dumping of steel and aluminum into their respective markets. Both sides indicated they would work to discourage the trade of high-carbon steel and aluminum that contribute to "global excess capacity from other countries" while supporting domestic efforts to reduce the carbon intensity of U.S. and EU industries.¹⁴⁴ In testimony before the Commission, Mr. Collins referenced such developments as emblematic of a broader shift toward "climate competition" in which countries no longer make concessions to cooperate on climate but instead pressure one another on climate issues based on their respective advantages.¹⁴⁵

The rise of global investors interested in allocating investments according to environmental, social, and governance (ESG) standards may also point to a growing vulnerability for Chinese industries, as some ESG investors regard Chinese investments with a level of caution despite the Chinese government's public commitment to climate change and environmental sustainability. ESG investors must consider risks associated with China's lack of rule of law and respect for human rights (for discussion of the role forced labor in Xinji-

ang plays within the polysilicon industry, see “China Reaches for a Green Technology Solution and Geopolitical Leverage” later in this section). Moreover, the country’s accelerating coal investments indicate that the Chinese government’s support for green development is subject to reversal when it encounters threats to energy security and economic growth.¹⁴⁶ Observers also note that many Chinese firms do not provide quality data on their emissions or environmental footprints, creating additional hurdles for ESG investors interested in the Chinese market.¹⁴⁷ As ESG standards become a greater factor in investment decisions, these factors could generate greater vulnerabilities for industry in China.

Economic Restructuring: A Prerequisite for Decarbonization

China cannot significantly reduce emissions without transitioning its economy away from carbon-intensive industries, a long-held goal Chinese policymakers have failed to achieve. Chinese economic growth remains highly dependent on investment-led property and infrastructure development, which relies on carbon-emitting industries like steel, aluminum, and cement. As of 2019, these industries produced about 28 percent of China’s total energy-related carbon emissions while accounting for 70 percent of China’s energy consumption.¹⁴⁸ Any meaningful reduction in China’s energy and carbon intensity would therefore require China to reduce the role of these industries within its economy. The Chinese central government has identified this as a goal within various campaigns, including “supply-side structural reform,” which has sought to reduce the overcapacity in heavy industries like steel resulting from decades of subsidies and local government support. For example, between 2000 and 2015 China’s share of global steel output rose from 15 percent to 50 percent while the U.S. share declined from 12 percent to 6 percent due to a precipitous fall in global prices from Chinese dumping.¹⁴⁹ Strategies to reduce overcapacity, including SOE consolidation, have largely failed to curtail China’s steel output, which continued to produce excessively in 2020 when global demand had largely collapsed.¹⁵⁰ Furthermore, despite their desire to reduce overcapacity within heavy industries, Chinese policymakers relied on these industries to shore up short-term growth in 2020, making China the only major economy to report rising emissions in 2020.¹⁵¹

Chinese economic planning documents emphasize the need to cultivate new growth drivers but do not include meaningful constraints that would hold policymakers to these objectives. Like the 30–60 goals, energy intensity and emissions targets in Chinese economic planning documents allow China’s policymakers to continue prioritizing economic growth over the major economic and energy reforms that are necessary for decarbonization. Key targets within the China’s 14th Five-Year Plan (14th FYP) include an 18 percent reduction in carbon intensity and 13.5 percent reduction in energy intensity.¹⁵² Importantly, the plan’s energy and carbon targets are based on intensity rather than any absolute measure of energy use or carbon emissions, meaning that China’s gross energy consumption and carbon emissions will continue to grow as long as the energy and carbon intensity of economic growth decrease. As such, these targets may encourage factories and power plants to operate

more efficiently, but they stop short of forcing large-scale structural changes in energy composition or usage. China's 14th FYP targets do not represent any significant increase in ambition over 13th FYP targets, and they are purposefully set at achievable levels.¹⁵³ For example, China's carbon intensity fell by 18.8 percent from 2015 to 2020, while the 2025 target is set at only 18 percent. Similarly, the 14th FYP energy intensity reduction target of 13.5 percent falls below previous targets of 15 percent.¹⁵⁴

Institutional and Technical Barriers Undermine China's Climate Goals

Energy-intensive and carbon-intensive industries are politically and economically entrenched within China's system, creating strong vested interests that obstruct China's decarbonization efforts. SOEs dominate the fossil fuel, power, and heavy industry sectors.¹⁵⁵ For example, China's three major oil companies, China National Petroleum Corporation, Sinopec, and China National Offshore Oil Corporation, collectively produce approximately 32 percent of China's domestic oil demand, while nearly 66 percent of China's coal power generation capacity is controlled by the "Big Five" state-owned power generators, Huaneng Group, Huadian Group, China Energy Investment Corp (CEIC), State Power Investment Corp (SPIC), and Datang Group.¹⁵⁶ China's electricity grid is primarily managed by two state-owned companies, State Grid Corporation and China Southern Power Grid Company, which are responsible for electricity retail and transmission within different geographies.¹⁵⁷ On the industry side, the world's top respective steel and aluminum producers, Baowu Steel and Aluminum Corporation of China, are both state owned with control over multiple subsidiaries.¹⁵⁸

By virtue of their size, China's energy and industrial SOEs are significant providers of local employment and economic growth, with Sinopec and China National Petroleum Corporation alone employing at least 816,000 people in 2021.¹⁵⁹ According to Henry Lee, director of the Environment and Natural Resources Program at Harvard University, for every one million dollars of investment, China's coal industry produces 2.3 times as many jobs as renewables.*¹⁶⁰ Despite central government pressure to accelerate decarbonization, local governments dependent on fossil fuels and related industries are therefore unsure about how to mitigate the employment dislocation impacts of a carbon transition. With local cadres continually evaluated on their ability to stimulate economic growth, there are strong economic and political incentives for local governments to avoid "breaking the old" unless they see a compelling business case for "building the new," in spite of central government mandates. For example, in December 2021 Chinese environmental regulators found that the Shandong government had turned a blind eye to at least 19 companies that had illegally built approximately 60.4 million metric tons of annual oil refining capacity.¹⁶¹

*By contrast, research by the World Resources Institute suggests that renewable energy investments in the United States on average create more jobs than investments in fossil fuels. For example, for every million dollars invested in fossil fuels, U.S. investments in solar, wind, and hydro energy respectively produce 1.5, 1.2, and 1.2 times as many domestic jobs. Joel Jaeger et al., "The Green Jobs Advantage: How Climate-Friendly Investments Are Better Job Creators," *World Resources Institute*, October 18, 2021, 3.

Local autonomy to adjust and implement central government policy guidance has historically created ample space for entrenched fossil fuel interests to shape economic and energy policies in their favor. China's energy and industrial SOEs are powerful political actors that often coordinate closely with local governments to develop and implement planning targets, creating a forum for them to advocate their interests within critical government strategy and planning documents. The final targets included within Chinese planning documents thus represent the culmination of an opaque bargaining process between government planners, regulators, relevant SOEs, industry associations, and government think tanks (for more on China's economic policymaking process, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority").¹⁶² SOEs also indirectly influence policy through close relationships with local politicians, which are enhanced through a revolving door of employment between government offices and SOEs.¹⁶³ Given their mutual dependence with local governments, SOEs ultimately benefit from close access to policymakers and economic resources like bank loans. For example, provincial officials have historically supported their local power plants by refusing to purchase power produced in other provinces, thereby contributing to a trend of local energy system protectionism.¹⁶⁴ These trends further strengthen the political barriers to decarbonization while crowding out capital for investments in both renewable energy and alternative growth drivers.

A Chinese carbon transition has the potential to devalue SOE assets, pushing them to undermine decarbonization efforts while diversifying their investments. According to research by Jonas Nahm and Johannes Urpelainen of Johns Hopkins School of Advanced International Studies, about 55 percent of China's coal power units have both state and private investors, exposing the Chinese government to financial risk should coal infrastructure become obsolete.¹⁶⁵ SOEs are thus attempting to create a financial "off ramp" as their fossil fuel assets decline in value, with Michael Davidson, assistant professor at University of California at San Diego, arguing that Chinese SOEs are simultaneously diversifying their portfolios to include more renewable energy generation assets.¹⁶⁶ Consolidation has also been a key strategy to increase the efficiency and financial stability of incumbent SOEs, with mergers progressing in the coal, steel, cement, and rare earths industries.*¹⁶⁷ State domination will thus likely continue to be a key feature of China's energy system while SOEs enjoy increased market power and influence within their industries.¹⁶⁸

The CCP's attempts to centralize authority and streamline policy implementation under General Secretary Xi have been ineffective in the energy sector,† further limiting the central government's ability

*For more on Chinese SOE mergers, see Sean O'Connor, "SOE Megamergers Signal New Direction in China's Economic Policy," *U.S.-China Economic and Security Review Commission*, May 24, 2018; and U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, January 28, 2022, 4–6.

†China's government expanded authorities of environmental regulation and climate policy by creating the Ministry of Ecology and Environment (MEE) in 2018 and increasing energy and environment-related legislation. Like its predecessor the Ministry of Environmental Protection, however, the Ministry of Ecology and Environment is constrained in its ability to enforce new laws. In an annual address at the ministry's work conference in January 2022, Minister Huang Runqiu noted that 7,020 environmental monitoring cases in 2021 resulted in total of roughly \$134 million (renminbi [RMB] 900 million) in fines, or an average of just over \$20,000 per case.

to combat strong localized interests of fossil fuel business and heavy industry. Energy policymaking in China remains structurally fragmented, with multiple agencies responsible for managing energy sector prices, competition, regulation, land use, and project approval. Weak oversight and regulatory enforcement creates additional space for policy distortions, as local governments and SOEs often have the power to exploit broad and general guidance to suit their interests.¹⁶⁹ Because the entities responsible for energy and climate policy respond to diverging incentives and interests, agency-level policies have not always been well coordinated, and bureaucratic competition can result in diluted policies with slow or distorted implementation. For example, the NDRC has authority over energy prices, while the Ministry of Ecology and Environment (MEE) and the National Energy Agency (NEA) respectively govern the emissions trading system and electricity market reform. Because energy prices are a key input to both the emissions trading system and electricity markets, the NDRC's upstream pricing policies can impact the outcomes of both the MEE and NEA's energy market initiatives.¹⁷⁰ Furthermore, the MEE and NEA, which are responsible for developing and implementing China's energy and climate policy, are relatively lean with low manpower and small budgets, thus forcing them to devolve significant enforcement responsibilities to their provincial and local branches and local SOEs.¹⁷¹ China's NEA in particular suffers from limited capacity, as it has yet to be upgraded to a full ministry and must delegate project approval and regulatory enforcement responsibilities to the local level where fossil fuel interests are often strongest.¹⁷²

China Reaches for a Green Technology Solution and Geopolitical Leverage

Chinese policymakers envision the country's rising leadership in clean energy technology* mitigating energy insecurity concerns arising from China's dependence on foreign oil, natural gas, and coal. Just as Chinese leaders see technological innovation as a solution to challenges in other areas like food security and healthcare, they intend for China to both domestically produce and export the technologies that will help to solve its enduring sense of energy insecurity. China has already become a key manufacturing hub for many of the technologies required to support decarbonization, including solar panels, wind turbines, and lithium-ion batteries (see Table 5 and Figures 4–6 below).† Furthermore, with global renewable electricity

Minister Huang also observed that environmental violations had increased over the previous year. Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB. State Council of the People's Republic of China, *No Letup in Environmental Protection, Pledges Ministry*, January 18, 2022.

*Clean energy technologies are any technologies that reduce negative environmental consequences of energy usage. They encompass but extend beyond nonfossil fuel energy sources to include energy storage technologies such as batteries as well as carbon-reduction processes like carbon capture and storage and even LED lights, which require far less electricity to achieve the same brightness as incandescent bulbs. Such technologies trace their origins to industrial applications, such as batteries for storing energy within electrical grids. Today, they are increasingly manufactured for consumer markets (e.g., EV batteries and residential solar panels).

†While clean energy technologies produce far fewer carbon emissions than fossil fuels across their life cycle, manufacturing processes for technologies like wind turbines are still somewhat carbon intensive. For example, offshore wind turbines require approximately 500 tons of steel and 1000 tons of concrete per 1 megawatt of wind energy, with additional materials required to connect the turbines to electricity grids. Considering the carbon emissions released during the manufacturing process, in 2018 Chinese researchers estimated that Chinese-manufactured

capacity predicted to grow by at least 60 percent over 2020 levels by 2026, Chinese firms are poised to profit significantly from upcoming multitrillion-dollar clean energy investments around the world.¹⁷³ As China expands and solidifies its role within manufacturing supply chains for current and next-generation energy technologies, Chinese policymakers intend to benefit from “one-way globalization” in which foreign trade partners become increasingly dependent upon Chinese supply chains for new energy technologies. This exposes the United States and other countries to mounting supply chain risks, including exposure to China’s alleged use of forced labor to produce polysilicon solar panels and EV batteries.¹⁷⁴ To address these concerns, Congress passed the Uyghur Forced Labor Prevention Act, which came into effect in June 2022, effectively placing a ban on the import of products including polysilicon and solar panels “mined, produced, or manufactured wholly or in part” from Xinjiang.¹⁷⁵ China has begun shifting its polysilicon industry in response to growing U.S. scrutiny of its labor practices, however, with Chinese companies establishing new polysilicon factories in Inner Mongolia and Sichuan Province.*¹⁷⁶

Table 5: Chinese Capabilities within Clean Energy Technology Supply Chains

Technology	Definition	Chinese Capabilities
<p style="text-align: center;">Wind</p>	<p>Turbines harness energy in wind through propeller-like blades connected to a rotor. The rotor is connected to a gearbox and main shaft that spins a generator, producing electricity. Wind turbines can contain as many as 8,000 parts, including blades that can span over 300 feet in length and towers that can exceed a height of 308 feet.</p>	<p>China is capable of producing all major land-based turbine components domestically and is a hub for offshore wind turbine manufacturing. China leads in labor-intensive operations like blade manufacturing and is a leading producer of subcomponents, including gearboxes and rare earth magnets. By 2020, Chinese firms accounted for 10 of the top 15 wind turbine manufacturers globally.</p>

offshore wind turbines released about 25.5 grams of carbon dioxide per kilowatt hour of energy they produced. By comparison, natural gas power plants release about 437–758 grams of carbon dioxide per kilowatt hour, and coal fired power plants produce about 675–1,689 grams of carbon dioxide per kilowatt hour. Chinese manufacturing processes for raw materials like steel are also comparatively more carbon intensive, with China releasing approximately twice the amount of carbon dioxide per metric ton of steel it produces compared to the United States. Ali Hasanbeigi, “Steel Climate Impact,” *Global Efficiency Intelligence*, April 2022, 3; Sara Peach, “What’s the Carbon Footprint of a Wind Turbine?” *Yale Climate Connections*, June 30, 2021; Ariel Cohen, “As Global Energy Demands Grow, So Does Appetite for Offshore Wind,” *Forbes*, March 26, 2019; Juhua Yang et al., “The Life-Cycle Energy and Environmental Emissions of a Typical Offshore Wind Farm in China,” *Journal of Cleaner Production* 180 (April 10, 2018): 316–324.

*The Uyghur Forced Labor Prevention Act followed multiple actions from U.S. Customs and Border Patrol to detain imports of goods from Xinjiang suspected to have been produced using forced labor, including silica-based products from Hoshine Silicon Industry Co. Ltd. and Subsidiaries in June 2021. U.S. Customs and Border Protection, *Withhold Release Orders and Findings List*, 2022.

Table 5: Chinese Capabilities within Clean Energy Technology Supply Chains—Continued

Technology	Definition	Chinese Capabilities
Solar	Photovoltaic modules (also called solar panels) are made of thin cells that convert sunlight into electricity. The most common type of panel is crystalline silicon, which is made of polysilicon and known to be most efficient and heat resistant. Cadmium telluride panels are less common, but they can be produced at a lower cost with simpler production processes.	China controls the production of nearly every component used in crystalline silicon modules, controls supply chains for minerals used in their production, and now accounts for approximately 80 percent of global solar cell manufacturing. Chinese firms are cost competitive and can produce solar components for 30–40 percent less than the United States.
Energy Storage	Energy storage technologies capture energy for later deployment. While consumer-facing applications like the batteries in EVs may be best known, industrial applications, such as storing energy generated from renewables before it is deployed to the grid, are an important source of innovation and commercial potential. Like EVs, grid-scale batteries primarily use lithium-ion technologies.	China dominates the entire value chain for lithium-ion batteries, including raw and processed materials, subcomponents, and assembly. It also accounts for 80 percent of global capacity for cell manufacturing and battery recycling. China also accounts for about 61 percent of global production of vanadium, a key mineral used in vanadium flow batteries; however, most of China's vanadium is currently used to produce steel.
Carbon Capture Utilization and Sequestration (CCUS)	CCUS is a group of interconnected technologies used to reduce and store carbon emissions by: 1. Separating carbon dioxide from other gases; 2. Compressing them; 3. Transporting them to storage sites; and 4. Storing them permanently underground. Key technologies include solvent-based capture, carbon dioxide drying, steel pipeline transportation, and geologic storage technologies.	CCUS is not yet widely deployed in China, though China has ample domestic supply for raw materials used in CCUS, including rare earths, steel, cement, and aluminum.

Source: Various.¹⁷⁷

State Support Builds the Chinese Clean Energy Technology Manufacturing Industry

China occupies a key “manufacturing node” along global clean energy technology supply chains due to a combination of supportive supply- and demand-side policies. Chinese government support for domestic clean energy technology manufacturing in the early 2000s was focused on developing indigenous innovation capabilities that could produce novel intellectual property.¹⁷⁸ Despite the government’s emphasis on technological innovation, Chinese firms did not need to improve in this area given their sustained access to foreign innovation through direct technology transfers and licensing arrangements, training opportunities provided by foreign partners, and outright theft.¹⁷⁹ Rather than invent new technologies, Chinese firms leveraged government-provided research and development (R&D) support to innovate manufacturing processes that allowed them to scale up production and reduce manufacturing costs.¹⁸⁰ Local governments and their respective economies likewise benefited from supporting mass manufacturing operations through subsidies and preferential financing for local firms entering the market.¹⁸¹ Over time, China’s enormous manufacturing infrastructure has lowered the financial risks associated with commercial innovation, allowing Chinese firms to experiment with innovations in manufacturing processes and products and then pilot them with the support of local governments.* China’s solar industry expansion demonstrates the outcome of state support coupled with China’s commercialization abilities, as China’s share of global solar manufacturing more than quadrupled between 2006 and 2013 following a flood of state subsidies meant to keep the industry afloat in the wake of the 2008 financial crisis.¹⁸² As of 2022, China controls the production of nearly every component used for most solar modules due to significant cost advantages.¹⁸³

China couples supply-side support like industrial subsidies with demand-side policies like tax credits and renewable energy subsidies called feed-in tariffs† to establish domestic markets for clean energy technologies. For example, the Chinese government began using feed-in tariffs in 2009 to secure a domestic market for solar energy after it collapsed in key export markets following the 2008 financial crisis.¹⁸⁴ By further subsidizing solar energy, the Chinese government created overcapacity within the solar industry rather than allow it to be conditioned by market forces. Only now that solar energy has become price competitive with fossil fuel energy has China announced plans to begin phasing out feed-in tariffs.¹⁸⁵ Like the solar energy market, China’s domestic new electric vehicle (NEV) market was cultivated through both producer and consumer subsidies and tax credits, helping China to become the largest global market for NEVs with 3.3 million units sold in 2021.¹⁸⁶ By compar-

* China’s multifaceted approach to stimulating supply and demand for renewable energy technologies has helped Chinese firms overcome what is known as the “valley of death.” The “valley of death” refers to the period when basic research has established the potential viability of a new technology, but a lack of funding to take the technology from the laboratory to early stages of commercialization prevents further development of that technology. Timothy M. Persons et al., “Nanomanufacturing: Emergence and Implications for U.S. Competitiveness, the Environment, and Human Health,” *U.S. Government Accountability Office*, GAO-14-181SP, January 2014, 25–27.

† Feed-in tariffs are subsidies paid by the Chinese government to renewable energy producers, which guarantee them above-market prices for the energy they deliver to the electricity grid.

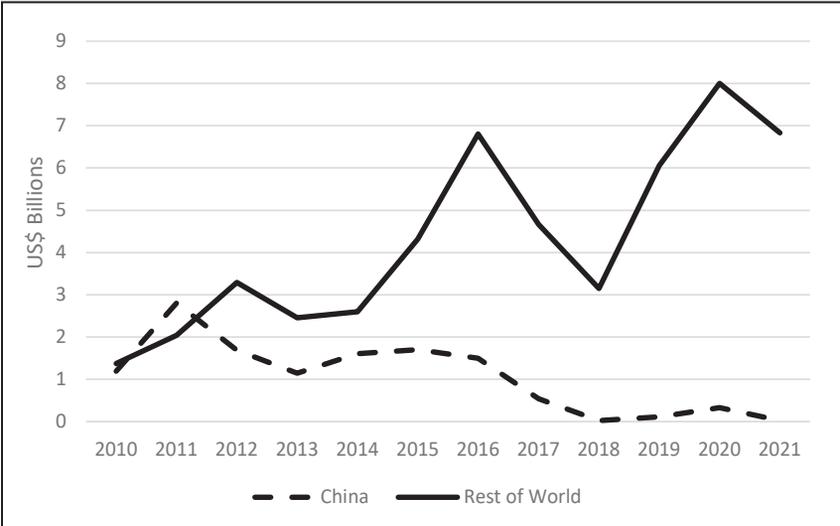
ison, only 608,000 NEVs and hybrid NEVs were sold in the United States in 2021.¹⁸⁷ Domestic content requirements and support for national champions also helped ensure that equipment to feed the growing market was produced domestically, and in the case of NEVs, by 2019 Chinese companies held 85 percent of the domestic market.¹⁸⁸ Chinese manufacturers' success in NEVs may pave the way for China to become a leader in battery storage technologies for industrial applications,* like energy grid storage, as well as consumer-facing applications, like NEVs.¹⁸⁹ Given their wide-ranging applications, energy storage technologies have been a strategic focus for Chinese policymakers such that China now accounts for 80 percent of global capacity for lithium-ion battery cell manufacturing.¹⁹⁰

China's state support for domestic manufacturers of clean energy technologies undercuts U.S. producers and has contributed to erosion of the U.S. industrial base. China's supply- and demand-side support for its clean energy technology industry has generated harmful market distortions, including excess capacity among solar panel and wind turbine manufacturers.† As a result, the U.S. Department of Commerce and the International Trade Commission accused Chinese firms of dumping their products within foreign markets and eroding industries in competitor nations like the United States.¹⁹¹ In response to requests from U.S. firms that have been harmed due to Chinese dumping of solar panels and wind turbines, the United States has used trade remedies, including antidumping and countervailing duties as well as safeguard tariffs, though with little success in regaining U.S. manufacturing capacity.¹⁹² Dr. Nahm noted that rather than promote a reshoring or reorganization of the U.S. solar industry, tariffs have simply caused solar manufacturing capacity to relocate to other Asian countries like Vietnam and Malaysia, although according to a petition from U.S. company Auxin Solar, solar panels from these countries are still produced by Chinese companies circumventing tariffs.‡¹⁹³ Ultimately, the United States requires a durable solution to counter the lasting damage to U.S. solar manufacturing caused by Chinese state subsidies and nonmarket practices.

* Chinese battery storage technologies, including those used for industrial applications, are not yet economically viable at scale due to high costs. Rising prices for inputs such as cobalt, lithium, nickel, copper, and magnesium supplies, as well as the need to compete for resources with EV producers, create challenges for China's energy storage industry. China's 14th FYP for New Energy Storage Technologies acknowledges these constraints and sets a goal for China to reduce the costs of battery storage technologies by 30 percent by 2025. Domestic demand for grid energy storage is currently concentrated within less energy-intensive industries desiring to reduce energy costs, while technological limitations prevent industrial energy storage systems from providing enough energy to power heavy industries. Michael Standaert, "China Ramping Up Ambitious Goals for Industrial Battery Storage," *Global Energy Monitor*, December 1, 2021; Ivy Yin, "China Targets to Cut Battery Storage Costs by 30% by 2025," *S&P Global*, March 22, 2022.

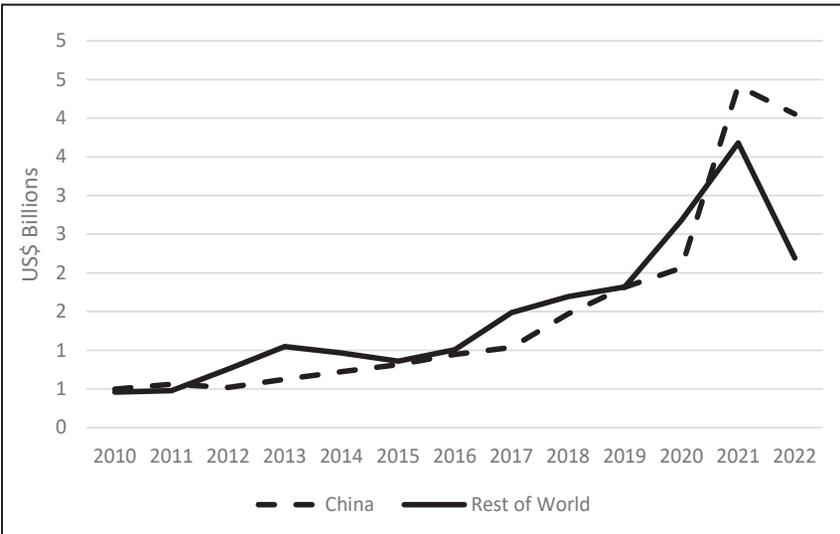
† For more on China's overcapacity in these industries, see Jacob Koch-Weser and Ethan Meik, "China's Wind and Solar Sectors: Trends in Deployment, Manufacturing, and Energy Policy," *U.S.-China Economic and Security Review Commission*, March 9, 2015.

‡ On June 6, 2022, the Biden Administration invoked the Defense Production Act to support domestic manufacturing of solar panels and other clean energy technologies. It is not yet clear what tools the Department of Energy will use to support domestic manufacturing of these technologies. The Administration simultaneously announced that it would suspend tariffs on solar panels manufactured in Malaysia, Vietnam, Thailand, and Cambodia for two years pending the results of an investigation into whether these firms were using Chinese components and circumventing tariffs. Ethan Howland, "Biden Invokes Defense Production Act to Boost Domestic Manufacturing in Clean Energy, Grid Sectors," *Utility Dive*, June 7, 2022; Robert Delaney, "US Suspends Tariffs on Some Solar Panel Imports for Two Years, but Leaves China Out," *South China Morning Post*, June 7, 2022; White House, *FACT SHEET: President Biden Takes Bold Executive Action to Spur Domestic Clean Energy Manufacturing*, June 6, 2022.

Figure 4: U.S. Solar Panel Imports, 2010–2021

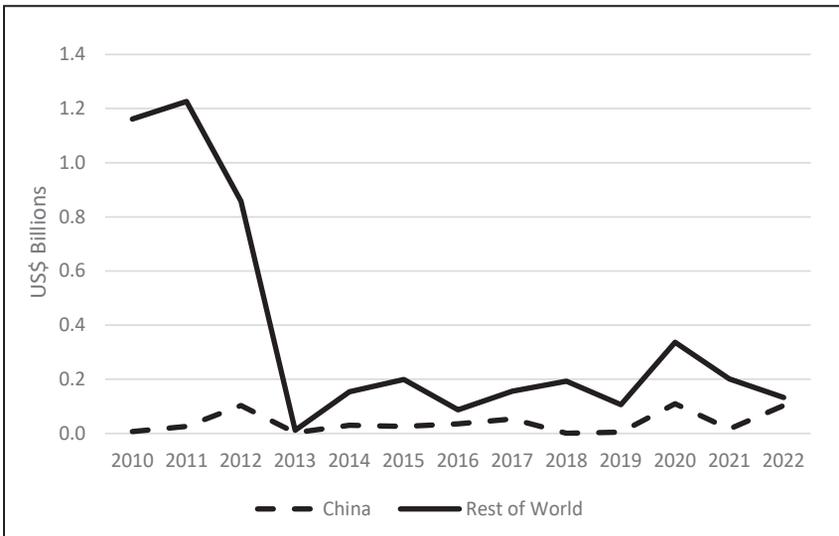
Note: The United States has maintained antidumping and countervailing duty tariffs on Chinese solar panel imports since 2012. Import data include the following HS Codes: 854140615, 854140620, 854140625, 854140630, and 854140635. U.S. International Trade Administration, *Commerce Finds Dumping and Subsidization of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People's Republic of China*, October 10, 2012.

Source: U.S. Census Bureau.

Figure 5: U.S. Lithium-Ion Battery Imports, 2010–June 2022

Source: U.S. Census Bureau.

Figure 6: U.S. Imports of Wind Power Generating Equipment, 2010–June 2022



Note: The United States has maintained antidumping and countervailing duty tariffs on Chinese wind power generating equipment since 2012.

Source: U.S. Census Bureau.

Clean Energy Technology Competition with the United States and Other Economies

China outcompetes the United States in commercializing new technologies due to a combination of supportive policies, including government subsidies, low wages, and lax environmental regulations, all of which lower the costs associated with prototyping and scaling up new scientific breakthroughs.¹⁹⁴ By contrast, the United States has a competitive advantage in basic research, or research into foundational scientific questions, which is driven by private and federally funded research institutes, public and private R&D spending, and a strong university system to cultivate talent in critical disciplines. The United States also invests in applied research and technology commercialization through industry-university partnerships, direct government support for technology startups, and a healthy venture capital and private startup ecosystem.¹⁹⁵ With 17 national laboratories, the U.S. Department of Energy has developed one of the world's largest scientific research networks, connecting universities, industry, foundations, and public entities to develop both foundational and commercial research.¹⁹⁶ Between 2010 and 2019, U.S. companies filed about 20 percent of global low-carbon technology patents while China accounted for about 8 percent.¹⁹⁷ The United States is also competing with other countries in this area, as European countries and Japan respectively filed 28 and 25 percent of total low-carbon technology patents during the same time period.¹⁹⁸ The U.S. advantage in clean energy technology invention and basic research has not been accompanied by equally strong capabilities in commercialization, scaleup, and mass production.¹⁹⁹ U.S. leadership in basic research for clean energy technology im-

plies that Chinese firms in the clean energy technology industry will continue to prioritize access to U.S. intellectual property through licit and illicit means. Like in the case of the U.S.-invented silicon solar cell, there is a continued risk that U.S. innovations will become commercialized in China, reducing the benefits to U.S. industry and ultimately eroding the economic foundation through which industry invests in innovation.²⁰⁰

Intellectual Property

Chinese firms continue to rely upon industrial economies like the United States and Germany for foundational research, intellectual property, and advanced components despite China's desire for self-sufficiency.²⁰¹ Between 2007 and 2013, U.S. firm Westinghouse* entered into a technology transfer agreement and joint venture with China's State Nuclear Power Technology Corp. (SNPTC) to use Westinghouse's technology in China's AP1000 nuclear reactor build-out.²⁰² China is now home to four AP1000 nuclear reactors, and it has also built out a fleet of CAP1000 nuclear reactors, which use a "licensed adaptation" of Westinghouse's technology.²⁰³ While SNPTC acquired Westinghouse's AP1000 technology legally, in 2014 the U.S. Department of Justice indicted Chinese military officials for hacking Westinghouse's networks to steal its intellectual property, business plans, and negotiation strategies.²⁰⁴ Additional cases have arisen in which U.S.-China clean energy partnerships resulted in illegal technology transfer from U.S. firms. In 2011, U.S. wind turbine designer American Superconductor (AMSC) filed a lawsuit against its Chinese R&D partner, Sinovel, after discovering that Sinovel was using AMSC technology in a Chinese wind turbine without purchasing or leasing such technology from AMSC.²⁰⁵ Sinovel has since been forced to close operations after U.S. and Chinese courts convicted it of intellectual property theft and copyright infringement. China's track record of intellectual property theft has soured attempts to jumpstart bilateral clean energy R&D cooperation through programs like the U.S.-China Clean Energy Research Center, headquartered in Berkeley, California.†

Machine Tooling

Advanced economies like Germany are key suppliers of machine tools and robotics for China's clean energy technology industry. Germany is a world leader in producing and designing manufacturing equipment as well as core technologies, or the foundational hardware used to produce other technologies like solar modules, wind turbines, or chip wafers. According to Dr. Nahm, collaborations between German suppliers and Chinese manufacturers were at the heart of China's solar manufacturing boom, with German firms providing

*Toshiba purchased Westinghouse in 2006 for \$5.4 billion amid a wider selloff by Westinghouse's parent company, British Nuclear Fuels Ltd. In 2018, Toshiba sold its stakes in Westinghouse to Bermuda-headquartered company Brookfield after Westinghouse declared bankruptcy. *World Nuclear News*, "Toshiba Sells Westinghouse-Related Assets in USA," April 6, 2018; *Reuters*, "Toshiba Buys Westinghouse for \$5.4 Billion," March 8, 2006; Terry Macalister and Mark Milner, "Toshiba to Buy BNFL's Westinghouse," *Guardian*, January 23, 2006.

†The U.S.-China Clean Energy Research Center (CERC) was established by the U.S. and Chinese governments in 2011 to promote joint research between U.S. and Chinese clean energy research teams. For more information on attempts to establish U.S.-China clean energy technology cooperation, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 4, "U.S.-China Energy Cooperation," in *2014 Annual Report to Congress*, November 2014, 183–226.

solar production equipment and retrofits for existing manufacturing lines.²⁰⁶ Similar relationships support the Chinese wind turbine manufacturing industry, whereby German firms design and supply gearboxes, a core technology used to accelerate the rotation of wind turbines.²⁰⁷ Chinese firms also remain dependent on foreign-produced lithography equipment for the semiconductors used within many clean energy technologies.²⁰⁸ Recognizing the shortcomings of Chinese industry in core technologies and machine tooling, Chinese firms have prioritized accessing these resources and skills through trade, strategic acquisitions, localization requirements, and illicit activities. Illustrating this phenomenon, in the early 2000s the German wind turbine firm Vensys developed a new direct-drive technology for wind turbines that reduced cost and improved turbine reliability. Chinese turbine manufacturer Goldwind eventually acquired a majority stake in the company and now mass manufactures the technology in China, while upstream R&D is managed by Vensys in Germany.²⁰⁹ By vertically integrating its R&D, Goldwind increases its ability to stay at the cutting edge of the industry and reduces the risk that more innovative firms will redirect the industry away from its core capabilities.²¹⁰

Mass Manufacturing

China's global competitiveness in clean energy technologies derives from its ability to lower the costs of mass commercialization. With the support of subsidies and other industrial policy tools, China's mass production and assembly of technology components at scale has driven large-scale cost reductions, but these may ultimately harm consumers and undermine innovation. By creating "lock-in" to less innovative technologies that would not be commercially viable without extensive subsidization, the cost competitiveness of Chinese-manufactured technologies disincentivizes the commercialization of competing next-generation technologies.²¹¹ This is an area where the United States possesses significant potential but continually struggles to commercialize new innovations.²¹² For example, China's state-subsidized dominance over crystalline silicon solar cell manufacturing has contributed to their global proliferation, yet the U.S.-produced thin-film solar cells exhibit some technical advantages and could be produced at a lower cost.²¹³ Despite their potential advantages, thin-film solar cells accounted for only 5 percent of global market share in 2019, while crystalline silicon-based cells accounted for the other 95 percent.²¹⁴ As the world's solar manufacturing hub, China benefits from access to the innovation opportunities that occur during the production process and has thus continually made strides in reducing costs.

Market Size

China is also the fastest-growing market for clean energy technologies, creating additional opportunities for it to make technical innovations that improve upon existing technologies like wind turbines or solar modules and solve unique domestic energy problems. For example, China has built the world's longest and most powerful ultra-high-voltage (UHV) power lines to connect renewable energy sources in its northwest regions to the energy-hungry east coast.²¹⁵

The challenges inherent in integrating China’s geographically disparate renewable energy sources to energy consumers have incentivized China’s major grid company, State Grid, to invest in developing smart grid technologies and advanced UHV power lines that it can commercialize and export.²¹⁶ State Grid has been a leading participant in BRI, where it has been involved in at least 16 grid development projects in countries around the world and claims to have exported equipment to over 80 countries.²¹⁷

Given China’s ongoing fossil fuel reliance, its anticipated domestic demand for CCUS technologies may represent another innovation opportunity for its clean energy technology industry. Because CCUS systems are designed to accommodate the unique infrastructure of individual power plants or other carbon-emitting factories, they are composed of numerous interconnected technologies and systems that can be customized or interchanged.²¹⁸ CCUS technologies therefore offer abundant opportunities for innovation. As the Chinese government attempts to reduce reliance on foreign oil imports, it also sees great promise in using the carbon dioxide captured from CCUS for enhanced oil recovery, a process that retrieves oil by injecting carbon dioxide into oil wells.²¹⁹ China’s plan to double domestic CCUS capacity by 2025, coupled with investments by oil companies like Sinopec to develop CCUS technologies and use cases, mean China may be well positioned to develop the next generation of CCUS technologies.²²⁰

China’s Critical Mineral Strategy Supports Its Technological Dominance

China’s expanding role within global mineral supply chains complements its clean energy technology manufacturing ambitions while also increasing China’s dependence on mineral imports to supply its industry. Chinese policymakers recognize that global demand for critical minerals will only increase as the “foundation for the green industrial economy” and have explicitly linked Chinese capabilities in the sector with energy security.²²¹ To support Chinese energy security through dominance over mineral supply chains, China seeks to establish influence through a multifaceted strategy combining (1) investments in foreign mineral extraction and transportation operations and (2) domestic dominance of raw material processing, separation, and refining (see Table 5).

Table 6: Refining Capacity for Key Minerals Used in Lithium-Ion Batteries, 2020

Mineral	China	United States	Japan
Lithium	61%	3%	0%
Cobalt	72%	0%	3%
Nickel	16%	0%	15%
Manganese	95%	0%	<5%

Source: U.S. Department of Energy, *Grid Energy Storage*, February 24, 2022, 20.

Investments across critical mineral value chains in regions like Africa and Latin America give China significant control over supply chains for key minerals used to produce clean energy technologies such as lithium, cobalt, copper, and rare earths. To gain access to mineral deposits in developing countries, Chinese SOEs have acquired ownership stakes in mines around the world and invested in mine exploration, processing and refining operations, and transport infrastructure. China's investments in global lithium mining and refining are well documented, with such investments occurring in Mexico as well as Latin America's "Lithium Triangle," encompassing Argentina, Bolivia, and Chile.²²² In August 2022, Chinese company Ganfeng Lithium paid approximately \$253 million to complete its acquisition of British company Bacanora Lithium, which is currently building the world's biggest lithium mine (8.8 million metric tons) in Mexico's Sonoran Desert.²²³ In 2022, Ganfeng also spent \$962 million to acquire Argentine company Lithea, which owns the rights to two lithium salt lakes in Argentina.²²⁴ Chinese companies acquired about 6.4 million metric tons of lithium reserves and resources in 2021, nearly as much as the amount acquired by all companies the year before.²²⁵ Chinese companies have also outspent U.S. companies in this space, as they invested approximately \$4.3 billion in lithium mining assets between 2018 and the first half of 2021, compared to the \$1.4 billion invested by U.S. companies.²²⁶ Chinese policy banks the China Development Bank and Export-Import Bank of China (China EXIM) further support China's mineral strategy by financing SOE investments around the world.²²⁷ In 2007, China EXIM provided at least \$6 billion in financing for Sinohydro and China Railway Group to carry out infrastructure and mining projects in the Democratic Republic of the Congo (DRC) in exchange for 68 percent ownership of one of Africa's largest copper and cobalt mines.²²⁸ By specifically targeting debt-stressed mining operations in the DRC, Chinese firms were able to acquire ownership of or financial stakes in 15 of the country's 19 cobalt mines by 2020.²²⁹

China's role as the global hub for raw material refining and processing is a key component of its influence over critical mineral supply chains. Mineral refining processes intend to isolate and concentrate byproducts to increase mineral purity, often producing environmentally harmful toxic waste.²³⁰ While the United States was once the world's leading supplier of rare earth minerals, environmental pressure and lower wages shifted the industry to China, which now controls about 85 percent of global rare earths processing.²³¹ Rare earth minerals are deposited across the globe; however, due to the financial and environmental costs of refining them domestically, most major miners of rare earths ship them to China for refining.²³² China's hold of raw material processing extends beyond rare earths to other minerals like lithium, cobalt, and graphite, which must be chemically processed to produce technologies like lithium-ion batteries. According to research by Benchmark Mineral Intelligence, by 2018 China produced 51 percent of the world's chemical lithium, 62 percent of the world's chemical cobalt, and 100 percent of the world's battery-grade graphite.²³³

Implications for the United States

The Chinese government sees itself as being in direct competition with the United States for influence and leadership across a broad array of policy areas affecting energy security. Although China's recent commercial energy shortages have largely been a result of its coal-dependent energy infrastructure and ineffective central government management, much of its policy is driven by considerations of the United States. China's government attempts to mitigate its perceived energy insecurity by attempting to diminish U.S. leadership in maritime security and clean energy technology. While China is currently experiencing relative stability in its energy security, recurring perceptions of insecurity among Chinese leaders indicate competition with the United States will likely intensify. Some of its actions suggest the CCP is preparing for a U.S. threat to China's energy supply.

Global energy prices and supply chains will continue to be susceptible to disruptions and shocks caused by Chinese government policy missteps. Chinese leaders' sense of energy insecurity combined with their reluctance to relinquish full control to private actors and free markets cause them to use prescriptive planning targets and energy price controls despite their contribution to numerous policy-induced energy crises. Despite loosening price controls to rectify the 2021 energy crisis, the Chinese government has simultaneously tightened its grip over the energy sector through SOE consolidation and state capture of renewable energy assets. Ultimately, the Chinese government sees markets as a tool for selective resource allocation rather than a guiding ethos for its energy sector.

With few alternative options to scale up new technologies and bring them to market, countries attempting to reduce the energy and carbon intensity of their industrial sectors will necessarily depend on Chinese supply chains. China is positioning itself to be the "central node" in a potentially "multi-trillion-dollar green economy" by coopting foreign innovation through subsidies, domestic production requirements, direct technology transfers, outright theft, and other policies. Despite making few breakthroughs in basic research, China has developed a decisive competitive advantage in commercializing clean energy technologies for mass manufacture. As a result, China now controls the majority of global solar panel production, leads in wind turbine manufacturing, and is increasing its control over the entire value chain for lithium-ion battery production.

The United States faces commercial and human rights risks stemming from China's intensifying influence over the clean energy industries. To achieve its nationally determined contribution under the Paris Climate Accords of reaching net zero carbon emissions by 2050, the United States will likely need to rely on China for a multitude of the technologies required for largescale decarbonization.²³⁴ This reliance exacerbates existing U.S. dependencies on the Chinese economy and, as described by Nikos Tsafos, chief energy advisor to the Prime Minister of Greece, "ties U.S. energy priorities to Chinese industrial practices and location-specific shocks."²³⁵ The solar industry continues to be illustrative of these risks. China's dominance within solar panel supply chains has forced U.S. policymakers to choose between environmental and human rights concerns, as the

polysilicon for solar panels produced in China's Xinjiang Uyghur Autonomous Region (Xinjiang) was revealed to have been made using forced labor.* As Chinese producers expand and solidify their roles within clean energy technology supply chains, risks associated with market concentration and Chinese industrial practices will only become more pronounced.

In addition to growing its advantages in clean energy technologies and critical mineral supply chains, China's government is actively working to undermine U.S. advantages in maritime security. China's domestic tanker fleet and the PLA Navy's growing investment in Indian Ocean operations signal a coming challenge to the U.S. Navy's dominance of key sea lanes and may increase friction between the two navies as they operate with greater presence in closer quarters.

Climate competition may ultimately become a component of U.S.-China economic engagement. China's approach to decarbonization exposes leaders' concerns about economic and energy security, with a recognition that the Chinese economic model must eventually become more sustainable and less reliant on fossil fuels. While Chinese international climate commitments are relatively weak, China's leadership has identified decarbonization as critical to the CCP's domestic and international legitimacy. Clean energy technology competition with the United States is therefore likely to intensify because China views technological innovation as a silver bullet for its near-term climate liabilities. This is likely to perpetuate the same Chinese government industrial policies that have harmed U.S. industries for decades while locking out the clean energy innovations under development in the United States.

*While the U.S. government has intensified its efforts to crack down on solar panel components produced with forced labor in China's Xinjiang Uyghur Autonomous Region (Xinjiang), it has little visibility into conditions on the ground in Xinjiang and confronts challenges in discerning the origins of polysilicon once it reaches U.S. borders. The Uyghur Forced Labor Prevention Act, which was signed into law in December 2021, creates a rebuttable presumption that all goods produced in Xinjiang are produced with forced labor unless proven otherwise. The law went into effect on June 21, 2022. David Gelles, "Solar Industry 'Frozen' as Biden Administration Investigates China," *New York Times*, April 29, 2022; Thomas Kaplan, Chris Buckley, and Brad Plumer, "U.S. Bans Imports of Some Chinese Solar Materials Tied to Forced Labor," *New York Times*, June 24, 2021; Nikos Tsafos, "Addressing Forced Labor Concerns in Polysilicon Produced in Xinjiang," *Center for Strategic and International Studies*, June 7, 2021.

Appendix

Fossil Fuels: Coal, Petroleum, and Natural Gas

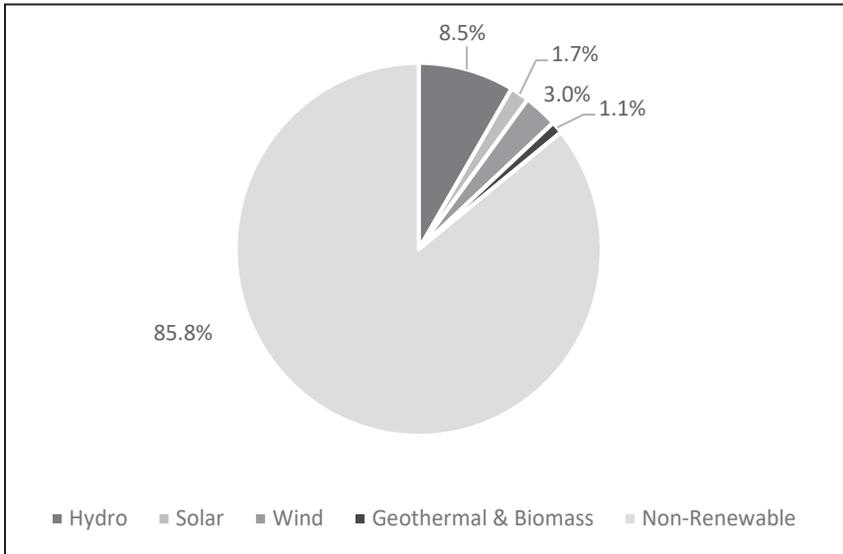
Coal, crude oil, and natural gas form from buried, fossilized remains of fauna and flora. These resources release energy when burned, emitting high concentrations of carbon into Earth's atmosphere in the process. The production method varies slightly depending on the fossil fuel type as well as where it is found, but generally the supply chain can be divided into three segments: exploration and extraction, refinement, and transmission and distribution.

- *Oil and natural gas:* China's oil and natural gas markets are dominated by three large state-owned companies: China National Petroleum Corporation, Sinopec, and China National Offshore Oil Corporation, the last of which has an external focus. Each is responsible for resource extraction, refining, pipeline development and management, investment, and maintaining national reserves, and all enjoy "administrative monopolies" or near-exclusive exploration rights from China's government. The companies occupy a quasi-ministerial rank within the central government and have significant influence over policymaking.²³⁶ While monopoly rights exclude competitors in the upstream segment of the supply chain, China's midstream is dominated by excessive capacity in small "teapot refineries" known for lax environmental standards.²³⁷
- *Coal:* China's coal market is highly fragmented with thousands of local-level mines and power generators scattered throughout the country, though the largest and most productive mines are concentrated in central northern China.²³⁸ China's southeastern coastal provinces typically import coal from overseas because much of China's coal is mined far from urban and industrial centers that require the most energy, and coal prices are largely determined by transportation costs. China's coal sector features mixed state and nonstate ownership, although the state maintains significant investments in nominally nonstate coal mines and power generators.²³⁹

Renewable Energy: Hydropower, Wind, Solar, Geothermal, and Biofuels

Renewable energy is power that comes from sources that are not depleted when used, such as sunlight or wind. It is narrower than "clean energy technology," which also includes energy storage and carbon sequestration technologies.

Figure 7: China Energy Consumption by Source, 2020 (Renewables Account for 14 Percent of China's Energy Mix)



Source: BP Statistical Review of World Energy Database.

- Hydropower:** China is the world's leading hydropower producer, accounting for roughly 28 percent of global capacity in 2018.²⁴⁰ The Three Gorges Dam in southwest China is the world's largest power station in terms of installed capacity, at 22.5 megawatts.²⁴¹ Construction of the dam took two decades and had an immense human and environmental toll, displacing some 1.4 million people and submerging two cities, 114 towns, and 1,680 villages.²⁴² Outside of largescale projects domestically, China's specialized construction SOEs like China Three Gorges Corporation are key entities in constructing BRI projects abroad.²⁴³ Some of these projects have contributed to international backlash against BRI due to inadequate environmental impact assessment, such as SOE Sinohydro's Coca Codo Sinclair Dam in Ecuador, which was constructed on a fault line.²⁴⁴ China's domestic hydropower system is vulnerable both to flooding, as occurred in the summers of 2020 and 2021 for much of central China, as well as droughts that occurred during the summer of 2021 (see the textbox "Drought and Heatwave Cause Second Summer Energy Crunch in a Row" above). The vast majority of some 98,000 dams and dikes on China's rivers date from the Mao era.²⁴⁵ Many of these smaller dams are not structurally sound, creating unsecure reservoirs that could overflow or break through the dams, exacerbating downstream flooding.²⁴⁶
- Wind:** China's wind energy market includes the wind farms that harvest wind energy and the manufacturers that produce wind turbines and turbine components. Both are primarily state owned, and the manufacturers serve the domestic market and are globally competitive in exporting turbines overseas.²⁴⁷ Chi-

nese original equipment manufacturers (OEMs) accounted for ten of the top 15 OEMs in 2020, with China's largest manufacturer Goldwind* jumping from fourth place in 2019 to become second only to Dutch leader Vestas in 2020.²⁴⁸

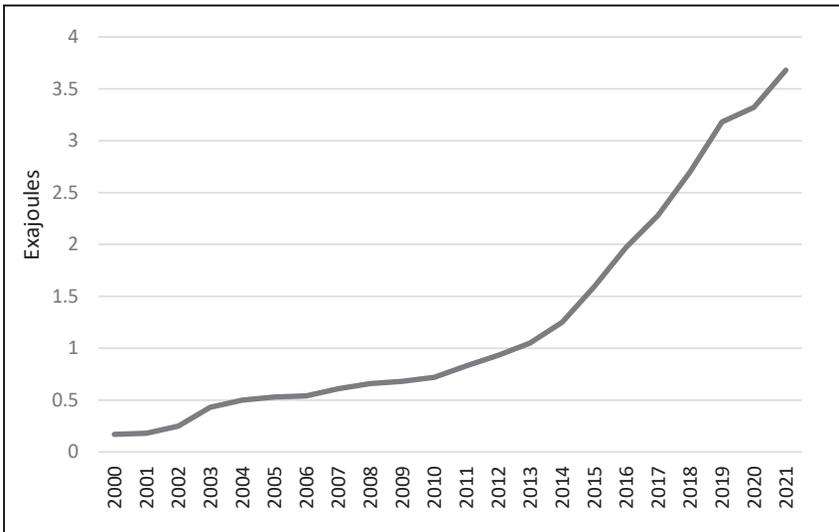
- *Solar*: China's solar component manufacturing industry features hundreds of firms that sprang up in response to local incentives and a strong export market.²⁴⁹ The industry exhibits severe overcapacity and accounts for approximately 80 percent of global solar cell manufacturing.²⁵⁰ Chinese firms are incredibly cost competitive and can produce solar components for 30–40 percent less than the United States.²⁵¹ Solar farms are concentrated in western China and are primarily state owned.²⁵²

Nuclear Energy

Nuclear energy is generated by either splitting or fusing atoms through a process of nuclear fission or fusion. This process creates heat that transforms water into steam, which turns a turbine to generate electricity.²⁵³

Market Structure

Figure 8: China Nuclear Energy Consumption Growth, 2000–2021



Note: While China's consumption of nuclear energy in 2021 was nearly 22 times greater than in 2000, nuclear still only accounts for about 2.2 percent of China's total energy consumption. BP, "Statistical Review of World Energy 2021."

Source: BP Statistical Review of World Energy Database.

- China's nuclear power generators are primarily state owned, while state-owned companies such as China General Nuclear Power Group (CGN) and China National Nuclear Corporation (CNNC) are heavily involved in developing nuclear equipment and components through subsidiaries and joint ventures.²⁵⁴

*Goldwind started as an SOE and still has a high minority share of state owners.

Foreign firms are also involved in China's civil nuclear industry, with U.S. firm Westinghouse selling the technology for its AP1000 reactor and entering into a joint venture with State Nuclear Power Technology Corporation to build out China's AP1000 supply chain.²⁵⁵

- CGN and CNNC both have distinct ties to the PLA. In August 2017, a nuclear engineer consulting for CGN was found guilty of corporate espionage in the United States after attempting to obtain unauthorized assistance to develop nuclear technologies with military applications.²⁵⁶ As a result, the Commerce Department placed CGN on its Entity List, banning U.S. companies from supplying the company, and the Department of Energy announced a “presumption of denial” of any new licenses or extensions for technology exports to CGN.²⁵⁷ Similarly, CNNC is the dominant Chinese institution responsible for processing and producing nuclear fuel for both civilian and military purposes, creating an explicit link between China's civilian nuclear power research and military application.²⁵⁸ In 2020, the Department of Defense designated CNNC as a Communist Chinese Military Company associated with the PLA.^{* 259}
- China hopes to become a leading exporter of nuclear energy technology, but to date has only exported its commercial Hualong One reactor to Pakistan and is in talks to build one each in the UK and Argentina.²⁶⁰ China has also sold smaller reactors to Ghana, Iran, and Syria, and it engages in research partnerships and cooperative arrangements with other developing countries, including Egypt, Kenya, Algeria, Ghana, Morocco, Sudan, Tunisia, Uganda, Cambodia, Kazakhstan, and Thailand.²⁶¹ China still lags behind major nuclear exporters, including Russia, Sweden, Germany, the United States, and France.²⁶²

Nuclear Safety

- China's civil nuclear industry has expanded rapidly over the past two decades; however, its safety culture and regulatory regime have not developed with equal speed and robustness. Lack of regulatory capacity and highly skilled personnel and the presence of counterfeit or substandard components all contribute to safety risks within China's civil nuclear industry.²⁶³
- Following the 2011 Fukushima disaster, China increased its scrutiny over its civil nuclear industry and required domestic regulations to fully incorporate International Atomic Energy Association safety standards.²⁶⁴ Despite incorporating precautions, a 2021 radiation leak at China's Taishan nuclear power plant led to accusations that Chinese regulators increased acceptable radiation limits at the plant to avoid shutting it down.²⁶⁵

* Similarly, in December 2021 the U.S. Department of the Treasury included CNNC on its Non-Specially Designated Nationals and Blocked Persons Chinese Military-Industrial Complex Companies (NS-CMIC) list, identifying it as a company associated with the PLA and subject to certain sanctions. U.S. Department of the Treasury, *Non-SDN Chinese Military-Industrial Complex Companies List*, December 16, 2021, 7.

- China's own nuclear scientists admit that the reliability of Chinese-developed software products for nuclear plant design, operation, and safety evaluation are lacking, while fines for safety standard noncompliance were too low to act as an effective deterrent.²⁶⁶ Poor supervision, manufacturing defects, insufficient testing of equipment, poor quality assurance, inadequate analysis of inspection results, lack of process control, poor skills in personnel, and failure to check installed equipment against design specifications have also been cited by China's National Nuclear Safety Administration as chronic deficits within China's civil nuclear safety culture.²⁶⁷
- China aims to develop and maintain a strong nuclear safety track record for its credibility as an exporter, and it partners with foreign companies and governments to achieve this objective.*²⁶⁸ In expanding its role as a global exporter of nuclear technologies and building the largest reactor fleet, China may eventually have an outsized influence in setting future standards for the industry within the 21st century.²⁶⁹

Key Policy Goals

- *Economic:* Chinese policymakers hope to become fully self-sufficient in nuclear reactor technology to make China a leading exporter of nuclear energy technology.²⁷⁰ In March 2018, CNNC China Nuclear Power Engineering Co., Ltd. President Liu Wei announced a goal to build 30 nuclear reactors in BRI countries by 2030.²⁷¹ In order to accomplish this, Chinese nuclear companies have been pursuing training and research partnerships.
- *Emissions:* Nuclear energy does not produce carbon emissions and is therefore expected to play a significant role in China's decarbonization. China's 14th FYP a Modern Energy System sets a target for installed operating capacity of nuclear power to reach 70 gigawatts by 2025.²⁷² As of May 2022, China's nuclear generation capacity is reportedly approximately 54.5 gigawatts.²⁷³
- *Security:* China's ongoing technological development of nuclear power will plausibly support buildup of its nuclear arsenal. China's options to produce nuclear weapon materials involve technology already being used or under development for nuclear reactors.²⁷⁴ Because China's fleet of nuclear reactors is primarily located on its eastern seaboard, greater nuclear power in China's energy mix will also help reduce dependence on imported fossil fuel sources.

Challenges

- *Public opposition:* Nuclear disasters like Chernobyl, Three Mile Island, and Fukushima have generated public wariness and even opposition to nuclear energy projects. Since the Fukushima nuclear meltdown, Chinese policymakers have largely confined construction of nuclear reactors to coastal sites where

* For more on U.S.-China nuclear safety cooperation, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 4, "U.S.-China Clean Energy Cooperation," in *2014 Annual Report to Congress*, November 2014.

seawater can more easily dilute and dissipate heat from the reactor should a meltdown occur. Concentrating China's civil nuclear buildup on the coast where population density is highest may generate resistance on economic, capacity, and political grounds.²⁷⁵

- *Commercial risks:* Nuclear reactor exports create long-term commitments between buyer and seller, as initial contractual discussions and construction take about ten years, operation lasts about 60 years, and decommission requires additional technical support.²⁷⁶ Throughout this process, innumerable challenges can arise, creating risks for both the Chinese seller and the foreign buyer. Financially sound and politically stable countries are therefore ideal candidates for nuclear exports.
- *Innovation:* China's nuclear reactor technology is primarily replicated from designs developed in other countries.²⁷⁷ To compete with industry leaders, China will need to improve foundational nuclear research if it is to develop more advanced nuclear technologies.²⁷⁸

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SECTION 4: U.S. SUPPLY CHAIN VULNERABILITIES AND RESILIENCE

Abstract

The United States is vulnerable to a number of threats stemming from the concentration of critical supply chain segments in China, including active pharmaceutical ingredients (APIs), rare earth elements, castings and forgings, and many others. Chinese leaders are aware of their supply chain strengths, as well as their weaknesses, and they are taking active measures to limit their own vulnerabilities and sustain and enhance their leverage over certain U.S. supply chains.

Key Findings

- The concentration of production within China for certain critical global supply chains leaves the United States and other countries vulnerable to disruption and potential strategic trade interdictions by the Chinese Communist Party (CCP). Beijing seeks further consolidation and domination of global supply chains to create influence and leverage. The CCP has demonstrated its willingness to wield the resulting trade dependencies as tools of strategic and political competition.
- CCP leaders' assessments of their own supply chains have led them to a combustible mix of confidence and anxiety. While CCP leaders plan to bolster and leverage China's strong position in manufacturing, they are extremely concerned about technological dependencies and vulnerabilities. Recent U.S. actions against Chinese telecommunications companies, as well as the coordinated multilateral response to Russia's unprovoked invasion of Ukraine, have led Beijing to hasten longstanding plans for achieving technology self-reliance.
- A continuing lack of visibility into critical U.S. supply chains masks significant vulnerabilities to disruptions and compromise by Chinese state actors. The lack of a coordinated U.S. supply chain mapping and mitigation strategy, as illustrated in recent reports by various U.S. government agencies, continues to hinder supply chain diversification and resiliency across a number of key national security and critical industries, including active pharmaceutical ingredients (APIs) and rare earth elements that are crucial for U.S. infrastructure, health, and security.
- While numerous supply chain risk management and mapping initiatives are underway, further action in the public domain is needed for standardizing, collecting, and analyzing necessary data, particularly in supply chains reliant upon sole- or single-source suppliers, as in many renewable and alternative

energy supply chains. Greater due diligence and verification are needed to protect defense and critical infrastructure supply chains from Chinese counterfeit or corrupted components and to prevent investments by Chinese companies that may compromise suppliers' intellectual property (IP) or limit their ability to participate in federal acquisition programs.

- The U.S. government's inconsistent spending trends and irregular, outdated procurement practices have accelerated contraction of the defense industrial base, leading to reduced manufacturing capacity, fewer alternative suppliers, and ultimately greater dependence on Chinese suppliers for some critical materials and components. Federal funding practices discourage much of industry, particularly small businesses, from competing for contracts with the U.S. Department of Defense and does not incentivize resilience measures like excess manufacturing capacity and material stockpiles that would mitigate supply chain disruptions and allow the defense industrial base to meet surge capacity requirements if needed.

Recommendations

The Commission recommends:

- Congress direct the Administration to create an Economic and Security Preparedness and Resilience Office within the executive branch to oversee, coordinate, and set priorities for cross-agency efforts to ensure resilient U.S. supply chains and robust domestic capabilities, in the context of the ongoing geopolitical rivalry and possible conflict with China. This Office would be tasked with:
 - Establishing a dedicated Supply Chain Mapping Unit to determine requirements, set priorities, and coordinate efforts to continuously map, monitor, and analyze the most critical supply chains, including but not limited to semiconductors, rare earths, life-saving and life-sustaining medications and their active pharmaceutical ingredients, and castings and forgings.
 - The unit would be tasked with developing interoperable performance measures to monitor and assess current U.S. supply chain resiliency and risk mitigation efforts, including data collection on U.S. supply chain dependencies on direct and indirect Chinese suppliers, prioritizing defense-critical supply chains.
 - Establishing a Defense Mobilization Unit responsible for coordinating and setting priorities for:
 - Assessment of the requirements for weapons, munitions, supplies, and other equipment necessary to equip and support U.S. forces and to assist friends and partners in the Indo-Pacific region in a potential conflict with the People's Republic of China, including conflicts of varying duration;
 - Determination of the adequacy of existing stocks and available productive capacity to meet those needs;

- Identification of potential shortfalls or bottlenecks that might impede production and resupply in some scenarios; and
 - Recommendation of corrective measures to address these problems.
 - Including in its assessments the effects of potential disruptions in U.S.-China trade on defense mobilization and domestic availability of critical materials, products, and supplies. Where it identifies likely requirements for additional capacity, the unit shall determine funding and support mechanisms to ensure the timely development of such capabilities and capacity.
 - Consulting with other departments and agencies to identify shortfalls in current defense industrial base and supporting industrial capabilities and what additional measures might be needed to address them.
- In enacting legislation subsidizing reshoring or existing production in the United States, Congress should evaluate whether the subsidies may lead to additional dependence on supply chains running through or relying on China to serve that production.
 - Congress enact legislation requiring suppliers to the U.S. government in “critical” sectors, as defined by Congress, to confidentially disclose all tiers of their contractors for the purpose of identifying U.S. supply chain dependencies on China. If suppliers are unable to do this within three years and each year thereafter, they are ineligible to receive government contracts.
 - Congress direct the Administration as part of the Indo-Pacific Economic Framework (IPEF) to negotiate a prohibition on the utilization of China’s National Transportation and Logistics Public Information Platform (LOGINK) or similar systems provided by Chinese state-affiliated entities within IPEF member ports. A two-year transition period shall be provided for existing users of LOGINK or similar Chinese-controlled or -affiliated systems to terminate use of such systems and transition to secure logistics systems with no Chinese control or affiliation.
 - Congress direct each federal agency administering Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) programs to develop a due diligence program to ensure the supply chain integrity of participating U.S. small businesses and decrease their dependencies on Chinese suppliers. The program should also include resources for participating businesses to prevent investments from Chinese firms, particularly those involved in China’s Military-Civil Fusion program, that target emerging technologies and innovations valuable to the U.S. Department of Defense and other SBIR or STTR sponsoring agencies.
 - The due diligence program of each SBIR or STTR administering agency should provide financial and technical assistance to U.S. small businesses for up to three years for the purposes of supporting sustained procurement opportunities for the

government and improving small businesses' internal capacity for federal engagement. Technical assistance may include establishing procedures for identifying foreign entities of concern within small businesses supply chains.

- Congress direct the U.S. Food and Drug Administration in cooperation with other federal agencies, within one year and on an ongoing basis thereafter, to identify pharmaceutical products that utilize active pharmaceutical ingredients (APIs) and other ingredients and inputs that are sourced directly or indirectly from the People's Republic of China and develop alternative sourcing arrangements through available tools and resources, including Defense Production Act authorities. The United States should maximize the production of such goods domestically or, as appropriate, from trusted countries.
- Congress direct the U.S. Department of the Treasury to require U.S. corporations and U.S.-registered subsidiaries of foreign corporations to publicly disclose, on an annual basis, all holdings in firms linked to China's military, including those that maintain any production permit, qualification, or certification issued by the People's Liberation Army or China's State Administration for Science, Technology, and Industry for National Defense.
- Congress direct the Administration to release a comprehensive public report on the utilization of commercial-off-the-shelf (COTS) procurement of inputs, components, and products from China:
 - By the U.S. Department of Defense and contractors in major weapons systems; in Munitions List items; and in Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) items;
 - In critical infrastructure as identified by the U.S. Department of Homeland Security; and
 - In critical supply chains and sectors as identified in U.S. government agency reports submitted per section 4 of Executive Order 14017 on "America's Supply Chains." Such a report shall identify the specific items that were purchased, overall quantities, and, where applicable, the value of the contracts in aggregate by item.
- Congress direct the Administration to provide a public semi-annual report on the volume of products detained, excluded, or seized for violations of the Uyghur Forced Labor Prevention Act and related enforcement activities. This report should detail product sector, product quantity, and whether the shipment was stopped directly or indirectly containing any production linked to Uyghur forced labor. This report shall also detail any and all existing loopholes in U.S. trade law and trade enforcement mechanisms that inhibit the ability of relevant U.S. government agencies to trace mined, manufactured, or procured goods made using Uyghur forced labor.
- To ensure the U.S. government is able to assess its reliance on foreign sources, Congress direct the U.S. Department of Com-

merce to calculate U.S. import dependence at the product level across all industries, combining domestic production data (North American Industry Classification System [NAICS] codes) with U.S. export and import data (HTS [Harmonized Tariff Schedule] codes) in order to obtain a clearer picture of the United States' import dependence and provide the results in a publicly accessible database. This database should be consistently updated and should for each industry and product category tabulate dependence on China or any major source location that is known to use components and materials from China.

Introduction

The movement of U.S. and global industrial capacity to China since the 1980s has led to a concentration of supply chains in that country, posing risks to U.S. economic and national security. These risks have become more acute under CCP General Secretary Xi Jinping, as China's government has adopted a strategy of reducing economic reliance on other nations while more deeply embedding China in a central and indispensable position in numerous supply chains. To execute this strategy, Chinese industrial policy has become increasingly targeted toward indigenizing production across multiple sectors and obtaining dominant global market share for extracting and processing key materials not found within China's borders. At the same time, China's government is increasing its use of economic coercion and continues to engage in predatory trade practices.

This section examines China's rise and current strategy in global supply chains, the increasing U.S. risks from supply chain exposure to China, and strategies for mitigating dependence on Chinese sources. It begins with a brief recounting of China's emergence as the world's workshop, focusing on key manufacturing industries that moved to China. From there, it describes Chinese leaders' current supply chain objectives and motivations. It also examines threats to U.S. economic and security interests posed by supply chain dependence on China, first looking at risks from China-centric supply chains and then considering the gaps in U.S. supply chain security and information that exacerbate these risks. Finally, it explores various approaches for bolstering U.S. supply chain resilience, including reshoring, nearshoring, and friendshoring.

This section draws on the Commission's June 2022 hearing on "U.S.-China Competition in Global Supply Chains," the Commission's staff and contracted research, consultations with policy experts, and open source research and analysis.

China's Rise and Current Position in Global Supply Chains

The CCP's supply chain efforts are characterized by a dual strategy to bolster its relative advantages and protect its economy against vulnerabilities. At the core of this effort is a commitment to redouble China's strength in material extraction and processing and component manufacturing at the beginning and intermediate supply chain stages, as well as a state-centric drive to move up the value and production process by any and all means, with a prominent focus on indigenizing key technology supply chains within China and produc-

ing integrated systems. These dual efforts, encapsulated in Beijing's "dual circulation" strategy, aim to make China more self-reliant while at the same time rendering others more dependent than ever on China.¹ Beijing seeks immunity from the type of coercive influence it views the United States as capable of wielding and, moreover, envisions wielding itself.² While the CCP's broad objectives have remained stable over time, its strategic approach has evolved in lock-step with its changing assessments of the country's capabilities and vulnerabilities. In brief, contemporary CCP assessments of Chinese strengths and foreign threats have combined into a combustible mix of confidence and anxiety, leading to a more pronounced push to acquire or augment advantageous positions throughout key global supply chains.

China's Prominence in Global Supply Chains

Developments before Xi: Foreign Direct Investment, Technology Diffusion, and Outsourcing

Central government direction, local government experimentation and competition, and structural features of China's economy all converged to give rise to China's strong position in global supply chains.³ China's central and local government industrial and regulatory policies have aimed to induce foreign corporations to engage in joint ventures (JVs) with local partners and locate supply lines, factories, and research and development facilities throughout China. This has led to licit and illicit knowledge transfers, enhanced China's manufacturing capabilities, and bolstered key aspects of China's developmental and great power ambitions.* The pursuit of low-cost goods by U.S. consumers and producers coincided with China's central and local government subsidies, developmental policies, and fierce competition for foreign direct investment (FDI), contributing greatly to an ongoing process of U.S. deindustrialization.⁴ Outsourcing of capital-intensive, lower-margin processes—as occurred in the metal casting, forgings, and rare earth mining and refining industries—lowered costs for consumers and improved financial performance for shareholders, but it also contributed to a sustained loss of manufacturing capacity and employment within the United States and resulted in overconcentration of production within China, entrenching China's position in global supply chains.⁵ In a permissive global environment that encouraged engagement with China, FDI, outsourcing, and technological diffusion from more advanced economies greatly contributed to China's rise into global supply chains.

Central Industrial Policy under Xi Is De Facto Supply Chain Security Policy

Xi has hastened a shift that began around 2006 from decentralization in economic policy back toward centralization, particularly in

* Central and local governments deploy subsidies, offer discounted land, and provide tax breaks to entice localization. They also enact export quotas and restrictions on upstream inputs to companies not located in China. Increasingly, regulatory levers such as antitrust investigations are also used to force compliance with policy ambitions, leading companies to form JVs that "often generate Chinese companies' most technologically advanced and innovative procedures and products, acquired through technology transfer from their foreign JV partner." Sean O'Connor, "How Chinese Companies Facilitate Technology Transfer from the United States," *U.S.-China Economic and Security Review Commission*, May 6, 2019, 7.

the realm of technology industrial policy (for more on the centralization of economic policymaking under Xi, see Chapter 1, “CCP Decision-Making and Xi Jinping’s Centralization of Authority”). Under Xi’s predecessor Hu Jintao, China launched the Medium- and Long-Term Plan* in 2006 and the Strategic Emerging Industries Plan† in 2010, both of which relied upon increasingly interventionist, top-down guidance to hasten technological catchup and rapidly move China into strategically important and higher-value-added parts of supply chains.⁶ Xi has increased the scale and prominence of industrial policy in China’s economic policymaking, launching well-known initiatives such as Made in China 2025 (2015) and the Next Generation Artificial Intelligence Development Plan (2017). In testimony before the Commission, Mark Dallas, international affairs fellow at the Council on Foreign Relations, noted that Beijing’s plans are now increasingly characterized by “(1) more resource allocations for industrial policies, (2) greater precision in their industrial targeting, and (3) a greater focus on upstream or infrastructural information communications technology (ICT) sectors (5G, internet, AI, semiconductors, data) which are perceived to allow China to ‘leapfrog’ into the technological frontier.”⁷ Furthermore, as Dr. Dallas noted, while “Chinese policies generally do not explicitly declare a policy to be for ‘supply chain security,’ many of their stated goals for ‘self-reliance,’ ‘self-strengthening,’ or ‘indigenous innovation,’ all have important supply chain implications, particularly industrial policies with specific targets. Thus, many Chinese policies are de facto supply chain policies, without naming them as such.”⁸ The challenges to U.S. supply chains stemming from the CCP’s shift away from its previously more decentralized economic model and toward centralized industrial policy are significant, as the systematic penetration and consolidation of control over China’s economy allows Beijing greater leverage over U.S. supply chains concentrated in China.

China’s Industrial and Economic Development Bolstered by U.S. Multinational Participation

U.S. multinationals have historically invested in ways that supported and benefited from the CCP’s developmental programs, as a 2013 assessment of China’s Strategic Emerging Industries Plan by the U.S.-China Business Council made clear when it sought to provide “[r]ecommendations to ensure full participation for foreign-invested companies in China’s industrial modernization.”⁹

*The Medium- and Long-Term Plan articulated a four-step approach to execute the absorption, refinement, and redeployment of foreign technologies through government and industry collaboration. Expert on China’s industrial policy Tai Ming Cheung translates the strategy as one to Introduce, Digest, Absorb, and Re-Innovate. “Introduce” refers to the targeting and importation of foreign technologies and knowledge through licit and illicit means, such as research partnerships, JVs, or cyber espionage. “Digest” refers to the study of foreign technology and knowledge acquired from abroad. “Absorb” refers to assimilation of digested foreign technologies into China’s domestic industrial ecosystem by reverse-engineering them or producing alternative copies of them. “Re-innovate” refers to Chinese companies improving upon foreign technologies and developing home-grown products that are internationally competitive. 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, 118–119.

†The Strategic Emerging Industries plan is a techno-industrial policy that builds on the Medium- and Long-Term Plan in targeting specific sectors and is often referred to by the Party as an effort to “seize the commanding heights” or take the lead in new and emerging high-value-added technologies. Ling Chen and Barry Naughton, “An Institutionalized Policy-Making Mechanism: China’s Return to Techno-Industrial Policy,” *Research Policy* 45:10 (December 2016): 2138–2152.

However, as Alan F. Estevez, head of the U.S. Department of Commerce's Bureau of Industry and Security, noted in July 2022, a key goal of U.S. policy is to "ensure that the U.S. retains technological overmatch" and that "China cannot build capabilities that they will then use against us, or against their neighbors for that matter, in any kind of conflict."¹⁰ U.S. multinational participation in China's manufacturing, technological,* and financial ambitions may conflict with this policy aim.[†]¹¹ Analysts at the Mercator Institute for China Studies warn that the CCP seeks "to systematically acquire cutting-edge technology and generate large-scale technology transfer" so as "to obtain control over the most profitable segments of global supply chains and production networks."¹² As precedent in the solar panel, telecommunications, and high-speed rail industries suggests, the facilitation of China's statist drive to the manufacturing technology frontier is likely to harm U.S. innovation and industrial capacity.¹³

The Case of "Smart Manufacturing"

One pronounced example of ongoing multinational facilitation of China's ambitions occurs in so-called "smart manufacturing," a term that refers to boosting manufacturing productivity through the incorporation of data analytics, automation, and industrial robotics. With the broad scale transfer and outsourcing of lower-end manufacturing from the United States to China having peaked, CCP leaders including Xi now have their eyes set on higher-end smart manufacturing value chains.[‡]¹⁴ According to conservative estimates from public filings, robotics-related government subsidies increased from \$687 million (renminbi [RMB] 4.6 billion) in 2015 to \$2.3 billion (RMB 15.4 billion) in 2019.[§]¹⁵ Most recently, several of China's most important ministries jointly promulgated Beijing's 14th Five-Year Plan for Smart Manufacturing, sending a strong signal that government support is intensifying.[¶]¹⁶ In line with these programs, a number of major multinational firms

*U.S. investors and semiconductor firms continue to invest in and partner with Chinese semiconductor firms, a longstanding target of central government policy support, hastening Beijing's advances in that industry.

†Capital markets, for example, are particularly warped by the CCP's increasing control of its financial machinery and integration into industrial policy objectives. For more, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 4, "U.S.-China Financial Connectivity and Risks to U.S. National Security," in *2021 Annual Report to Congress*, December 2021.

‡Xi, in a 2018 speech titled "Strive to Become the World's Primary Center for Science and High Ground for Innovation," noted the importance of smart manufacturing to his broader economic agenda, stating that "[i]t is necessary to focus on intelligent manufacturing to promote industrial technological transformation and optimization and upgrading, to promote the fundamental transformation of manufacturing industry models and corporate models ... propelling China's industries toward the high-end of global value chains." Ben Murphy, et al., "Xi Jinping: 'Strive to Become the World's Primary Center for Science and High Ground for Innovation,'" *DigiChina*, March 18, 2021.

§Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB.

¶An interpretive account of the plan offered by the Ministry of Industry and Information Technology evinces a clear strategic intent, recognizing that "[t]he international environment is becoming more and more complex, the global science and technology and industrial competition is becoming more intense as the strategic game of great powers further focuses on the manufacturing industry. Developed countries such as the United States, Germany, and Japan regard intelligent manufacturing as an important starting point to seize the commanding height of a new round of competition in the global manufacturing industry." China Ministry of Industry and Information Technology, *Interpretation of the "14th Five-Year Plan for the Development of Intelligent Manufacturing,"* December 28, 2021 (《“十四五”智能制造发展规划》解读). Translation.

The Case of “Smart Manufacturing”—Continued

from the United States, Germany, and Japan have been “actively supporting Chinese manufacturers in their respective journeys to smart manufacturing,” including through numerous JV agreements with Chinese state-owned enterprises (SOEs).¹⁷ Many prominent and lesser-known industrial robotics firms have similarly established JVs in the country.*¹⁸ At least in the short term, participation in China’s smart manufacturing programs appears to make financial sense for these firms, as Beijing lavishes attention on the industry and businesses receive advice to invest in accordance with China’s five-year plans to capitalize on government largesse.¹⁹ Over the longer term, however, these firms are likely to see their positions eroded as Chinese companies indigenize their technology, squeeze them out of the domestic market, and compete with them for global market share.²⁰ More broadly, such multinational participation in the CCP’s nonmarket manufacturing upgrading ambitions could accelerate the erosion of the United States’ advanced manufacturing capacity and increase reliance on Chinese supply chains.

CCP Supply Chain Objectives in the Xi Era

Supply Chain Ambitions under Xi

CCP leaders today are keenly aware of their strategic advantages and vulnerabilities in global supply chains. The result is a dual offensive and defensive approach to China’s supply chain position. On the one hand, officials recognize the strategic leverage they have acquired through China’s rise to prominence in many key global supply chains—from rare earths to APIs to manufactured ICT products like phones and computers—and are seeking to protect, strengthen, and exploit their control in those areas. At the same time, however, they continue to recognize and worry gravely about their technological reliance on other countries, particularly the United States and its allies, in more advanced areas such as semiconductors (for more on China’s capabilities in semiconductors, see “The Challenges of China-Centered Supply Chains” and the Appendix I: U.S.-China Supply Chain Competition in Semiconductors below). This paradoxical mix of confidence and anxiety appears to be driving a more aggressive approach to supply chains.

The offensive and defensive approach underpinning CCP supply chain strategies was clearly displayed in an important speech Xi gave at the seventh meeting of the Central Financial and Economic Affairs Commission in April 2020.²¹ In the speech, Xi noted that China must “sustain and enhance [its] superiority” in key sectors while “mak[ing] up for [its] shortcomings” in others.²² The broad-

*Among the many firms that have created JVs to participate in China’s smart manufacturing sector, there are General Electric’s (United States) 2016 partnership with China’s Huawei, Siemens’ (Germany) 2020 partnership with China’s Boasteel, Fanuc’s (Japan) 2021 partnership with China’s Shanghai Electric Group, and ABB Robotics’ (Switzerland) 2022 partnership with China’s HASCO. Emily Jin, “Smart Manufacturing: A Linchpin in China’s Industrial Policy,” *Lawfare*, September 6, 2022.

er quote strikingly illuminates Beijing's contemporary approach to supply chain competition:

First, we must build on our advantages, solidify and increase the leading international positions of strong industries, and forge some “assassin’s mace” technologies. We must sustain and enhance our superiority across the entire production chain in sectors such as high-speed rail, electric power equipment, new energy, and communications equipment, and improve industrial quality; and we must tighten international production chains’ dependence on China, forming a powerful countermeasure and deterrent capability against foreigners who would artificially cut off supply [to China]. Second, we must make up for our shortcomings. That is, in sectors and segments related to national security, we must build a domestic supply system that is independently controllable and secure and reliable, so that self-circulation can be accomplished at critical moments, and ensure that the economy operates normally in extreme situations.²³

A month later, at a May 2020 Politburo Standing Committee meeting, Xi's dual assessments of strengths to be bolstered and vulnerabilities to be mitigated were consolidated into a deliberate supply chain strategy termed “dual circulation.” Dual circulation seeks to strengthen China's economic resilience by boosting domestic production while maintaining strategic links with global markets to secure access to technology essential to China's development. An article published in the CCP's leading theory journal *Qiushi* explains the logic, saying China possesses “the most complete industrial manufacturing system in the world and occupies an important position in the global industrial chain, but it is still at the middle and low end of the value chain.”²⁴ In the future of international competition, the article goes on, China needs to “consolidate the advantages of traditional industries, lay out strategic emerging industries in advance, promote the rationalization and upgrading of industries, and take advantage of [its] complete industrial support system and the unique advantages of super-large markets to advance [its] continuous position in the global value chain system.”²⁵ The dual circulation strategy is the latest encapsulation of an increasingly centralized economic security strategy that Chinese leaders hope will consolidate their advantages in global production networks while protecting access to the global technological and financial knowhow necessary to move up the value chain, ultimately aiming for asymmetric leverage across the full spectrum of design, manufacturing, and distribution in global supply chains.²⁶

Dual Circulation Prioritizes Production and Import Substitution over Household Consumption

The dual circulation strategy, first articulated at a Politburo meeting in May 2020, intends to promote production via “import substitution across the board” while increasing domestic consumption.²⁷ In practice, however, it is clear that boosting household consumption remains limited to rhetoric, while overcoming production gaps is an immediate and action-oriented imperative.²⁸ Government policy remains disproportionately, or even solely, aimed at stimulating production and import substitution, particularly in industries identified as strategic priorities. China’s response to the novel coronavirus (COVID-19) pandemic has made this priority of government policies particularly clear. Chinese government support for households and workers has remained extremely limited in contrast to most other major economies, which extended substantial support to households and workers. Producers, however, received a bevy of tax breaks, subsidized loans, and surreptitious People’s Bank of China support via currency intervention.²⁹ Producers in priority industries, such as semiconductors and electric vehicles, were also encouraged to operate during lockdowns via closed-loop systems, while labor rights obligations were often explicitly waived.³⁰

A variety of factors undergird dual circulation’s prioritization of production over consumption, but the core motive is an increasing drive toward self-reliance and the localization within China’s borders of productive capacity across strategic parts of various value chains.*³¹ Whereas the CCP considers its reliance on others for high-value inputs a clear strategic weakness that could be exposed as a chokepoint at a moment’s notice, its views on its export dependence are far more ambiguous. While CCP leaders recognize an increasingly unstable external demand environment and have long discussed the need for promoting household consumption, they also express a view that concentration of production capacity and external dependence on sourcing from China are sources of security and economic leverage.³² In the long run, meanwhile, CCP planners may hope that exports to the developing world will help reduce China’s current dependence on the markets of the advanced industrial democracies.³³ Therefore, for Xi and the CCP, ensuring that domestic demand is met by domestic production is a nonnegotiable first-order priority, while ensuring that domestic production is increasingly met by domestic consumption is, for now, a distant secondary priority.³⁴

The CCP Aims to Bolster Its Comparative Advantages

When it comes to “enhancing superiority,” Chinese policymakers look first and foremost to manufacturing. CCP leaders consider the concentration of manufacturing capacity within China an important

*Three partial explanations aside from self-reliance could be: (1) the role of entrenched interests that benefit from state largesse; (2) the statist orientation of policy informed by both Marxist-Leninist and neomercantilist economic theories that prioritize developing factors and means of production domestically; and (3) normative views on promoting employment rather than “welfare.”

source of leverage and fundamental to broader developmental and great power ambitions. High-level economic planning documents point to the importance of bolstering and protecting China's comparative advantage in manufacturing. For example, in a reversal from the 13th Five-Year Plan's* focus on cultivating service industries, the Chinese government's 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives through 2035 recognizes and prioritizes the protection of China's manufacturing centrality in global supply chains.³⁵ The plan aims to protect China's strong supply chain position by doing away with targets for the services sector's growth and instead calling for the share of manufacturing in the economy to remain "basically stable."³⁶

Top policymakers also routinely cite China's manufacturing position as a source of strategic superiority and leverage in global supply chains that must be maintained. In a speech in November 2021, Liu He, China's top economic advisor, stated that Xi believes "the manufacturing industry is the core of building a country and the foundation of strengthening the country."³⁷ In a speech in 2020, Xi noted that in the context of "optimizing and upgrading industrial and supply chains," manufacturing "serves as the foundation of all our efforts to strengthen the country" and emphasized that the manufacturing sector plays a "crucial role" in the "development and security of a country, especially a large country."³⁸ Former Minister of Industry and Information Technology Xiao Yaqing, for example, wrote in *Qiushi* in December 2021 that China's manufacturing prowess underpins the country's economic competitiveness and called for improved quality and resilience of China's manufacturing capabilities.³⁹ Separately, Deputy Director of the CCP's Central Financial and Economic Affairs Commission† Han Wenxiu wrote in the same publication that the CCP must "continue to enhance industrial advantages" and "tighten the interdependence of domestic and international industrial chains."⁴⁰

The CCP Seeks to Mitigate Technological Vulnerabilities

While manufacturing is broadly viewed by policymakers in China as a source of strength and leverage to be enhanced, technology is often assessed to be a domain characterized by vulnerability and shortcomings. Analysis by the Center for Security and Emerging Technology of 35 articles in *Science and Technology Daily*, a newspaper published by China's Ministry of Science and Technology,

*Five-year plans are economic policy blueprints that enumerate the Party's objectives and priorities during the ascribed time period. They historically have centered on production targets or other numerical targets rooted in the command economy of the Soviet Union and inherited by other Communist regimes. The Party's 14th Five-Year Plan is notable, however, in shelving mandated annual growth targets during the plan's term (2021–2025), indicating instead that growth targets will be addressed each year based on economic conditions. *Xinhua*, "(Two Sessions Authorized Release) The 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives through 2035" ([两会授权发布] 中华人民共和国国民经济和社会发展第十四个五年规划和 2035 年远景目标纲要), March 12, 2021. Translation; *Economist*, "What Is China's Five-Year Plan?" March 4, 2021.

†The CCP's Central Financial and Economic Affairs Commission is responsible for information collection and drafting proposals and outlines for pivotal economic policies, including five-year plans, the annual Central Economic Work Conference, and quarterly Politburo meetings. For more, see Alex He, Statement for the Record for the U.S.-China Economic and Security Review Commission, *Hearing on CCP Decision-Making and the 20th Party Congress*, January 27, 2022, 2–3, 8.

shows that Beijing judges 35 technologies* to serve as key “choke points.”⁴¹ While contemporary Chinese industrial policy has focused on developing China’s capabilities in cutting-edge technologies such as microelectronics, artificial intelligence, biotechnology, and quantum computing, the *Science and Technology Daily* articles point to concerns about reliance on foreign suppliers across an even broader array of more niche technological inputs.⁴² For instance, one article points to radio frequency components, which it assesses the United States as having monopolized.⁴³ As Dr. Dallas testified before the Commission, China is often heavily dependent on foreign firms in these more specialized layers and links in the supply chain.⁴⁴

CCP concerns over China’s technology supply chain vulnerabilities have accelerated markedly since 2018, when the United States stepped up efforts to counter the adverse and often illicit actions of China’s technology companies. From 2018 to 2020, the Trump Administration advanced a series of measures to prevent the flow of U.S. technology to Chinese military end users, entities engaged in human rights abuses, and companies supporting China’s extraterritorial land reclamation efforts.† The drastic impact of U.S. sanctions on Chinese telecommunications giants Huawei and ZTE shocked CCP leaders, leading them to attach increased urgency to ensuring technological supply chain security.⁴⁵ Since then, Xi has called for self-reliance in “core technologies,” described China’s limited technological and innovative capacity as an “Achilles’ heel,” and identified semiconductors and new materials as “extruding chokepoints.”⁴⁶ Dr. Dallas testified that these “recent events have tapped into China’s long-standing insecurities and Xi has given greater voice to them (for instance concerning technological dependency and information security), thereby empowering security-oriented voices in China.”‡⁴⁷ The CCP’s increasingly anxious dash toward technological self-reliance has brought this long-lurking ambition, pursued largely below

*The 35 chokepoint technologies are: photolithography machines, microchips, operating systems, aircraft engine nacelles, touch sensors (for industrial robots), vacuum evaporators, high-end frequency components, primers and reagents used for iCLIP technology (for gene editing), heavy-duty gas turbines, LiDAR (light detection and ranging), airworthiness standards, high-end capacitors and resistors, electronic design automation software, high-end indium tin oxide sputtering targets (for panel displays), core algorithms (for robotics), aviation-grade steel (for landing gear), milling cutters, high-end bearing steel, high-pressure piston pumps (for hydraulic machinery), aviation design software, high-end photoresists, high-pressure common rail direct fuel injection systems (for low-emission diesel engines), transmission electron microscopes, main bearings for tunnel boring machines, microspheres, underwater connectors, key materials for fuel cells, high-end welding power sources (for underwater welding robots), lithium battery separators, components for medical imaging equipment, ultra-precision polishing techniques, epoxy (for high-end carbon fiber), high-strength stainless steel (for rocket engines), database management systems, and scanning electron microscopes. Ben Murphy, “Appendix: Key Details of the 35 ‘Chokepoint’ Technologies,” *Center for Security and Emerging Technologies*, May 2022.

†For a thorough overview of Trump Administration actions targeting China, see U.S.-China Economic and Security Review Commission, *Timeline of Executive Actions on China (2017–2021)*, April 1, 2021.

‡Nazim Uras Demir and Etel Solingen distill three stylized views among CCP leaders regarding the future of global supply chains. A first group of global supply chain “preservers” believes China should not seek to disintegrate from global supply chains and instead should continue to encourage investment from multinational enterprises in China to extract technology and knowledge from them. A second group of global supply chain “reformers” view Trump Administration actions against Huawei and ZTE as more durable threats that necessitate alternative supply lines, though not complete economic decoupling. A third group of global supply chain “replacers” favors the complete substitution of Western-led supply chains and technological self-sufficiency. Nazim Uras Demir and Etel Solingen, “Are Global Supply Chains Vital to China’s Leaders?” in Etel Solingen, ed., *Geopolitics, Supply Chains, and International Relations in East Asia*, Cambridge University Press, 2021, 135–152.

the surface in myriad licit and illicit manners, more forcefully to the fore.

Already on high alert, in 2022 the CCP's technology insecurities grew even more pronounced following Russia's unprovoked invasion of Ukraine. Beijing has observed how coordinated sanctions and export restrictions by the United States and U.S. allies and partners have compromised Russia's technology supply chains, gravely undermining its ability to manufacture materiel. Reportedly, Russia has resorted to cannibalizing existing machinery, vehicles, and goods, such as airplanes, just to keep some portion of its military functional.⁴⁸ Zongyuan Zoe Liu, a fellow for international political economy at the Council on Foreign Relations, argues that in light of these geopolitical developments, China is "hardening itself for economic war" and preparing to withstand a forced decoupling.⁴⁹ The U.S.-China Business Council, in its September 2021 analysis of China's government and SOE procurement, noted a decisive increase in import substitution efforts for the 2020–2022 period. Council members reportedly "discovered detailed, nonpublic plans to replace foreign products with domestic alternatives in the ICT sector," with the central government having "issued instructions to local government entities and SOEs in sectors related to national security, including aerospace, healthcare, and energy, requiring them to gradually devote a higher share of their procurement budget to ICT products from domestic brands."⁵⁰ These plans are also "particularly troubling, as they suggest that domestic preferences, unequal treatment, and support for Chinese brands have moved behind the scenes."⁵¹ These surreptitious and detailed import substitution plans are the flip side of the vague yet increasingly pervasive central and local government announcements on increasing the "independent controllability of the supply chain."⁵²

Inadequate Implementation of U.S. Export Controls Aids China

Mistakes and oversights in the implementation of U.S. export control policy may be advancing China's technology capabilities. When Congress enacted the Export Control Reform Act in 2018, section 1758 of the act intended for the Commerce Department to develop lists of "emerging" and "foundational" technologies to augment the U.S. government's capacity to respond to national security issues stemming from countries of concern, particularly China, acquiring and using U.S. technologies to bolster their own innovation in these critical dual-use areas.⁵³ In May 2022, the Commerce Department's Bureau of Industry and Security released a notice of proposed rulemaking noting its intention to forego creating lists of "emerging" and "foundational" technologies and rather create a singular list termed "section 1758 technologies."⁵⁴ Without a definition of "foundational," the Export Administration Regulations (EAR) may not include technology export controls on capabilities that it is in the U.S. national security interest to prevent China from obtaining. In addition, the Committee on Foreign Investment in the United States (CFIUS) relies on an enumerated list of technologies in order to trigger

Inadequate Implementation of U.S. Export Controls Aid China—*Continued*

mandatory filings for inbound investment review.⁵⁵ Without an adequately detailed list, many transactions of consequence might go unnoticed, potentially allowing China to invest and extract knowledge from U.S. companies to build up its own capacity. The Commerce Department's ongoing failure to enumerate technologies may thus be enabling the development of frontier industries in China that could scale up rapidly and undermine pivotal parts of U.S. supply chains.

Lax enforcement of the foreign direct product rule under the EAR is also a cause for concern. The rule prohibits foreign countries from exporting or reexporting controlled items produced outside the United States using controlled technology to restricted countries unless the exporter receives a license or license exception.^{*56} The foreign direct product rule was revised and expanded in 2020 to increase restrictions on exports that supported Huawei's purchase of advanced semiconductors made using U.S. technology. Despite the revision, the Commerce Department has brought limited regulatory actions against companies for violating the expanded foreign direct product rule.^{†57} This stands in contrast to other export control regulations—such as those on Iran, which have led to numerous investigations and substantial penalties—and in spite of evidence suggesting exporters have violated the rule.⁵⁸ An October 2021 report by the Senate Committee on Commerce, Science, and Transportation's Minority staff found that Seagate Technology, a California-based producer of hard disk drives, had continued to ship drives to Huawei without a license after the rule went into effect in September 2020.⁵⁹ Without more committed U.S. government export control enforcement action, exporters may continue to assess that they face little downside risk from failing to adhere to export restrictions on Chinese firms.⁶⁰

The Challenges of China-Centered Supply Chains

A simple taxonomy for determining U.S. supply chain risks from China is the combination of exposure and consequence along stages of the supply chain. Exposure is simply U.S. dependence on inputs sourced from China at each stage. Consequence is the degree of harm that the lack or compromise of essential inputs or components sourced from China would cause the United States.[‡] The latter dis-

*De minimis rules establish that items produced outside the United States incorporating certain controlled U.S. goods that do not exceed a certain de minimis threshold (10 percent or 25 percent depending on the technology) are not subject to the EAR. Some controlled technologies, including certain software, are ineligible for de minimis rules and some restricted countries are excluded. 15 C.F.R. § 734.4 - De Minimis U.S. Content, 1996.

†An exception is possible enforcement against Synopsis Inc., the largest U.S. supplier of electronic design software, a critical chokepoint for designing semiconductors. In April 2022, Bloomberg reported that Synopsis Inc. was under investigation by the Commerce Department for potentially exporting restricted technology to Huawei's semiconductor design subsidiary HiSilicon without a license (for more on semiconductor chokepoints, see the Appendix I: U.S.-China Supply Chain Competition in Semiconductors). Ian King and Jenny Leonard, "Synopsis Probed on Allegations It Gave Tech to Huawei, SMIC," *Bloomberg*, April 13, 2022.

‡A number of more elaborate taxonomies of supply chain risks are employed by some U.S. government agencies. A leading example is the Cybersecurity and Infrastructure Security Agency's

inction is significant: severe consequences can result from Chinese entities cutting off, drastically limiting, or sharply increasing the price of an essential good, such as personal protective equipment (PPE); they can also result from a Chinese entity intentionally compromising an import, such as installing a backdoor in ICT used in U.S. critical infrastructure; and they can result from negligence or poor safety standards rather than deliberate compromise, such as Chinese pharmaceutical producers selling blood pressure medication with 200 times the acceptable interim limit for carcinogens per pill.

The passage that follows highlights the exposure to China at each supply chain stage and assesses the potential consequences that such exposure may carry. This report focuses on supply chain risks with the most acute consequences for U.S. security.* For this analysis, supply chain stages are broken down into five pieces: materials, components, final products, transportation, and research and design (R&D). This approach indicates that the United States faces several risks from China at every stage of the production and distribution process.

Exposure and Consequence: Materials Stage

The production process begins with mining, refining, and processing the raw material inputs that are constitutive elements necessary for later-stage production processes. Base material inputs can include a variety of metals and chemicals, such as iron ore, copper, aluminum, antimony, cobalt, nickel, lithium, graphite, silicon, rare earth elements, and active pharmaceutical ingredients, to name a few.†⁶¹ China has consolidated control over numerous nodes of this production stage, including through developing extensive domestic mining and refining capacity in key materials as well as through strategic investments abroad.‡⁶²

- *Active pharmaceutical ingredients (APIs)* are key components in over-the-counter and prescription drugs undergirding common pain relief medication, antibiotics, high blood pressure medication, and many other lifesaving and life-sustaining medications on which U.S. residents rely.⁶³ According to data from the U.S. Census Bureau, the United States imported 16.2 percent of its overall organic chemicals from China in 2021 and 24.9 percent of its antibiotics, including 41.6 percent of its penicillin, 64.5 percent of its streptomycin, 72.2 percent of its tetracycline, and

work on ICT supply chains. Cybersecurity and Infrastructure Security Agency, *ICT Supply Chain Resource Library*.

*A granular assessment of U.S. sectoral supply chain dependence is beyond the scope of this report, but a number of other U.S. government agencies have compiled such reports in the last two years. See for example the U.S. Department of Energy's numerous deep dive assessments, including of the rare earth permanent magnet supply chain, the solar photovoltaic supply chain, and others. However, these reports focus on U.S. supply chain risks overall, not with specific focus on China. U.S. Department of Energy, *Securing America's Clean Energy Supply Chain*, February 2022.

†According to the U.S. Geological Survey, of the 47 materials for which the U.S. net import reliance is greater than 50 percent, China is either the—or one of the—leading import sources in 25, including: tungsten, germanium, magnesium, barite, antimony, most rare earths, indium, graphite, gallium, and arsenic. U.S. Geological Survey, *Mineral Commodity Summaries* 2022, 5.

‡For an overview of critical materials, see the 2020 USGS investigation into the United States' foreign reliance on critical minerals, which, in part, found that "the most notable global shift [since the 1990s] has been the increasing production of mineral commodities in China." Nedal T. Nassar, Elisa Alonso, and Jamie L. Brinard, "Investigation of U.S. Foreign Reliance on Critical Minerals—U.S. Geological Survey Technical Input Document in Response to Executive Order No. 13953 Signed September 30, 2020," *U.S. Geological Survey*, December 7, 2020, 2.

86.4 percent of its chloramphenicol.⁶⁴ The extent of U.S. dependence evidenced by U.S. Census data, however, is incomplete and leads to underestimations, as China is the key supplier of APIs to most other countries. Most prominently, China supplies India, the world's largest producer of generic drugs, with 80 percent of its APIs, resulting in a concealed and embedded trade dependence on China that is far higher than U.S. trade data indicate.⁶⁵

- *Rare earth elements* are small but crucial material inputs in national security-related products, including aircraft engines, fiberoptic cables, TV and computer displays, electric vehicle motors, and medical devices.⁶⁶ China has a commanding position in the rare earth element supply chain.⁶⁷ In 2021, according to the U.S. Geological Survey (USGS), China accounted for 60 percent of the world's mined output of rare earth elements.⁶⁸ China also commanded 85 percent of the world's rare earth processing in 2021.⁶⁹ From 2017 to 2020, China supplied approximately 78 percent of U.S. imports of rare earth compounds and metals.⁷⁰ In 2021, over 94 percent of U.S. imports of neodymium, a critical input into permanent magnets for electric vehicles, were sourced from China.⁷¹

Rare Earth Elements Case Study

Rare earth elements are not actually rare but rather are rarely found in isolation, are costly to separate, and are costlier to refine.⁷² Most rare earth element applications require at least 99.9 percent purity and therefore must undergo several rounds of processing and refining to separate the elements from the extracted deposits.⁷³ China's dominance in rare earth elements, however, is attributable less to its geographic proximity to a disproportionate share of global rare earth element reserves and more to policy choices pursued by the Chinese government.⁷⁴ Beginning in the early 1980s, the Chinese government began to subsidize its own mining industry aggressively and invested heavily in human capital and technical refining knowledge. This contributed to the erosion of the U.S. rare earth industry: Mountain Pass mine in California was once the largest source of rare earth elements until it ceased production in 2002, unable to compete with subsidized output from China.⁷⁵ Similarly, Chinese state support and lax environmental regulation pulled global mining and refining of rare earth elements out of the United States and other countries and into China.⁷⁶ Chinese firms made critical inroads into the rare earth element industry via overseas acquisitions, as occurred in 1995 when Magnequench, a General Motors subsidiary, was sold to a consortium whose ultimate beneficiaries were two state-linked Chinese entities.* Prior to the acquisition,

*The consortium was comprised of three entities, a U.S. investment company the Sextant Group, which served as the lead firm in the transaction, and two state-linked Chinese companies, San Huan New Material High-Tech Inc. and China National Nonferrous Metals. The Chinese entities sought to acquire the technology and transplant it to China. Both Chinese entities were partly owned by the Chinese state, and the heads of both companies were, respectively, the hus-

Rare Earth Elements Case Study—Continued

Magnequench was the main supplier of permanent magnets for precision-guided munitions for the United States.⁷⁷ CFIUS reviewed the transaction and allowed the merger to go forward, despite Magnequench's key role in defense supply chains.* CFIUS' approval was reportedly conditioned on a mitigation agreement requiring Magnequench's operations to remain in the United States for a period of time.† Over a period of 12 years, however, Magnequench's technology and operations were transferred piecemeal to China and the company eventually closed its Indiana-based plants.⁷⁸

The decline of U.S. rare earth element mine production and downstream rare earth element refining capability has magnified the difficulties of restarting the domestic rare earth element industry. In testimony before the Commission, associate professor of political science at the University of Maine Kristin Vekasi argued that U.S. challenges in restoring rare earth element supply chain resilience result from “(1) Willingness to bear high environmental externalities; (2) Technological expertise in separation and refinement; [and] (3) Market risks introduced by information failure.”⁷⁹ For example, U.S. mining company Molycorp attempted to reopen Mountain Pass mine but was beset by cost overruns. Facing bankruptcy, the Mountain Pass mine was acquired by MP Materials, which has continued operations at the mine, focusing primarily on mining neodymium and praseodymium. MP Materials currently lacks domestic facilities to process rare earth elements,‡ however, and it sells its rare earth concentrate under contract to China's Shenghe Resources, which also owns 7.7 percent of MP Materials' share equity.⁸⁰ CCP leaders continue to make strategic control over rare earth element production a policy priority.⁸¹ China's stranglehold on rare earth element mining and refining presents serious vulnerabilities to the United States. As a result of China's dominance in the supply chain, 16 out of the 17 rare earth elements are now considered “critical minerals” by USGS. This means these metals, while “essential to

bands of the first and second daughters of Deng Xiaoping. Andrew Leonard, “How G.M. Helped China to World Magnet Domination,” *Salon*, August 31, 2010.

*For an assessment of CFIUS' shortcomings in the 1990s and early 2000s, including with regard to the Magnequench transaction, see U.S. Senate Committee on Banking, Housing, and Urban Affairs, *Hearing on a Review of the CFIUS Process for Implementing the Exon-Florio Amendment*, October 2005.

†CFIUS mitigation agreements are not public. A United Auto Workers negotiator representing workers at Magnequench in the agreement indicated that the Chinese consortium that purchased Magnequench duplicated the production line in China before shutting down its U.S. plant. John Tkacik, “Magnequench: CFIUS and China's Thirst of U.S. Defense Technology,” *Heritage Foundation*, May 2, 2008; Scott L. Wheeler, “Missile Technology Sent to China,” *Insight on the News*, January 31, 2003.

‡In February 2022, the U.S. Department of Defense awarded MP Materials a \$35 million contract to fund construction of processing facilities based in Mountain Pass, California. DOD indicated the award aims to fulfill some of the initiatives outlined in Executive Order (EO) 14017 on America's Supply Chains (for more on EO 14017, see “Appendix II: The U.S. Government's Recent Supply Chain Actions”). MP Materials is also constructing a facility to produce permanent magnets in Fort Worth, Texas using output from California's Mountain Pass mine. MP Materials Corp., “MP Materials Begins Construction on Texas Rare Earth Magnetics Factory to Restore Full U.S. Supply Chain,” April 21, 2022; U.S. Department of Defense, *DoD Awards \$35 Million to MP Materials to Build U.S. Heavy Rare Earth Separation Capacity*, February 22, 2022.

Rare Earth Elements Case Study—*Continued*

the economic or national security” of the United States, also suffer from supply chains that are highly “vulnerable to disruption.”⁸² In the event of geopolitical friction with the United States, the Chinese government could choose to stifle the flow of rare earth elements for innovations essential to military preparedness and competitiveness of domestic industry.⁸³ CCP leaders have appeared willing to do this in the past, restricting exports of rare earth elements to Japan amid a territorial dispute concerning the Senkaku Islands in 2010.⁸⁴ Chinese state-backed firms are also investing in the mining and processing of other USGS-identified critical minerals abroad, such as cobalt in the Democratic Republic of the Congo; lithium in Bolivia, Argentina, and Chile; and nickel in Indonesia.⁸⁵

A major vulnerability stemming from China’s control over key materials is its ability to restrict U.S. access. Such a disruption could halt later-stage commercial production processes, deny U.S. citizens access to key healthcare products, and limit critical defense supply chain inputs.* A March 2020 editorial in state media outlet *Xinhua* acknowledged China’s stranglehold on global pharmaceutical production and suggested China could assume “strategic control” over supplies and limit exports.⁸⁶ Similarly, despite intense diplomatic backlash to the CCP’s decision to effectively weaponize rare earth exports during a 2010 dispute with Japan, CCP leaders have continued to explore limiting the export of rare earth elements.† In January 2021, China’s Ministry of Industry and Information Technology proposed draft controls on the production and export of rare earth elements.⁸⁷ Industry executives consulted by the ministry observed that the Chinese government appeared interested in understanding how severely U.S. and European defense contractors could be affected by such controls.⁸⁸

China itself faces a number of severe material input dependencies, some of which U.S. allies control that could deter weaponization. China is highly dependent on others for many base material inputs, with oil and iron ore constituting its largest import categories.⁸⁹ Although China produces more steel than the rest of the world combined, it is also the world’s largest importer of iron ore, the base material needed to produce steel, relying on imports for roughly 80 percent of its iron ore requirements and relying on U.S. treaty ally Australia for roughly 60 percent of those imports in 2020.⁹⁰ China’s

* In testimony before the Commission, Rosemary Gibson, senior advisor at the Hastings Center, stated that “if China shut the door on exports of medicines and their key ingredients and raw materials, U.S. hospitals and military hospitals and clinics would cease to function within months, if not days.” Rosemary Gibson, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on Exploring the Growing U.S. Reliance on China’s Biotech and Pharmaceutical Products*, July 31, 2019, 2.

† Daniel Drezner, professor of international politics at Tufts University, argues that China’s exploitation of leverage even in this instance has not been particularly successful: “Even in the rare instances in which China appears to have successfully exploited its leverage—as when it withheld rare-earth exports to coerce Japan in a 2010 dispute—the long-term effect was to weaken China’s coercive capabilities.” More broadly, he argues that “[a]ctors run the risk of abusing their role as central hubs, putting their network centrality at risk for the future.” Daniel Drezner, “The Uses and Abuses of Weaponized Interdependence,” *Brookings Institution Press*, March 2021, 5–6.

Ministry of Industry and Information Technology, Ministry of Science and Technology, and Ministry of Natural Resources allude to this dependency in the context of “security risks to industrial and supply chains that have become clear and obvious” as a result of a “deglobalization tide.”⁹¹ The ministries jointly released as part of their 14th Five-Year Plan (2021–2025) a report that for the first time targets the entire raw material industry at once, including inputs for petrochemical, steel, and nonferrous metals production, in contrast to the previous pattern of developing plans for each sector separately.⁹²

U.S. vulnerability at the material stage is exacerbated by lack of visibility, incomplete public data, and lack of research into the supply and demand balance for critical inputs. Raw material suppliers are often located at the lowest tiers in a firm’s supply chain, and firms have generally not acquired such depth of visibility.⁹³ At an aggregate level, and in part as a result of limited firm-level supply chain visibility, USGS assesses that the actual extent of the United States’ net import reliance in critical minerals is greatly obscured and likely underestimated.*⁹⁴ To address challenges related to unknown supply and demand balance, the European Commission in 2020 undertook a foresight study, *Critical Raw Materials for Strategic Technologies and Sectors in the EU*, to assess future supply and demand balance of raw materials needed for future-oriented industries (e.g., robotics, drones, and 3D printing), but the U.S. government has not conducted a comparable publicly available forecasting study.†⁹⁵ These limitations may enable unexpected U.S. supply chain dependencies upon China to arise and disrupt U.S. economic and national security.

Exposure and Consequence: Component Stage

The component stage of the production process transforms processed raw materials into usable intermediate inputs that constitute key parts of finished products. The component supply chain stage includes a number of production and manufacturing categories, many of which China has assumed a commanding position within, leading to high U.S. reliance on imports from China. Many of these industries, such as castings and forgings, represent traditional but still crucial manufacturing industries, while others undergird future-oriented industries, such as electric vehicles, green energy technology, and digital electronics.

- *Batteries* are a core component for a number of industries, including the telecommunications, energy, and automotive industries (for more on China’s capacity in batteries and clean energy technologies, see Chapter 2, Section 3: “China’s

*According to USGS, factors which complicate assessing the extent of net reliance include: indirect trade reliance, embedded trade reliance, and foreign ownership of mineral assets. Nedal T. Nassar, Elisa Alonso, and Jamie L. Brainard, “Investigation of U.S. Foreign Reliance on Critical Minerals—U.S. Geological Survey Technical Input Document in Response to Executive Order No. 13953 Signed September 30, 2020,” *U.S. Geological Survey*, December 7, 2020, 7–8.

†The closest effort may be the 2020 USGS report issued in response to the Trump Administration’s Executive Order 13953, which calculates U.S. net import dependence for a number of critical inputs and provides a composite estimation of future reliance under certain scenarios. Nedal T. Nassar, Elisa Alonso, and Jamie L. Brainard, “Investigation of U.S. Foreign Reliance on Critical Minerals—U.S. Geological Survey Technical Input Document in Response to Executive Order No. 13953 Signed September 30, 2020,” *U.S. Geological Survey*, December 7, 2020.

Energy Plans and Practices”). China dominates battery production, with 76 percent of global battery cell manufacturing capacity located within its borders as of 2020.*⁹⁶ According to U.S. Census data, China represented 32 percent of all U.S. battery imports in 2021. At a more granular level, however, reliance on China in 2021 was even higher, accounting for 51.7 percent of lithium-ion batteries for electric vehicles and 54.5 percent of total U.S. lithium-ion battery imports.⁹⁷ This dependence has only grown in 2022, with China accounting for 64.2 percent of the total U.S. lithium-ion battery imports through July.[†]⁹⁸

- *Permanent magnets* are critical components of electric motors and widely used in electric vehicles, wind turbines, and other domains. The United States now imports the vast majority of these inputs from China. In 2021, according to U.S. Census data, 73.6 percent of U.S. permanent magnets made from metal were imported from China, while 74.9 percent of those most widely used in electric vehicles, sintered neodymium-iron-boron permanent magnets, were imported from China.[‡]⁹⁹
- *Castings and forgings* are the processes through which metal, typically iron, steel, or aluminum, is set and forged into highly engineered molds. Castings form key parts of roughly 90 percent of all durable goods, from automobiles and ships to aerospace and defense equipment.¹⁰⁰ From 2000 to 2020, China’s production of castings increased by 374 percent, while the United States’ production fell by 26 percent.¹⁰¹ As a result, China went from producing 17 percent of all castings globally in 2000 to producing 49 percent in 2020, while the United States went from producing 20 percent in 2000 to producing just 9 percent in 2020 (see Figure 1).¹⁰² DOD relies on China for a variety of large cast and forged products employed in the production of defense systems and machine tools.¹⁰³

*As John VerWey, East Asia National Security Advisor at Pacific Northwest National Laboratory, noted in testimony before the Commission, China’s lead in battery manufacturing extends down into base materials as well: “Lithium-ion batteries rely on cobalt, iron, nickel (C1), manganese, lithium, and graphite. China leads the world in raw material mining of graphite, accounting for 82% of the global production. The DOE recently found ‘China has near absolute dominance of today’s refining capacity for metals necessary for lithium-ion batteries,’ which includes cobalt sulfate (62%), high-purity manganese sulfate (95%), and lithium hydroxide carbonate (61%). Similarly, for subcomponents, China’s has dominance in the worldwide production of cathodes (63%), anode materials (84%), separators (66%), and electrolytes (69%).” John VerWey, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Supply Chains*, June 9, 2022, 5.

†China’s Ganfeng Lithium Co. Ltd in early 2022 acquired a major lithium concession in Mexico, just months prior to President Andrés Manuel López Obrador’s decision in April to nationalize the Mexican lithium industry. The fate of Ganfeng’s lithium mine concession remains uncertain, despite López Obrador’s assertion in June that existing projects would be respected. Guo Yingzhe and Lu Yutong, “Mexico Launches State-Owned Lithium Miner in Nationalization Push,” *Caixin Global*, August 25, 2022.

‡The Commerce Department, in response to a recommendation from the 100-Day Review under Executive Order 14017, announced the initiation of a Section 232 investigation into neodymium magnets in September of 2021. The investigation, released in a redacted format in September 2022, determined that current quantities and circumstances of neodymium magnet imports are a threat to U.S. national security but did not recommend imposing tariffs on imports. U.S. Department of Commerce, *U.S. Department of Commerce Announces Section 232 Investigation into the Effect of Imports of Neodymium Magnets on U.S. National Security*, September 24, 2021; U.S. Department of Commerce Bureau of Industry and Security, *The Effect of Imports of Neodymium-Iron-Boron (NdFeB) Permanent Magnets on the National Security*, September 21, 2022.

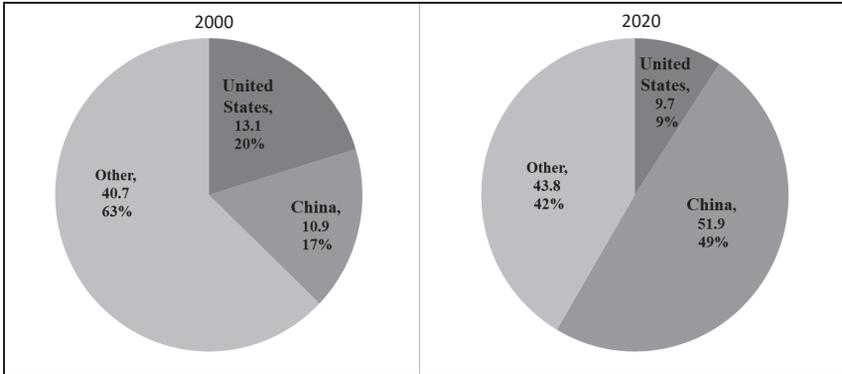
Castings and Forgings Case Study

For generations, the casting industry has played a role in national defense. During World War II, metal castings were vital to the U.S. military response as foundries provided crucial parts for tanks, aircraft, and weaponry, among other things.¹⁰⁴ Each branch of the U.S. military relies on castings found in ships, tanks, trucks, submarines, helicopters, laser-guided missile systems, and other weapons systems and equipment.¹⁰⁵ In his testimony for the Commission, James Brown, CEO of BCI Solutions, noted that his ferrous foundry supplies “over 23 different types of machined complete ductile iron castings to AM General for the military Humvee brand vehicles as a Tier 2 supplier” for DOD.¹⁰⁶ Metal casting is a roughly \$44 billion industry in the United States that supports nearly 430,000 workers spread across foundries nationwide, many of which operate as family-owned businesses.¹⁰⁷

While castings are foundational to the manufacturing economy, and more specifically the defense industrial base, the industry has drastically consolidated over the last 60-some years with much of the manufacturing base moving to China.¹⁰⁸ In 1955, there were 6,150 U.S. metal casting facilities, and there are only 1,750 plants today.¹⁰⁹ The United States still leads the world in casting applications, but it is third in production behind China and India. As the world’s largest producer of metal castings, China now produces five times the amount of casting tonnage as the United States (see Figure 1). As more manufacturing has been offshored, the United States has also lost institutional knowledge that equips new trainees with the specialized skillsets and knowledge necessary to enter the industry.

The consolidated and shrunken U.S. casting industry is particularly reliant on China for the raw materials required in the metal casting process, including rare earth elements, pig iron, and scrap metal. The casting industry relies heavily on alloys like silicon, which is largely sourced from foreign suppliers. World supplies are currently low and prices remain high. In his testimony before the Commission, Mr. Brown explained that his company was sourcing silicon from Ukraine but was facing delays due to the Russian invasion, and a number of foundries were sourcing from China and Brazil.¹¹⁰ U.S. foundries are also experiencing supply chain disruptions in their pig iron shipments due to the crisis in the Black Sea region, from which Russia and Ukraine supplied 62 percent of pig iron imports for the United States in 2021.¹¹¹ China is a top producer of pig iron, but until recently it has remained a domestic consumer, exporting little to foreign buyers. China’s abundance of inexpensive raw materials has allowed it to quickly fill the supply gap for pig iron in the global market, exporting more tonnage to the United States at higher costs. As Mr. Brown explained, pig iron prices have increased from \$400 net ton to \$1,200 net ton.¹¹² Ductile iron castings, like the ones used to make military Humvee brand vehicles, rely on rare earths predominately mined in China (see Table 1).

**Figure 1: U.S. and Chinese Share of Castings Production, 2000 vs. 2020
(Millions of Metric Tons and Percent)**



Source: Various.¹¹³

Table 1: Metals and Minerals Used by U.S. Ferrous Foundries and Source Countries

Commodity	Major Import Sources
Graphite	China is the primary source of the material. Also, Mexico, Canada, and India
Magnesium (metal compounds)	China is the primary source. Also, Russia, Ukraine, Israel, Kazakhstan, Brazil, and Turkey
Rare Earth Elements	China is the primary source. Also, Japan, Estonia, and Malaysia
Strontium	China, Mexico, and Germany
Chromium	Russia is the primary source, along with South Africa, Mexico, and Kazakhstan
Fluorspar	Mexico, Vietnam, South Africa, and Canada
Tin	Indonesia, Peru, Malaysia, and Bolivia
Manganese	Gabon, South Africa, Australia, and Georgia

Source: James Brown, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Global Supply Chains*, June 9, 2022, 7; U.S. Geological Survey, *Mineral Commodity Summaries 2022*, January 31, 2022, 7.

The concentration of traditional and future-oriented component production in China creates a dual challenge for the United States: developing platform capabilities—industries that enable many others—that could provide Beijing with leverage over downstream products as well as the potential for ecosystem lock-in that could afford China durable innovation advantages. Willy Shih, professor of management practice in business administration at Harvard Business School, argued in testimony before the Commission that the castings industry is a key example of a platform capability, for “[i]f you cannot make metal castings efficiently and cost effectively in the quantities you need, you will have trouble making machine tools, plumbing and fluid handling devices, oil field equipment, motor

vehicles, and countless other goods.”¹¹⁴ Control over a platform capability affords strategic supply chain leverage. Meanwhile, China’s concentration of production in advanced batteries and permanent magnets affords it an ecosystem advantage that can make supply chain realignment difficult. As the Biden Administration’s *100-Day Supply Chain Review* notes: “[i]nnovations essential to military preparedness—like highly specialized lithium-ion batteries—require an ecosystem of innovation, skills, and production facilities.”¹¹⁵ China’s prominence across many industries at the component supply chain stage affords it a robust ecosystem that could facilitate its developmental ambitions in future-oriented industries.

Exposure and Consequence: Final Product Stage

The final product stage combines and assembles intermediate and component parts into the final goods that are ultimately consumed. China has a dominant role in this stage, long serving as the world’s workshop and assembler of goods. China is the largest single manufacturer of finished automobiles (33 percent), ships (47 percent), refrigerators (50 percent), TV sets (60 percent), solar panels (70 percent), air conditioners (80 percent), computers (80 percent), and mobile phones (90 percent).¹¹⁶

- *Information and communication technology (ICT) products*: A 2020 report from Boston Consulting Group assessing U.S.-China economic interdependence found that more than 70 percent of the products produced by the U.S. consumer electronics and telecommunications equipment sectors rely on imports from China.¹¹⁷
- *Personal protective equipment (PPE)*: Research prepared by the Congressional Research Service shows that in 2019, China accounted for over 70 percent of imports of medical protective articles.¹¹⁸ In 2020, according to U.S. Census data, 98.3 percent of the United States’ \$2.7 billion worth of imported N95 respirators were supplied by China, 88.9 percent of imported respirators other than N95 came from China, and 90.7 percent of all imported textile face masks were purchased from China.¹¹⁹
- *Assembly, packaging, and testing (APT)*: APT is the final stage of the semiconductor production process. China has developed a strong presence in semiconductor APT. Boston Consulting Group and the Semiconductor Industry Association jointly estimate that, in 2019, 38 percent of the world’s APT occurred in China.¹²⁰ Of the top ten firms in China’s assembly and testing ecosystem, the top three are Chinese (JCET, TongFu, and Tianshui), while most of the rest are U.S. firms.¹²¹

China’s control over supplies of finished goods was revealed to be a vulnerability for the United States at the beginning of the COVID-19 pandemic, when Beijing’s policies restricted U.S. ability to receive imports of PPE. In a bid to contain the initial outbreak of COVID-19 in February 2020, the Chinese government nationalized control of the production and distribution of medical supplies in China, hampering global supply lines and denying the United States timely access.¹²² According to reports by the *New York Times* and *South China Morning Post*, as the global outbreak widened,

the Chinese government directed producers to prioritize supplying local demand over exports.¹²³ The Chinese government also informally restricted the export of PPE in spring 2020, limiting exports of PPE from companies that did not have “accreditation to sell their products within China,” even if they did possess quality certificates necessary to sell to the United States and EU.¹²⁴ Although the policy was initially intended to address other countries’ complaints of quality issues in exported products, the sweeping and quickly implemented regulation resulted in major supply disruptions just at the moment other nations were most vulnerable.¹²⁵ The PPE crisis reveals that at critical moments, the United States may lose access to medical supplies, the associated raw materials to make medical supplies, and many other final products made in China.

Exposure and Consequence: Transportation

China’s growing control of maritime supply chain infrastructure could pose a challenge to U.S. supply chains.¹²⁶ The smooth functioning of maritime trade is critical to U.S. economic and national wellbeing, as the ongoing fallout from port congestion, shipment delays, and limited container capacity in the United States has made apparent to citizens and policymakers.¹²⁷ With 90 percent of the world’s merchandise transported by sea, the maritime shipping industry underpins most global supply chains.¹²⁸ According to Christopher O’Dea, an adjunct fellow at the Hudson Institute, China is carving out dominance in a triad of critical maritime transportation advantages that could give it undue influence over U.S. supply chains, including container shipping, global ports, and electronic logistics network infrastructure.*¹²⁹

- China’s dominance in shipping and port infrastructure owes in particular to two massive SOEs, COSCO Shipping and China Merchants Group. COSCO Shipping has quickly risen to become the largest shipping company in the world.†¹³⁰ China Merchants Group, on the other hand, is perched as the largest port and logistics company in the world.¹³¹ These two SOEs, as well as a number of other important though smaller state-linked firms in the shipping and shipbuilding industries, receive an immense amount of formal and informal state support that is unparalleled in size and scope. The Center for Strategic and International Studies conservatively estimates that between 2010 and 2018, firms in these industries received \$127 billion in financing from state banks on top of \$5 billion in direct subsidies.‡¹³² As of 2019, China produces 96 percent of all shipping containers, builds 80 percent of the world’s ship-to-shore cranes,

*China also dominates the production of shipping and transportation containers. The United States imported 75.7 percent of its transport containers from China in 2021. United States Census Bureau, *USA Trade*.

†While the Chinese government decries anti-monopolistic practices in the private sector, it has encouraged concentration in state-owned shipping, pushing through a 2016 merger between COSCO and China Shipping, then the second-largest shipping company in China, to create COSCO Shipping. In 2018, it pushed through another merger, this time with Orient Overseas. Brenda Goh, “COSCO Shipping’s Takeover of OOCL to Complete by End-June: Vice Chairman,” *Reuters*, April 3, 2018; Chris Horton, “COSCO: China’s Shipping Giant Expands its Global Influence,” *Nikkei Asia*, May 13, 2022.

‡These numbers include 11 listed Chinese shipping companies, 24 listed Chinese port management companies, and 12 listed Chinese shipbuilding companies.

and as of 2020 takes in 48 percent of the world's shipbuilding orders.¹³³

- China now holds strategic investments in more than 100 ports in at least 60 different countries as a result principally of investments from China's state-financed companies.¹³⁴ A report by C4ADS, a nonprofit research organization focused on transnational security issues, finds that Beijing utilizes these port investments not only to expand commercial interests abroad but also "to generate political influence, stealthily expand Beijing's military presence, and create an advantageous strategic environment."¹³⁵
- Building on data and access afforded via control of strategic global port infrastructure, China is also developing an integrated network logistics infrastructure that can give the CCP a broad view of global shipping and serve as a foundation for new global standards. The National Transportation and Logistics Public Information Platform, or "LOGINK," is at the crux of this system. Governed by China's Ministry of Transport, LOGINK may be analogized to a "super app" for integrating maritime logistics.¹³⁶ One industry insider interviewed by the *Wall Street Journal* noted that "[t]he most obvious risk of LOGINK is that it can help Chinese companies grow faster because of its data insights."¹³⁷ Through LOGINK, shipping-data experts say China could gain "insight into the unit prices, precise product mix and ultimate recipients of shipments" that could allow them to undercut commercial transactions.¹³⁸ This sort of privileged insight could afford the CCP and its SOEs an exploitable "informational advantage in understanding adversaries' intentions and tactics."¹³⁹

China's consolidation over transportation and logistics processes poses several challenges to the United States, including commercially, as Chinese firms may be advantaged, and strategically, as consolidation may complicate U.S. supply chain realignment initiatives. Through its expanding position in global transportation and logistics, China could serve not only as the world's critical node in global manufacturing but also as the world's primary means for transporting goods made in China as well as other countries around the world.¹⁴⁰ Beijing may use the transmission belt it is creating between its physical control of ships, ports, and terminals and its digital infrastructure as a "force multiplier" to support its SOEs and other commercial enterprises.¹⁴¹ Geopolitically, China's global logistics network could add complications to supply chain realignment efforts, as "moving a plant from China to Vietnam, for example, might reduce exposure to Chinese IP theft but still leave a company dependent on Chinese state-owned entities to ship its goods to world markets."¹⁴² Most concerning, in the event of a military conflict, the United States and its partners could lose access to a substantial proportion of commercial goods shipping capacity.

Widespread Adoption of LOGINK Could Create Economic and Strategic Risks

To increase China's influence in international logistics, China's Ministry of Transport (MOT) is promoting a unified logistics platform formally called the National Transportation and Logistics Public Information Platform and abbreviated as LOGINK (a portmanteau of "logistics" and "link").* Beginning as a Chinese provincial initiative in 2007, LOGINK became part of a regional network in Northeast Asia in 2010 and a global platform after 2014. The platform provides users with a one stop shop for logistics data management, shipment tracking, and information exchange needs between enterprises as well as from business to government. China's government is encouraging global ports, freight carriers and forwarders, and other countries and entities to adopt LOGINK by providing it free of charge. The state-sponsored and -supported platform has now expanded to partner with over 20 ports worldwide as well as numerous Chinese and international companies.

The development and international expansion of LOGINK advances broader Chinese policy initiatives, including China's goal of becoming a transportation superpower through ownership of ports and by accruing dominant market position in shipbuilding and shipping.† Unlike shipbuilding, shipping, and port equipment—in which Chinese companies are competing for a share in well-established markets—logistics management platforms are a new and evolving service. China's state-funded effort to obtain first mover advantage could enable LOGINK to shape how the market evolves, setting the rules of the road in a way that favors Chinese firms by enabling them to compete on unequal footing in the nearly \$1 trillion third-party logistics industry, in particular the market for freight forwarding services—companies like DHL that arrange cargo for shippers—estimated at just under \$200 billion.¹⁴³ State control of the LOGINK platform also potentially provides the CCP access to data collected and stored on the platform and could enable the Chinese government to gain insights into shipping information, cargo valuations via customs clearance forms, and destination and routing information, including for U.S. military cargo shipped via commercial freight.

*For more on LOGINK's background and risks to U.S. interests, see USCC Staff, "LOGINK: Risks from China's Promotion of a Global Logistics Management Platform," *U.S.-China Economic and Security Review Commission*, September 20, 2022.

†In 2019, China's government released a key document that essentially lays out a 30-year plan to become an international leader in transportation, including innovation in transportation equipment and infrastructure as well as operation of transportation and logistics services. Chinese firms have already reached or are rapidly making inroads toward achieving many of these goals. As analysts at the Center for Strategic and International Studies note, in 2019 Chinese companies controlled the second-largest global shipping fleet; produced over a third of ships and more than 80 percent of ship-to-shore cranes; and owned seven of the ten busiest ports in the world (including Hong Kong). Jude Blanchette et al., "Hidden Harbors: China's State-Backed Shipping Industry," Center for Strategic and International Studies, July 8, 2020; Chinese Communist Party Central Committee and State Council, *Transportation Superpower Construction Outline* (《交通强国建设纲要》), September 19, 2019. Translation.

Exposure and Consequence: Research and Design Stage

The research and design of products conditions the rest of the supply chain stages, informing how, where, and to what specifications goods are to be produced. The R&D stage is generally considered to be the most profitable supply chain segment, though in many industries R&D is directly influenced by production processes, and often multinationals choose to locate R&D close to manufacturing.*¹⁴⁴ The United States enjoys broad advantages in R&D, owing in large part to its world-leading innovation and educational ecosystem.¹⁴⁵ However, Beijing is increasingly focused on accruing a greater position in the design stage across a number of supply chains, with some initial successes that may pose a challenge to the United States, particularly when those gains are derived from illicit technology theft and transfer.

- *Semiconductor design:* After decades of aggressive subsidization, Chinese chip designers are beginning to gain market share in legacy logic and memory chips. Other than packaging and testing, chip design is the market segment China performs most strongly in, with an estimated 9 percent of fabless chip design market share in 2021.†¹⁴⁶ A variety of Chinese semiconductor firms, including Huawei's HiSilicon, Loongson, Zhaoxin, Micro, and Yangtze Memory Technology Corporation, are making progress in various stages of design.¹⁴⁷ As Jan-Peter Kleinhans, a technology expert at Stiftung Neue Verantwortung (SNV), noted in testimony before the Commission, China's chip design ecosystem and capabilities are "quickly increasing."¹⁴⁸ In August 2022, Biren Technology, using Taiwan Semiconductor Manufacturing Company's (TSMC) 7-nanometer manufacturing process, has reportedly designed a GPU, important for training machine learning algorithms, with drastically improved performance.¹⁴⁹ Consistent with precedents in other sectors,‡ it is the stated intent of China's policies to see the commanding commercial positions of U.S. integrated and specialized design companies such as Intel, NVIDIA, AMD, and Micron undermined, and U.S. strategic strength in this stage of the semiconductor chain eroded.
- *Pharmaceutical innovation:* China is aiming to move beyond dominance in exporting lower-value, upstream APIs and into

*Stan Shih, the founder of the Taiwan information technology company Acer Inc, coined the phrase "smile curve" in 1992, which describes how the two ends of the value chain—product development and conception on one side and marketing and sales on the other—are higher-value-added activities than the middle part of the value chain (manufacturing). As Chinese firms became more competitive manufacturers, they have gradually expanded their existing positions along the curve, though some are still struggling to enter higher-end activity stages such as research and development. Rita Rudnik, "Supply Chain Diversification in Asia: Quitting Is Hard," *MacroPolo*, March 31, 2022.

†According to market research firm IC Insights, China's share of the global fabless chip design market dropped from 15 percent in 2020. This was likely due in large part to Entity List restrictions impacting Chinese chip designers, including Huawei subsidiary HiSilicon. Peter Clarke, "China's Share of Global Fabless IC Market Collapsed in 2021," *EE News*, April 8, 2022.

‡China's approach to foreign investment has sought to create a regulatory framework that forces these foreign companies to work with local partners and share knowledge through JVs and other technology transfer mechanisms and then use the technology to develop competing Chinese products. General Motors' JV with Chinese automaker Shanghai Automotive Industry Corporation (SAIC), which formed in 1995, is a case in point. After helping GM's China operations stay afloat during the Global Financial Crisis, SAIC forced GM into transfer agreements. By 2012, it had developed vehicles using three of GM's core global car platforms. Edward Niedermeyer, "The Secret History of GM's Chinese Bailout," *Quartz*, January 24, 2016.

the highest-value-added stage of pharmaceutical innovation to discover and bring new medicines to market.¹⁵⁰ As a recent RAND Corporation report notes, “China intends to shift its pharmaceutical industry up the value chain to become an industry based on innovation rather than low value, low-quality production.”¹⁵¹ So far, though, “China has no companies that have made proprietary drug discoveries... that have achieved success on the international market.”¹⁵² But China is increasing global partnerships with multinational corporations, which could facilitate further Chinese innovations.¹⁵³

China’s race to acquire superior positions throughout the R&D stage of supply chains is interconnected with its increasingly vigorous and centralized industrial policy endeavors. While the United States continues to remain in a strategically advantageous position across the design stages of many supply chains, as in the semiconductor supply chain, preliminary successes from China’s industrial policy, in combination with its strong innovation ecosystem, provide cause for concern. More pressing, China’s ongoing and extensive technology theft and transfer operations pose serious risks not only to U.S. economic competitiveness in the design stage but also to the United States’ geostrategic advantages.¹⁵⁴ Federal investment in the U.S. research and development pipeline for the defense industrial base plays an important role in ensuring next-generation supply chains are well established and continue to grow in the United States, an endeavor that is undermined by China’s industrial policies and interlinked technology theft efforts.

Gaps in U.S. Defense Critical Supply Chains Need to Be Identified

Within DOD and among its supporting contractors, there are significant gaps in the understanding of supply chains and the role of Chinese suppliers. Greater visibility into U.S. supply chains and clarity regarding the responsibility of the stakeholders involved in each stage of the supply chain are crucial to mitigating risks of disruptions and compromises. As noted in DOD’s 2022 supply chain report, the department has for several decades “entrusted supply chain visibility and risk management to companies in the private sector that provide it with defense capabilities.”¹⁵⁵ Consequently, DOD lacks sufficient visibility into the sub-tiers of those supply chains to mitigate dependencies on China for critical inputs and security risks from untrusted Chinese suppliers.¹⁵⁶ Jennifer Bisceglie, chief executive officer at the supply chain risk management firm Interos, noted that supply chain visibility would increase the U.S. security posture by “enabling the federal government to source responsibly and securely, and by improving the government’s ability to act with a ready military at the moment needed.”¹⁵⁷

More Procurement and Industry Data Needed to Identify Critical Vulnerabilities

In February 2022, DOD and six other U.S. cabinet departments released supply chain papers assessing vulnerabilities and needed

measures to increase resilience of critical supply chains.* A common theme of these reports is the lack of information needed to prioritize any policy response, starting with the basic question of identifying “exactly where demand most exceeds reliable supply.”¹⁵⁸ That assessment is necessary for determining which inputs or constitutive materials to prioritize for shorter-term measures like stockpiles and longer-term strategies like onshoring or reshoring (discussed below). It would also avoid policies that inadvertently exacerbate supply chain vulnerabilities, such as by increasing demand on commercial suppliers who are themselves dependent on China or investing in production capabilities without addressing necessary increases in the reliable supply of materials constitutive to such production.¹⁵⁹ In its supply chain report, DOD committed to collecting and organizing data through 2023 to inform real-time supply chain management decisions, and it acknowledged that “inadequate data management practices hamper DOD’s standardization efforts, investment planning, and the development of key supplier relationships.”¹⁶⁰ For instance, without data on the full scope of batteries used by DOD, the department cannot sufficiently implement supply chain risk mitigation solutions at a broader and more strategic level. Consequently, DOD has recommended “centralizing information on the type, volume, and future projections of internal battery demands.”¹⁶¹ In an effort to bolster U.S.-based semiconductor manufacturing, the DOD report also recommends investing in “radiation hardened microelectronics data collection, storage, and analytics to support, centralized DOD SEE [single-event effects] test resource management activities.”[†]¹⁶²

Additional Work Needed to Prevent Counterfeit Products from Entering Defense Supply Chains

DOD has spent considerable efforts to reduce risks of counterfeit integrated circuit products entering supply chains of U.S. military systems and platforms and compromising their performance and security.¹⁶³ Whereas semiconductor companies and their authorized distributors subject products to extensive testing for reliability, counterfeit products largely evade testing procedures or quality controls and may fail during crucial operations. These circuits may originate with a Chinese manufacturer but are then resold by multiple, often unvetted, subcontractors before being incorporated into a subcomponent and sold to a primary defense contractor.¹⁶⁴ The U.S. Department of Justice (DOJ) reported in July 2022 that the CEO of more than a dozen U.S.-based companies trafficked more than \$1 billion worth of counterfeit networking equipment into the United States from China and Hong Kong.¹⁶⁵ The trafficker sold counterfeit devices to U.S. government agencies, the military, hospi-

*The studies were conducted in response to Executive Order 14017 “directing an all-of-government approach to assessing vulnerabilities in—and strengthening the resilience of—the United States’ critical supply chains.” In addition to DOD, other agencies releasing reports included the Department of Homeland Security, Department of Commerce, Department of Energy, Department of Agriculture, Department of Transportation, and Department of Health and Human Services. White House, *The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022*, February 24, 2022.

†Radiation-hardened electronics are commonly used in military-grade products for DOD because of their resiliency and ability to withstand radiation damage. John Keller, “The Evolving World of Radiation-Hardened Electronics for Space,” *Military Aerospace Electronics*, June 28, 2021.

tals, and schools. As DOJ notes, the fraudulent and counterfeit products “suffered from numerous performance, functionality, and safety problems,” which in some cases cost customers tens of thousands of dollars.¹⁶⁶ In 2019, the owner of a U.S.-based reseller of electronic components was sentenced for selling counterfeit microelectronics that he obtained from China and resold to U.S. commercial and military customers.¹⁶⁷ He admitted to instructing the Chinese suppliers to re-mark used and discarded components in order to make them appear new and to ordering a testing laboratory in China to produce multiple versions of test reports to obfuscate the components’ condition.*¹⁶⁸

U.S. Customs and Border Protection has taken steps to stop the flow of counterfeits chips from entering U.S. supply chains, including increasing training to identify counterfeit chips and establishing industry-wide partnerships to increase information sharing.¹⁶⁹ DOD’s February 2022 report, however, lists the introduction of counterfeit microelectronics as an ongoing challenge.¹⁷⁰ The department cites Naval Air System Command’s counterfeit protection program as an exemplar for other supply chain efforts to follow, and it recommends incorporating similar monitoring, documenting, and reporting into all military service supply chains.¹⁷¹

Risks of China Deliberately Compromising Microelectronics in U.S. Defense Supply Chains

In addition to low-quality counterfeit microelectronics, sourcing critical components from China presents risks of deliberately compromised or sabotaged products. Chinese military writers, like information warfare theorist Ye Zheng, consider sabotaging and exploiting an adversary’s supply chains to be an effective espionage and military tactic. In 2020, a report by SOSI International found that People’s Liberation Army strategy documents prioritize “exploiting adversary supply chains and other vulnerabilities,” including “hardware hidden mine attacks.”¹⁷² That same year, analysts at Pointe Bello reported on hidden “reserved interfaces” or backdoors included in transportation, information, and communication infrastructure.¹⁷³ Although not all Chinese-produced hardware poses a national security threat to U.S. infrastructure, it is clear the People’s Liberation Army views sabotaging an adversary’s supply chains as a warfighting tactic.

Mr. Kleinhans warned that semiconductors are particularly vulnerable to sabotage and other exploits during back-end APT production phases in which China claims substantial market share (see Appendix II: U.S.-China Supply Chain Competition in Semiconduc-

*On May 30, 2019, Rogelio Vasquez was sentenced in U.S. District Court to 46 months in prison and ordered to pay \$144,000 in restitution after pleading guilty to one count of wire fraud, two counts of trafficking in counterfeit goods, and one count of trafficking in counterfeit military goods. The owner of PRB Logistics Corporation, a California-based reseller or broker of electronic components, Vasquez acquired and resold to defense contractors “old, used and/or discarded integrated circuits from Chinese suppliers that had been repainted and remarked with counterfeit logos.” He instructed his Chinese suppliers to re-mark the integrated circuits and ordered a testing laboratory in China to produce multiple versions of the integrated circuit test reports to obfuscate their “used, remarked and/or in poor condition.” He admitted to trafficking over 9,000 integrated circuits with a total infringement value of \$894,218 from 2009 to 2016 and agreed to forfeit over 169,000 counterfeit integrated circuits that were seized during the investigation. U.S. Department of Justice, U.S. Attorney’s Office, Central District of California, *O.C. Businessman Sentenced to 46 Months in Prison for Selling Counterfeit Integrated Circuits with Military and Commercial Uses*, May 30, 2019.

tors for more).¹⁷⁴ The fact that 90 percent of the world's phones and nearly 80 percent of computers are manufactured in China makes exploitation of technology products a serious threat.¹⁷⁵ A 2019 report by the DOD Inspector General found that the department had not developed controls to prevent the purchase of commercial off-the-shelf (COTS) information technology (IT) products with known cybersecurity risks.¹⁷⁶ For example, the report determined that the U.S. Army and Air Force purchased more than \$32 million COTS IT items, including Chinese-owned Lenovo computers, with known cybersecurity vulnerabilities.¹⁷⁷ DOD lists cyberespionage, network access, and Chinese government ownership, control, and influence in its threat assessment of Lenovo computers.¹⁷⁸ Persistent sourcing from Chinese suppliers, such as Lenovo, presents serious risks to U.S. defense supply chains.¹⁷⁹

China Targets IP of Small Businesses Receiving DOD Innovation Funds

China's defense industrial base is using both licit and illicit means to acquire IP from U.S. companies funded by DOD and other departments to develop innovative products and technologies. China's defense industrial base comprises state-owned defense contractors, dual-use manufacturers, academic institutions, and quasi-private investment vehicles.* All of these players work in tandem to enable growth in China's defense industrial base through military-civil fusion programs and acquisition of foreign technologies through investments, technology transfers, IP theft, and industrial espionage, including through accessing programs supported by the U.S. government.¹⁸⁰

In May 2022, news media reported on China targeting companies participating in DOD's Small Business Innovation Research (SBIR) program in order to gain access to valuable technologies with promising defense applications.¹⁸¹ SBIR is a federally funded effort to accelerate the commercialization of innovative technologies and build domestic capacity for future defense-critical supply chains.¹⁸² The SBIR program is vulnerable to China's goals of dominating next-generation supply chains and bolstering its defense industrial base because of the program's openness to foreign, possibly compromising, capital and the dearth of information on program participants.† As Jeff Stoff, founder of Redcliff Enterprises, explained in his testimony, DOD's SBIR program and other acquisition programs across DOD lack "standard, DOD-wide capabilities and resources to conduct adequate due diligence on funding recipients pre- and post-award of a contract to assess national security risks or monitor for compliance."¹⁸³ Without more robust due diligence in place,

*A report by C4ADS describes "quasi-private investment vehicles" as funds at least partially private that are designed "to promote indigenous innovation in fields related to critical technology." C4ADS, "Open Arms, Evaluating Global Exposure to China's Defense-Industrial Base," October 17, 2019.

†According to DOD, Chinese investors have also taken interest in U.S. space startups and are using similar investment methods to have controlling influence in this burgeoning sector. In September 2021, Colin Supko, then director of DOD's trusted capital program, spoke at the Space Sector Market Conference highlighting DOD's efforts to encourage venture capital firms to undergo vetting by the department in order to receive a "clean capital" approval. As an emerging frontier of opportunity receiving billions of dollars in public and private sector investment, the space sector is particularly attractive to Chinese investors. Sandra Erwin, "DoD Trying to Keep China from Accessing Critical U.S. Space Technology," *SpaceNews*, September 30, 2021.

DOD and other federal acquisition programs are exposed to targeted investments by Chinese state-backed entities. Consequences of this gap in verification have included:

- *Collaboration with China's defense industrial base and talent programs:* In one instance, a firm receiving more than \$1 million in SBIR funding was founded by a participant in the CCP's Thousand Talents Program, providing a pathway for his research to be diverted to China's defense industrial base.¹⁸⁴ The company's founder also coauthored research papers with two of China's Seven Sons of National Defense universities as well as other State Administration for Science and Technology Industry for National Defense-run schools.*¹⁸⁵
- *Forced IP transfer:* For example, a clean energy company that developed polymer solar cells using SBIR funding dissolved in 2020 after establishing subsidiaries in Beijing and transferring its R&D.¹⁸⁶ The Beijing-based subsidiary established a partnership with the CCP-backed Chinese Academy of Sciences Institute of Chemistry at a state-run lab where it continues its R&D for national defense.¹⁸⁷
- *Foreign ownership, control, or influence (FOCI) concerns:*† Investments from China's state-directed venture capital (VC) firms may be problematic for SBIR recipients and other U.S. small businesses hoping to contract with DOD.¹⁸⁸ Under the direction of China's state entities, such VC firms may gain access to business plans and deal information and in turn influence the target company's investment decisions to China's benefit.¹⁸⁹

U.S. Defense Procurement and Industry Trends Increase Reliance on China

Fewer Providers of Defense Systems Increases U.S. Vulnerability to Supply Chain Disruptions

Contraction in the U.S. defense industrial base has led to fewer providers of defense systems and materials, lowering capacity for outputs and reducing resilience to disruptions from and dependencies on China. The defense industrial base is struggling to attract new entrants and is experiencing an overall decline in vendors. A February 2022 report by DOD found that since the 1990s “the number of suppliers in major weapons system categories has de-

*These universities are referred to as the “Seven Sons of National Defense,” which Mr. Stoff described in his testimony as a “training ground for future military leaders and technicians working on weapons systems and defense programs.” Additionally, based on information from City University of Hong Kong (CUHK) and Zhejiang University, where the firm's founder also held positions, he has been involved in more than \$90 million in federal research funding from DOD's Office of Naval Research (ONR), the Army Research Office (ARO), the Air Force Office of Scientific Research (AFOSR), and the Defense Advanced Research Projects Agency (DARPA). City University of Hong Kong, “Professor Alex Jen 任廣禹;” Jeff Stoff, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Global Supply Chains*, June 9, 2022, 5.

†The U.S. Defense Counterintelligence and Security Agency (DCSA) explains that while foreign investment plays a vital role in the U.S. industrial base, such investment should be consistent with national security interests. A company is considered to be operating under FOCI “whenever a foreign interest has the power, direct or indirect, whether or not exercised, and whether or not exercisable, to direct or decide matters affecting the management or operations of that company in a manner which may result in unauthorized access to classified information or may adversely affect the performance of classified contracts.” Defense Counterintelligence and Security Agency, *Foreign Ownership, Control or Influence (FOCI)*, July 26, 2022.

clined substantially: tactical missile suppliers have declined from 13 to 3, fixed-wing aircraft suppliers declined from 8 to 3, and satellite suppliers have halved from 8 to 4.”¹⁹⁰ This consolidation began following the Cold War as DOD’s defense budget decreased and the defense industry pursued mergers and acquisitions in order to survive the change in demand and account for substantial excess capacity.¹⁹¹ For instance, in 2020 there were about 55,000 vendors compared to 69,000 in 2016.¹⁹² Mr. Brown noted in his testimony before the Commission that “the number of small businesses in the U.S. defense industrial base shrank by more than 40 percent over the past decade.”¹⁹³ He also reiterated DOD’s warnings that if this trend continues, the United States could lose another 15,000 suppliers in the next ten years.¹⁹⁴

DOD has identified “promoting competition” as one of its top priorities for safeguarding national security and has laid out several recommendations for increasing defense industrial base competition.¹⁹⁵ These include strengthening merger oversight, addressing IP limitation, increasing new entrants to the market, increasing opportunities for small businesses, and implementing sector-specific supply chain resiliency plans.¹⁹⁶ The use of sole-source contracts due to a lack of competition presents risks should the supplier confront any disruptions to its production.* In addition to these challenges, an approach that has emphasized a cost and efficiency policy has influenced the shift in supply chains.

Consistent DOD Funding and Demand Needed to Stabilize U.S. Defense Industrial Base

The unpredictability of U.S. defense budgets creates uncertainty for manufacturers and has contributed to reliance on foreign suppliers.† While large defense contractors, or primes, may be able to absorb some of the costs associated with varying degrees of revenue, small to medium-sized manufacturers are typically strapped for capital and struggle to sustain production amid fluctuating demand and long lead times.‡¹⁹⁷ For example, the lack of consistent U.S. government purchases has strained the U.S. castings and forgings industry, which primarily consists of small businesses, and contributed to that industry’s contraction and outsourcing of production

*For example, DOD procurement offices increasingly rely on sole-source contracts that are noncompetitive procurements and allow a single supplier to avoid full and open competition. Assistant Secretary of Defense Deborah Rosenblum noted in her testimony to the Commission that “U.S. reliance on sole-source suppliers and foreign sources poses risks to domestic capability and capacity to produce the products we require.” Assistant U.S. Secretary of Defense Deborah Rosenblum, written testimony before the U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Global Supply Chains*, June 9, 2022, 2.

†Delayed appropriations disrupt U.S. defense budgets and may unintentionally stall mission-critical programs and procurements. Defense officials testified before Congress that continuing resolutions (CRs) prevent DOD from starting new contracts or programs and negatively affect military readiness. A CR, if only short term, freezes purchasing power and funding for already scheduled DOD procurements. Jim Garamone, “DOD Officials Say Service Members, Families Pay Price of Continuing Resolutions,” *U.S. Department of Defense*, January 12, 2022.

‡DOD’s procurement and acquisition lead times also limit its ability to meet U.S. defense needs. Procurement Administrative Lead Times (PALT) are currently very long and believed to be increasing. The 2018 National Defense Authorization Act defined PALT as “the amount of time from the date on which a solicitation for a contract or task order is issued to the date of an initial award of the contract or task order.” According to a Bloomberg Government study, the average lead time has increased by 72 percent since 2016. David Berteau Witness Testimony before the Senate Armed Services Committee, Health of the Defense Industrial Base, April 26, 2022. U.S. Department of Defense, Procurement Toolbox; Adrian Dannhauser, “PALT in OFPPS’s Crosshairs,” *Federal News Network*, September 30, 2021.

to China.¹⁹⁸ The remaining foundries still face unknowns in their business planning for U.S. government customers, complicating equipment upgrades, retention of talent and expertise, and other innovations necessary to stay competitive.*¹⁹⁹ Assistant U.S. Secretary of Defense Deborah Rosenblum testified that the U.S. government's volatile procurement practices create "high startup costs and limited profits for U.S. businesses" that make castings and forgings and other industries more susceptible to China's trade practices and subsidized prices.²⁰⁰

U.S. government and domestic commercial demand are insufficient to grow domestic heavy industries and incentivize production of bespoke systems like legacy microelectronics. In castings and forgings, for example, China now produces more tonnage of cast products "than the next seven highest producing countries, and over four times as much as the United States"²⁰¹ Assistant Secretary of Defense Rosenblum warned that DOD "counts on China for very large cast and forged products used in the production of some defense systems and many machine tools and manufacturing systems on which DOD is reliant."²⁰² For microelectronics, DOD relies on legacy chips, and as a report by the Center for Strategic and International Studies argues, "the volume of U.S. defense chip needs is a tiny fraction of the demand generated by the commercial market, making the small-batch supply of chips for the military unattractive for many commercial producers."[†]²⁰³

DOD's continued emphasis on COTS products has also contributed to the U.S. defense industrial base's dependencies on China for critical products and components. Following a cost-cutting directive by then Secretary of Defense William Perry in 1994, DOD began shifting toward a policy approach that prioritized commercial products over military specification (MIL-SPEC) designed items procured from defense contractors.²⁰⁴ Throughout the 1990s, the federal government implemented the Federal Acquisition Streamlining Act (FASA), which provided a broader definition of commercial products, allowing for lower lead times through the purchase of COTS items at a lower cost. As DOD notes in a 2022 report, FASA "included a preference for Commercial off the Shelf (COTS) items instead of the time-consuming and expensive process of creating government-unique items."²⁰⁵ Over the last 30 years, DOD has increasingly used commercial items, including electronics, largely manufactured in China. DOD reporting explains that "since 2011, commercial items have consis-

*Additionally, tariffs on raw materials have increased costs on U.S. cast and forged parts, driving suppliers out of business as they try to compete with cheaper, government-subsidized parts made in China. U.S. Department of Defense, *Securing Defense-Critical Supply Chains*, June 9, 2022, 27.

†Since the mid-1990s, DOD's Trusted Foundry or Trusted Supplier program has supported resiliency in manufacturing infrastructure utilized by DOD by securely procuring microelectronics from trusted suppliers. Defense Microelectronics Activity manages the Trusted Foundry program and provides accreditation for suppliers of IC-related products and services for military use. However, in recent years, DOD has moved away from the trusted foundry approach to a zero-trust approach for microelectronic procurement that assumes all products are unsafe for use until proven otherwise. DOD has also established other measures to combat the flow of counterfeits into defense-critical supply chains, including the Supply Chain Hardware Integrity for Electronics Defense (SHIELD) program that works to address the issue of counterfeit microchips in military technology. DOD has also trialed other ways to identify legitimate parts in the supply chain and distinguish them from counterfeits through forensically labeling electronics using plant DNA. Defense Microelectronics Activity, *Trusted Access Program Office*, 2022; Kyle Mizokami, "The Pentagon Uses Plant DNA to Catch Counterfeit Parts," *Popular Mechanics*, November 21, 2016.

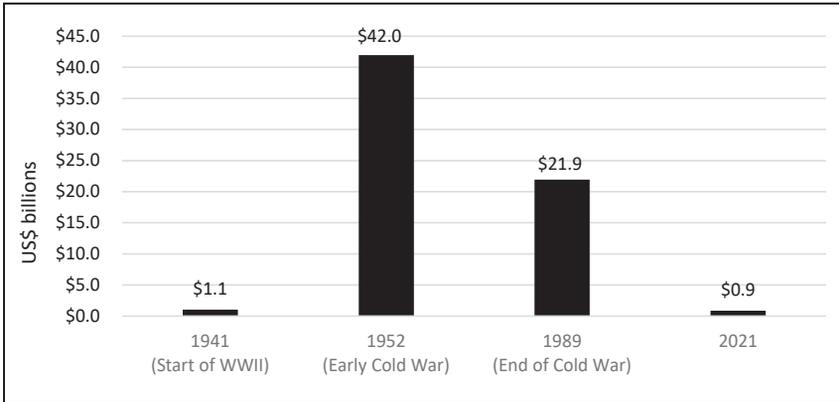
tently accounted for over 88% of new awards (and as high as 98% of new awards) across DoD.”²⁰⁶ As DOD has continued to emphasize a COTS procurement policy, it has created clear demand signals for commercial items, like electronics, with supply chains that rely heavily on Chinese products that were the subject of manufacturing consolidation in China. Simultaneously, Chinese industrialization promoted “high volume, low cost, export-oriented production” that catered well to U.S. procurement interests.²⁰⁷ Ms. Bisceglie noted that now “over 95 percent of all electronics components and IT systems supporting U.S. federal IT networks are commercial off-the-shelf (COTS) products, and China’s role in this global supply network is significant.”²⁰⁸ An overreliance on COTS equipment may compromise the operational integrity of U.S. armed forces should the commercial alternatives to MIL-SPEC items remain reliant on Chinese manufacturers.

Inconsistency in federal buying also disincentivizes industry to stockpile or provide materials or manufacturing capacity to meet surges in demand. The Defense Production Act (DPA) helps prioritize the resupply of critical defense goods, but it does not account for the speed at which industry can react to new DPA issuances.*²⁰⁹ Industry does have a history of responding quickly in wartime, namely during World War II, to expedite the production of defense goods, but the manufacturing ecosystem and available weapons stockpile in the United States looks much different today than in the 1940s or throughout the 1950s at the start of the Cold War (see Figure 2 showing the value of U.S. stockpiles peaking in 1952 but since declining).²¹⁰ Private defense firms, and the sub-tier suppliers they rely on, largely operate on a “just-in-time” supply chain model to minimize costs and maximize profits, but this model is highly vulnerable to disruptions, lacking a sufficient safety net or stockpile in place to handle surge capacity.†²¹¹ Consequently, many U.S. businesses do not have excess supplies, and without stockpiles they are susceptible to disruptions in their supply chain and unable to surge capacity.²¹² Today’s defense industry relies on a limited number of Tier I firms that source from a limited number of subcontractors.‡²¹³ With the closing of many manufacturing facilities, the remaining infrastructure and skilled workforce are limited and may be unable to ramp up production to meet surges in demand.

*The DPA has been increasingly used in the last several years to address supply chain vulnerabilities through allocating funds to increase production and supply chain resilience in key areas. The DPA was first enacted at the beginning of the Korean War to mobilize military readiness efforts and ensure critical resources were available for use. Since then, its scope has expanded beyond military readiness to include broad domestic capabilities for national emergencies. Anshu Siripurapu, “What Is the Defense Production Act,” *Council on Foreign Relations*, December 22, 2021.

†In a “just-in-time” supply chain model, a product is assembled only after it is ordered. Robert Victor, “How Just-in-Time Delivery Affects Supply Chain Management,” *Hollingsworth*, August 27, 2018.

‡A supply chain consists of multiple suppliers or “tiers and sub-tiers” that provide the materials to build the product. For example, a tier three supplier sells its product to a tier two supplier that sells its product to the tier one supplier, or “prime,” which often assembles the final product for the buyer.

Figure 2: Inflation-Adjusted Value of U.S. Stockpile Inventory since 1941

Source: Maiya Clark, “Revitalizing the National Defense Stockpile for an Era of Great-Power Competition,” *Heritage Foundation*, January 4, 2022.

The war in Ukraine has highlighted the capacity and military readiness challenges resulting from unpredictable DOD procurement practices. As of May, the United States has sent about one-third of its stockpiles of Javelin and one-fourth of its Stinger missiles to Ukraine.²¹⁴ Just two U.S. companies produce these weapons, and DOD has not bought any new Stingers in almost 20 years.²¹⁵ The defense prime responsible for building the shoulder-fired Stinger missiles said the company is unable to accelerate production of more missiles until 2023 due to parts shortages.²¹⁶ In May 2022, DOD issued \$309 million in contracts for a new JV with two primes to backfill U.S. stocks affected by the Ukrainian aid.²¹⁷ While stockpiles will recover over time, operational readiness will be affected in the near term. DOD has recommended that industry move away from “just-in-time” delivery practices, especially for critical parts or components sourced from foreign suppliers, like China.²¹⁸ While not all capacity and surge issues are directly linked to Chinese suppliers, the broader challenge of weak U.S. production capacity creates strategic problems that may compromise U.S. deterrence capabilities should weapons, munitions stockpiles, and other needed supplies continue to be depleted, and could threaten the U.S. ability to wage a protracted conflict.

Strategies and Approaches to Address China’s Challenges to U.S. Supply Chains

Like-minded nations are increasingly seeking to restructure supply chains in a manner conducive to building economic security, an umbrella concept that broadly aims to “promote economic growth and competitiveness, protect national security, and shape the international economic environment.”²¹⁹ A core goal of U.S. economic security is working with allies and partners to mitigate shared vulnerabilities to China, which can be accomplished by ensuring supply chains are increasingly located in nations that commit to high standards, demonstrate reliability and transparency, and adhere to a set of shared values. Increasing coordination between the United States

and its allies and partners poses the possibility that national security, supply chain resilience, and technological competitiveness can be pursued all at once as part of a broad economic security approach with both unilateral and multilateral elements. Toward these ends, as global supply chain realignment efforts intensify, there are several strategies that may be pursued, including reshoring, nearshoring, and friendshoring. This section assesses the costs and benefits of each strategy and notes ongoing initiatives related to each.

Supply Chain Realignment Strategies

Reshoring

The strategy of reshoring involves inducing key nodes in supply chains to relocate back to the United States. Reshoring is tantamount to a strategy to restore U.S. industrial prowess and manufacturing competitiveness while reducing the U.S. economy's reliance on foreign manufacturers. Reshoring entire production lines limits geopolitical vulnerabilities by removing international links in a supply chain that may be exposed to a disruption during a crisis event or conflict. By bringing critical manufacturing capabilities onshore, manufacturers can further reduce transportation costs and the risk of IP theft through illicit technology transfers. In testimony before the Commission, Harry Moser, president of the Reshoring Initiative, estimated that reshoring by U.S. companies and direct investment in U.S.-based operations by foreign companies created 260,000 jobs in 2021, increasing from 6,000 in 2010.²²⁰

Compared to nearshoring and friendshoring, reshoring would require intensive government policies to incentivize companies to return to the United States, where manufacturers face higher operating costs. Although the cost gap of producing in China compared to domestically in the United States has declined due to rising Chinese labor cost in many sectors, the average Chinese factory price remains 30 percent lower than the U.S. factory price.²²¹ Mr. Moser suggests that policies to promote reshoring include subsidies, support for workforce skills training, tariffs, and a coordinated industrial strategy.²²² U.S. businesses can also be encouraged to factor in the lifecycle costs of offshoring, which can be facilitated through information sharing and reporting on risks facing U.S. businesses operating in countries of concern. Such information could enable businesses to better assess the costs and risks of operating in a foreign market, such as variable product quality, freight costs, natural disasters, and political instability.²²³ For example, the Commerce Department provides a toolbox of public and private resources to assist businesses in calculating the costs of locating production overseas versus reshoring to the United States.*²²⁴

The U.S. government reshoring efforts have focused on supply chains for critical materials and technologies. The Biden Administra-

*The Access Costs Everywhere webpage published by the Commerce Department collects reports on risks for U.S. businesses to consider when offshoring production and provides links to other government and private sector resources and tools. For example, Access Costs Everywhere directs companies to estimate the Total Cost of Ownership (TCO) of offshoring, which aggregates all cost and risk factors associated with basing operations in a foreign country. Mr. Moser explained that industries or products where the TCO is lower in the United States are ripe for reshoring. Harry Moser, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Global Supply Chains*, June 9, 2022, 6; U.S. Department of Commerce, *Access Costs Everywhere*.

tion views government intervention to guide the location of supply chains and industrial bases as necessary to address threats to U.S. economic resilience and national security, a goal that was advanced by legislation in 2022.²²⁵ The Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 appropriates \$52.7 billion over five years to support domestic semiconductor manufacturing. The funds will be used to finance domestic construction, expansion, or modernization of semiconductor facilities; support workforce development; and subsidize operating costs of these facilities.²²⁶ The act prohibits recipients of the funds, over a ten-year period, from expanding or building new advanced semiconductor manufacturing facilities in China or any other foreign country of concern.*²²⁷ The Inflation Reduction Act of 2022 creates production tax credits worth \$30 billion over the next ten years to support U.S.-based clean technology manufacturing of electric vehicle batteries, wind turbines, solar panels, and critical minerals.²²⁸ To be eligible for the credit, the bill requires that a majority of the components are sourced from the United States.† Critical minerals are also eligible for the credit if they are sourced from any country with which the United States has a free trade agreement. The bill provides over \$60 billion in total support for reshoring clean energy manufacturing, including investment tax credits and loans for new manufacturing facilities. Such measures could be used to build domestic industrial capacity and address other supply chain vulnerabilities facing the U.S. economy.

The United States currently lacks the capacity to replicate China's expansive industrial ecosystem, and this may make it prohibitively costly for certain businesses, absent perpetual government support, to move back to the United States. The United States has fallen substantially behind China in terms of production capacity.²²⁹ Some key sectors may not be able to immediately replicate supplier networks domestically, particularly with respect to supplies of raw materials. Boston Consulting Group finds that the United States lacks self-sufficiency in 18 critical inputs used in high-technology manufacturing, and many U.S. producers are reliant on suppliers in China.²³⁰ In many U.S. industries, the domestic talent base has shrunk or nearly disappeared as production moved overseas and demand for certain skillsets disappeared. Since the decline in the U.S. industrial base helped create these gaps in the U.S. manufacturing ecosystem, moving more manufacturing back into the United States may stimulate demand for these factors and encourage the creation of a more optimal business environment for manufacturing. Other factors, such as proximity to key suppliers and markets in Asia, cannot similarly be overcome and may create long-term cost disadvantages when reshoring. Additionally, U.S. policies to promote domestic manufacturing, such as procurement policies for non-defense

*This prohibition does not extend to expansion of legacy semiconductor production capacity in China, however, so long as it "predominately serves the market of a foreign country of concern." For the purposes of the legislation, legacy semiconductors are defined as 28 nanometers for logic chips, with legacy memory technology, analog technology, packaging technology, and any other relevant technology to be determined by the Secretary of Commerce, in consultation with the Secretary of Defense and the Director of National Intelligence. Supreme Court Security Funding Act of 2022 § 103, Pub. L. No. 117-167, 2022.

†The domestic content requirements will phase in over time and vary by final product. For example, for an electric vehicle to be eligible for the tax credit, 50 percent of the components in the battery need to be produced in the United States for vehicles placed in service in 2024. This ratio rises to 90 percent by 2028. Inflation Reduction Act of 2022, H.R. 5376, August 15, 2022.

goods, may encourage other economies to impose similar measures, which could limit the export opportunities for U.S. businesses.²³¹ As some have argued, reshoring, by reducing the United States' interdependence with other countries and making the U.S. economy more insular, may weaken the United States' ability to conduct economic statecraft and may create new geopolitical vulnerabilities.²³²

Nearshoring

Nearshoring refers to the relocation of production and manufacturing capacity to a country neighboring or near the United States.²³³ In reducing geographic distances between producers and end consumers, nearshoring serves as an intermediate strategy between moving back entire production lines (reshoring) versus keeping them in China.²³⁴ For the United States, Canada and Latin American and Caribbean countries serve as principal nearshoring locations. According to a 2021 survey of U.S. business executives by consultancy AT Kearney, 70 percent of CEOs have already planned, are considering, or will be nearshoring part of their manufacturing operations to Mexico, with top five drivers being labor cost differentials, labor availability, quality, delivery lead time, and logistics costs.²³⁵ Executives also report they would more closely consider near- and/or reshoring if they saw their competitors make similar choices.^{*}²³⁶ Such shifts may also be attributable to concurrent global economic developments. Peter Anderson, vice president of global supply chain at logistics firm Cummins Inc., observed that a growing number of multinational enterprises are likely to consider regionalizing production around key markets[†] against the backdrop of U.S.-Mexico-Canada Agreement renegotiations in 2017 and escalations in U.S.-China trade frictions since 2018.²³⁷

Scholars observe that nearshoring offers lower labor and production costs than reshoring, lower transportation costs than offshoring, and quicker responses to market changes and consumer preferences.²³⁸ Goods produced in the near-abroad may also utilize a higher proportion of U.S. inputs, indirectly boosting U.S. domestic manufacturing output. These goods would also be less geopolitically exposed than in East Asia, where China could interdict or exert control over supply chains. Business executives point to nearshoring as an effective strategy to boost their supplier base and bolster resilience.²³⁹

Encouraging nearshoring may nevertheless exacerbate offshoring and undercut domestic industrial capacity. Some nearshoring strategies taken by companies still entail manufacturing in Asia, with only final assembly moved closer to consumers.²⁴⁰ In the wake of U.S.-China trade frictions and the COVID-19 pandemic, U.S. and other multinational firms have relocated only discrete portions of

^{*}U.S. firms appear to be unique in expressing this more favorable attitude toward nearshoring. A separate World Bank survey of multinational enterprises in 2020 found 37 percent and 18 percent of companies were diversifying their sourcing and production bases, respectively, in response to the COVID-19 pandemic. Only a small share (14 percent) planned to nearshore or reshore. Christine Zhenwei Qiang, Yan Liu, and Victor Steebergen, "Global Value Chains in the Time of COVID-19 (Coronavirus)," in *An Investment Perspective on Global Value Chains*, World Bank, 2021, 206.

[†]A July 2019 special report in the *Economist* explored some of these trends. In the automotive sector, for example, production has become more regionalized around Mexico to serve North American consumers, eastern Europe and Morocco to serve European consumers, and Southeast Asia and China for Asian consumers. *Economist*, "Supply Chains for Different Industries Are Fragmenting in Different Ways," July 11, 2019.

production out of China and toward other emerging markets in the Indo-Pacific as part of a “China + 1” strategy, not geographically closer to the United States.²⁴¹ According to research from Bank of America, the cost to U.S. and European companies of moving manufacturing out of China could reach \$1 trillion over the next five years, a hefty expense as the pandemic strains corporate finances and crimps investment.²⁴² Aside from cost, U.S. firms face other challenges in nearshoring production from China, including transportation, logistics, and supply arrangements.

Friendshoring

Friendshoring is a supply chain realignment strategy that would strive to induce supply chains to relocate into economies of treaty allies or trusted partner countries; it is sometimes defined more broadly as to include all free trade agreement countries. This strategy would take as its aim removing to the greatest practical extent adversarial countries from critical supply chains. It is inclusive of, though broader than, nearshoring. According to Elain Dezinski, senior director and head of the Center on Economic and Financial Power at the Foundation for Defense of Democracies, and John Austin, nonresident senior fellow at the Brookings Institution, friendshoring “means leaning into economic partnerships with those who share our values and strategic interests. It means rebuilding our economy with nearby friends with whom we already have tightly wound production and business service networks.”²⁴³ In effect, a friendshoring strategy would approximate a return to U.S. international economic policy in the decades following World War II—with the Marshall Plan being the most prominent example—by favoring the development of production and supply networks in and through allied and partner nations.

Current Friendshoring Initiatives

The economic and national security logic undergirding a friendshoring strategy has already seeded a proliferation of initiatives and partnerships. In 2022, the G7 met and agreed to release “unprecedented language acknowledging the harms caused by the People’s Republic of China’s (PRC) non-transparent, market-distorting industrial directives” and elevate the importance of supply chain resilience.²⁴⁴ G7 leaders agreed to “make a commitment to intensify development of responsible, sustainable, and transparent critical minerals supply chains and establish a forward strategy that takes into account processing, refining and recycling.”²⁴⁵ In October 2021, the United States led a Summit on Global Supply Chain Resilience with the EU and 14 like-minded countries* to “chart a course to strengthen and diversify the entire supply chain ecosystem over the long term.”²⁴⁶ In late 2021, countries in the Quadrilateral Security Dialogue agreed to improve supply chains for critical technologies as well as rare earths, with Australia, Japan, and India planning to cooperate jointly on mining and processing of minerals.²⁴⁷

*The summit included “leaders and representatives from Australia, Canada, Democratic Republic of the Congo, the European Union, Germany, India, Indonesia, Japan, Mexico, Italy, Republic of Korea, Netherlands, Singapore, Spain, and the United Kingdom.” White House, *FACT SHEET: Summit on Global Supply Chain Resilience to Address Near-Term Bottlenecks and Tackle Long-Term Challenges*, October 31, 2021.

Japan is further leading in supply chain initiatives that dovetail with a friendshoring strategy. Domestically, Japan established a first-ever ministerial post for economic security, and in May 2022 it passed a new Economic Security Law designed to bolster supply chains and protect technology in the face of increasing concerns about China.*²⁴⁸ The United States and Japan are undertaking initiatives in this vein as well. In a July 2022 meeting between U.S. policymakers and Japanese businesses, the two sides specifically discussed “bolstering supply chain resiliency and expanding friendshoring.”²⁴⁹ In April 2021, the United States and Japan announced a Competitiveness and Resilience Partnership, which would “revitalize [their] Alliance” through pledges to work jointly on competitiveness and innovation, develop ICT systems, and cooperate “on sensitive supply chains, including semi-conductors, and on the promotion and protection of critical technologies.”²⁵⁰ This resulted in the Japan-U.S. Commercial and Industrial Partnership, which had its first meeting between U.S. Commerce Secretary Gina Raimondo and Japanese Minister of Economy, Trade, and Industry Hagiuda Koichi in May 2022. That meeting included “Joint development of Basic Principles on Semiconductor Cooperation, which identify a shared vision, objective, and strategy for strengthening the resiliency of semiconductor supply chains.”²⁵¹ The U.S.-Japan Economic Policy Consultative Committee is another forum the countries are using to facilitate “closer collaboration on supply chain resilience.”²⁵²

The United States is also working with Taiwan and the EU on similar initiatives that are intended to secure critical supply chain threats from China. In December 2021, the United States and Taiwan launched the Technology Trade and Investment Collaboration framework to strengthen critical technology supply chains, particularly with respect to semiconductors.²⁵³ Meanwhile, in June 2021 the United States and the EU announced the U.S.-EU Trade and Technology Council (TTC) as a forum to push forward a number of priorities, prominently including supply chain cooperation.²⁵⁴ Following the second meeting of the TTC in May 2022, the two sides released a joint statement resolving “to collaborate to reduce dependencies on unreliable sources of strategic supply, promote reliable sources in our supply chain cooperation, and engage with trusted partners” while recognizing “shared vulnerabilities to critical supply chains for semiconductors, critical minerals, clean energy, and pharmaceuticals.”²⁵⁵

Advantages and Disadvantages of Friendshoring

Although initiatives and partnerships akin to friendshoring are already underway, analysts and stakeholders disagree on the potential merits and limits of friendshoring. Those promoting the merits of friendshoring argue it can bolster U.S. and allied economic security, reduce supply chain dependencies on China, limit China’s ability to exploit technology supply chains, and blunt China’s ability to weaponize and extend its economic heft. As a realignment strategy,

*In 2020, Japan earmarked \$2.2 billion of its COVID-19-related economic stimulus package to subsidize Japanese companies to shift production out of China, with the majority allocated to reshoring to Japan and the remaining allocated for moving to other countries. Isabel Reynolds and Emi Urabe, “Japan to Fund Firms to Shift Production Out of China,” *Bloomberg*, April 8, 2020.

multilateral cooperation could also mitigate costs while increasing sourcing options relative to reshoring and nearshoring. Further, a friendshoring strategy could conceivably bolster a shared innovation base, as the Center for a New American Security has recommended, preserving to the largest extent possible the benefits of globalization and hastening the rate of technological advancement among liberal market democracies and trusted partners relative to China.²⁵⁶ Friendshoring could thus bolster cohesion among countries that share values and adhere to high standards and could conceivably be part of a broader economic adjustment in response to China's malign practices (for more on U.S. and multilateral efforts in this vein, see Chapter 2, Section 2, "Challenging China's Trade Practices").

Those skeptical of friendshoring note several potential downsides of the strategy. Some, such as former governor of the Reserve Bank of India Raghuram Rajan, see friendshoring as "abandoning free and fair trade" and thus functioning as a potential drag on global growth that will contribute to economic balkanization.²⁵⁷ Meanwhile, those that prefer reshoring assess that friendshoring may not deliver equivalent restorative benefits to the U.S. manufacturing base.²⁵⁸ As a result, far-flung supply chain structures will persist. This could be particularly concerning in the case of industries, such as semiconductors, concentrated in U.S. allies and partners in East Asia that remain dangerously exposed to geopolitical interference from China.

Implications for the United States

The United States currently has significant dependence on China for certain supplies, like APIs, rare earth elements, and electronics, among other things that are vital for U.S. economic and national security. While China continues utilizing its supply chain leverage to yield favorable economic outcomes, it continues to build additional leverage for influencing economic constituencies and effecting policies in the United States. Although the United States maintains a measure of leverage over China as a result of its economic dependencies on the United States, increasing critical supply chain dependencies further weakens U.S. deterrence capabilities. Beijing's ability to weaponize U.S. supply chain dependencies not only threatens U.S. defense capabilities but may also undermine the will of the American people to support U.S. policy decisions in peacetime, or more concerningly, in wartime.

The CCP is bolstering its supply chain advantages and at the same time seeking to mitigate its longstanding concerns over technological dependences and vulnerabilities. These dual efforts, encapsulated in Beijing's dual circulation strategy, aim to make China more self-reliant while at the same time rendering others more dependent on China. The CCP's confidence in its ambitions, combined with concerns about its own vulnerabilities, is leading to a more pronounced push to acquire or augment advantageous positions across the stages of key global supply chains. This strategy poses a set of interlocking challenges to U.S. economic security, health security, national security, and the broader liberal trade order.

The CCP's supply chain objectives and its willingness to coerce other countries with economic means necessitate action by the U.S.

government to increase resilience in critical supply chains. DOD and its contractors lack a comprehensive framework, sufficient supply chain data, and due diligence processes to mitigate threats of supply chain disruptions or compromise by Chinese suppliers. DOD spending and procurement practices exacerbate these problems as the defense industrial base continues to consolidate the number of suppliers and disincentivize resilience measures like maintaining excess capacity and strategic stockpiles. The delays DOD faces in replenishing weapons sent to Ukraine is a warning of how these challenges can hinder military readiness and the defense industrial base's ability to surge production capacity.

While the advantages and obstacles to supply chain security strategies like reshoring, nearshoring, and friendshoring are under discussion, there is a common goal among the United States and like-minded partners to mitigate shared vulnerabilities to China. In addition to greater supply chain transparency, any supply chain restructuring initiative will also require demand-side draw and more consistent demand. As Mr. Kleinhans wrote in his testimony, if supply chain restructuring efforts are “mainly based on governments ‘pushing’ in contrast to end-customer industries ‘pulling,’ the efforts are destined to fail in the long term.”²⁵⁹ Restructuring global supply chains will not occur overnight but rather will require a long-term strategy for returning high-value chains to trusted suppliers.

Appendix I: U.S.-China Supply Chain Competition in Semiconductors

This section provides a case study of U.S. semiconductor supply chains, analyzing the threat China poses and potential mitigation opportunities. This discussion is intended to demonstrate how the strategies identified above can tangibly inform supply chain realignment endeavors.

Semiconductors

Overview

Semiconductors, also called integrated circuits (ICs) or chips, undertake the information processing and data storage that enables modern cars, planes, and all consumer electronics (e.g., phones and laptops) to function. Semiconductors are arguably the most foundational aspect of the modern information technology ecosystem. They are thus of critical importance to the U.S. economy, to consumers, and to the U.S. innovation base. Total sales of semiconductors ballooned during the COVID-19 pandemic to facilitate the transition to the virtual world, shooting up from \$412 billion in 2019 to \$556 billion in 2021.²⁶⁰

As an industry, semiconductor production is distinctive in the high level of investment in both research and development and capital expenditure.²⁶¹ Semiconductors come in many types, but this section will touch on the two most prominent: logic and memory.* Logic and memory chips account for the lion's share of sales, at an estimated \$155 billion and \$154 billion in 2021, respectively.²⁶² Logic chips are responsible for undertaking the calculations necessary to power the applications on an individual's laptop, phone, car, and other electronics. When people speak of cutting-edge chips of 3–7 nanometers (which refers to the width of an etched transistor on a silicon wafer), they are talking about logic chips. Producing high-end logic chips is among the most complex and technologically advanced undertakings in the world. Memory chips, as the name suggests, are the devices that store the world's digital data, both in edge devices (i.e., phones and laptops) as well in the data centers that comprise "the cloud."

The semiconductor value chain is normally broken into three broad steps: design, manufacturing, and final assembly, packaging, and testing (APT). There are, furthermore, two main business models in the semiconductor industry for undertaking these production steps: the integrated device manufacturer (IDM) model and the "fabless-foundry model." The IDM model entails vertical integration across design, manufacturing, and APT. It is less prominent in advanced logic chip production (with Intel being a major exception) and more common among makers of memory chips. The "fabless-foundry model," meanwhile, entails specialization between "fabless" design companies working with pure-play manufacturing companies called "foundries" and is most common in the more complex production process for leading-edge (3–7 nanometer) logic chips.† The complex-

*Optoelectronics, sensors, and discrete (OSD) semiconductors also play an important role.

†A "fab" refers to a fabrication facility and is inclusive of all types of manufacturing facilities, including foundries. A foundry, however, specifically refers to a type of fab that manufactures chips designed by other companies. TSMC is the quintessential example of a foundry business.

ity and deep technical expertise required to produce semiconductors, coupled with the rise of globalization, has accentuated the importance of the fabless-foundry model and given rise to the even more general phenomenon of “massive modularity,”* or a highly fragmented production process. The modularity in semiconductor production, in turn, has facilitated geographical specialization, with East Asia broadly concentrating in manufacturing and APT and the United States concentrating in design.²⁶³

Exposure to China

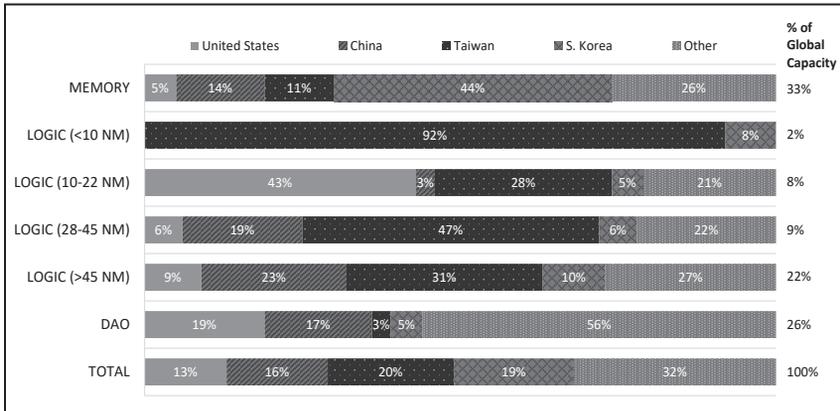
There are four critical areas of exposure to China with regard to semiconductors that require consideration. First, extensive U.S. reliance on East Asia for semiconductor manufacturing exposes the United States to potentially grave geopolitical and military risk from China (see Figure 3). The United States also has capacity gaps in other key material inputs that are concentrated in East Asia, most notably silicon wafer production capacity, for which the United States has hardly any capacity.[†]²⁶⁴ A variety of other specific and highly refined solvents, gases, wet chemicals, and substrates for which the United States currently lacks domestic supply are produced overseas, many in East Asia.²⁶⁵ Second, lack of visibility is a key vulnerability in the semiconductor supply chain, particularly for materials like gases and solvents. Third, the United States faces exposure to backdoor vulnerabilities from integrated circuits that undergo final assembly, packaging, and testing in China.²⁶⁶ Fourth, the U.S. semiconductor industry’s relationship to China’s semiconductor ecosystem may pose a risk, as exports of semiconductor manufacturing equipment to China and U.S. licensing of chip designs to Chinese firms may undermine the United States’ ability to ensure that China’s advances lag behind its own (for more on recent U.S. export controls targeting China’s semiconductor ecosystem, see Chapter 2, Section 2, “Challenging China’s Trade Practices”).²⁶⁷

U.S.-headquartered Global Foundries, owned by the United Arab Emirates sovereign wealth fund Mubadala Investment Company, is another. Intel, which had previously built fabs solely as an IDM, is now moving into the foundry business as well. Cheng Ting-Fang and Lauty Li, “Intel to Make Chips for MediaTek in Win for Its Foundry Strategy,” *Nikkei Asia*, July 25, 2022.

* Massive modularity in production entails a suite of common traits in a value chain: (i) facets of production are fragmented but interconnected with each other according to standard interfaces; (ii) innovation can take place independently in each module, as long as the interface standard is adhered to and continually updated; and (iii) they can be broken down into smaller, more specialized modules, each with its own evolving standards, replicating the modular pattern at progressively deeper levels. Eric Thun et al., “Why Policy Makers Should Pay Attention to the Concept of Massive Modularity: The Example of the Mobile Telecom Industry,” *World Bank Blogs*, June 18, 2021.

† GlobalWafers, a Taiwan-based design and manufacturing company, announced plans in 2022 to build a \$5 billion silicon wafer fabrication facility in the United States, the first of its kind to be built in the United States in more than two decades. Production is anticipated to begin in 2025. Akayla Gardner and Debby Wu, “Taiwan’s GlobalWafers to Build \$5 Billion Chip Plant in Texas,” *Bloomberg*, June 27, 2022.

Figure 3: Global Distribution of Semiconductor Manufacturing Capacity by Region, 2019



Source: Antonio Varas et al., “Strengthening the Global Semiconductor Supply Chain in an Uncertain Era,” *Boston Consulting Group and Semiconductor Industry Association*, April 2021.

China, despite decades of attempted catchup and hundreds of billions of dollars in subsidies, is still weakly positioned across most aspects of the semiconductor supply chain.²⁶⁸ Yet there are indicators of forward progress. Based on average over the four quarters ending in March 2022, 19 of the world’s 20 fastest-growing chip industry firms came from China, according to Bloomberg data, compared with just 8 at the same point in 2021.²⁶⁹ China’s largest state-subsidized memory chip maker, Yangtze Memory Technology Corporation (YMTC), is now reportedly selling the world’s densest NAND memory chips, acquiring roughly 5 percent of global market share, with Apple reportedly planning to use YMTC’s chips.²⁷⁰ Most recently, China’s largest state-subsidized foundry, Semiconductor Manufacturing International Corporation (SMIC), has reportedly begun producing integrated circuits with 7-nanometer process nodes.²⁷¹ While critical questions remain on their ability to effectively scale production,[†] even if China does not come to lead in cutting-edge chip production, it may still acquire a strong position in legacy chips used in applications such as automotive navigation systems, leading to new sources of vulnerability and market manipulation.

*An interim final rule issued on October 7 by the Commerce’s Bureau of Industry and Security adds licensing requirements, under a presumption of denial, that will likely restrict U.S. semiconductor manufacturing equipment makers from selling certain advanced equipment to YMTC. U.S. Department of Commerce Bureau of Industry and Security, “Implementation of Additional Export Controls: Certain Advanced Computing Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification,” *Federal Register* 87:62186 (October 13, 2022).

†The most important metric in question is yield, or the proportion of dies (the individual integrated circuits on a wafer) that are functional. Producing several thousand chips at a 7-nanometer node process would be noteworthy, but it is also qualitatively distinct from mass producing millions of chips at the node process. Given SMIC’s lack of access to ASML’s extreme ultraviolet lithography (EUV) technology, SMIC has likely had to rely on less-advanced deep ultraviolet lithography (DUV) immersion equipment. Experts are skeptical that the yield from SMIC’s process is particularly high. Max A. Cherney, “Experts Raise Eyebrows at Claims China Has Successfully Deployed Advanced Chipmaking Technology at Scale,” *Protocol*, July 24, 2022.

Mitigation Opportunities

The risks identified above, in conjunction with the semiconductor industry's importance to the U.S. economy and national security, have led some policymakers to conclude that reshoring manufacturing capacity is the only viable path toward resilience. Commerce Secretary Raimondo, for example, recently remarked that “the fact that we’re buying two thirds of our chips from Taiwan and these are the chips we need to keep Americans safe and secure—we’ve got to make those in America, period.” She asserted, “It is a huge national security issue and we need to move to making chips in America, not friendshoring.”²⁷² Other analysts however, believe friendshoring is a necessary part of the solution, as indigenizing the entire semiconductor supply chain would be infeasible. Mr. Kleinhans testified before the Commission that “[m]aking chips without relying on allyshoring for front-end or back-end manufacturing would not strengthen the United States’ resilience or be economically viable.”²⁷³ A number of initiatives have been established with friends and allies, including between the United States, Japan, Taiwan, and the EU. The Quad, for example, has launched a joint initiative to “map capacity, identify vulnerabilities, and bolster supply chain security for semiconductors and their vital components.”²⁷⁴

The United States is exploring a number of options to realign global fabrication capacity. Initial efforts have focused on incentivizing reshoring leading-edge fabrication capacity via the Creating Helpful Incentives to Produce Semiconductors for America (CHIPS) Act, which has already encouraged Samsung and TSMC to build capacity in Taylor, Texas, and Phoenix, Arizona, respectively. At the same time, Intel is working on expanding fabrication capacity in Columbus, Ohio. Multilateral friendshoring initiatives are also underway, as the United States has forged initiatives with Japan, Taiwan, and the EU to cooperate on semiconductor supply chain realignment in this area. As the White House’s 100-day Supply Chain Review notes, however, “[t]he biggest challenge to increasing domestic semiconductor production is cost, both absolute and relative to other countries” and “[t]he most critical factors for determining the best location to manufacture semiconductors include synergies with an existing semiconductor ecosystem/footprint, access to skilled talent, protection for intellectual property, labor costs, and government incentives.”²⁷⁵ With most capacity located in South Korea and Taiwan, diversifying concentration of manufacturing out of East Asia may be a costly yet necessary measure to mitigate the threat of disruption from Chinese aggression.

Appendix II: The U.S. Government's Recent Supply Chain Actions

In the last several years, the federal government has taken a number of steps to begin identifying where the United States is most import-dependent for critical goods and the subsequent vulnerabilities and risks that have resulted from reliance on foreign suppliers, like China. This Appendix provides a list of recent actions aimed at addressing U.S. supply chain security concerns.

Executive Order 14017—On February 24, 2021, U.S. President Joe Biden signed Executive Order (EO) 14017 on *America's Supply Chains* to ensure economic prosperity and national security. The EO required 100-day industrial reviews from seven government agencies. It also required a sectoral report, one year after the order, from each agency to evaluate the state of U.S. supply chains relevant to the agency's mandate. Below are the focus areas of each agency's one-year report:²⁷⁶

Sectoral Report Focus Areas:

- Department of Energy Report on the Energy Industrial Base—*America's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition*
 - DOE conducted 13 deep-dive supply chain assessments, including on silicon solar cells, semiconductors, and clean hydrogen.
- Department of Transportation Report on the Transportation Industrial Base—*The Freight and Logistics Supply Chain Assessment*
 - Freight infrastructure
 - Data on supply chain performance
 - Technical assistance
- Department of Agriculture Report on the Production and Distribution of Agricultural Commodities and Food Products—*Agri-Food Supply Chain Assessment: Program and Policy Options for Strengthening Resilience*
 - Transportation bottlenecks
 - Food production challenges
 - Industry consolidation, particularly in processing and distribution
 - Ecological risks
 - Trade-related disruptions
- Department of Health and Human Services Report on Public Health and Biological Preparedness Industrial Base—*Public Health Supply Chain and Industrial Base*
 - Personal protective equipment
 - Durable medical equipment
 - Testing and diagnostics

- Pharmaceuticals, including therapeutics and APIs
- Department of Commerce and Department of Homeland Security Report on Information Communications Technology—*Assessment of the Critical Supply Chains Supporting the U.S. Information and Communications Technology Industry*
 - Communications equipment
 - Data storage
 - End-user devices
 - Critical software with dependencies on the enabling hardware including firmware and open-source software
- Department of Defense Report on the Defense Industrial Base—*Securing Defense-Critical Supply Chains*
 - Kinetic capabilities
 - Energy storage and batteries
 - Castings and forgings
 - Microelectronics

Other Supply Chain EOs and Agency Efforts:

- **Executive Order 14005**—*Ensuring the Future Is Made in All of America by All of America’s Workers*. On January 25, 2021, President Biden issued EO 14005 to use federal funds to maximize the use of goods, products, and materials produced in, and services offered in, the United States. The EO allows agencies to grant waivers for the procurement of goods not produced in the United States as long as “detailed justification” is provided.²⁷⁷
- **Executive Order 14036**—*Promoting Competition in the American Economy*. On July 9, 2021, President Biden released EO 14036, which establishes that it is the policy of the Administration to combat the excessive concentration of industry. Among other things, the EO establishes the White House Competition Council and directs the secretary of defense to submit to the council a review of the state of competition in the defense industrial base.²⁷⁸
- **Trump Executive Order 13817**—*Ensuring Secure and Reliable Supplies of Critical Minerals*. On December 20, 2017, then President Donald Trump issued EO 13817 to develop a federal strategy to reduce U.S. vulnerability to disruptions in the supply of critical minerals.²⁷⁹
- **Trump Executive Order 13953**—*Addressing the Threat to the Domestic Supply Chain from Reliance on Critical Minerals from Foreign Adversaries and Supporting the Domestic Mining and Processing Industries*. On September 30, 2020, then President Trump released EO 13953 to direct the secretary of the interior and other cabinet members to recommend executive action for building resiliency, health, and growth of the U.S. mining industry.²⁸⁰

- The Department of Homeland Security's **Cybersecurity and Infrastructure Security Agency (CISA)** has an ICT Supply Chain Management Task Force for identifying and developing consensus approaches to enhance ICT supply chain security with private sector partners.²⁸¹
- **The Department of Commerce** is engaging in the U.S.-EU Trade and Technology Council that reviews critical technology supply chains and evaluates opportunities for the United States and the EU to cooperate in building supply chain resiliency.²⁸²
- **The Department of Defense** produces an Industrial Capabilities report each year that identifies vulnerabilities in the defense industrial base.²⁸³
- **The Department of Defense** also has a Supply Chain Resiliency Working Group that is working to identify and address barriers to supply chain visibility, assess resiliency, and develop solutions for risk mitigation.²⁸⁴
- **The Department of Commerce's National Institute of Standards and Technology (NIST)** developed supply chain security risk management guidelines for cybersecurity management designed to increase public and private sector supply chain resilience.²⁸⁵

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CHAPTER 3

U.S.-CHINA SECURITY AND FOREIGN AFFAIRS

SECTION 1: YEAR IN REVIEW: SECURITY AND FOREIGN AFFAIRS

Abstract

The Chinese Communist Party (CCP) responded to a turbulent year by hardening its foreign and domestic policy approaches. In foreign policy, China's leaders chose to preserve close ties with Russia even after the country's unprovoked invasion of Ukraine, increased the brazenness of China's confrontations in the South China Sea and around Taiwan, and made more aggressive pushes for overseas basing options. At home, the CCP continued to lock down cities in response to the novel coronavirus (COVID-19) and suppress all potential political dissent in an effort to ensure stability for the "victorious convening" of the 20th Party Congress and presumed extension of General Secretary of the CCP Xi Jinping's rule. Many governments including members of the EU, NATO, and the Quad publicly condemned China's actions as threatening the norms-based international order and universal values; however, in other countries, especially in the developing world, China faced limited pushback. As the People's Liberation Army (PLA) continued to upgrade the quality of its weapons and military equipment, Beijing unilaterally withdrew from all military-to-military interactions with the United States.

Key Findings

- The CCP wanted a stable year for the convening of the 20th Party Congress and presumptive extension of General Secretary Xi's rule. They did not get it. Russia's unprovoked invasion of Ukraine and internal discontent from outbreaks of COVID-19 strained China's foreign and domestic policy. Instead of rethinking his approaches, Xi has doubled down on his policy agenda.
- Russia and China in 2022 announced a "no limits" partnership, the culmination of a years-long effort to strengthen ties. This was immediately followed by Russia's invasion of Ukraine. Beijing provided diplomatic and economic support to Russia, all while promoting itself as "objective and impartial." The CCP, diplomats, and media amplified Russian talking points and attempted to shift blame to the United States and NATO for Russia's war of choice.

- NATO, along with South Korea, Japan, and New Zealand, declared China to pose a “systemic challenge” to a norms-based international order that upholds universal values. China’s diplomats dismissed these concerns and continued to promote the “Global Security Initiative,” a still vague security framework that endorses the interpretation of “indivisible security” that Russian diplomats cite in their statements concerning Ukraine.
- The Chinese government took steps toward securing additional overseas access and basing opportunities for its armed forces. In April, China concluded an agreement with the Solomon Islands granting access and transit rights for its military and paramilitary forces in the country. This agreement accompanied a broader push for increased influence in the Pacific Islands region in 2022. In June, a Chinese official confirmed PLA access to a Cambodian naval base. The PLA also appears to be considering sites for a base on the western coast of Africa.
- China’s aggressive activities in the South China Sea led to dangerous encounters between Chinese and other countries’ ships and aircraft in the region. In November 2021, China began blocking access to the Automatic Identification System (AIS) signals of its ships in the region to obscure their location, breaking an international standard practice for maritime safety. A Chinese Coast Guard ship maneuvered within an unsafe distance of a Philippine patrol vessel in March, and in May the PLA conducted at least two dangerous maneuvers against Australian reconnaissance aircraft operating in international airspace.

Introduction

In 2022, the CCP faced unexpected external and internal turbulence as it sought a stable environment for a triumphant 20th Party Congress and the presumed extension of General Secretary Xi’s rule. Chinese leaders were determined to make the Beijing Winter Olympics in February an international success despite their struggles to contain COVID-19 and to deflect international condemnation of their repression in Xinjiang and Hong Kong. Xi set the CCP’s course for the year by declaring along with Russian President Vladimir Putin that the two countries would together “ensure peace, stability, and sustainable development across the world,” and domestically he continued to insist on China’s “Zero-COVID” pandemic control strategy.¹ Chinese diplomats and media dismissed international concerns about Russia’s buildup of troops along the Ukraine border as disinformation and attempts to “create panic.”² But just days after the Olympics closing ceremony, which *People’s Daily* described as embodying Xi’s “community of common human destiny,” jarring images emerged of China’s “no limits” Russian partners initiating a brutal invasion of Ukraine.³ Within weeks, China’s most significant outbreaks of the pandemic led to its longest and largest Zero-COVID lockdowns since early 2020 for millions of residents in major economic centers, including Hong Kong, Shanghai, and Beijing.⁴

In response to these challenges, Xi has recommitted to his foreign and domestic agendas. China’s diplomatic missions in Europe sought to minimize reputational damage from association with President

Putin's unprovoked assault without explicitly condemning Russia and have consequentially been considered "deaf" to the region's security concerns.⁵ China now faces uncomfortable comparisons between Russia's actions and its own designs for Taiwan. Observers in Asia and across the world have voiced concerns that, as Japan's Prime Minister Fumio Kishida warned, "Ukraine today may be East Asia tomorrow."⁶

At home, the CCP tightened its grip on all political discourse in advance of the 20th Party Congress in October* through strict ideological guidance to all CCP officials, endless promotion of Xi's doctrines, and an ongoing anticorruption campaign, among other measures.⁷ In response to protests against lockdowns and resulting food shortages, Xi reiterated that Zero-COVID is his policy and the correct one for all Party members to uphold.⁸ Although 2022 was not the stable year Xi may have preferred heading into the 20th Party Congress, he made it clear to domestic and international audiences that the CCP under his leadership is not changing course.

This section examines key developments in China's domestic affairs, foreign relations, and military posture across the year from October 2021 through October 2022. It begins by examining the Party's increasing domestic oppression as it tightens its grip across society in preparation for the 20th Party Congress. Then, it assesses CCP leaders' continued push for global influence amid concerns over China's support for Russia's unprovoked invasion of Ukraine. Finally, the section assesses recent developments in the PLA as it continues to develop into a global force. The section draws on the Commission's 2022 hearing cycle, consultations with experts, and open source research and analysis.

CCP Efforts to Lock Down Domestic Stability

In advance of the 20th Party Congress, General Secretary Xi's primary objective for 2022 was to maintain an image of stability. To this end, Xi mobilized the Party from central to local authorities to ensure that all political messages were in line and any dissent neutralized. As China faced a new phase of the COVID-19 pandemic with new and more contagious variants, the CCP also redoubled its zero-tolerance approach. Instead of revisiting its unsuccessful vaccine efforts, the Party used its growing testing and surveillance apparatus for quicker, more dynamic lockdowns of cities for up to months at a time.

The CCP Amplifies Xi and Mutes Criticism ahead of the Party Congress

Throughout 2022, the CCP mobilized central and local efforts to promote Xi and "welcome the victorious convening" of the 20th Party Congress.⁹ Beginning with the February Politburo meeting, CCP leaders emphasized that this year the Party "must persist in putting stability first" and that efforts to "maintain society's overall stability" were crucial preparations for the Party Congress.¹⁰ In April, the CCP's Central Propaganda Department issued national guidelines

*As of this report's writing, the CCP's 20th Party Congress is scheduled to begin on October 16, 2022. *Xinhua*, "Meeting of CPC Central Committee Political Bureau Proposes Convening 20th CPC National Congress on Oct. 16 in Beijing," August 30, 2022.

on how to prepare the public for the Party Congress through political education activities, which influenced the production of similar guidance at provincial and local levels.¹¹ Li Zhanshu, Standing Committee member and chairman of the National People's Congress (NPC), China's legislature, stated that the NPC's work must "comply with the overall requirement of serving and safeguarding the convening of the Party's 20th National Congress."¹²

The promotion of Xi's personal leadership over the CCP has featured prominently in propaganda preparations for the Party Congress. (For more on Xi Jinping's political elevation, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority.") At the CCP Central Committee's Sixth Plenum in November 2021, Xi achieved a major political victory by becoming only the third CCP leader after Mao Zedong and Deng Xiaoping to oversee the passage of what is known as a "historical resolution," an official summary of CCP history used to address important political issues of the time and cement that leader's authority within the CCP system.¹³ The resolution is the most authoritative Party document to date that portrays Xi as influential as Mao Zedong.*¹⁴ It also contains a summary of Xi's personal contribution to CCP doctrine, known as "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era."¹⁵ Party media outlets repeatedly presented this summary, known as the "Ten Clarifies,"† as a case for his continued leadership.¹⁶

The CCP leadership also engaged in several targeted measures to enforce political unity and preempt criticism from individuals and groups within the Party-state. As the CCP kicked off another round of discipline inspections on March 24, Secretary of the Central Commission for Discipline Inspection Zhao Leji emphasized that inspections of the bureaucracy must be conducted "under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" with an eye toward supporting the success of the Party

*The document divides CCP history into periods initiated by Mao Zedong, Deng Xiaoping, and Xi Jinping himself, with Jiang Zemin and Hu Jintao downplayed as secondary leaders of the Deng era. Sixth Plenum of the 19th CCP Central Committee, *Full Text: Resolution of the CCP Central Committee on the Major Achievements and Historical Experience of the Party over the Past Century* (全文:《中共中央关于党的百年奋斗重大成就和历史经验的决议》), November 11, 2021. Translation; Sixth Plenum of the 19th CCP Central Committee, *Full Text: Resolution of the CPC Central Committee on the Major Achievements and Historical Experience of the Party over the Past Century*, November 11, 2021.

†The "Ten Clarifies" are a series of ten lengthy declarations about CCP policy in the Xi era. Chinese media collectively frame them as evidence that Xi has made significant theoretical contributions to Party doctrine and that he has identified the correct approach for China's policy in the future. They include statements about the centrality of the Party's leadership; China's modernization and national rejuvenation; the principal challenge facing Chinese society; the methods by which China must develop its system of socialism with Chinese characteristics; the goals for China's economic, military, and diplomatic policy; and the importance of improving the Party's internal organization and conduct. The Ten Clarifies, announced in November 2021, replace an earlier iteration of this same summary list, originally known as the "Eight Clarifies," which Xi put forward in his speech at the 19th Party Congress in 2017. Party sources frame the expansion from eight to ten as an important refinement of Xi's theoretical contribution. Chinese Communist Party Member Network, "Study Platform: Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" (学习平台: 习近平新时代中国特色社会主义思想). Translation. *Qushi*, "From 'Eight Clarifies' to 'Ten Clarifies'" (从“八个明确”到“十个明确”), January 10, 2022. Translation; *Qushi*, "Ten Clarifies: A Further Summary of the Core Content of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" (十个明确: 习近平新时代中国特色社会主义思想的核心内容的进一步概括), November 11, 2021. Translation; Xi Jinping, "Xi Jinping: Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for the New Era" (习近平: 决胜全面建成小康社会 夺取新时代中国特色社会主义伟大胜利——在中国共产党第十九次全国代表大会上的报告), *People's Government of the People's Republic of China*, October 27, 2017. Translation.

Congress later in the year.¹⁷ A week later, then Minister of Justice and Deputy Minister of Public Security Fu Zhenghua was expelled from the Party, his ostensible crimes notably including deviation from the Xi-centric “Two Safeguards”^{*} and “improper” discussion of the major policies of the CCP Central Committee.¹⁸ In early May, Xi used a high-profile speech at the ceremony for the 100th Anniversary of the founding of the Communist Youth League to emphasize his political control over the organization.¹⁹ The Communist Youth League previously served as a political power base for CCP leaders such as Hu Jintao and Li Keqiang but has been systematically sidelined by Xi since he took power in 2012.²⁰ In May 2022, the CCP Central Organization Department[†] issued new guidelines for retired Party officials to shield Xi from criticism by elders in the upcoming Party Congress.²¹ The regulations require retired cadres to “maintain a high degree of ideological, political, and action alignment with the Party Central Committee with Comrade Xi Jinping as the core” and forbid them from “arbitrarily discuss[ing] major policies” or “spread[ing] negative political remarks.”²²

Tightening of Domestic Repression

The past year has seen a continued tightening of restrictions on China’s cultural, ethnic, and religious minorities. At a conference on religious work in early December 2021, Xi stated that “China must adhere to the direction of the sinicization[‡] of religion [and] insist on uniting the masses of religious believers around the Party and the government.”²³ In his remarks, he emphasized that religions in China must “adapt to the socialist society” and be “Chinese in orientation” and called for stricter control of religious content online.²⁴ On December 20, five Chinese government departments delivered on this requirement by releasing a jointly drafted resolution entitled Measures for the Administration of Internet Religious Information Services, which took effect on March 1, 2022.²⁵ The new regulations forbid foreign organizations and individuals from spreading religious content online and ban all live broadcasting or recording of religious ceremonies in China.²⁶ While visiting religious sites in April, the director of the CCP’s United Front Work Department further revealed the leadership’s concern over religious control by emphasizing that United Front work plays an important role in upholding Xi’s leadership and creating a good environment for the 20th Party Congress.²⁷

Specific measures also emerged that targeted individual minority populations. In December 2021, a study by the Tibet Action Institute in the United States revealed that an estimated 78 percent of schoolchildren in the Tibet Autonomous Region

^{*}The so-called “Two Safeguards” are the requirements first to “safeguard General Secretary Xi Jinping’s position as the core of the CCP Central Committee and the core of the whole Party” and second to “safeguard the CCP Central Committee’s authority and centralized, unified leadership.” The formulation promotes greater control by Xi over the Party and the Party over all aspects of China’s governance and politics. For more on the Two Safeguards, see Chapter 1, “CCP Decision-Making and Xi Jinping’s Centralization of Authority.”

[†]The Central Organization Department is a highly influential and secretive agency of the CCP and is responsible for staffing and personnel assignments throughout the national system.

[‡]“Sinicization” refers to the Chinese government’s efforts to transform religious beliefs and practices in accordance with CCP standards for Chinese culture and society.

Tightening of Domestic Repression—*Continued*

have been separated from their families and forced into state-run boarding schools as part of an effort by Beijing to alienate them from Tibetan culture.²⁸ In a speech at the NPC held on March 7, 2022, Xi warned Inner Mongolian delegates that ethnic disunity would “destabilize” society and made use of euphemistic language the CCP has generally used to describe ongoing repression in Xinjiang.²⁹ During a visit to Xinjiang in April, Politburo Standing Committee Member and Chairman of the Chinese Political Consultative Conference Wang Yang called for the further “sinicization of Islam in Xinjiang.”³⁰ In May, a consortium of U.S., European, and Japanese media organizations released an extensive cache of photographs and documents from inside detention facilities in Xinjiang, further illuminating the scale and methods of the CCP’s genocide against the Uyghur population and other minorities in the Special Administrative Region.³¹ The documents reveal that in a single county in Xinjiang, more than 12 percent of the adult population was interned in either a detention camp or prison between 2017 and 2018.³² They also contain evidence of Xi’s personal knowledge and direction of the human rights abuses in Xinjiang.³³

In August 2022, the UN Office of the High Commissioner for Human Rights (OHCHR) released an assessment of human rights concerns in Xinjiang, which concludes that “serious human rights violations have been committed in [Xinjiang] in the context of the Government’s application of counter-terrorism and counter-‘extremism’ strategies.”³⁴ The OHCHR report finds that “allegations of patterns of torture or ill-treatment, including forced medical treatment and adverse conditions of detention, are credible, as are allegations of individual incidents of sexual and gender-based violence.”³⁵ The report’s 13 recommendations to China’s government include the release of detained individuals, a review of the government’s legal framework governing national security, reparations for victims, and clarification of the whereabouts of missing individuals and allowing their families to reunite.³⁶ For the international business community, the report recommends “enhanced human rights due diligence” and risk assessments for companies involved in China’s surveillance and security sector.³⁷

Zero-COVID Lockdowns Threaten Domestic Stability

The CCP’s assertion that its Zero-COVID policy demonstrates the superiority of its governance model came under strain as COVID-19 outbreaks led to lockdowns of major Chinese cities. Rather than admit the policy’s shortcomings, the CCP refused to give ground on its narrative and the strict containment measures that underpin it—at the expense of China’s citizens, their livelihoods, and the Chinese economy. Since 2020, China has trumpeted a strict zero-tolerance approach to fighting COVID-19 as a successful model worthy of emulation by other countries. Government reports for both foreign and domestic consumption in 2020 credited efficient top-down mobilization of resources and a policy of completely cutting off transmission

within China's borders as the keys to China's relatively quick recovery from the initial wave of COVID-19.³⁸ Xi, other officials, and state media continued to repeat similar themes throughout 2021, arguing that these features pointed to the Chinese governance system's inherent advantage over other countries.³⁹ In early 2022, China hosted the Beijing Winter Olympics without abandoning its approach to pandemic control by adopting a "closed loop" approach with strict restrictions on the movements of athletes and international visitors.⁴⁰ Beijing advertised this as another major success for its pandemic model.⁴¹

Long-term adherence to what became known as the "Zero-COVID" and later "dynamic Zero-COVID" strategy combined with China's ineffective vaccination effort left Chinese society particularly vulnerable to disruption by the more highly transmissible Omicron variant.⁴² (For more on China's COVID-19 response, see Chapter 2, Section 1, "Year in Review: Economics and Trade.") By March 2022, several cities in China began experiencing outbreaks of the Omicron variant.⁴³ After initially attempting a more flexible approach to the lockdown, Shanghai emerged in late March as the epicenter of China's worst outbreak since 2020.⁴⁴ The financial and economic hub roughly three times as populous as New York City went into what would ultimately become a two-month lockdown.⁴⁵ Poor coordination of the longer-than-anticipated lockdown led to serious shortages of food, medicine, and other supplies and generated significant public discontent with China's Zero-COVID approach.⁴⁶ On March 23, "Why can't China lift safety measures just like foreign countries?" was a top trending topic on Weibo before being muted by censors.⁴⁷ Throughout April and May, numerous video and audio recordings circulated online revealing the suffering of the residents of Shanghai and local officials' complete inability to do anything to ameliorate the situation.⁴⁸

The CCP did not change course as a result of the Shanghai debate and instead continued to promote Zero-COVID even more forcefully as the only appropriate policy response. Throughout the lockdown in Shanghai, Chinese media promoted the Zero-COVID policy to both domestic and international audiences, criticized opponents of the policy, cautioned that changing course would cause an unacceptable number of deaths,* and warned readers to stay vigilant against

* China's Ministry of Foreign Affairs (MFA) and Chinese state media have repeatedly pointed to a study by U.S. and Chinese scientists published in *Nature Medicine* in May 2022 that models the projected transmission of Omicron in China. The study projects up to 1.55 million deaths over a six-month period if China were to lift strict Zero-COVID controls without simultaneously increasing pharmaceutical measures such as vaccination and antiviral treatments. A hybrid approach that combined increased vaccination and other treatments with less strict distancing measures, however, was also predicted to cause significantly fewer deaths and be able to prevent overwhelming China's healthcare system. When referring to the study, China's MFA and state media have simply repeated the estimate of 1.55 million deaths without providing the context or referencing any potential role for vaccinations or other policy adjustments. Chinese authorities also do not repeat the study's assessment that relying solely on strict nonpharmaceutical measures such as lockdowns and distancing would likely cause highly delayed epidemics that continue beyond the six-month window studied in the model. China's Ministry of Foreign Affairs, "Dynamic Zero-COVID: a MUST Approach for China," *Chinese Consulate General in Durban*, July 15, 2022; China's Ministry of Foreign Affairs, *Foreign Ministry Spokesperson Zhao Lijian's Regular Press Conference on May 11, 2022*, May 11, 2022; *Xinhua*, "Dropping Dynamic Zero-COVID Approach in China Could Cause 1.55 Million Deaths: Study," *China Daily*, May 11, 2022; Jun Cai et al., "Modeling Transmission of SARS-CoV-2 Omicron in China," *Nature Medicine* 28 (May 10, 2022): 1468–1475; David Stanway and Jennifer Rigby, "Dropping Zero-COVID Policy in China without Safeguards Risks 1.5m Lives—Study," *Reuters*, May 10, 2022.

“slander” from abroad.⁴⁹ Reporting deemed negative to China was also relentlessly censored.⁵⁰ Drones flying overhead warned citizens of Shanghai, “Control your soul’s thirst for freedom. Do not open your windows and sing.”⁵¹ In April, Xi gave the policy the full weight of his authority in a speech calling for persistence with Zero-COVID, which Party media faithfully described as having “swept down from the commanding heights” and “set the tone for all.”⁵² Long articles published in Party media by National Health Commission Director and Party Secretary Ma Xiaowei in April and May further restricted space for political dissent by highlighting Xi’s personal endorsement of Zero-COVID, describing the policy as being “determined by the nature and purpose of the Party” and linking it to the successful convening of the Party Congress.⁵³ In May, Xi chaired a meeting of the Politburo Standing Committee that demanded absolute policy compliance on Zero-COVID.⁵⁴ Whether primarily motivated by confidence in its ability to weather the short-term political and economic costs, unwillingness to backtrack on its longstanding political narrative of superiority, or concerns over its ability to manage such a major policy change before the upcoming Party Congress, the top CCP leadership sent a clear message that the Zero-COVID policy was not up for debate.⁵⁵

Local Leaders Use COVID-19 Mitigation Tools to Suppress Unrelated Protests

Local leaders in China used mass surveillance tools intended for COVID-19 mitigation to suppress unrelated protests and augment social control. China’s government uses a system of “health codes” on citizens’ phones to manage entry into public spaces based on individuals’ risk of COVID-19 exposure.* Officials in charge of “social control” for the city of Zhengzhou, Henan Province, abused this national health code system to prevent residents from engaging in large-scale protests completely unrelated to the pandemic. Beginning in May, Chinese citizens participated in protests in Zhengzhou over frozen bank deposits.⁵⁶ (For more on the banking issue, see Chapter 2, Section 1, “Year in Review: Economics and Trade.”) In June 2022, the Zhengzhou anticorruption authority punished officials for “decid[ing] without authorization” to change over a thousand citizens’ health codes, effectively prohibiting those citizens from accessing public transportation or hotels.⁵⁷ Despite widespread concern by Chinese netizens over local officials’ demonstrated ability to suspend citizens’ movements arbitrarily, China’s government appears unlikely to increase the system’s accountability or reduce its sweeping surveillance capabilities.⁵⁸ In July, Hong Kong officials announced that the city’s health chief, Lo Chung-mau, is considering expanding the national health code system into Hong Kong.⁵⁹

*The Chinese government uses “Health Code,” a platform developed by Alipay and WeChat to identify people potentially exposed to COVID-19. The platform determines people’s exposure risk to COVID-19 based on factors including travel history, duration of time in specific areas, and relationships to potential carriers. A green health code is mandatory for visiting public spaces, including public transit, airports, schools, and grocery stores. A yellow or red code indicates potential exposure to COVID-19 and that the user should self-quarantine, effectively restricting all travel. Fan Liang, “COVID-19 and Health Code: How Digital Platforms Tackle the Pandemic in China,” *Social Media + Society*, July 2020.

China's Global Diplomacy

Entering 2022, the CCP's primary objective was to project confidence abroad and continue efforts to reshape processes and norms of the liberal international order. The Winter Olympics in February would be a preplanned high note of success, and preparations for the 20th Party Congress would point to an orderly political model for the world. Russia's invasion of Ukraine and China's support fundamentally reset the tone of the year. A number of governments voiced opposition and concerns about China's disregard for Ukraine's sovereignty and regional stability as well as China's own designs for Taiwan, Asia, and the world. This has complicated China's continuing economic, diplomatic, and security outreach to countries around the world.

China's Reaction to Russia's Unprovoked Invasion of Ukraine

Throughout Russia's invasion of Ukraine, the CCP prioritized China's recently elevated strategic partnership with Russia over ties with Europe and its espoused foreign policy principle of respecting the sovereignty of other countries. On February 4, President Putin and General Secretary Xi jointly declared their resolve to work together to build a new international order and declared their partnership to have "no limits."⁶⁰ At the Beijing Winter Olympic games,* which many state representatives boycotted on grounds of China's human rights violations,† the two heads of state signed a joint statement titled New Era Strategic Partnership of Coordination that marked an explicit shift from building mutual trust and cooperation to jointly countering the U.S.-led international system.⁶¹ The joint statement included Russia's support for China's position on Taiwan but did not mention Ukraine specifically.⁶² The declaration came after a year of deepening security ties, during which time China hosted Russia for their first-ever joint military exercise on Chinese soil, declared "no end to the China-Russia military cooperation," and announced that Russia is "better than an ally."⁶³

Initially in Denial and Unprepared to Evacuate Chinese Citizens from Ukraine

As Russia amassed more military forces on Ukraine's border throughout the second half of 2021 and early 2022, Chinese diplomats and state media outlets openly dismissed warnings by the United States and Europe over the pending invasion.⁶⁴ A day before the invasion, China's Ministry of Foreign Affairs continued to

* President Putin attended as an individual and head of state but did not represent a Russian team at the Olympics because the International Olympic Committee banned Russia from participating after repeated violations of rules against performance-enhancing drugs. *BBC News*, "Beijing Winter Olympics Boycott: Why Are the Games So Controversial?" February 4, 2022. Motez Bishara, "Russian Doping: 'An Unprecedented Attack on the Integrity of Sport & the Olympic Games,'" *CNN*, July 21, 2016.

† Citing China's human rights violations, including its policies in Xinjiang and Tibet, countries that participated in an international diplomatic boycott of the Beijing Winter Olympics included Australia, Belgium, Canada, Czech Republic, Denmark, Estonia, Lithuania, the Netherlands, the United Kingdom, and the United States. Other countries, including Austria, India, Latvia, and New Zealand, did not send diplomatic officials citing concerns about COVID-19. Gerry Shih, "India Joins Diplomatic Boycott of Beijing Olympics over Role of Chinese Soldier from Border Clash," *Washington Post*, February 3, 2022; *BBC News*, "Beijing Winter Olympics Boycott: Why Are the Games So Controversial?" February 4, 2022; John Feng, "Which Countries Are Boycotting China's Winter Olympics? Full List," *Newsweek*, December 8, 2021.

deny evidence of the pending Russian invasion and claimed that U.S. warnings were only exaggerating and “hyping up the possibility of warfare.”⁶⁵ China dismissed intelligence shared by the United States regarding Russian military actions and did not take any actions to protect Chinese students and citizens in Ukraine.⁶⁶

When Russia launched its invasion on February 24, 2022, China had not evacuated any of its 6,000 citizens from Ukraine.⁶⁷ On the day of the invasion, China’s embassy in Ukraine advised Chinese nationals to remain at home, while other nations had already begun implementing plans to evacuate their citizens.⁶⁸ According to Yun Sun, director of the China Program at the Stimson Center, many Chinese students in Ukraine had few options because “by the time they knew [the war was to break out], it was already too late to evacuate.”⁶⁹ China’s embassy then told its citizens to display the Chinese flag on their cars for protection.⁷⁰ Two days later, the embassy walked back its guidance, urging Chinese citizens not to disclose their nationality after it became clear that China’s failure to condemn Russia’s invasion led to hostility from Ukrainians toward Chinese nationals.⁷¹ By March, China’s Ministry of Foreign Affairs claimed that over 5,200 Chinese citizens had been evacuated from Ukraine to neighboring states.⁷²

Beijing Tries to Balance Competing Interests with Europe and Russia

After Russia invaded Ukraine, China muddled its diplomatic position as it tried to balance competing priorities.⁷³ The invasion pitted its strategic partnership with Russia against its interests in preserving ties with Europe, particularly in Central and Eastern Europe, as well as its espoused commitment to foreign policy principles of “territorial integrity” and “noninterference.”⁷⁴ Unwilling to choose, China’s diplomats simply declared that the invasion did not change any of its positions and refused to condemn Russia’s invasion while insisting on using the Kremlin’s preferred term, a “special military operation.”⁷⁵

In the initial stages of the conflict, Chinese leaders tried unsuccessfully to position themselves as the preferred mediators between Russia and Ukraine.⁷⁶ On the first day of the war, China’s Minister of Foreign Affairs Wang Yi called Russian Foreign Minister Sergey Lavrov to set up peace talks, and in March he said China would be ready to play a constructive role “when needed to carry out necessary mediation.”⁷⁷ Chinese diplomats and Xi himself tried to establish China as a natural choice by discussing the idea with Ukraine’s Foreign Minister Dmytro Kuleba, French President Emmanuel Macron, and German Chancellor Olaf Scholz.⁷⁸ Speaking to the U.S. public, Chinese Ambassador to the United States Qin Gang argued that China’s good relations with Russia put it in a “unique” position to mediate a peaceful settlement of the crisis.⁷⁹ Head of the Office of the President of Ukraine, Andriy Yermak, urged China to take a more active stance in ending the war.⁸⁰ Turkey—a NATO member and strategic partner of Ukraine—hosted the second round of talks between Russia and Ukraine instead of China, and discussion of China as a mediator faded.⁸¹

The Chinese government has ignored numerous opportunities to meet with Ukrainian President Volodymyr Zelenskyy directly. At a summit with EU leaders in April, Xi made no response to an invitation from the President of the European Council Charles Michel.⁸² In an interview in August, President Zelenskyy said, “I would like to talk directly. I had one conversation with Xi Jinping that was a year ago.... Since the beginning of the large-scale aggression on February 24, we have asked officially for a conversation, but we (haven’t had) any conversation with China even though I believe that would be helpful.”⁸³ By contrast, as of September Xi has called or met with President Putin on at least four occasions since the Russian invasion began, including once in person at the Shanghai Cooperation Organization (SCO) summit in September.⁸⁴ (For more on the SCO and September 2022 SCO summit, see Chapter 3, Section 3, “China’s Activities and Influence in South and Central Asia.”)

China Amplifies Russia’s Talking Points

Throughout 2022, the Chinese government openly supported Russian positions on Ukraine while claiming to be “impartial and objective.”* In official statements on the war, Chinese officials refused to call Russia’s actions against Ukraine an “invasion” or a “war” and instead repeated Russia’s label of “special military operation.”⁸⁵ Similarly, Chinese media and diplomats parroted Russia’s criticism of post-Soviet states joining the NATO alliance as NATO’s “five consecutive rounds of eastward expansion” and regularly cited Russia’s so-called “legitimate security concerns.”⁸⁶ They also adopted the phrase “indivisible security,” which Russia cited in its December 2021 demand letter to NATO regarding the Russian military buildup around Ukraine but was also construed as an argument for China’s objection to any arms sales to Taiwan.†⁸⁷ China and Russia both used this term to denounce their neighbors’ purchase of weapons by framing other states’ nonaggressive self-defense as within China or Russia’s remit to end.⁸⁸ Whereas the concept of “indivisible security” declares that one state should not strengthen its security at the expense of another, it does not grant one state the authority to limit another’s freedom to choose its own alliances or purchase legal weapons.⁸⁹ At the UN, Chinese diplomats shielded Russia from criticism by consistently voting in Russia’s favor or abstaining from any resolution to criticize or punish Russia or to call for an independent inquiry into human rights abuses by the Russian military.⁹⁰

Chinese media outlets and platforms consistently circulated and amplified Russia’s disinformation about the war, the United States, and its European allies. Two days before the invasion, leaked Chi-

* Ambassador Qin tried to differentiate China’s position of “objective and impartial” from one of “neutrality” during an interview with Phoenix TV, a pro-CCP Chinese-language station. Ambassador Qin argued that there is a subtle difference between the words “neutral” and “impartial,” saying China’s policy is “impartial” because it considers the full historical context of Russia’s grievances against the West in addition to the realities on the ground. By this logic, China treats both Ukraine and Russia fairly, even while it clearly aligns with Russia. For Qin Gang: Embassy of the People’s Republic of China in the United States, *Ambassador Qin Gang Was Interviewed by Phoenix Satellite TV’s “Dialogue with the Wind and Clouds” Column* (秦刚大使接受凤凰卫视《风云对话》栏目采访实录), March 27, 2022. Translation.

† The term “indivisible security” first appeared in the 1975 Helsinki Final Act, with later mentions in the 1990 Charter for a New Europe and in the 1997 Founding Act on Mutual Relations, Cooperation, and Security. Patrick Wintour, “Why Does Russia Focus on ‘Indivisible Security’ in Ukraine Standoff?” *Guardian*, February 3, 2022.

nese media guidance purportedly dictated that Chinese media not publish anything “unfavorable to Russia or pro-Western,” a directive Chinese media seems to follow.⁹¹ Chinese censors have also removed academic publications and online writings that question China’s support for Russia.⁹² In support of Russia’s information warfare, Chinese news and social media repeated false Russian conspiracy theories that Ukrainian Nazis committed crimes against Russian-speaking Ukrainians.⁹³ China also supported disinformation about the war that helped its own agenda, most notably by spreading long-debunked rumors that the United States has biological weapons labs in Ukraine.⁹⁴ These narratives dominate Chinese and Russian media coverage of the war and consequently have increased their spread through media around the world.

CCP and Chinese Military News Outlets Seek to Discredit NATO and the United States

In March and April 2022, *People’s Daily* and *PLA Daily* published a series of articles critical of NATO and the United States under pen names used to signal significant diplomatic positions and concerns.*⁹⁵ Key themes in the pieces include shifting blame for the war in Ukraine to NATO, accusing the United States and NATO of having a “Cold War mindset,” alleging that the United States is conducting “financial terrorism” against Russia, and, in sum, seeking to undermine U.S. leadership and moral authority.⁹⁶ Notably, these commentaries lack any discussion of national sovereignty or territorial integrity, two of China’s long-espoused foreign policy principles that have been violated in Ukraine.⁹⁷ The pen names Zhong Sheng and Jun Sheng, which are homophones for “Voice of China” and “Voice of the Military,” respectively, are traditionally used for infrequent commentaries on major international affairs that are approved at the highest levels of the publications’ leadership.† The unusually high frequency of such commentaries likely indicates these articles are part of the CCP’s broader strategy to avoid criticizing Russia’s invasion and undermine the credibility of the United States and NATO.⁹⁸

China Looks for Limits in the Coalition for Ukraine as It Restrains Its Own “No Limits Partnership”

Chinese leaders and analysts are examining the coalition of countries supporting Ukraine to assess its limits and gain insights into any potential response to China’s use of force against Taiwan.⁹⁹ As the United States and the world’s largest economies sanctioned Rus-

*The *People’s Daily* series was titled “Viewing American Hegemony from the Ukraine Crisis” and blamed NATO for Russia’s invasion of Ukraine. The *PLA Daily* issued ten commentaries under the title “The Hypocrisy and Dangers of U.S. Diplomacy in Perspective,” which attempted to portray the United States as culpable for human rights violations, breaking international rules, and bullying. U.S.-China Economic and Security Review Commission, *China’s Position on Russia’s Invasion of Ukraine*, August 17, 2022; Jun Sheng, “Narrow and Selfish ‘Hegemonic Diplomacy’ that Tramples on the Rules,” (钟声：狭隘自私，践踏规则的“霸权外交”) *PLA Daily*, April 29, 2022; Zhong Sheng, “Smearing Other Countries will Only Make One’s Own Strategy Increasingly Out of Focus,” (抹黑他国只会让自己战略日益失焦 (钟声)) *People’s Daily*, April 27, 2022.

† Zhong Sheng pieces are commentaries on major international affairs by editors and staff at *People’s Daily*. The Jun Sheng pen name authors are believed to be associated with the Central Military Commission’s Political Work Department. Jacqueline Deal, “Disintegrating the Enemy: The PLA’s Info-Messaging,” *US Army War College Quarterly: Parameters* 50:3 (Autumn 2020): 8; David Gitter and Leah Fang, “The Chinese Communist Party’s Use of Homophonous Pen Names: An Open-Source Open Secret,” *Asia Policy* 13:1 (January 2018): 69–112, 86–89.

sia, Beijing has been looking for evidence of declining U.S. influence and cracks in unity.¹⁰⁰ In addition to economic effects, Beijing is likely monitoring the effectiveness of U.S. and other weapons in bolstering Ukraine's defense.¹⁰¹ Chinese diplomats have equated military assistance to Ukraine with U.S. political and military support for Taiwan, and they used the phrase "adding fuel to the fire" to describe both.¹⁰² (For more on the implications of Russia's invasion of Ukraine for China and Taiwan, see Chapter 4: "Taiwan.")

While China's leadership continued to tout its "no limits" relationship with Russia since the invasion began, thus far it has appeared to limit its strategic support to the information domain, as discussed previously, and to the economic realm. China continues to provide Russia with an economic lifeline, becoming its predominant trading partner and its primary customer for discounted commodities like agricultural products and energy.¹⁰³ (For more on China's economic ties with Russia, see Chapter 2, Section 1, "Year in Review: Economics and Trade.") At the same time, Ambassador Qin has explicitly stated that China is not providing weapons and ammunition to Russia's military.¹⁰⁴ In early March, U.S. Secretary of the Treasury Janet Yellen said there was no evidence China was "providing Russia with any significant workaround for [U.S.] sanctions."¹⁰⁵ Nevertheless, several Chinese entities have allegedly supported Russia's military efforts, and by June the U.S. Department of Commerce added five Chinese companies to the Entity List for their support to Russia's military efforts.¹⁰⁶ Moreover, the Russian Embassy in Beijing publicly praised the warfighting utility of the Mavic drone produced by the Chinese company DJI Technology Co.*¹⁰⁷ Although DJI Technologies rejected this praise and insisted that its drones are for civilian purposes only, reports of Russian soldiers using DJI drones led the Ukrainian government to request that DJI deactivate its drones operating in Ukraine.¹⁰⁸ In response,† DJI announced the suspension of sales to both Russia and Ukraine, though any change to sales has not been independently confirmed.¹⁰⁹

China has continued to engage with Russia's military in annual training exercises that Russia hosts separately from its ongoing war against Ukraine. China participated in Russia's International Army Games in August, an event China has attended since its first iteration in 2015.¹¹⁰ From August 30th to September 5th, the PLA participated in Russia's annual strategic level military exercise, VOSTOK-2022, which took place in Russia's Eastern Military District.¹¹¹ This year marked the first time China sent units from the army, navy, and air force as PLA Navy and Russian warships conducted joint exercises, including a live fire anti-aircraft drill in the Sea of Japan.¹¹² The PLA has participated in the previous four iterations of Russia's annual strategic exercise, which rotates between four regions: VOSTOK in the east, TSENTR in Central Russia, KAVKAS in the Caucasus, and ZAPAD in the west.¹¹³ Although China's Ministry of National Defense claimed the PLA's participa-

*The United States sanctioned DJI technology Co. in 2020 for facilitating repressive regimes and human rights abuses. Scott Simmie, "DJI Lands on Entity List: Analysis and Industry Reactions," *DroneDJ*, December 18, 2020.

† DJI stated that the company was not able to deactivate the drones or provide flight data but suggested establishing geofencing throughout Ukraine. This imperfect system would be able to block some but not all DJI drones from entering specified airspace. Ishveena Singh, "What DJI Said in Response to Ukraine's Request to Block Russians," *DroneDJ*, March 17, 2022.

tion in VOSTOK-2022 “is unrelated to the current international and regional situation,” Russia has used these exercises to pre-position troops before an invasion. ZAPAD-2021 positioned up to 190,000 Russian troops on the border with Ukraine in late 2021.¹¹⁴

China Promotes Its “Global Security Initiative”

In 2022, China began promoting Xi’s “Global Security Initiative,” which is an effort to create a new international security paradigm that is more favorable to China.¹¹⁵ Xi introduced the initiative at the Boao Forum for Asia in April, and it has since become a common refrain in China’s diplomatic interactions around the globe.¹¹⁶ Among the initiative’s key tenets are opposition to military alliances as a mechanism for achieving security and to the use of international sanctions.¹¹⁷

The “Six Commitments”

Beijing summarizes the core content of the Global Security Initiative using a formulation known as the “six commitments.”¹¹⁸ The six commitments are “staying committed” to: “the vision of common, comprehensive, cooperative and sustainable security”; “respecting the sovereignty and territorial integrity of all countries”; “abiding by the purposes and principles of the UN Charter”; “taking seriously the legitimate security concerns of all countries”; “peacefully resolving differences and disputes between countries through dialogue and consultation”; and “maintaining security in both traditional and non-traditional domains.”¹¹⁹

Official descriptions of the Global Security Initiative consistently highlight China’s underlying opposition to U.S. alliances and use of international sanctions. Xi’s original presentation of the six commitments stipulates that countries must “say no to group politics and bloc confrontation” and “oppose the wanton use of unilateral sanctions and long-arm jurisdiction.”¹²⁰ Foreign Minister Wang’s official explanation of the initiative in *People’s Daily* insists that “regional security cannot be guaranteed by strengthening or expanding military blocs” and argues for China’s leadership of the global security order based partially upon it having never participated in such a bloc.¹²¹ It also criticizes other countries for enacting sanctions, despite Beijing’s own use of sanctions.¹²² Vice Foreign Minister Le Yucheng further clarified in a speech in May that the long-term goal of the Global Security Initiative is to build a “security community” without confrontation or alliances.¹²³

Beijing hopes to use the initiative both to defend itself and to raise its profile as a global leader in the security field.¹²⁴ The Global Security Initiative is framed in explicit opposition to the current norms of international security and as a concept that can transcend so-called “Western” geopolitical security theories.¹²⁵ In her testimony for the Commission, Sheena Chestnut Greitens, associate professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin, cautioned that the Global Security Initiative is also associated with Xi’s regime security-centric Comprehensive

National Security Concept, and as such it should be viewed as an attempt “to make the rules of the international system compatible not just with [China’s] external security interests, but [also] its desire for internal regime security.”¹²⁶ (For more on the Comprehensive National Security Concept and the development of the Global Security Initiative, see Chapter 1, “CCP Decision-Making and Xi Jinping’s Centralization of Authority.”) She further predicted that the initiative is likely to include an emphasis on nontraditional security tools such as the projection of law enforcement and police power outside of China.¹²⁷ This direction was confirmed at the September 2022 SCO Summit when Xi pledged China’s willingness to train 2,000 law enforcement personnel for SCO member states over the next five years as part of implementing the Global Security Initiative.¹²⁸ (For more on the SCO and recent SCO summit, see Chapter 3, Section 3, “China’s Activities and Influence in South and Central Asia.”)

Beijing has used the Global Security Initiative as a formal platform to elevate and promote its existing grievances against the United States and its allies. As Dr. Greitens pointed out in her testimony, the Global Security Initiative concept “includes considerable repackaging of past Chinese complaints about the inadequacy of the global security order” as well as its dissatisfaction with the United States’ international leadership in the security field.¹²⁹ For example, explanations of the Global Security Initiative consistently include harsh criticism of the so-called “Cold War mentality.”¹³⁰ Since the 1990s, CCP leaders and media have used the term “Cold War mentality” to deflect international criticism by framing opposition or challenges to China’s political system, human rights abuses, and military and economic ambitions as ideologically motivated and belonging to a past era of zero-sum competition.¹³¹ Although the term has previously been applied in the security space to oppose U.S. coordination with other countries, its use this year in support of the Global Security Initiative represents a more explicit focus on alliances and international sanctions.¹³² While opposition to the United States and its allies is in some cases left thinly veiled by the criticism of an unspecified “some,” “few,” or “many” countries, it has also occasionally been made explicit in both internal- and external-facing statements.¹³³ For example, in a *People’s Daily* article on the Global Security Initiative in April, Foreign Minister Wang stated that China “firmly oppose[s] the use of the ‘Indo-Pacific Strategy’ to split the region and create a ‘new Cold War,’ [and] oppose[s] the use of military alliances to piece together an ‘Asian NATO.’”¹³⁴ In May, Vice Minister of Foreign Affairs Le Yucheng made similar remarks while giving a speech on the Global Security Initiative at an international dialogue event for think tanks from 20 countries.¹³⁵

Although the concept and the international security environment it seeks to foster are broader than the Ukraine crisis, the Global Security Initiative has served as an integral part of China’s efforts to both navigate and benefit diplomatically from Russia’s war on Ukraine.¹³⁶ Beijing has made extensive use of Russia’s war as an opportunity to promote the Global Security Initiative abroad, and official explanations of the Global Security Initiative have frequently included commentary on the Ukraine crisis as supporting detail

for the initiative's key points.¹³⁷ For example, Beijing has seized upon NATO's concern over the war in Ukraine to back up its attack on military alliances.¹³⁸ It has similarly used the firm response by the United States and its allies to hold Russia accountable for the invasion as a platform to denounce international sanctions as what it calls unilateral "long-arm jurisdiction."¹³⁹ Beijing's statements on the Global Security Initiative and Ukraine also include parallel emphasis on respecting other countries' so-called "legitimate security concerns," which demonstrates that the language Beijing uses in support of Russia is also aimed at encouraging other countries to respect China's priorities.¹⁴⁰ Beijing has never acknowledged that Russia's unilateral invasion of Ukraine violates several of the Global Security Initiative's supposed core commitments, such as "respecting the sovereignty and territorial integrity of all countries," "peacefully resolving differences and disputes between countries," and "upholding the purposes and principles of the UN Charter."¹⁴¹

China Faces Increased International Backlash

China's Support for Russia Exacerbates Tensions with Europe

Preexisting areas of tension between China and countries in Europe over human rights, Taiwan, and other issues persisted over the past year and deepened significantly in the aftermath of Russia's invasion of Ukraine. After Lithuania opened a representative office to Taiwan in November 2021, Beijing retaliated against the perceived slight by downgrading diplomatic relations with Lithuania and launching a campaign of economic coercion against the Baltic country, blocking all imports of Lithuanian goods and even threatening multinational corporations with exclusion from the Chinese market if they did not partake in China's efforts to cut off Lithuania from international trade.¹⁴² In response to China's coercive actions, the EU took measures to support Lithuania, including by filing a complaint against the trade restrictions with the WTO.¹⁴³ The dispute provided additional impetus to the EU's ongoing consideration of a new anti-coercion instrument,* which, if adopted, will for the first time afford the EU the ability to take countermeasures in the event a Member State becomes the target of deliberate economic coercion.¹⁴⁴ The new German government elected in September 2021 also took a more forceful line on China policy over the past year, framing its relationship with China as one of "competition and systemic rivalry" and committing to a more robust presence in the Indo-Pacific.†

*The anti-coercion instrument was formally proposed on December 6, 2021, and is anticipated to be subject to a vote in the European Parliament by fall 2022. European Parliament Think Tank, "Proposed Anti-Coercion Instrument," June 16, 2022.

†In November 2021, the chief of the German Navy committed to sending vessels to the Indo-Pacific every two years with the intention of cooperating with like-minded states to advocate for freedom of navigation and the maintenance of a rules-based international order. In December 2021, the newly elected coalition government of the Social Democratic Party, Greens, and Free Democrats released its coalition agreement. The text of the agreement states that Germany is in competition and systemic rivalry with China; calls for a comprehensive China strategy for Germany within the framework of a common EU-China policy; states an interest in reducing strategic dependencies on China in cooperation with like-minded countries; identifies the international law of the sea as the basis for resolving territorial disputes in the South and East China Seas; insists that any change to the status quo in the Taiwan Strait be peaceful and mutually agreed upon; supports Taiwan's participation in relevant international organizations; and calls attention to China's human rights violations. The agreement also mentions Germany's commitment to a free and open Indo-Pacific. Vanessa Geidel, "Germany Ramps Up Indo-Pacific Engagement,"

China's strident anti-NATO rhetoric and unwillingness to condemn Russia's assault on European stability in its invasion of Ukraine have placed additional strain on the already tense diplomatic relationship between China and European powers.¹⁴⁵ The annual EU-China summit originally scheduled to take place in December 2021* finally convened on April 1, 2022, but it did not produce a joint statement due to persistent differences on trade and human rights as well as new frustrations over China's conduct regarding Ukraine.¹⁴⁶ President of the European Commission Ursula von der Leyen reported that the two sides "exchanged very clearly opposing views" on the war in Ukraine, and EU High Representative for Foreign Affairs Josep Borrell described the meeting as a "dialogue of the deaf" in which China's representatives refused to engage substantively on the topics of most concern to their EU counterparts.¹⁴⁷ China has also increased pressure on European states through both bilateral and multilateral channels to distance themselves from the United States.† In June, High Representative Borrell expressed frustration with China's unwillingness to consider the perspective of European countries, stating, "We condemn the Russian aggression against Ukraine and support this country's sovereignty and democracy... not because we 'follow the U.S. blindly,' as sometimes China suggests, but because it is our own position, our genuine position."¹⁴⁸

China also faced intensified pushback in central and eastern Europe. In August 2022, Latvia and Estonia ended their participation in the cooperation framework China had established with central and eastern European countries in 2012, known as the "16+1," following the example set by Lithuania in May 2021.‡¹⁴⁹

Strategist, January 10, 2022; Insight EU Monitoring, "Dare More Progress: Unofficial English Translation of German Coalition Agreement Added," January 5, 2022; *Deutsche Welle*, "Coalition Talks in Germany," 2022; Jens Kastner, "Germany's New Government Is Set to Take a Tougher Line on China," *Nikkei Asia*, December 8, 2021.

*The EU-China summit was originally scheduled to take place in December 2021 but was pushed back over concerns that the two parties would fail to make substantive progress on key issues. The decision to postpone the meeting was made amid confrontation surrounding China's economic coercion of Lithuania and additional Chinese retaliation over the EU's November 2021 renewal of preexisting sanctions against Chinese officials and a Chinese entity for human rights abuses in Xinjiang. Kinling Lo, Jun Mai, and Finbarr Bermingham, "China-EU Annual Summit 'Pushed Back until Next Year' as Trade and Human Rights Disputes Fester," *South China Morning Post*, December 16, 2021; *Reuters*, "EU Extends Human Rights Sanctions, Including on Chinese Officials," November 24, 2021.

† During the EU-China summit in April, Xi invoked the EU policy of "strategic autonomy" in an effort to convince the EU to distance itself from the United States, instructing the EU to "form its own perception of China [and] adopt an independent China policy." In a call with Chancellor Scholz in May, Xi reiterated his approval of Europe's "strategic autonomy" and insisted that "the security of Europe should be kept in the hands of Europeans themselves." He repeated this sentiment in a call with President Macron immediately thereafter, stressing that "China supports European countries keeping the security of Europe in their own hands" and warning Macron against so-called "bloc confrontation." In a response to remarks by then UK Foreign Secretary Liz Truss calling on China to "play by the rules" internationally, China's Ministry of Foreign Affairs spokesperson claimed that "NATO had messed up Europe." China's Ministry of Foreign Affairs, *President Xi Jinping Speaks with French President Emmanuel Macron on Phone*, May 10, 2022; Finbarr Bermingham, "In Call with Macron, Xi Again Tells Europeans to Take Security, 'In Their Own Hands,'" *South China Morning Post*, May 10, 2022; Liu Zhen, "Xi Tells Scholz that Europe's Security 'Should Be Kept in the Hands of Europeans,'" *South China Morning Post*, May 10, 2022; Helen Davidson, "China Says Nato Has 'Messed Up Europe' and Warns over Role in Asia-Pacific," *Guardian*, April 29, 2022; Finbarr Bermingham, "EU-China Summit Was a 'Dialogue of the Deaf,' Says Top Brussels Diplomat," *South China Morning Post*, April 6, 2022; Laura Zhou, "China-EU Summit: Hopes Fade for Investment Deal as Ukraine War Dominates Talks," *South China Morning Post*, April 2, 2022.

‡ The cooperation framework was established in 2012 and originally known as the "16+1." The 16 original European member states were Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Ro-

The departure of the two Baltic states brings the membership to only 14 European countries. Decisions to leave reflected both countries' growing dissatisfaction with the mechanism's ability to deliver on promised economic benefits as well as a desire to prioritize EU platforms for interaction with China.*¹⁵⁰ China's behavior in the aftermath of Russia's invasion of Ukraine also contributed to the decision, and both countries' official announcements explicitly mentioned their support for the "rules-based international order."¹⁵¹ On August 14, Estonia's foreign minister confirmed that China's refusal to condemn Russia's unilateral invasion "was definitely a factor" in the decision, echoing a similar statement he had made on August 11.¹⁵² Latvia had also previously called on China to use its leverage to stop Russia's aggression.¹⁵³ After Estonia and Latvia's decision, Chinese state media engaged in damage control domestically by calling it "shortsighted" while downplaying its future impact on the cooperation framework.¹⁵⁴

NATO Calls Out "Systemic Challenges" from China

The NATO summit in June was notable both for singling out threats posted by China and for including for the first time leaders from Australia, Japan, South Korea, and New Zealand.¹⁵⁵ NATO's strategic concept, revised for the first time in 12 years, declared that China's "stated ambitions and coercive policies challenge our interests, security, and values."¹⁵⁶ The list of threats and "systemic challenges" is comprehensive, ranging from "malicious hybrid and cyber operations" to seeking "to control key technological and industrial sectors, critical infrastructure, and strategic materials and supply chains."¹⁵⁷ NATO's strategic concept also expresses alarm at the growing partnership between China and Russia and their "mutually reinforcing attempts to undercut the rules-based international order."¹⁵⁸ The attending Asia Pacific countries are global partners of NATO. South Korean President Yoon Suk-yeol warned of "the threat to universal values at a time of new conflict and competition," and Japanese Prime Minister Kishida argued "the security of Europe is inseparable from that of Asia."¹⁵⁹ China's mission to the EU dismissed the summit and concept as being "filled with Cold War thinking and ideological bias."¹⁶⁰

The Quad Takes Bolder Steps against China's Coercive Behavior

At the Quad summit in Tokyo in May 2022, heads of government from the United States, Australia, India, and Japan released a joint

mania, Serbia, Slovakia, and Slovenia. With the addition of Greece in 2019, the framework was renamed the "17+1." Lithuania's departure from the group in May 2021 returned the number of European members to 16. Milda Seputyte and Ott Tammik, "Baltic States Abandon East European Cooperation with China," *Bloomberg*, August 11, 2022; Emilian Kavalski, "China's '16+1' Is Dead? Long Live the '17+1,'" *Diplomat*, March 29, 2019.

* Both countries had also already decreased their involvement in the forum. Latvia and Estonia were among the six countries to send lower-level representatives rather than heads of state to meet with General Secretary Xi at the group's summit in February 2021. An August 2022 statement from Estonia's Ministry of Foreign Affairs indicates that Estonia had also not attended any meetings after the 2021 summit. Estonia's Ministry of Foreign Affairs, *Estonia Will No Longer Participate in the Cooperation Format of Central and Eastern Europe and China*, August 11, 2022; Milda Seputyte and Ott Tammik, "Baltic States Abandon East European Cooperation with China," *Bloomberg*, August 11, 2022; *Baltic Times*, "Latvia's Decision to Leave Cooperation Framework of Central and Eastern European Countries and China Not to Change Much—Expert," August 8, 2022.

statement condemning “coercive, provocative, or unilateral actions that seek to change the status quo” as well as “the dangerous use of coast guard and maritime militia.”¹⁶¹ The statement, the first of its kind for the Quad, does not explicitly name China but does send a strong message against China’s illegal maritime claims and coercive efforts by the China Coast Guard and China’s maritime militia to enforce those claims. To better identify and support the interdiction of such illegal maritime activities, Quad leaders also revealed the Indo-Pacific Partnership for Maritime Domain Awareness. A White House fact sheet described the partnership as a “near-real-time, integrated, and cost-effective maritime domain awareness picture” that will “transform the ability of partners in the Pacific Islands, Southeast Asia, and the Indian Ocean region to fully monitor the waters on their shores and, in turn, to uphold a free and open Indo-Pacific.”¹⁶² Quad countries will purchase and distribute commercial maritime tracking data, which the partnership will distribute through existing multilateral maritime monitoring institutions such as the U.S. Navy’s SeaVision platform or India’s Indian Ocean Region Information Fusion Center.¹⁶³ Notably, the Indo-Pacific Partnership for Maritime Domain Awareness is able to support monitoring of China’s coercive behavior while simultaneously supporting non-traditional security objectives by identifying illicit activities such as seaborne smuggling and illegal, unregulated, and unreported (IUU) fishing in the Indo-Pacific.

Quad countries also deepened their information-sharing practices and military exchanges. The recently launched Quad Satellite Data Portal will link the four countries’ national satellite data resources, enabling Quad countries to openly share space-based civil Earth observation data.¹⁶⁴ The portal will initially focus on climate change, disaster response, ocean and marine resource sustainability, and other peacetime applications to support capacity building in the Indo-Pacific.¹⁶⁵ Prior to the May 2022 Quad summit, Prime Minister Kishida and then Australian Prime Minister Scott Morrison signed a landmark Reciprocal Access Agreement between Japan’s Self-Defense Forces and the Australian Defense Force.¹⁶⁶ The agreement will allow each country to station troops in the other and provides procedures for joint training exercises, effectively empowering the countries to militarily support one another in what some observers have called a “quasi-alliance.”¹⁶⁷

Japan Bolsters Its Military and Economic Security

In June 2022 during the Shangri-La Dialogue annual international defense summit held in Singapore, Prime Minister Kishida said Japan will strengthen its defense capabilities and is considering the development of counterstrike capabilities. He expressed security concerns, saying, “Ukraine today may be East Asia tomorrow” and pointed to tensions in the Taiwan Strait, South China Sea, East China Sea, and Korean Peninsula.¹⁶⁸ Japan’s growing concern with China’s military provocations has led the government to double its defense spending goals, making them more in line with NATO defense spending targets.¹⁶⁹ In response to Japan’s hardening defense stance, China has demonstrated its own insecurities with a strong U.S.-Japan alliance by warning against any efforts to intervene in

the region's "hard-won peace and stability" and cautioning the United States and Japan to "heed rational voices from the region as gunboats will not subject China to their will."* 170

After assuming power in 2021, the Kishida government established the position of minister of economic security and subsequently passed a new economic security law in May 2022 to combat concerns regarding Japan's dependence on China and other foreign suppliers for critical materials and parts.¹⁷¹ Japan's leaders worry that China may weaponize its trade reliance, leaving the supply chains on which Japan depends vulnerable to disruption.¹⁷² The Japanese government has offered subsidies to incentivize companies to move their production out of China and back to Japan in an effort to reduce supply chain dependencies. China continues to push back and demonstrate its fears of Japan strengthening its defense posture while decoupling, at least in part, from the Chinese economy, and it has accused Japan of following the United States in promoting economic decoupling in the name of "national security."¹⁷³

Elections in South Korea May Signal a Shift away from China

South Korea's presidential elections in March 2022 may indicate a policy shift in South Korea-China relations as new President Yoon Suk-yeol takes a harder line on China and seeks greater cooperation with the United States. During the campaign, Yoon Suk-yeol accused then President Moon Jae-in of being too friendly with China and failing to deepen the U.S.-South Korea relationship. Despite or perhaps because of the campaign rhetoric, China's Vice President Wang Qishan, a longstanding Xi ally who previously led the anticorruption effort, attended Yoon Suk-yeol's inauguration in May 2022 as Xi's "special representative."† 174 Since his inauguration, President Yoon has expressed his intent to strengthen the country's diplomatic, security, and economic relations with the United States, shifting away from the last administration's approach of delicately balancing relationships with both the United States and China. He has also indicated that he would be interested in expanding South Korea's deployment of the U.S. Terminal High Altitude Area Defense (THAAD) missile defense system, a clear warning to Beijing of President Yoon's intent to pursue Korean interests even in the face of pressure from the CCP.‡ 175

*This mention of gunboats likely refers to the nearly 100-year period in which U.S. gunboats patrolled the Yangtze River. The Yangtze River Patrol began operations in 1854 to protect U.S. interests in the Yangtze River's treaty ports. Kemp Tolley, "Yangtze Patrol: The U.S. Navy in China," *Naval Institute Press*, 2000; Frank S. Taylor Family and Royal Navy History.net, "American River Gunboats."

† In 2013, then Vice Premier Liu Yangdong attended President Park Geun-hye's inauguration. Prior to that, in 2008 State Councilor Tang Jiaxuan attended President Lee Myung-bak's inauguration. Ji Da-gyum, "Chinese President's Right-Hand Man to Attend Yoon's Inauguration," *Korea Herald*, May 6, 2022.

‡ Following South Korea's initial agreement in 2016 with the United States on THAAD deployment, China implemented a number of measures to retaliate economically. State-run media encouraged the boycott of South Korean goods, and the government denied visas to South Korean bands. China also prohibited tourism to South Korea and blocked popular South Korean dramas from streaming online. In a more targeted move, China closed down a number of South Korean Lotte stores within China; the company was responsible for supplying the land used for THAAD. Adriana Diaz and Shuai Zhang, "Angered by U.S. Anti-Missile System, China Takes Economic Revenge," *CBS News*, April 7, 2017; Christopher Woody, "China Is Going After South Korea's Wallet in Their Dispute over the THAAD Missile System," *Business Insider*, March 20, 2017; Steven Borowiec, "Yoon's Pledge to Boost THAAD Missile System Risks China Reprisal," *Nikkei Asia*, March 16, 2022.

South Korea's economic relationship with China and domestic political opposition may constrain how far the Yoon Administration can go with its more aggressive defense measures. The country is largely dependent on China as an export market and is also highly reliant on China for imports, particularly semiconductors, medical supplies, and rare earth elements.¹⁷⁶ During a May summit with U.S. President Joe Biden in South Korea, President Yoon announced that he would lead South Korea in joining the Indo-Pacific Economic Framework (IPEF), the U.S. economic initiative and multilateral strategy to strengthen partnerships in the region that includes supply chain resilience as one of its four pillars.*¹⁷⁷ Earlier that same month, South Korea also joined NATO's Cooperative Cyber Defense Center of Excellence, which provides training to member states for defending against cyberattacks.¹⁷⁸ Some within South Korea, including Woo Sang-ho of the Democratic Party, have expressed concern that China will interpret this action as too aggressive and signal a "willingness to prepare for a military confrontation with China and Russia in the future."¹⁷⁹ While the new Yoon Administration may intend to implement a hardened policy toward China, it must also balance its approach with the views of the opposing Democratic Party. The party still holds the majority in South Korea's National Assembly, which is not up for election until March 2024.¹⁸⁰

China's Tensions with Australia Continue

After taking office in May 2022, Australian Prime Minister Anthony Albanese and his government signaled some openness to improving the Australia-China relationship, contingent on China's removal of sanctions it imposed on Australia's agriculture and energy commodities last year.¹⁸¹ In a June 2022 interview, Prime Minister Albanese stated, "China needs to remove the sanctions. And that will go a long way toward restoring improved relations."¹⁸² Similarly, in July 2022 Australian Foreign Minister Penny Wong noted Australia's interest in "stabilizing the relationship" with China and described the Albanese government as "open to engagement," though she reiterated "the importance of those coercive [trade] measures being removed" for any improvement in the bilateral relationship.¹⁸³ Chinese leaders appeared to suggest China-Australia ties had a path toward rapprochement, as Chinese Ambassador to Australia Xiao Qian noted an "opportunity of possible improvement of [China's and Australia's] bilateral relations" with the new Australian government.¹⁸⁴

China's government continued to stoke military tensions with Australia despite its stated interest in improved relations. In May 2022, a PLA Air Force fighter jet intercepted an Australian P-8 reconnaissance aircraft operating in international airspace in the vicinity of the South China Sea. The Chinese fighter jet maneuvered at dangerously close range, cut across the nose of the P-8, and released flares and chaff, or scrap metal designed to act as a countermeasure against incoming missiles.¹⁸⁵ Australian Defense Minister

*The Indo-Pacific Economic Framework's four pillars are trade; supply chains; clean energy, decarbonization, and infrastructure; and tax and anticorruption. White House, *Statement on Indo-Pacific Economic Framework for Prosperity*, May 23, 2022.

Richard Marles confirmed that chaff entered at least one of the Australian P-8's engines, posing a threat to the aircraft and to the Royal Australian Air Force pilots.¹⁸⁶ When asked about the incident, China's Ministry of National Defense spokesperson Senior Colonel Tan Kefei urged Australia to "strictly restrict the operations of its naval and air forces, or it will bear all the serious consequences ailing therefrom."¹⁸⁷ This episode continues a pattern of dangerous PLA behavior around Australian aircraft. In February 2022, Australia's government reported that one of its P-8A aircrafts was hit by a laser shot from a PLA Navy vessel, which similarly threatened damage to the plane's systems and which the Australian Defense Department noted could "endanger lives."¹⁸⁸

China's Relationship with India Continues to Deteriorate

In 2022, China's relationship with India continued to deteriorate as the stalemate on the Sino-Indian border dispute dragged on and Indian government officials claimed China's leadership showed no intention of working toward a resolution. Throughout the year, Chinese and Indian corps-level commanders met three times at the Chushul-Moldo border point of the disputed Line of Actual Control (LAC) for talks without any breakthrough.¹⁸⁹ While engaging in these dialogues, the PLA continued to develop infrastructure* near the LAC and fortify its position in disputed territories.¹⁹⁰ These developments improve the PLA's ability to operate in contested regions along the border and undermine prospects for a diplomatic solution.¹⁹¹ Despite India's concerns over the border dispute, China's diplomats described the situation on the disputed border as "generally stable," even as the standoff† in the Ladakh region continued.¹⁹² India's then Ambassador to China Vikram Misri called out a contradiction between Beijing's diplomatic statements and lack of actions, saying there was "a tendency in some quarters to sweep the border situation under the carpet."¹⁹³ (For more on China's border dispute with India, see Chapter 3, Section 3, "China's Activities and Influence in South and Central Asia.")

Although neither India nor China have condemned Russia's invasion, this similar stance does not indicate Indian alignment with China.¹⁹⁴ Instead, India seeks to maintain its relationship with Russia as a strategic source of support‡ in India's rivalry with China while also growing its ties with the United States.¹⁹⁵ During the 2022 Annual SCO Summit in Samarkand Uzbekistan, Indian

* In 2022, the PLA continued building military infrastructure on both sides of the LAC, which will improve PLA troop mobility. For example, the PLA is building a strategic bridge across Pangong Lake, which will reduce the time it takes to move troops from Tibet to the center of the disputed Ladakh region from 12 hours to three or four hours. China has also improved its road networks, helipads, and access to warm water to increase the quantity of troops the PLA can sustain during the winter in the Himalayas. The PLA also fortified its position in all three sectors of the border by fielding upgraded equipment such as the lighter CSK-series vehicles, truck-mounted howitzers, and the HQ-9 long-range air defense system. Matthew P. Funaiolo, Brian Hart, and Joseph S. Burmudez Jr., "Big Military Upside to China's New Bridge across Pangong Lake," *Center for Strategic and International Studies*, March 10, 2022; Liu Zhen, "China-India Border Dispute: PLA Troops Feel the Heat... of a Nice Warm Shower," *South China Morning Post*, November 2020; Dinakar Peri, "China Upgraded Firepower on LAC: Original Source," *Hindu*, June 27, 2022.

† Neither the Indian Army nor the PLA have disengaged the estimated 50,000 troops and heavy equipment each side sustains in the contested region. Dinakar Peri, "Stalemate in India-China Talks to End Eastern Ladakh Standoff Continues," *Hindu*, July 18, 2022.

‡ Russia has historically supported India through weapons sales and use of votes and vetoes in the UN Security Council that are favorable to India. Ashley J. Tellis, "What Is in Our Interest? India and the Ukraine War," *Carnegie Endowment for International Peace*, April 25, 2022.

President Narendra Modi did not meet with Xi and publicly chastised Russia's behavior, stating that this is "not an era for war."¹⁹⁶ Indian officials have avoided statements that reinforce China's narrative blaming Russia's invasion of Ukraine on the United States and NATO, and they disagreed with Chinese efforts to use the SCO to oppose international sanctions on Russia.¹⁹⁷ When Foreign Minister Wang encouraged the secretary general of the SCO that the organization should play an active role in the conflict, former Indian diplomat Yogesh Gupta responded that the SCO, driven by China and Russia, does not have "a useful role in the resolution of the Ukraine conflict."¹⁹⁸ The Indian military and the PLA met at Russia's annual strategic military exercise VOSTOK-2022, though India limited its participation by only sending a single regiment and restricting their activities.¹⁹⁹ Most notably, the Indian Armed Forces did not participate in the Naval Exercises (which included Chinese and Russian warships), an abstention that Indian media claims was a sign of support for Japanese opposition to the exercises.²⁰⁰ Prior to the military exercises, Lt. General Prakash Menon, a former military advisor to the Government of India in the National Security Council Secretariat, suggested that by limiting its participation, India may "retain its presence while signaling distance" from China and Russia.²⁰¹

China's Efforts in Southeast Asia and the Pacific Islands See Mixed Results

China Continues to Be Assertive in Southeast Asia

In November 2021, Xi chaired a summit to commemorate the 30th anniversary of China-ASEAN relations and announced the relationship's upgrade to a "comprehensive strategic partnership," the highest level of partnership in China's diplomatic parlance.²⁰² Foreign Minister Wang capitalized on this designation in June 2022 with a five-nation Southeast Asia tour urging ASEAN countries to expedite long-ongoing negotiations over a South China Sea Code of Conduct.*²⁰³ Despite Foreign Minister Wang's emphasis on open regionalism and prioritization of ASEAN in China's foreign policymaking, China undermines its supposed commitment to a rules-based code of conduct for the South China Sea with a growing naval presence buttressing its illegal maritime claims.²⁰⁴

Compromising Maritime Safety in the South China Sea

In November 2021, China began blocking public access to shipping location data, known as Automatic Identification System (AIS) signals, citing national security concerns that "the intelligence extracted from [AIS] data endangers China's economic se-

*Negotiations over a proposed South China Sea Code of Conduct began in 1992 as a way to manage tensions and reduce the likelihood of conflict in the resource-rich waterways of the South China Sea. The proposed Code of Conduct's role has naturally been an important talking point in Sino-ASEAN relations for many years, although its realization likely remains far off despite such pledges. Sebastian Strangio, "Chinese FM Pledges Progress on South China Sea Code of Conduct," *Diplomat*, July 13, 2022; Asia Maritime Transparency Initiative: South China Sea Expert Working Group, "A Blueprint for a South China Sea Code of Conduct," *Center for Strategic and International Studies*, October 11, 2018.

Compromising Maritime Safety in the South China Sea— Continued

curity and the harm cannot be ignored.”*²⁰⁵ According to data cited in a November 2021 *Financial Times* piece, AIS signals transmitted from ships in Chinese waters fell dramatically from a peak of over 15 million per day in October to just over one million per day in early November.†²⁰⁶ Global shipping data provider VesselsValue corroborated similar trends, reporting “an industry wide reduction in terrestrial AIS signals in China,” according to Charlotte Cook, head trade analyst at VesselsValue.‡²⁰⁷ Broadcasting AIS data is an international standard that ensures maritime safety and transparency, and commercial services aggregate the data to monitor commercial ship traffic and analyze economic activity.§²⁰⁸ By blocking public access to its AIS broadcasts, China’s government further obfuscates its commercial maritime activities and increases challenges to identifying and publicizing destabilizing activities such as enforcing illegal maritime claims in the South China Sea.¶

AIS screening is also an effective method to ensure compliance with international sanctions, particularly for monitoring ships involved in ship-to-ship transfers or trading in areas perceived to be high-risk near sanctioned jurisdictions. A U.S. government advisory issued by the U.S. Department of the Treasury’s Office of Foreign Assets Control in May 2020 reveals that AIS switch-offs (or “gaps”) are key red flags that might be indicative of illegal ac-

*Former staff writer and contributor for the *War Zone* military and defense online circulation Brett Tingley describes AIS as the “global standard for tracking and identifying ships at sea.” Brett Tingley, “Scores of ‘Dark Vessels’ Belonging to China’s Maritime Militias Are Operating in Contested Waters,” *War Zone*, February 22, 2022.

†In 2000, the International Maritime Organization adopted a requirement for AIS systems to be carried on most ships. The requirement took effect in 2004. Certain provisions within the mandate stipulate that a flag state may exempt certain ships from this requirement. International Maritime Organization, International Convention for the Safety of Life at Sea, Chapter V; Regulation 19—Carriage Requirements for Shipborne Navigational Systems and Equipment, London, 1974.

‡Terrestrial AIS data refers to signals that are transmitted to coastline stations from ships. Coastline stations and satellites work in tandem to combine AIS coverage in order to create a more detailed and accurate vessel tracking system. In the event AIS data are not transmitted via coastline stations, information can be still exchanged via satellite; however, a press release by Unseenlabs, a European radio frequency signal processing firm, stated that “most ships are not visible from traditional surveillance systems once they get close to Chinese shores.” Unseenlabs, “Unseenlabs Reveals Ships That Vanished from Conventional Geolocation Systems,” February 18, 2022.

§Although originally designed to prevent collisions between ships and support rescue efforts in disasters, AIS has also developed into a tool governments can use to measure activity in overseas ports and enhance supply chain visibility. China’s new data protection regime restricts the transfer of sensitive data overseas. Firms wishing to do so must first undergo a security assessment by China’s information protection body, the Cyberspace Administration of China. Eleanor Olcott, Harry Dempsey, and Steven Bernard, “China Blocks Access to Shipping Location Data,” *Financial Times*, November 23, 2021; Gavin Maguire, Muyu Xu, and Xie Yu, “Investors in the Dark on China Industrial Transport as Data Curbs Bite,” *Reuters*, April 25, 2022.

¶According to the U.S. Department of Defense, China is able to leverage unique maritime militias—People’s Armed Forces Maritime Militias, or PAFMM—which, in addition to the PLA Navy (PLAN) and China Coast Guard (CCG), have “played significant roles in a number of military campaigns and coercive incidents over the years, and also supported PRC fishing fleets operating in disputed waters.” More specifically, the Department of Defense further notes that these “armed reserve force of civilians available for mobilization . . . perform tasks including safeguarding maritime claims, often conducted in conjunction or coordination with the PLAN and the CCG.” Office of the U.S. Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China*, 2021, 75; Brett Tingley, “Scores of ‘Dark Vessels’ Belonging to China’s Maritime Militias Are Operating in Contested Waters,” *War Zone*, February 22, 2022.

Compromising Maritime Safety in the South China Sea— *Continued*

tivity such as the evasion of sanctions.²⁰⁹ The Yellow Sea, which lies between mainland China and the Korean peninsula, has been identified as one such high-risk area for illicit ship-to-ship transfers involving North Korean goods, primarily coal and metal ore, in violation of UN sanctions. Former Data and Analytic Director at NK News Leo Byrne assesses the legal implications of China's actions to mask AIS signals, stating, "If [the hidden AIS] data contains information on U.N. designated vessels moving through Chinese territorial waters—which it almost certainly does—then Beijing would likely be violating the wording of Resolution 2397 by not reporting such information to the U.N. and what action it took concerning it."²¹⁰ China has employed this same approach to import oil from Iran and Venezuela while evading U.S. sanctions.²¹¹ (For more on China's energy imports from authoritarian countries, see Chapter 2, Section 3, "China's Energy Plans and Practices.")

China Looks to Usher In a "New Golden Era" with the Philippines

On July 6, Foreign Minister Wang met with Philippine counterpart Enrique Manalo in Manila for bilateral talks, during which Wang expressed China's intention to work with newly elected Philippines President Ferdinand Marcos Jr. and usher in a "new golden era" between the two countries.²¹² President Marcos was generally considered to be favorable to Chinese interests by many analysts, but he insists close ties with Beijing will not compromise Philippine sovereignty.²¹³ Foreign Minister Wang's visit follows ongoing friction between the two countries in the South China Sea, where, according to the Philippine government, a Chinese Coast Guard ship maneuvered within an unsafe distance of a Philippine patrol vessel near Scarborough Shoal on March 27, 2022, the fourth such reported incident between March of 2021 and 2022.²¹⁴ The Philippines condemned this action as a violation of the 1972 Convention on the International Regulations for Preventing Collisions at Sea.*²¹⁵ In June, Chinese Coast Guard vessels allegedly made "direct threats" against Philippine supply boats attempting to replenish a contingent of marines stationed at a Manila-held outpost in the waters around the Spratly Islands where China has advanced illegal claims.†²¹⁶

*The Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) were published by the International Maritime Organization and define the "rules of the road" among other terms and conditions by which ships are required to abide when at sea to prevent collisions. The convention remains the current standard for navigation rules among seafaring nations globally. International Maritime Organization, Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs), October 20, 1972; U.S. Department of Homeland Security, U.S. Coast Guard, *Amalgamated International & U.S. Inland Navigation Rules*.

†China Coast Guard ships No. 4302 and No. 5304 tailed supply boats headed for the *Sierra Madre* outpost, a former U.S. Navy landing ship that was deliberately run aground near the Second Thomas Shoal in 1999. The boat has since been used as an outpost for the Philippine Navy and is routinely supplied by various fishing boats and other vessels. According to Philippine media, China Coast Guard ship No. 5304 verbally warned the crew of *Sierra Madre* via radio of "consequences" should the Philippines "insist on making trouble." John Feng, "China Warns Philippine Ships 'Making Trouble' as Island Dispute Escalates," *Newsweek*, July 6, 2022.

China's Increasingly Brazen Push for Influence in the Pacific Islands

A series of Chinese engagements and agreements with Pacific Island countries over the past year cast new light on China's interest in deepening ties and growing its security presence in the region. In April, China signed a bilateral security agreement with the Solomon Islands that greatly expands access to the region for China's armed forces.²¹⁷ Motivations for the government of the Solomon Islands pursuing the agreement with China likely include a desire for Chinese assistance protecting against internal threats in light of significant recent unrest and opposition to Solomon Islands Prime Minister Manasseh Sogavare's regime.²¹⁸ For China, the deal could provide not only an ability to protect its own interests in the Solomon Islands but also maritime access to a strategically important region from which it can monitor the activities of U.S. and allied air and naval forces and potentially complicate their attempts to intervene in a Taiwan scenario.²¹⁹ Although it is unclear what this portends, the government of the Solomon Islands subsequently refused to grant permission for routine visits by U.S. and UK naval vessels.²²⁰ (For more on Beijing's deal with the government of the Solomon Islands, see "The PLA Seeks Overseas Basing Opportunities.") During the U.S.-Pacific Island Country Summit in September, the government of the Solomon Islands reportedly refused to sign the U.S.-Pacific Partnership agreement until even indirect references to China were removed from the draft.*²²¹

In May, Foreign Minister Wang traveled to the region to meet with Pacific Island governments both in bilateral meetings and as a group at the Second China-Pacific Island Countries' Foreign Ministers Meeting.†²²² Ahead of the visit, he circulated prewritten drafts

*The Biden Administration hosted the first ever U.S.-Pacific Islands Summit in Washington, DC on September 28 and 29, 2022. At the summit, the governments of the Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, the Marshall Islands, Nauru, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and the United States signed the U.S.-Pacific Partnership agreement committing to deepening cooperation and partnerships in the region. According to reporting by *Reuters*, a note signed by the Embassy of the Solomon Islands in Washington before the summit expressed the intention of the Solomon Islands government not to sign the proposed declaration of the U.S.-Pacific Partnership. Solomon Islands Foreign Minister Jeremiah Manele later told reporters that indirect references to China in the draft declaration "put [the Solomon Islands government] in a position where we'll have to choose sides." Foreign Minister Manele is further reported to have stated, "In the initial draft, there were some references that we were not comfortable with, but then with the officials, after discussions and negotiations, we were able to find common ground." Solomon Islands Prime Minister Sogavare did ultimately sign the declaration, which does not mention China but does include general reaffirmations of the importance of international law, territorial integrity, and sovereignty in the region. Reporting does not reveal what indirect references were taken out. Nick Perry, "Solomon Islands Insisted China References Be Removed Before Signing US-Pacific Partnership Declaration," *Diplomat*, October 5, 2022; White House, *Declaration on U.S.-Pacific Partnership*, September 29, 2022; Kristy Needham et al., "Solomon Islands Tells Pacific Islands It Won't Sign White House Summit Declaration -Note," *Reuters*, September 28, 2022; U.S. Department of State, *U.S. Pacific Island Country Summit*, 2022.

†The first China-Pacific Island Countries' Foreign Ministers' Meeting had met virtually in October 2021. Foreign Minister Wang met with the foreign ministers of Pacific Island countries that recognize Beijing. Pacific Islands countries that recognize Taiwan, namely the Marshall Islands, Nauru, Palau, and Tuvalu, did not participate. Participants agreed to support one another on "issues involving each other's core interests and major concerns," and participating Pacific Island countries agreed to abide by China's "One China" principle. The joint statement from the meeting endorsed the Belt and Road Initiative and Xi's community of common human destiny as well as his Global Development Initiative. It also contained language aimed at bolstering China's image, such as formal congratulations to the CCP on the celebration of its centennial, commendations to China's government for its handling of the COVID-19 pandemic, and an expression of support for Beijing hosting the 2021 Winter Olympics. Participants agreed to develop a regular meeting mechanism and established several topically based subforums on specific topics. Embassy of The

of two agreements—which China hoped to pass at the Foreign Minister’s Meeting—entitled China-Pacific Island Countries Common Development Vision and China-Pacific Island Countries Five-Year Action Plan on Common Development (2022–2026).²²³ The two documents summarized plans for extensive Chinese involvement not only on economic issues but also in security fields such as police training, cybersecurity, border security, and criminal investigation.²²⁴ The documents, along with the leaked Solomon Islands agreement, sparked concern in the region. President David Panuelo of the Federated States of Micronesia wrote an open letter to his counterparts in other Pacific Island governments stating his intent to reject the prewritten agreements and urging them to consider doing the same.²²⁵ “The details suggest that China is seeking... to acquire access and control of our region,” he wrote, “with the result being the fracturing of regional peace, security, and stability, all while in the name of accomplishing precisely that task.”²²⁶

Overall, the impact of Foreign Minister Wang’s May tour through the region was decidedly mixed for China. When the Foreign Minister’s meeting convened on May 30, Pacific Island countries did not approve the draft documents or any security cooperation.²²⁷ The meeting produced only limited agreement on mainly economic topics, while Foreign Minister Wang was seemingly left on the back foot seeking to reassure his counterparts of China’s good intentions.²²⁸ The debacle suggests that China both overestimated its ability to set the agenda in the Pacific Islands and underestimated the willingness of Pacific Island states to work together for their own interests.²²⁹ Notwithstanding this setback on the multilateral agenda, Foreign Minister Wang’s tour yielded 52 bilateral agreements with individual Pacific Island governments on a range of topics.²³⁰ China’s interest in the region also remains undiminished, and there are signs that lessons learned from the tour will guide China’s approach moving forward.²³¹ A position paper released by China’s Ministry of Foreign Affairs after the meeting and subsequent comments from Foreign Minister Wang demonstrate an attempt to refocus attention toward the economic and political areas where China has received less pushback in support of more incremental advances in the region.²³²

China Continues to Make Inroads in Africa and Latin America and the Caribbean

In Africa, China Continues to Expand Its Economic, Diplomatic, and Security Presence

In Africa, China continued promoting economic and peacekeeping initiatives to establish itself as a trusted partner in the region. China’s economic ties in Africa are expanding as additional countries join its Belt and Road Initiative (BRI). At the end of 2021, both Eritrea and Guinea-Bissau joined BRI ahead of the Forum on China-Africa Cooperation (FOCAC).²³³ Eritrea’s participation in BRI is

People’s Republic of China in the Republic of Kiribati, *Wang Yi Talks about the Six-Point Consensus and Specific Results of the First China-Pacific Island Countries Foreign Ministers’ Meeting*, October 21, 2021; China’s Ministry of Foreign Affairs, *Joint Statement of China-Pacific Island Countries Foreign Ministers’ Meeting*, October 21, 2021; China’s Ministry of Foreign Affairs, *Wang Yi to Chair the First China-Pacific-Islands Countries Foreign Minister’s Meeting*, October 20, 2021; Taiwan Ministry of Foreign Affairs, *Diplomatic Allies*, October 5, 2022.

particularly attractive to China, giving it additional access to the Horn of Africa where its interests include infrastructure projects and military installations. In January 2022, Morocco became the first North African country to sign a BRI implementation plan.*²³⁴

China is also pursuing larger peacekeeping roles in the Horn of Africa, proposing the Initiative of Peaceful Development in the Horn of Africa in January 2022 and appointing a special envoy to the Horn of Africa.†²³⁵ Xue Bing, a longtime diplomat, was assigned to the new role in which he has emphasized China's soft power efforts, saying, "China will send out engineers and students. We don't send out weapons."²³⁶ Despite Special Envoy Xue's claims, from 2017 to 2021 China supplied 10 percent of Africa's arms imports, which included rocket launchers sent to Ethiopia.²³⁷ One of Special Envoy Xue's primary challenges will be the civil war in Ethiopia, the recipient of billions of dollars in loans from China and home to the African Union headquarters building built by China.²³⁸ Tanzania, Seychelles, and Namibia each receive over 90 percent of their arms transfers from China.²³⁹

While promoting itself as a peace broker, China seeks opportunities to expand its military presence and promote its role as a strong yet helpful partner in Africa. There were no reported major developments for China's military base in Djibouti, but U.S. government reports indicate China may be weighing its options of where to build its next base. The U.S. Department of Defense's (DOD) 2021 report on China's military power notes China has ambitions for additional military facilities on the continent and has "likely considered" Angola, Kenya, Seychelles, and Tanzania for its next base site and has "probably made overtures to Namibia."²⁴⁰ Additionally, in a House Armed Services Committee hearing on March 17, 2022, General Stephen Townsend, commander of U.S. Africa Command, explained that China is actively seeking a naval base in West Africa, particularly in Equatorial Guinea, where it has already built a commercial but potentially dual-use port.²⁴¹ China has interests on the eastern half of the continent, where it can access the Indian Ocean, as well as interests in western Africa, giving it access to the Atlantic Ocean—both critical access points for China's trade and military ambitions. (For more on China's ambitions in the Indian Ocean, see Chapter 3, Section 3, "China's Activities and Influence in South and Central Asia.") Similar to Djibouti's port infrastructure, which serves commercial and military functions, the facilities in Angola, Kenya, Seychelles, Tanzania, and Namibia all have existing ports that would fit well with China's dual-use basing model.‡ Angola also provides

*While five North African countries, including Algeria, Egypt, Libya, Tunisia, and Morocco, had already signed BRI memoranda of understanding, Morocco is the first among them to sign an implementation plan. The plan outlines China's commitment to invest in Morocco's agricultural, health, and financial industries as well as joint ventures in the energy sector. Ben Zhao, "Morocco Belt and Road Deal Could Give China Gateway to Mediterranean, Experts Say," *South China Morning Post*, January 8, 2022; China's National Development and Reform Commission, "Implementation Plan of Jointly Building the BRI between China and Morocco Signed via Video Conference," January 5, 2022.

†The special envoy position is a separate diplomatic position from an ambassadorship. China also has a special envoy for the Middle East, Zhai Jun, who meets with top leaders in the region to discuss bilateral relations and promote Chinese interests. He has played a particular role in discussions on the Israel-Palestine situation. *Beijing Review*, "New Special Envoy on Middle East Affairs," September 12, 2019.

‡Dual use refers to ports owned or invested in by Chinese firms that serve both commercial and military activities. As a report by the Brookings Institution explains, the "mixing of com-

7.5 percent of the imported crude oil to China, making it China's fifth-largest crude oil supplier and its top African supplier as of 2021.²⁴²

China Pushes Vaccine Diplomacy, Belt and Road in Latin America and the Caribbean

In Latin America and the Caribbean, China's economic investments and humanitarian initiatives coincided with its diplomatic push for countries to drop official diplomatic ties with Taiwan. In December 2021, Nicaragua ended its diplomatic ties to Taiwan to recognize China, with Nicaragua's Foreign Ministry claiming in an official statement that Taiwan is an "inalienable part of Chinese territory."²⁴³ That same month, China donated one million doses of COVID-19 vaccines to Nicaragua.²⁴⁴ Additionally, China is taking steps to build vaccine manufacturing sites in Latin America and has already reached agreements to build factories in Ecuador, Chile, Colombia, and Brazil.²⁴⁵ In April 2022, Foreign Minister Wang announced a new disaster relief fund for Caribbean countries to provide economic and technical aid "without any political strings attached."²⁴⁶ Coverage of the announcement, however, cites Caribbean countries' support for safeguarding China's "sovereignty and territorial integrity" and its efforts in "realizing national reunification."²⁴⁷

China continued to promote its interests in the region through the China-Community of Latin American and Caribbean States (CELAC) Forum, as most recently outlined in the CELAC Forum Joint Action Plan (2022–2024) released in late 2021. Highlights from this plan include China's promotion of BRI projects, cooperation in the aeronautical and space sectors, and China's interests in the Latin American and Caribbean agriculture sector.²⁴⁸ The plan also discusses expanding Confucius Institutes in the region and adding Mandarin to state curricula.²⁴⁹

China Bolsters Security Ties with Saudi Arabia and Iran

The first quarter of 2022 saw significant Chinese diplomatic and security engagement with Saudi Arabia and Iran, two of Beijing's major partners in the Middle East. While primarily economic and symbolic in nature, the tenor of the bilateral dialogues reinforced a number of troubling trends, particularly regarding "arms transfers; drones, dual-use, and missile technology; and cyber and intelligence capabilities."²⁵⁰ China's Minister of National Defense, General Wei Fenghe, met with Saudi Arabia's Deputy Defense Minister Khalid bin Salman on January 26 and expressed China's willingness to "promote the continuous development of bilateral relations," accord-

mercial and strategic agenda—a feature of Beijing's state model—suggests the PLA could leverage or upgrade these facilities for military purposes if the need arose." China's construction of deep-water ports with extended piers easily accommodates aircraft carriers and other warships. For example, prior to 2016 China denied any plans for building a military base in Djibouti and promoted its port construction plans as purely commercial. China's multipurpose port was then expanded to include the naval base, making it China's first overseas military outpost. According to the National Bureau of Asian Research, "There are 61 African ports in which Chinese firms have or had a verifiable role as builder, financier, owner, or operator of all or part of the facility." Paul Nantulya, "Considerations for a Prospective New Chinese Naval Base in Africa," *Africa Center for Strategic Studies*, May 12, 2022; Nadège Rolland, "(In)Roads and Outposts, Critical Infrastructure in China's Africa Strategy," *National Bureau of Asian Research*, May 2022, 11; Zach Vertin, "Great Power Rivalry in the Red Sea: China's Experiment in Djibouti and Implications for the United States," *Brookings Institution*, June 2020, 8.

ing to reporting by China's Ministry of National Defense.²⁵¹ These meetings came one month after a CNN report revealed what U.S. intelligence officials believe to be potential Chinese assistance to Saudi Arabia in its ballistic missile production.²⁵² In mid-January, Foreign Minister Wang hosted his Iranian counterpart, Hossein Amir-Abdollahian, in Wuxi, Jiangsu Province, to discuss the 25-year cooperation agreement the two countries signed on March 2021.*²⁵³ While no specific projects were announced, the Iranian foreign minister asserted that the meeting ushered in the implementation stage of the comprehensive agreement between the two countries.²⁵⁴

Most notable, however, was a senior Chinese military delegation to Iran in late April headed by Minister Wei.²⁵⁵ In Tehran, Chinese delegates met with a handful of Iran's leading officials, including President Ebrahim Raisi.† According to a readout of the April 27 meeting by *VOA News*, President Raisi expressed "his government's desire for closer cooperation with China," stating that Iran and China "share weal and woe."‡²⁵⁶ In the midst of stalled negotiations this year to revive Tehran's nuclear deal with world powers, closer cooperation with China could help counteract what the Iranian president described as U.S. "unilateralism, hegemony, and external interference."²⁵⁷

According to a Chinese defense ministry statement, Minister Wei affirmed the PLA's "willing[ness] to maintain strategic communication" with Iran's armed forces in an effort "to push the development of military-to-military relations to a higher level."²⁵⁸ In the end, both sides committed to enhancing bilateral cooperation across all spheres by conducting high-level strategic dialogue, increasing military exchanges, and organizing joint exercises.²⁵⁹ Former Chinese Ambassador to Iran Hua Liming called the military communication between China and Iran "unprecedented."²⁶⁰

North Korea Benefits from China-Russia Partnership

As China and Russia's relationship grows closer, North Korea aims to benefit from their combined force and push back against U.S. and regional pressure on its missile and nuclear programs. Before Russia's invasion of Ukraine, North Korean leader Kim Jong Un congratulated China on the Beijing Olympics and vowed to strengthen cooperation with the country to "frustrate" threats from the United States and its allies.²⁶¹ North Korea has also been vocal about its support for Russia and China's claims that the United States is the

*Chinese Foreign Minister Wang and his counterpart, then Iranian Foreign Minister Mohammad Javad Zarif, signed the China-Iran Comprehensive Strategic Partnership in Tehran on March 27, 2021. Under the agreement, which seeks to further develop the Iranian-Chinese relationship over a 25-year timeframe, China will reportedly invest \$400 billion in Iran's economy in exchange for a steady supply of Iranian oil at heavily discounted prices. Experts and observers have been skeptical of the deal's scope and feasibility since details of the pact first surfaced in 2020. Farnaz Fassihi and Steven Lee Myers, "China, with \$400 Billion Iran Deal, Could Deepen Influence in Mideast," *New York Times*, March 27, 2021; Ariel Cohen, "China-Iran \$400 Billion Accord: A Power Shift Threatens Western Energy," *Forbes*, April 5, 2021; Keith J. Krach and Brian H. Hook, "Iran and China, the Totalitarian Twins," *Wall Street Journal*, July 20, 2020.

†Other senior Iranian officials included Armed Forces General Staff Chief of Staff Mohammad Bagheri and Defense Minister Mohammad Reza Ashtiani. Officers of the Islamic Revolutionary Guard Corps (IRGC) were also pictured in the meetings. Tuvia Gering and Jason M. Brodsky, "Not 'Business as Usual': The Chinese Military's Visit to Iran," *Middle East Institute*, May 16, 2022. State Council of the People's Republic of China, *Iranian President Meets with Chinese Defense Minister*, April 28, 2022.

‡"Sharing weal and woe" is an expression meant to signify "both in times of happiness and success and in times of sadness and difficulty." *Farlex Dictionary of Idioms*. S.v. "In Weal and Woe."

“root cause of the Ukrainian crisis,” citing Russia’s “reasonable and just demand... for security.”²⁶² On May 26, China and Russia vetoed a draft UN Security Council resolution that would tighten sanctions against North Korea in response to its ballistic missile launches. It was the first time a draft resolution condemning North Korea’s nuclear and missile programs failed to pass the UN Security Council since the UN started punishing Pyongyang with sanctions in 2006 after its first nuclear test.²⁶³ In June, commercial satellite imagery suggested North Korea may be preparing for a seventh nuclear test.²⁶⁴ In September and October, Pyongyang conducted missile tests, including a launch over Japan, and flew warplanes near the South Korean border.²⁶⁵

The extent of North Korea’s reliance on China to evade international sanctions remained opaque in 2022, but reporting based on satellite imagery indicates North Korea continues to conduct illicit trade with China. In spring 2022, North Korean cargo ships arrived at China’s Longkou Port in Shandong Province, likely unloading coal in exchange for goods like fertilizer or rice, despite being banned by UN sanctions.²⁶⁶ As a 2022 UN report notes, this bartering system allows North Korea and China to avoid “the use of the international financial system to further evade sanctions.”²⁶⁷ While information offered by Chinese authorities provides little visibility into these port transactions, UN reporting outlines a number of cases where banned cargo appeared to be offloaded or loaded at Chinese ports. For example, AIS tracking found that a North Korean vessel had previously carried coal to China’s Yantai and Longkou ports in August 2021, but Chinese officials reported that the cargo ship entered the ports empty-loaded and left with agricultural supplies.²⁶⁸ Investigations into these cases continue as China refuses to provide any assistance.

China’s Military Advancements

The PLA received great attention in the runup to the 20th Party Congress and saw steady improvements in its capabilities, although it continued to struggle with weaknesses in its military personnel. Despite anticipating slower economic growth in 2022, the CCP increased the PLA’s official defense budget* by 7.1 percent this year, an increase greater than last year and higher than the government’s economic growth target.²⁶⁹ As a result, the percentage of gross domestic product China now devotes to defense has begun to increase. The PLA’s official budget is also growing at a faster rate than it has in the last two years: CCP leaders increased the PLA’s official budget by 6.8 percent in 2021 and by 6.6 percent in 2020.²⁷⁰ According to an independent analysis by the Stockholm International Peace Research Institute, as of the end of 2021 China’s real military spending had grown for 27 consecutive years.²⁷¹

China also ramped up its displays of military force against Taiwan as part of a more aggressive stance that included diplomatic and economic coercion.²⁷² Throughout the year, the PLA escalated its

*China’s government does not report all defense spending in its official budget. Its official figures are inconsistent and cannot be verified. In 2021, for example, Janes experts assessed that China’s defense spending was 25 percent higher than officially reported. Jon Grevatt and Andrew MacDonald, “China Announces 6.8% Increase in 2021 Defense Budget,” *Janes Defense Weekly*, March 5, 2021.

intimidating and frequent operations in the air and waters around the island, violating Taiwan's air defense identification zone on an almost daily basis to normalize its presence in the area.²⁷³ In August, China conducted large-scale live-fire exercises after Speaker of the U.S. House of Representatives Nancy Pelosi's visit to Taiwan.²⁷⁴ (For more on China's changing stance on Taiwan, see Chapter 4, "Taiwan.")

Emphasis on Xi's Personal Authority over the PLA

Throughout 2022, General Secretary Xi has taken subtle steps to emphasize his personal authority over the PLA. This year, the annual training mobilization order, typically issued by the Central Military Commission under Xi's name, was noticeably briefer and more personal than the orders issued from the Central Military Commission in prior years. The order is unusual for stating "I order" and for its encouraging tone that called on the PLA to "greet the opening of the 20th Party Congress with high spirits and the results of first-class military training," directly tying military capabilities to Xi's continuation of power.²⁷⁵ In contrast, the PLA training mobilization orders in 2019 through 2021 were issued from the Central Military Commission and were longer documents laden with language on the PLA's need for improvement.²⁷⁶

On June 17, 2022, the PLA Navy launched its third aircraft carrier, *Fujian*, even though the carrier will not be combat ready for at least another five years.²⁷⁷ The timing of the carrier's launch is likely a political decision rather than a military one, in which signaling progress had more value than achieving completeness.²⁷⁸ The ship's manufacturer, China State Shipbuilding Corporation, missed the initial launch date for the carrier on June 3, and by the ship's launch its radar and weapons systems were still visibly not in place.²⁷⁹ Instead of delaying the launch a second time, China State Shipbuilding Corporation held a premature ribbon-cutting ceremony for *Fujian*. In the leadup to the 20th Party Congress, CCP leaders' desire to demonstrate the PLA's growing capabilities may have created political pressure to accelerate the ship's launch and likely outweighed the technical requirements of construction and outfitting.²⁸⁰

Steady Improvements in the PLA

The PLA Air Force has continued to improve its fighter pilot training to keep pace with the record quantities of new warplanes produced in 2021.²⁸¹ In July, the head of the PLA Navy's pilot recruitment office stated that he had enough pilots in training to meet the demands* of the new carrier-based fighter jets.²⁸² In late 2021 and 2022, the PLA Air Force eliminated intermediate flight training on less capable aircraft to accelerate pilot training on advanced platforms.²⁸³ Derek Solen, senior researcher at China Aerospace Studies Institute, described the process of replacing jet engine trainers with the JL-10 jet as providing a "more effective bridge between the PLAAF's [PLA Air Force] primary trainers and its fourth and fifth

*With the addition of a third aircraft carrier, the PLA will require more pilots and pilots that can fly a wider variety of air frames. *Fujian* is the first of China's carriers to use an electromagnetic catapult to launch aircraft from the deck. This will enable *Fujian* to launch larger and heavier aircraft than previously required. Jack Lau, "China Launches Fujian, PLA Navy's 3rd Aircraft Carrier," *South China Morning Post*, June 17, 2022.

generation aircraft.”²⁸⁴ This increase in aircraft quality follows continued increases in training quality as exercises include more flying in conditions of low visibility and inclement weather and at higher speeds.²⁸⁵ U.S. Air Force General Kenneth Wilsbach, commander of Pacific Air Forces, assessed noticeable improvements to PLA Air Force pilots’ flying ability, particularly in the J-20, a fifth-generation fighter jet designed to contend with the United States’ F-22 and F-35.²⁸⁶

In addition to improving pilot quantity and quality, the PLA is at times encouraging* dangerous flying behavior and intercept tactics. At the Shangri-La Dialogue in June 2022, U.S. Defense Secretary Lloyd Austin condemned the “alarming increase in the number of unsafe aerial intercepts and confrontations at sea by PLA aircraft and vessels.”²⁸⁷ In 2022, PLA Air Force aircraft deployed metal chaff in front of Australian surveillance planes in the South China Sea and repeatedly buzzed a Canadian plane that was monitoring North Korea to enforce UN sanctions.²⁸⁸ PLA aircraft have also intercepted U.S. aircraft over the South China Sea using unsafe and unprofessional tactics inconsistent with the 2015 agreement between the U.S. Department of Defense and the Chinese Ministry of National Defense on safety guidelines for military air encounters, including mandatory communication rules and minimum required distances for disengagement.²⁸⁹ The rise in PLA pilots’ dangerous behavior increases the risk of midair collisions or crashes for U.S. and allied pilots.

The Central Military Commission Issues Trial Guidelines for Non-War Military Activities

On June 13, 2022, the Central Military Commission issued its Outline for Non-War Military Activities (For Trial Implementation), which Chinese state media notes primarily systematizes and provides a legal basis for the PLA’s existing practice of conducting non-war military actions.²⁹⁰ The 2022 trial guidelines are another step toward codifying a PLA mission set that includes peacetime operations that are far from China’s shores and occur without authorities such as a UN mandate. Senior Colonel Tan Kefai, a spokesperson for China’s Ministry of National Defense, reaffirmed that the purpose of the trial outline is to “standardize the organization and implementation of non-war military activities.”²⁹¹

Although they signal that the PLA is growing into its global mission set, the 2022 trial guidelines further regulate an existing PLA capability and do not necessarily signal an immediate change in PLA force employment. The PLA has been developing the concept of non-war military activities since before the term’s first appearance in the 2006 textbook *Science of Campaigns*.²⁹² The concept was first

*According to Collin Koh, research fellow at the Institute of Defense and Strategic Studies in Singapore, the PLA teaches pilots to emulate dangerous practices while venerating pilots like Lt. Cmdr. Wang Wei to inspire the next generation of fighter pilots. Wang Wei died in 2001 after performing dangerous maneuvers leading to a collision between his fighter jet and a U.S. Navy EP-3 reconnaissance aircraft over the South China Sea. He is commemorated each April 1 as a protector of China and elevated as an example of courage for new pilots to follow. Austin Ramzy, “Chinese Pilots Sent a Message. American Allies Said They Went Too Far,” *New York Times*, June 9, 2022; *Naval History and Heritage Command*, “EP-3 Collision, Crew Detainment, Release, and Homecoming,” August 18, 2021; *China Military Online*, “Wang Wei: A Heroic Guardian of China’s Territorial Airspace and Waters | Outstanding CPC Members in the PLA,” August 4, 2021.

announced to the world in China's 2008 Defense White Paper following several years of the PLA's research into U.S. military operations other than war (MOOTW).²⁹³ The 2022 trial guidelines may not be final, and the defined missions and types of missions under this umbrella PLA concept may continue to evolve.²⁹⁴

The PLA's "Non-War Military Activities"

The PLA's concept of non-war military activities is influenced by but not equivalent to DOD's concept of military operations other than war (MOOTW). The U.S. Army first defined MOOTW in 1993, and by 1995 the Joint Force accepted the concept, which focuses on "detering war, resolving conflict, promoting peace, and supporting civil authorities in response to domestic crises" involving "elements of both combat and noncombat operations in peacetime, conflict, and war situations."²⁹⁵

In contrast, the PLA's concept of non-war military activities is intended to actively and preemptively shape China's external strategic environment.²⁹⁶ The PLA's 2013 *Science of Military Strategy*, an authoritative study of applied military theory published by the PLA's Academy of Military Sciences, describes non-war military activities as "using a price lesser than war and a mode more flexible than war to obtain greater strategic benefit" and includes the newly defined subcategory of "confrontational non-warfare military activities" under this umbrella concept.²⁹⁷ Similarly, the 2020 *Science of Military Strategy* published as a teaching manual for the PLA by China's National Defense University describes non-war military activities as "the political will of the Party in peacetime and in critical moments."²⁹⁸ According to research by Roderick Lee and Marcus Clay, respectively research director and analyst with the U.S. Air Force's China Aerospace Studies Institute, one leading PLA officer assesses that "under the guise of 'peacetime confrontational military operations,' [non-war military] activities can escalate into a state of military friction, military confrontation, armed conflict, and then local war."²⁹⁹

Although these forms of confrontation may be smaller in scale and scope than what the PLA would consider a large war on a use-of-force spectrum, they may still be significant acts that would require a crisis management response from the United States.³⁰⁰ An expanded scope of authorized peacetime use of force may also facilitate the PLA's operational concept of "using force to prevent war," in which a high degree of military force is used to warn others not to cross a red line that would lead to a higher-intensity conflict.³⁰¹ According to this concept, the PLA may have a lower threshold for use of military force intended to protect their red lines instead of using red lines as a trigger for subsequent use of military force.

The PLA Seeks Overseas Basing Opportunities

The PLA gained ground in its pursuit of greater base access across Eurasia and the Pacific that could support its sustained military operations farther from its shores. In April 2022, Australian offi-

cially leaked an agreement between China and the Solomon Islands to authorize the presence and operation of Chinese military and paramilitary forces in the country.³⁰² Although the final text of the agreement has not been released, the leaked draft established that the Solomon Islands may “request China to send police, armed police, military personnel and other law enforcement and armed forces” to the Solomon Islands to assist in “maintaining social order” or for other mutually agreed-upon purposes.³⁰³ It also established that China may, “according to its own needs” and with the consent of the Solomon Islands, carry out ship visits, logistical replenishment, and stopovers in the Solomon Islands and use relevant forces “to protect the safety of Chinese personnel and major projects.”³⁰⁴ This agreement follows Solomon Islands Prime Minister Sogavare’s late 2021 acceptance of Chinese riot equipment and expert trainers to help protect his regime from civil unrest.³⁰⁵

Similarly, in June 2022 the *Washington Post* quoted a Chinese official confirming that the PLA will use the long-suspected Cambodian naval base Ream on the gulf of Thailand.³⁰⁶ China and Cambodia broke ground on June 8 to revamp the base with the “undisclosed” cost reportedly being borne entirely by Beijing.³⁰⁷ Construction of the controversial upgrade to Cambodia’s largest naval base will be carried out by Chinese state-owned company Metallurgical Group Corporation.*³⁰⁸ A *Washington Post* report quotes an unnamed “Western” official who assessed the PLA would have “exclusive use of the northern portion of the base, while their presence would remain concealed.”³⁰⁹ Ream Naval Base would grant the PLA greater access to the South China Sea and enhance China’s military and economic sway in the Indo-Pacific region.³¹⁰ According to Gregory Poling, director of the Southeast Asia Program and Asia Maritime Transparency Initiative at the Center for Strategic and International Studies, Ream Naval Base “would enhance China’s ability for surveillance and intelligence collection around the Gulf of Thailand and even in the eastern Indian Ocean.”³¹¹ (For more on Ream Naval Base as a potential node of PLA power projection, see the Commission’s 2020 Annual Report, Chapter 3, Section 2, “China’s Growing Power Projection and Expeditionary Capabilities.”)

In late 2021, reports emerged of China building a military facility at the Khalifa port in the United Arab Emirates (UAE) and Chinese intelligence collection ships identified entering the port. The UAE is a strategic partner for the United States in the Middle East in defense and counterterrorism efforts.³¹² The presence of Chinese intelligence collection ships and a military facility in the UAE would present risks to the United States as it plans to sell F-35 fighter jets, which contain critical military technology, to the UAE.³¹³ U.S. officials consider the potential threat of Chinese military access in

* In August 2019, waste from the Ramu nickel plant in Papua New Guinea that was owned by Metallurgical Group Corporation’s subsidiary Metallurgical Corporation of China (MCC) spilled into the Basamuk Bay. The plant, built and operated by MCC, produces a mixed hydroxide that is shipped to China for the production of batteries for electric vehicles. According to testimony from Allan Tidwell, professor of practice at the Georgetown University Walsh School of Foreign Service, the Ramu nickel plant is 85 percent owned by MCC and pumps its mining tailings directly into the sea. Melanie Burton and Tom Daly, “Chinese-Owned Nickel Plant Spills Waste into Papua New Guinea Bay,” *Reuters*, August 28, 2019; Allan Tidwell, oral testimony for U.S.-China Economic and Security Review Commission, *Hearing on Challenges from Chinese Policy in 2022: Zero-COVID, Ukraine, and Pacific Diplomacy*, August 3, 2022, 194.

the UAE a continuing issue, and U.S. intelligence agencies remain in the process of assessing China-UAE cooperation in defense, technology transfer, and other areas affecting U.S. national security interests.³¹⁴ Construction at the Khalifa port has been suspended, effectively halting the military facility's development.³¹⁵

The PLA Invests in Improved Weapons Development

In late 2021 and 2022, the PLA took discrete steps toward improving the quality of weapons and military equipment delivered by its current development and procurement processes. In October 2021, Xi led a military equipment work conference, the first since 2014, and called on the PLA to improve China's weapons development while "targeting a world-class standard and the ability to take the offensive in key battles."³¹⁶ An authoritative commentary published in the *PLA Daily* revealed the official position that although the PLA has shown "great improvement" in its level of weapons and equipment overall, "compared with the world's military powers, there are still many obvious gaps."³¹⁷ Between late 2021 and into 2022, Xi issued three regulations to standardize and improve China's weapons development with a focus on quality and efficiency. The first regulation addressed military equipment procurement, the second standardized the testing and appraisal of military equipment, and the third set interim regulations on the supervision and administration of military equipment procurement contracts.³¹⁸ In June 2022, the PLA Joint Logistics Support Force also established new regulations to standardize PLA procurement requirements, bid review, and contract management across the entire procurement cycle to improve the speed and quality of systems delivered to the PLA.³¹⁹

China Expands Nuclear Arsenal as It Claims to Uphold Global Nonproliferation Regime

China continued to modernize, expand, and diversify its nuclear capabilities in 2021 and 2022 (for more on China's nuclear forces, see Chapter 3, Section 2: "China's Nuclear Forces: Moving beyond a Minimal Deterrent" in the *2021 Annual Report to Congress*).³²⁰ In October 2021, the *Financial Times* reported that the PLA had tested a nuclear-capable hypersonic glide vehicle launched from a rocket in low-earth orbit during two separate tests over the summer, prompting U.S. officials and security analysts to speculate that the weapon could evade U.S. missile defense systems.³²¹ In November 2021, DOD stated in its annual report on Chinese military power that China likely intends to have at least 700 deliverable nuclear warheads by 2027 and 1,000 warheads by 2030, significantly exceeding its previous estimates of its stockpile.*³²² The department also assessed that China would transition a portion of its nuclear forces to a "launch-on-warning"† posture and questioned whether the ongoing nuclear buildup foreshadows changes to China's nu-

*In 2020, DOD predicted China would "double" its stockpile of around 200 nuclear warheads over the next decade. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China: Annual Report to Congress*, September 2020, ix.

†Under a launch-on-warning posture, the PLA would launch nuclear weapons in retaliation for an incoming strike that has been detected by intelligence, surveillance, and reconnaissance (ISR) systems but not yet detonated on Chinese territory. For more, see U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 361.

clear strategy, including a potential abrogation of its longstanding “no first use”^{*} policy.³²³ More recently, *Nikkei* reported in August 2022 that satellite imagery showed evidence China is expanding the infrastructure supporting its nuclear test facilities at Lop Nur, its longtime nuclear weapons testing facility in western China.³²⁴

Throughout the year, Chinese officials and commentators portrayed China as a staunch defender of the global nonproliferation regime and criticized the United States for its nuclear activities despite China’s own history of sharing nuclear and missile technologies with countries of proliferation concern.[†]³²⁵ In January 2022, China was party to a joint statement released by the five permanent members of the UN Security Council that affirmed the importance of reducing nuclear risks and upholding the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).³²⁶ Upon the statement’s release, officials at China’s Ministry of Foreign Affairs touted China’s “no first use” policy and relatively smaller stockpile of nuclear weapons as evidence of its “important contribution to global strategic stability,” placing the onus on the United States and Russia to make progress on nuclear arms control talks first.³²⁷ At the NPT Review Conference in August 2022, the head of China’s delegation, Ambassador Fu Cong, expressed China’s support for the treaty and called on attendees to “reject double standards” in the nonproliferation realm, describing the recent trilateral security pact between the United States, the United Kingdom, and Australia to share nuclear submarine technology as a development that posed “severe nuclear proliferation risks.”³²⁸ Ambassador Fu also called on the United States to withdraw all nuclear weapons from Europe, warning that “any attempt to replicate... NATO’s nuclear sharing model in the Asia-Pacific region would undermine regional strategic stability and would be firmly opposed by the countries in the region and, when necessary, face severe countermeasures.”³²⁹

^{*}After successfully conducting the country’s first nuclear test on October 16, 1964, the Chinese government pledged in a public statement that “China will never at any time and under any circumstances be the first to use nuclear weapons.” China also issued assurances at the UN in 1978 and 1995 that it would never use or threaten to use nuclear weapons against nonnuclear weapon states or nuclear-weapon-free zones. For more, see U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 345.

[†]China has continued to play a concerning role in the global proliferation of missile and nuclear technologies, though the manner in which this proliferation occurs has evolved over time. Whereas two decades ago the Chinese government and state-owned enterprises were the main source of illicit missile and nuclear technologies as well as fissile material to countries like Iran, North Korea, and Pakistan, the U.S. government now assesses the Chinese government has ceased direct involvement in nuclear-related proliferation and transfers of complete missile systems. Rather, Chinese nonstate companies and private individuals play a dominant role in the illicit proliferation of such goods to countries of concern today. The Chinese government turns a blind eye to, and in some cases tacitly supports, these illicit activities. Chinese state-owned enterprises continue to export technology for nuclear energy programs, but they generally do not export fissile material or fissile material production equipment to countries that do not have International Atomic Energy Agency (IAEA) safeguards in place. However, affiliates or subsidiaries of Chinese SOEs have occasionally been implicated in recent proliferation activities that benefit Iran’s WMD activities. For example, China’s Wuhan Sanjiang Export and Import Co. Ltd. was sanctioned by the U.S. Department of the Treasury in 2017 for selling more than \$1 million worth of technology, including radars and missile guidance equipment, to a subsidiary of Iran’s Ministry of Defense and Armed Forces Logistics. Wuhan Sanjiang Export and Import Co. Ltd. is a subsidiary of the large enterprise China Sanjiang Space Group, which is in turn a subsidiary of the SOE China Aerospace Science and Industry Corporation. U.S.-China Economic and Security Review Commission, *2021 Annual Report to Congress*, November 2021, 367–370; Valerie Lincy, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China’s Nuclear Forces*, June 10, 2021, 1–3, 9; Paul Kerr, “Chinese Nuclear and Missile Proliferation,” *Congressional Research Service*, May 17, 2021, 2.

PLA Personnel: A Persistent Weaknesses

In 2022, China's military continued efforts to recruit and develop high-quality* personnel. The first annual recruitment cycle for 2022 emphasized the need to recruit conscripts with a college education† in the fields of science and technology, and local recruitment efforts announced new incentive programs for college-educated recruits.³³⁰ In March, the Central Military Commission announced new regulations to improve noncommissioned officer (NCO) development and professionalism, stating that promotions will now be merit based and solely focused on combat effectiveness instead of time in service.³³¹ In June, the PLA also introduced NCO development program for high school students based on scores from their college admission exams, with the aim of funneling highly educated graduates into military careers.³³² The PLA is further reforming its postgraduate education system to focus on specialized skills for military intelligence, aerospace, and joint operations.³³³ These efforts to improve personnel quality built upon numerous previous initiatives, yet the PLA continues to face persistent problems in personnel retention and training.³³⁴ Ni Lexiong, politics professor at Shanghai University of Political Science and Law, notes the failure of China's military education, which largely came from the Soviet Union,‡ to quickly enable military officers to be sent into real combat.³³⁵ This turnover also affects the quality of PLA training exercises across all services.³³⁶ For example, the annual conscription cycle the PLA employed until 2021 created a lull in the training calendar for three months every year when a large cohort of conscripts decommissioned at once, leaving units severely undermanned before new conscripts finished basic training and joined the unit three months later.³³⁷ In 2021, the PLA implemented a twice-annual conscription cycle to spread the exodus of conscripts§ between two different dates and reduce the degree to which each unit was undermanned.³³⁸ A year after implementation, however, the new system faces structural challenges that the PLA has yet to overcome because the existing institutions to support conscripts' progression through recruitment, pre-enlistment training, and basic training are established for the existing fall recruitment cycle and have been slower to expand in the new spring recruitment cycle.³³⁹

The PLA also aimed to improve the quality of its training exercises by making them more combat realistic. In February 2022, the Central Military Commission issued new regulations on preventing

*Chinese media sources use "high quality" to describe a variety of attributes the PLA seeks in its personnel, including well educated, physically and mentally fit, politically reliable, and combat capable. Huang Panyue, "Xi: Build World-Class Military," *China Daily*, July 30, 2022; China's Embassy in Kazakhstan, *Development of China's National Defense and the Armed Forces in the New Era 2012–2022* (新时代国防和军队建设掠影), July 30, 2022; Huaxia, "Xi Focus: Xi Stresses Strengthening Military Talent Cultivation," *Xinhua*, November 28, 2021.

†For PLA recruitment, both current students and graduates are considered college educated, regardless of how long they have been enrolled.

‡China is likely observing the consequence of poorly trained personnel from Russia's poor combat effectiveness in its war on Ukraine. Marek Posard and Krystyna Holyńska, "Russia's Problems with Military Professionalization," *RAND Corporation*, March 21, 2022.

§Dennis Blasko and Marcus Clay, independent PLA analysts, estimate that conscripts comprise 35 percent of the PLA. Each conscript serves a two-year service, so in a once-per-year cycle, the PLA loses 17.5 percent of its personnel at a time every year. In a twice-per-year cycle, the PLA loses 8.75 percent of its personnel at a time every six months. Marcus Clay and Dennis Blasko, "People Win Wars: The PLA Enlisted Force and Other Related Matters," *War on the Rocks*, July 30, 2020.

and treating injuries in response to increased intensity, difficulty, and realism of PLA training exercises.³⁴⁰ While the PLA has for years stated its intention to transition away from overly scripted and predictable training exercises, these new regulations are one indication the PLA is now adapting to the needs of more realistic training.³⁴¹

Despite Moderate Improvements to PLA Personnel, Significant Challenges Persist

The PLA's leadership has focused on improving personnel quality by increasing professionalism and competence, while at the same time enhancing political reliability following force-wide reorganization in 2016. According to a 2022 report prepared for the Commission by BluePath Labs, the PLA has improved the education level of its recruits and made some effective changes to the training system, yet several key challenges persist.³⁴² For example, despite efforts to improve commanders' operational decision-making, the PLA assesses its commanders are still inadequately trained and prepared for complex modern and joint operations.³⁴³ Recent initiatives include structural changes such as enlarging the command staff of basic fighting units and increasing responsibilities and training for NCOs.³⁴⁴ The NCO programs are of note as they seek to improve and expand the role of NCO, including to create unit-level senior NCOs similar to that of sergeants major and master chiefs in the U.S. military.³⁴⁵ Additionally, concentrated efforts to eliminate rampant corruption throughout the PLA led Xi to declare victory over corruption, yet that declaration may be premature.³⁴⁶ Finally, military service in China continues to be unappealing to China's youth and their parents due to social challenges like family life balance and a continued perception that military service is less prestigious and lucrative than other careers.³⁴⁷ As the PLA targets educated youth for recruitment, the increasing difficulty of finding civilian employment after graduation in China may help military recruitment efforts.³⁴⁸ (For more analysis of the trends and challenges for the personnel in the PLA, please see "Personnel of the People's Liberation Army" by BluePath Labs).

China Cancels Already Infrequent Military-to-Military Engagements with the United States

On August 5, 2022, China canceled three high-level military engagements with the United States in a move that is consistent with Chinese leaders' long-demonstrated reluctance to participate in military-to-military dialogue.³⁴⁹ As part of its response* to Speaker Nancy Pelosi's visit to Taiwan on August 2, 2022, the Chinese Ministry of Foreign Affairs announced the cancelation of the U.S.-China

*In addition to canceling three defense engagements, China's Ministry of Foreign Affairs suspended five nonmilitary engagements: U.S.-China cooperation on the repatriation of illegal immigrants, U.S.-China cooperation on legal assistance in criminal matters, U.S.-China cooperation against transnational crimes, U.S.-China counternarcotics cooperation, and U.S.-China talks on climate change. China's Ministry of Foreign Affairs, *The Ministry of Foreign Affairs Announces Countermeasures in Response to Nancy Pelosi's Visit to Taiwan*, August 5, 2022.

Theater Commanders Talk, the U.S.-China Defense Policy Coordination Talks, and the U.S.-China Military Maritime Consultative Agreement meetings.³⁵⁰ These talks sought to establish mechanisms to diffuse potential crises and prevent an incident like a collision from escalating into a larger conflict.³⁵¹ Despite the importance of military-to-military engagements, the Chinese military has for a long time shown unwillingness to conduct productive bilateral military dialogues by delaying and in some cases declining to attend scheduled meetings, as it did in 2020 with the now canceled Military Maritime Consultative Agreement meetings.³⁵²

In limited military-to-military exchanges with the United States in the first half of 2022, PLA representatives had paid lip service to improving communications* but had not demonstrated willingness to make substantive improvements in the quality of dialogue.³⁵³ On June 10, Defense Secretary Austin met with General Wei on the margins of the Shangri-La Dialogue in Singapore.³⁵⁴ A readout from the meeting by China's Ministry of National Defense suggests General Wei promoted Xi's Global Security Initiative as the most appropriate framework for managing the Ukraine crisis and lectured Defense Secretary Austin on how the United States must "refrain from slandering and smearing China."³⁵⁵ In a video call with Chairman of the U.S. Joint Chiefs of Staff General Mark Milley on July 7, the PLA's Chief of the Joint Staff Department General Li Zuocheng blamed the United States for escalating tensions by "deliberately creating confrontation."³⁵⁶ Although Defense Secretary Austin and General Milley urged their PLA interlocutors to contribute to more substantive dialogue on reducing strategic risk, the meetings produced no change in the Chinese side's longstanding refusal to commit to reliable crisis communications.³⁵⁷ Both General Wei and General Li also placed considerable emphasis on "implement[ing] the important consensus reached by the heads of state,"† suggesting

*In his June 10 meeting with Defense Secretary Austin, General Wei reportedly agreed to "maintain high-level strategic communication, promote strategic mutual trust," and "manage contradictions and divergences... so as not to escalate them into conflicts and confrontation." China's Ministry of National Defense readout of a July 7 video call between General Li and General Milley similarly states, "The two sides believe that maintaining the stable development of the relationship between the two militaries and avoiding triggering conflicts and confrontations is in accordance with the common interest of both sides, [and] the two sides can maintain communication on this." China's Ministry National Defense, *Li Zuocheng Has a Video Call with the U.S. Chairman of the Joint Chiefs of Staff Milley* (李作成与美军参联会主席米莱视频通话), July 8, 2022. Translation; China's Ministry of National Defense, *Chinese Defense Minister Holds Talks with US Counterpart in Singapore*, June 10, 2022.

†This so-called "important consensus reached by the heads of state" appears to refer to what Beijing calls the "Four No's, One Not Intend" (四不一无意). The formulation is shorthand for a set of five commitments Chinese diplomats insist U.S. President Biden made to Xi in a bilateral meeting, namely that the United States "does not seek a new Cold War, does not seek to change China's system, does not seek to strengthen alliance relations against China, does not support 'Taiwan independence, [and] does not intend to have a conflict with China.'" U.S. descriptions of meetings in which the Chinese side references the "Four Nos, One Not Intend" do not use this formulation. China's Ministry National Defense, *Li Zuocheng Has a Video Call with the U.S. Chairman of the Joint Chiefs of Staff Milley* (李作成与美军参联会主席米莱视频通话), July 8, 2022. Translation; U.S. Joint Chiefs of Staff, *Readout of Chairman of the Joint Chiefs of Staff Gen. Mark A. Milley's Video Teleconference with People's Liberation Army of China Chief of the Joint Staff Department Gen. Li Zuocheng*, July 7, 2022; China's Ministry of Foreign Affairs, *Yang Jiechi Holds a Meeting with the U.S. President's National Security Advisor Sullivan* (杨洁篪同美国总统国家安全事务助理沙利文举行会晤), June 14, 2022. Translation; China's Ministry of Foreign Affairs, *President Xi Jinping Has a Video Call with US President Joe Biden*, March 19, 2022; White House, *Readout of President Joseph R. Biden Jr. Call with President Xi Jinping of the People's Republic of China*, March 18, 2022; *Observer Network*, "Wang Yi: U.S. Side's Declaration of the 'Four Nos One Not Intend' Has Been Floating in the Air All Along and Has Never Landed" (王毅: 美方“四不一无意”的表态始终漂浮在空中, 迟迟没有落地), March 7, 2022. Translation.

that even interlocutors selected for dialogue with the secretary of defense and chairman of the joint chiefs of staff may have limited authority to negotiate on issues of strategic communication absent explicit approval from above.³⁵⁸ (For more on suitable counterparts for U.S.-China high-level exchanges, see Chapter 1, “CCP Decision-Making and Xi Jinping’s Centralization of Authority.”)

Space and Counterspace Activities

China continued its progress in becoming a “space power” in all respects, including its military capabilities and diplomacy efforts.* In June 2022, China sent three astronauts on the Shenzhou 14 mission, the third crewed mission to the Tianhe core module, where they will continue construction on the Tiangong space station.³⁵⁹ Before boarding the Shenzhou 14 spacecraft, Chinese astronaut Liu Yang wrote a letter to her children, telling them, “Mom is going to war” and characterizing herself as a “soldier on duty.”³⁶⁰ Separately, two of China’s advanced communications satellites, Shiyang-12-01 and Shiyang-12-02, reportedly conducted evasion maneuvers to avoid monitoring from a U.S. surveillance satellite, and one repositioned itself to look back and monitor the U.S. satellite. The exchange highlighted the lack of international rules and norms in the space domain, specifically for how satellites should approach one another in geostationary orbit.³⁶¹ In March, U.S. Army General James Dickinson, commander of U.S. Space Command, testified before the Senate Armed Services Committee that other Chinese satellites, Shijian-17 and Shijian-21, have robotic arm technology that “could be used in a future system for grappling and disabling other satellites.”³⁶² He went on to note that China also has “multiple ground-based laser systems of varying power levels that could blind or irreversibly damage satellites.”³⁶³

In their diplomatic efforts, Chinese diplomats grew heated over U.S. concerns about China’s lunar exploration program and continued to promote their own norms for space exploration. In response to the U.S.-led Artemis Accords for establishing a common set of principles for civil exploration and use of outer space, China and Russia are jointly promoting the International Lunar Research Station. On July 4, Spokesperson for China’s Ministry of Foreign Affairs Zhao Lijian heatedly dismissed National Aeronautics and Space Administration Administrator Bill Nelson’s concerns about whether China would stop other countries from exploring the moon once it has laid claim to it.³⁶⁴ The same day, during a meeting with Cambodia, Laos, Burma (Myanmar), Thailand, and Vietnam, Foreign Minister Wang invited them and other Southeast Asian nations to join China’s International Lunar Research Station effort.³⁶⁵

* For more on China’s ambitions and progress in space, see U.S.-China Economic and Security Review Commission’s 2019 Annual Report, Chapter 4, Section 3, “China’s Ambitions in Space: Contesting the Final Frontier.”

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SECTION 2: CHINA'S CYBER CAPABILITIES: WARFARE, ESPIONAGE, AND IMPLICATIONS FOR THE UNITED STATES

Abstract

China has engaged in a massive buildup of its cyber capabilities over the past decade and poses a formidable threat to the United States in cyberspace today. The country has achieved this transformation by reorganizing its cyber policymaking institutions, developing sophisticated offensive cyber capabilities, and perpetrating cyberespionage to steal foreign intellectual property at industrial scale. China has also played by a different set of rules than the United States in cyberspace, mandating that civilian companies and researchers report software vulnerabilities they discover to the Chinese government prior to public notification and promoting its “cyber sovereignty” norm in contrast to widely held principles of a free and open global internet. As a result of these long-running efforts, China’s activities in cyberspace are now more stealthy, agile, and dangerous to the United States than they were in the past. Urgent questions remain concerning the United States’ readiness for the China cyber challenge, including the adequacy of resourcing for U.S. military cyber forces, the sufficiency of existing protections for U.S. critical infrastructure, and the scope of public-private cybersecurity cooperation.

Key Findings

- China’s cyber operations pose a serious threat to U.S. government, business, and critical infrastructure networks in the new and highly competitive cyber domain. Under General Secretary of the Chinese Communist Party (CCP) Xi Jinping, the country’s leaders have consistently expressed their intention to become a “cyber superpower.” China has developed formidable offensive cyber capabilities over the past decade and is now a world leader in vulnerability exploitation. As a result, China’s activities in cyberspace constitute a fundamentally different, more complex, and more urgent challenge to the United States today than they did a decade ago.
- China enjoys an asymmetric advantage over the United States in cyberspace due to the CCP’s unwillingness to play by the same rules, reflecting a dynamic observable in other areas of U.S.-China relations. The United States and China diverge sharply on the norms that should guide responsible state behavior in cyberspace during peacetime. The main points of contention are China’s perpetration of cyberespionage for illegitimate economic advantage, its emphasis on state control over the internet under the guise of cyber sovereignty, and its op-

position to the application of certain principles of international law in the cyber domain. China promotes its preferred norms in existing international and regional institutions and is creating new organizations to supplant existing cyber governance mechanisms in line with its vision for the internet.

- The People's Liberation Army (PLA) views cyberspace operations as an important component of information warfare in concert with space, electronic, and psychological warfare capabilities. The Strategic Support Force (SSF) is at the forefront of China's strategic cyberwarfare operations and plans to target both U.S. military assets and critical infrastructure in a crisis or in wartime.
- China's cyberespionage activities are increasingly sophisticated and use advanced tactics, techniques, and procedures (TTPs) such as vulnerability exploitation and third-party compromise to infiltrate victims' networks. China's premier spy agency, the Ministry of State Security (MSS), conducts most global cyberespionage operations and targets political, economic, and personally identifiable information to achieve China's strategic objectives.
- Military-civil fusion underpins China's development of cyber capabilities and conduct of cyber operations. To advance China's military aims, the SSF can mobilize civilian information technology (IT) resources, such as data centers, as well as militias composed of technically competent civilians working in the domestic telecommunications industry, cybersecurity firms, and academia. For its cyberespionage operations, the MSS exploits vulnerabilities submitted to the Chinese government and often employs contractors to carry out state-sponsored cyber operations.
- China's cybersecurity legislation weaponizes the country's cybersecurity industry and research by requiring companies and researchers to submit all discovered software and hardware vulnerabilities to the government before providing them to the vendors that can patch them. This policy, leveraged in combination with domestic hacking competitions and cooperative agreements with Chinese universities, provides China's security services with a steady stream of vulnerabilities to exploit for state-sponsored operations.

Recommendations

- Congress direct the Office of the U.S. Trade Representative to create an updateable list of Chinese firms operating in critical sectors and found to have benefited from coercive intellectual property transfer, including theft. Such a list would enable the U.S. Department of the Treasury to ban investment in and the U.S. Department of Commerce to deny export licenses to these firms and related parties for a rolling period of five years to prevent Chinese beneficiaries from further gaining from U.S. intellectual property loss. If additional authorities are needed, such requests should be made to Congress on an expedited basis.

- Congress direct the U.S. Department of Homeland Security to catalog Chinese-sourced surveillance equipment, first responder communication systems, and smart cities systems used by state and local governments. The Department of Homeland Security shall further identify:
 - Levels of risk from these systems as a result of foreign interference or malicious cyber activity;
 - Plans to remove and replace such equipment to protect U.S. interests; and
 - The necessary resources to implement these plans.
- Congress pass legislation codifying the concept of “systemically important critical infrastructure” (SICI) and requiring SICI-designated entities, defense contractors, and recipients of federal funding for research and development of sensitive and emerging technologies to undertake enhanced hardening and mitigation efforts against cyberattacks. These efforts shall follow cybersecurity standards and guidance as determined by the U.S. Department of Defense and Cybersecurity and Infrastructure Security Agency. Congress should provide appropriate legal liability “safe harbor” provisions to compliant SICI operators and appropriate support as necessary for SICI-designated small- and medium-sized companies to address the cost of compliance. Such legislation would also require that cybersecurity risk mitigation plans be a condition for the Small Business Administration (SBA) to award grants such as those under the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. As part of the regular audit process, SBA and any relevant agencies should ensure implementation of these plans and require certification of compliance.
- Congress direct the U.S. Secretary of the Treasury to prohibit investment in and other financial transactions with any Chinese entities that have been involved in cyber-enabled intelligence collection or theft of intellectual property sponsored by the People’s Republic of China against U.S.-based persons or organizations under authorities pursuant to Executive Order 13694 on “Blocking the Property of Certain Persons Engaging in Significant Malicious Cyber-Enabled Activities” (amended as EO 13757), including any individuals, research institutes, universities, and companies that have been affiliated with Chinese state-sponsored advanced persistent threat (APT) groups or served as contractors for China’s Ministry of State Security or People’s Liberation Army.

Introduction

In early March 2021, U.S. technology corporation Microsoft publicly disclosed that a Chinese state-sponsored threat actor called HAFNIUM had exploited multiple previously unknown vulnerabilities in its Exchange email server software to attack customer networks.¹ The intrusions left a door wide open to tens of thousands of vulnerable email servers that had not yet implemented Microsoft’s patch, allowing hackers unaffiliated with HAFNIUM to opportunistically

infiltrate organizations ranging from municipal governments and small businesses to healthcare providers and manufacturers.² Cybersecurity experts estimated that the systems of at least 30,000 victims in the United States and up to 250,000 victims worldwide had been compromised within a matter of days.³ Four months later, the United States and a coalition of allies* released an unprecedented joint statement attributing the initial breach by HAFNIUM to hackers affiliated with the MSS.⁴ China's "pattern of irresponsible behavior in cyberspace is inconsistent with its stated objective of being seen as a responsible leader in the world," the statement said, highlighting the "major" threat Chinese state-sponsored cyber operations pose to U.S. and allied security.⁵

The Microsoft Exchange hack, while historic in scale, is just one of many high-profile Chinese cyberattacks in recent years that reflect the country's ongoing efforts to transform itself into a "cyber superpower." Whereas a decade ago U.S. analysts ridiculed Chinese state-sponsored cyber operations for their simplicity and sloppiness, Beijing's cyber operators today make use of advanced tactics such as vulnerability exploitation† and third-party compromise‡ to subtly, effectively, and extensively infiltrate victims' networks.⁶ In its 2022 *Global Threat Report*, U.S. cybersecurity firm CrowdStrike assessed that China is a global leader in vulnerability exploitation, highlighting the substantial exploitation development talent within China's domestic hacker community.⁷ The astounding improvement in Chinese cyber capabilities since 2013 is the product of sustained attention at the highest levels of China's political leadership, major reorganizations of its cyber-related institutions, and substantial investments in its future cybersecurity workforce. The United States faces potentially formidable challenges both in contesting China's daily cyber intrusions and in defending itself against China's offensive cyber operations during a high-end conflict.

This section assesses China's military and espionage activities in cyberspace as well as its efforts to increase its influence in global internet governance. First, the section examines the Chinese leadership's view of cyberspace as a strategic domain and its efforts to reorganize the country's cyber institutions to improve offense, defense, and intelligence collection capabilities. Next, it explores the role of cyber capabilities in Chinese doctrinal concepts of information warfare and how the SSF may execute cyberwarfare missions during a crisis or conflict. It then discusses the targets and scale of Chinese state-sponsored cyberespionage, focusing on the MSS and

*The coalition included the "Five Eyes" nations (Australia, Canada, New Zealand, the United Kingdom, and the United States), Japan, the EU, and NATO, and the announcement marked the first time the transatlantic alliance had condemned China's cyber activities. Martin Matishak, "White House Formally Blames China's Ministry of State Security for Microsoft Exchange Hack," *The Record*, July 19, 2021.

†Vulnerability exploitation occurs when an actor exploits flaws or vulnerabilities in software or hardware to infiltrate it for malicious purposes, such as gaining unauthorized access to a device, sabotaging a device, or executing the attacker's commands. A zero-day vulnerability is a flaw in software or hardware that is discovered before its existence becomes known to the party responsible for patching the flaw. An "n-day vulnerability" is a vulnerability that vendors have disclosed and patched. Kelli Vanderlee, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 2–3.

‡Third-party compromise involves an intrusion that abuses a trusted channel, such as that between a service provider and a client. Kelli Vanderlee, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 4.

its extensive use of contractors. Finally, the section evaluates China's increasingly vigorous advocacy for its own cyber norms in international institutions. This section is based on the Commission's February 2022 hearing on the topic as well as open source research and analysis.

Defining Cyberwarfare and Cyberespionage

Academics, journalists, and members of the public often use the term "cyberwarfare" to describe how states such as China use computers and computer networks to cause harm, launch cyberattacks, or complement conventional forms of warfare waged against an adversary.*⁸ There is also no widely accepted definition of "cyberwar," but many definitions emphasize the disruption or destruction of an adversary's military assets, government infrastructure, or civilian infrastructure to achieve strategic purposes.⁹ Some analysts further distinguish between "operational cyberwar," which refers to wartime cyberattacks against military targets to degrade an adversary's means of fighting, and "strategic cyberwar," or cyberattacks launched against an adversary and its society to influence its will, behavior, and policy choices in peacetime or in wartime.¹⁰ Militaries tend to use the term "information warfare," rather than cyberwarfare, to describe how they leverage cyberspace capabilities in concert with other "information-related capabilities" to accomplish military objectives.[†]¹¹

By contrast, cyberespionage is the act of obtaining access to data from a computer system for intelligence collection purposes without the authorization of that system's owner.[‡]¹² Cyberespionage may clandestinely surveil an organization's networks and exfiltrate data for economic gain, competitive advantage, political reasons, or military reasons.¹³ Cyberespionage is typically carried out by the militaries or intelligence services of nation-states against foreign government, commercial, or academic targets, but independent contractors (or "hackers for hire") may also participate in state-sponsored cyberespionage.¹⁴ Cyberespionage eliminates some of the risk associated with traditional espionage techniques, enables greater geographic reach, and massively increases the quantity of information that can be collected at a given time.¹⁵

*A "cyberattack" is an attack, carried out via cyberspace, that targets an organization's use of cyberspace for the purpose of disrupting, disabling, destroying, or maliciously controlling a computing environment or infrastructure. National Institute of Standards and Technology, *Computer Security Resource Center, Cyberattack*.

†Examples of information-related capabilities include cyberspace operations, military information support operations (MISO), military deception operations, civil affairs operations, and electronic warfare. U.S. Department of the Army, *The Conduct of Information Operations* (ATP 3-13.1), October 4, 2018, 1-1.

‡The U.S. Department of Defense previously used the term "computer network operations" (CNO) to refer to computer network attack (CNA), computer network defense (CND), and related computer network exploitation enabling operations (CNE). CNE describes how computer networks can be used to gather data from a target's system for intelligence collection and is used as a shorthand for cyberespionage. Catherine A. Theohary, "Information Warfare: Issues for Congress," *Congressional Research Service*, March 5, 2018, 3; National Institute of Standards and Technology, Computer Security Resource Center, *Computer Network Exploitation (CNE)*.

Key Ideas Driving China's Cyberspace Activities

General Secretary Xi has emphasized that CCP officials implementing cyber policies must hold the “correct” view of cyberspace because “ideas determine actions.”¹⁶ Central elements of the Chinese government’s official view on cyberspace include China’s aspiration for cyber superpower status, the primacy of national security, and cyberspace as a venue for international strategic competition.

Aspiring to Become a Cyber Superpower

The phrase “cyber superpower” is both a political slogan and a unifying strategic concept linking cyber initiatives across sectors.¹⁷ As a slogan invoked frequently by Xi, cyber superpower describes a goal to achieve parity with major powers like the United States in terms of cyber capability and influence on global internet governance.¹⁸ It reflects what researchers at the New America Foundation call “an almost grandiose level of ambition attached to Chinese government and Communist Party plans and development in cyberspace fields.”¹⁹ As a unifying strategic concept, cyber superpower encompasses specific plans and initiatives related to domestic information control, national security, indigenous innovation in core technologies, the digital economy, and China’s influence in global cyber governance.²⁰ The phrase appears in high-level policy documents like China’s 14th Five-Year Plan and has been incorporated into regulatory processes at the Party, ministerial, provincial, and municipal levels of government.²¹

Controlling Cyberspace to Protect National Security

CCP officials believe that left uncontrolled, cyberspace poses grave challenges to their rule and to China’s national security.²² Xi has repeatedly emphasized this concern by declaring, “Without cybersecurity, there is no national security.”²³ He and theorists from the Cyberspace Administration of China (CAC) have also publicly assessed, “If our Party cannot traverse the hurdle represented by the Internet, it cannot traverse the hurdle of remaining in power for the long term.”²⁴

In the CCP’s view, several basic risks stem from cyberspace that must be managed differently. One type of risk is cyber operations perpetrated by foreign adversaries that undermine political and social stability by injecting information the CCP regards as threatening into the Chinese information space.²⁵ Likening subversive ideas conveyed through cyberspace to gunpowder, Xi has stated that “the Internet is at the forefront of the current ideological struggle” and directed his subordinates to maintain “online ideological security” through a mix of censorship and propaganda.²⁶ Similarly, the CCP is concerned about the transmission of negative information about the Party or its policies that could incite the Chinese public to organize against it.²⁷ For example, the CCP swiftly censored social media posts shared by Shanghai residents describing the dire conditions created by authorities’ lockdown of the city in the spring of 2022, even denying citizens’ allegations of loved ones dying after struggling to access medical care or starving amid food shortages.²⁸ Another type of risk is foreign adversary cyber operations that disrupt, damage, or destroy computers, networks, critical infrastruc-

ture, or data the Chinese government regards as important.²⁹ Xi has argued that mitigating these threats requires increased cyber defense, attribution, and incident response capabilities.³⁰ He has also called for new cyber threat information-sharing mechanisms and new cybersecurity standards, among other measures.³¹

Shaping the Competitive Strategic Domain of Cyberspace in China's Favor

Top Chinese leaders view cyberspace as an arena of fierce strategic competition between countries that China must shape in its favor.³² Xi has stated that a country's ability to master the internet determines its rise or fall and that "those who win the internet win the world."³³ He has also expressed the concern that China lags behind the world's most advanced cyber powers and called for accelerating efforts to enhance its strategic influence in cyberspace.³⁴ China's 2016 *National Cyberspace Security Strategy* sums up these efforts in nine "strategic tasks" underscoring the multidimensional way in which Chinese leaders aspire to shape cyberspace within and beyond their borders (see Table 1).³⁵

Table 1: Strategic Tasks Outlined in China's 2016 *National Cyberspace Security Strategy*

No.	Strategic Task	Summary
1	Defend cyberspace sovereignty	Uphold China's sovereignty in cyberspace by managing domestic online activities, protecting domestic IT infrastructure, and "resolutely oppos[ing] all actions to subvert our country's national regime" through IT networks.
2	Safeguard national security	Prevent, curb, and punish any acts that use IT networks to engage in treason, separatism, subversion of the CCP, or the theft or leakage of state secrets.
3	Protect critical information infrastructure*	Protect critical information infrastructure and the data it contains from attacks and destruction. Strengthen risk assessment and information-sharing mechanisms pertinent to critical information infrastructure.
4	Strengthen online culture	Use the internet to disseminate socialist values, promote "positive energy,"† prevent the spread of harmful information, and foster traditional Chinese culture.
5	Combat cyberterrorism and crime	Prevent the use of the internet for terrorism, espionage, fraud, drug trafficking, hacking, invasion of citizens' privacy, infringement of intellectual property (IP) rights, dissemination of obscene or sexual materials, or other unlawful activities.

*The strategy defines critical information infrastructure as IT infrastructure that "affects national security, the national economy and the people's livelihood." Sectors involving what the Chinese government considers critical information infrastructure include telecommunications, energy, finance, transportation, education, scientific research, hydropower, manufacturing, and healthcare. Cyberspace Administration of China, *National Cyberspace Security Strategy*, December 27, 2016. Translated by China Copyright and Media.

†"Positive energy" is a propaganda term the CCP uses to describe the need for messages that are uplifting and portray the Party in a flattering light. *China Media Project*, "Positive Energy," April 16, 2021.

Table 1: Strategic Tasks Outlined in China's 2016 National Cyberspace Security Strategy—Continued

No.	Strategic Task	Summary
6	Improve cyber governance	Promulgate and enforce domestic cybersecurity laws and regulations. Interpret and revise existing laws to make them suitable for cyberspace.
7	Reinforce the foundation of cybersecurity	Encourage technological innovation. Support the growth of cybersecurity enterprises, promote the cybersecurity industrial base, and increase the talent pool of cybersecurity professionals.
8	Enhance cyberspace defense capabilities	Build cyber forces “commensurate with our country’s international standing and suited to a strong cyber power.” Invest in cyber detection and defense.
9	Strengthen international cooperation	Reform the global cyber governance system, promote norms acceptable to all countries, and support the leading role of the UN in cyber governance decision-making. Internationalize the management of internet resources. Craft an international treaty on cyberterrorism. Disseminate internet technology globally.

Source: Cyberspace Administration of China, *National Cyberspace Security Strategy*, December 27, 2016. Translated by China Copyright and Media.

Under General Secretary Xi, China Overhauls Its Domestic Cybersecurity Ecosystem

In a series of internal speeches and meetings from 2013 onward, top CCP officials called attention to foreign and domestic challenges in cyberspace that demanded an urgent policy response. The discovery of the Stuxnet computer worm in 2010 and Edward Snowden’s allegations of U.S. government surveillance activities in 2013 likely contributed to concern within the CCP that it was highly vulnerable to U.S. intelligence collection.³⁶ China’s dependence on U.S. and European IT hardware and software exacerbated fears that foreign technology could be exploited or choked off in a crisis.³⁷ China’s critical infrastructure, which top leaders viewed as the “nerve center of economic and social operation,” was extremely vulnerable to disruptive cyberattacks.³⁸ Moreover, cyberspace offered a channel through which China’s enemies could transmit subversive ideas to undermine internal stability, and China had limited influence on the global institutions that shaped cyberspace norms.³⁹ China’s own cyber policymaking process was fragmented, opaque, and dominated by bureaucratic turf wars, giving rise to a situation that state media under General Secretary Xi characterized as “nine dragons managing the flood.”⁴⁰

To resolve these challenges, the CCP embarked on a sweeping reorganization of its cyber governance system around new ideas, in-

*For example, Chinese users were outraged when Microsoft decided to end technical support for the Windows XP operating system in 2014. At the time, more than 70 percent of Chinese personal computers ran the operating system. A poll conducted six years prior on the Chinese digital platform QQ found that 73 percent of respondents said they were using pirated versions of XP. Steven Millward, “Support for Windows XP Is Over, but China Still Has 200 Million PCs Using It,” *Tech in Asia*, April 9, 2014; Ma Yujia, Pang Li, and Keen Zhang, “Microsoft Accused of Hacking Attack,” *China Internet Information Center*, October 21, 2008.

stitutions, and laws.⁴¹ Xi personally led the new system through his role as chair of the Central Cybersecurity and Informationization Leading Small Group, a body he established in 2014 and ultimately elevated to a Central Commission for Cybersecurity and Informationization (CCCI) in 2018.⁴² This top-down design streamlined the policymaking process, enabling Beijing to wield its new cyber governance system for expeditious and far-reaching changes to its military, espionage, and diplomatic activities in cyberspace.⁴³ (For more on Xi's centralization of China's bureaucracy through Party leading small groups and commissions, see Chapter 1, "CCP Decision-Making and Xi Jinping's Centralization of Authority").

China Streamlines Its Cyber Institutions

China's cyber governance system today reflects Xi's decade-long efforts to centralize and optimize the policymaking process for cyberspace around several key institutions. Prior to 2014, responsibility for various cyber-related tasks was fragmented across the Ministry of Public Security (MPS), the Ministry of Industry and Information Technology (MIIT), the Ministry of Propaganda, the PLA, and the intelligence services.⁴⁴ Now, the cyber governance system is led from the top by Xi through his chairmanship of the CCCI.⁴⁵ The CCCI coordinates and oversees the cyber-related activities of numerous Party and state bodies, technical entities, and industry associations (see Figure 1).

New Legal Measures Advance Cybersecurity Standards and Cyberespionage

China has enacted dozens of laws, regulations, and technical standards related to cybersecurity since 2013 (see Appendix I). Taken collectively, these measures strengthen the Chinese government's ability to monitor and control cyberspace in numerous areas, from cross-border data flows to the software and hardware underpinning industrial control systems.⁴⁶ Adam Kozy, CEO and founder of the boutique consulting firm SinaCyber, testified before the Commission that China's legal system also gives the intelligence services "unfettered access to Chinese firms" and allows them to "cherry pick high value vulnerabilities, which can be turned into exploits for use in cyberespionage campaigns."⁴⁷ China's 2017 Cybersecurity Law and recent regulations on vulnerability disclosure illustrate how Chinese laws and regulations may facilitate cyberespionage in tandem with legitimate efforts to defend the Chinese public and businesses from malicious cyberattacks.

The Cybersecurity Law imposes new security requirements on all China-based operators of networks and critical information infrastructure, representing a major effort by the Chinese government to better protect systems and information it deems essential to national security.*⁴⁸ Under the Cybersecurity Law, network operators must maintain network security protections, backups of important data, and encryption in addition to formulating and implementing emergency response plans for cybersecurity incidents.⁴⁹

*"Network operators" is a broad term referring to any entity that owns or administers a network or provides network services. Traditional telecommunications operators, internet firms, financial institutions, providers of cybersecurity products and services, and enterprises that have websites and provide network services all conceivably fall within the definition of a network operator. Susan Ning and Han Wu, "Cybersecurity 2022," *Chambers and Partners*, March 17, 2022; KPMG China IT Advisory, "Overview of China's Cybersecurity Law," February 2017, 9.

Operators of critical information infrastructure must also meet a stringent set of cybersecurity standards, such as regular risk reviews as well as mandatory testing and certification of computer equipment.⁵¹ Notably, the Cybersecurity Law requires network operators to store some types of data domestically* and cooperate with China's law enforcement and security services upon request.⁵² Violations of the law may lead to stiff penalties, ranging from fines to the suspension of business activities.⁵³ These provisions, together with the law's vague language, have prompted some observers to argue that the Cybersecurity Law facilitates government censorship, surveillance, and theft of foreign IP.⁵⁴ Since taking effect in 2017, the Cybersecurity Law has become the legislative centerpiece from which more granular cybersecurity regulations flow.⁵⁵

In a similar vein, China's 2021 Regulations on the Management of Security Vulnerabilities in Network Products require vendors and individuals to report all discovered software and hardware vulnerabilities to the MIIT within two days.[†]⁵⁶ The regulations obligate vendors to promptly patch known vulnerabilities, prohibit the public disclosure of vulnerabilities until they are assessed by Chinese authorities, and restrict sharing vulnerabilities with anyone overseas unless the affected vendor itself is based overseas.⁵⁷ "The Chinese government, therefore, is to be given access to information on vulnerabilities before any other interested party," China cybersecurity researchers Devin Thorne and Samantha Hoffman wrote in a 2021 analysis.⁵⁸ "There's also a real likelihood that the regulations will facilitate China's cyber espionage efforts opportunistically in the gaps between reporting, patching and disclosure."⁵⁹ Dakota Cary, a former research analyst at Georgetown University's Center for Security and Emerging Technology, agreed in testimony before the Commission, noting that such a policy "effectively weaponizes the cybersecurity researcher ecosystem in China."⁶⁰

Workforce and Education Policies Invest in China's Future Cyber Power

China faces a deficit of about 1.4 million skilled cybersecurity professionals.⁶¹ CAC deputy director Zhao Zeliang told state media in 2018 that the country has "more than 751 million netizens, but only produces around 8,000 cybersecurity graduates every year."⁶² A 2019 report commissioned for the China Information Technology Security Evaluation Center (CNITSEC), also known as the MSS's 13th bureau, confirmed that Chinese cybersecurity professionals are in short supply and found that many handle additional tasks unrelated to cybersecurity in the course of their day jobs.⁶³ Likening the deficit to a "stubborn disease," Chinese experts predict that the

*Article 37 of the Cybersecurity Law requires that "critical information infrastructure operators that gather or produce personal information or important data during operations within the mainland territory of the People's Republic of China, shall store it within mainland China." It is unclear what types of personal and business data the Chinese government regards as "important." Rogier Creemers et al., "Translation: Cybersecurity Law of the People's Republic of China (Effective June 1, 2017)," *DigiChina*, June 29, 2018.

† More specifically, the regulations apply to "network product vendors" (potentially any developer of network hardware or software, including servers, web applications, and websites) that operate in China, including Chinese companies with an international footprint and foreign companies with operations in China. Devin Thorne and Samantha Hoffman, "China's Vulnerability Disclosure Regulations Put State Security First," *Australian Strategic Policy Institute*, August 31, 2021.

Figure 1: Selected Key Institutions in China's Cybersecurity Ecosystem

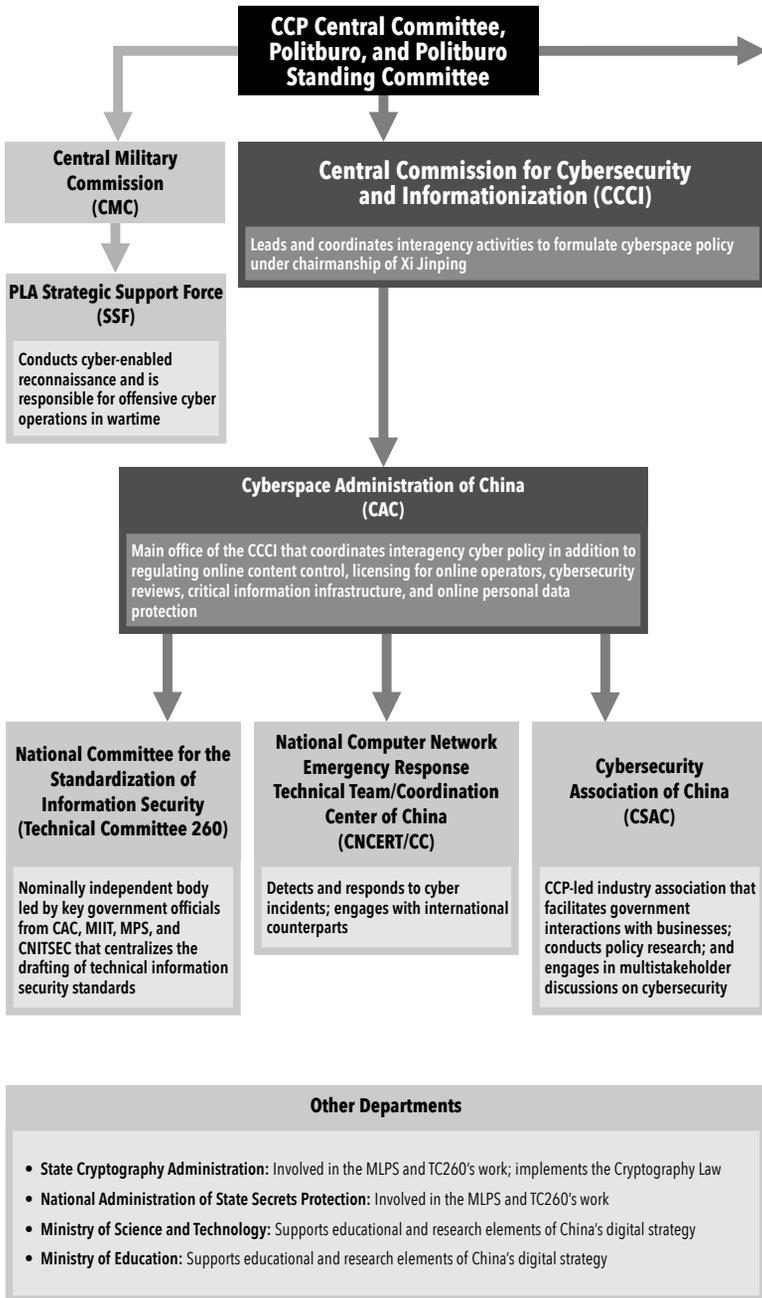
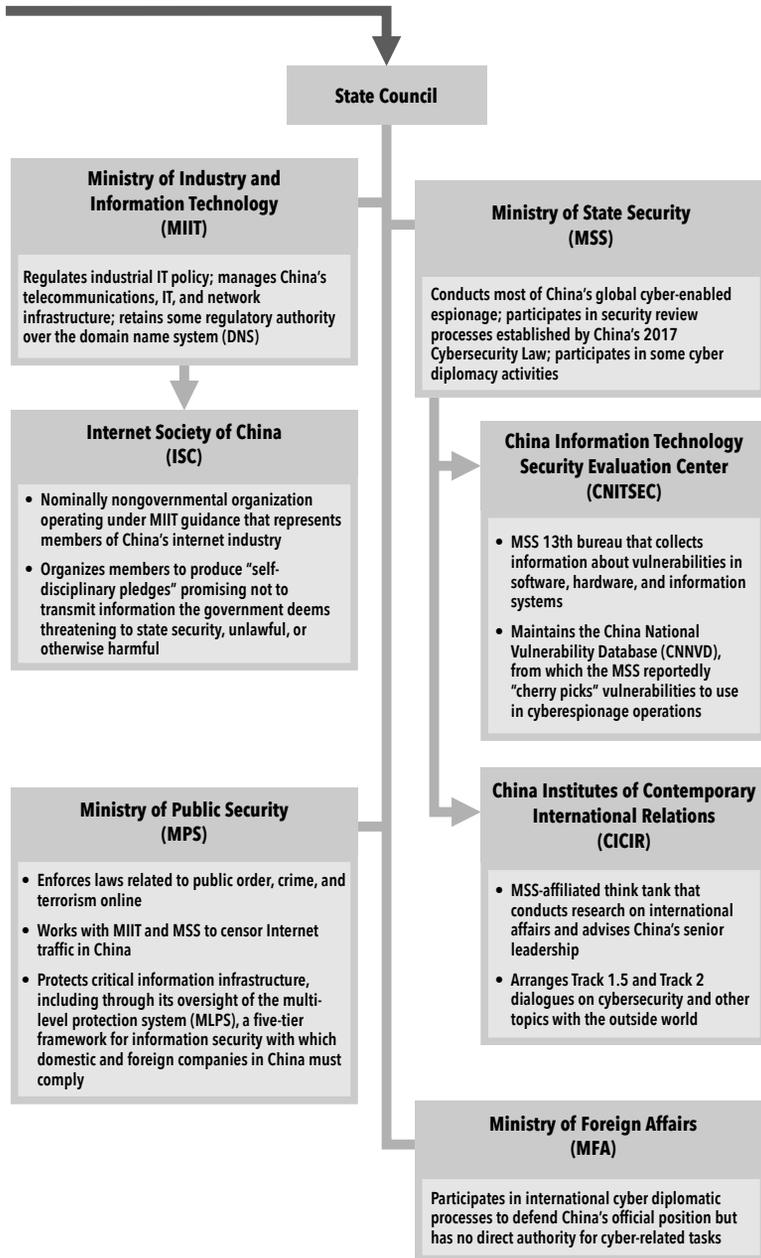


Figure 1: Selected Key Institutions in China's Cybersecurity Ecosystem—*Continued*



Note: This graphic displays a selection of key institutions in China's cybersecurity ecosystem; it is not exhaustive.

Source: Various.⁵⁰

personnel shortage will be exacerbated in the future by growing demand for cybersecurity talent as society more widely adopts IT.⁶⁴

The Chinese government has accordingly unveiled a raft of workforce development and education policies in recent years to grow the domestic talent pool of cyber operators on an expedited timeline.⁶⁵ It has also identified a number of “strategic tasks” required to build its cybersecurity innovation base in documents such as the 2016 *National Cyberspace Security Strategy*.⁶⁶ The strategy calls for strengthening academic education in information security by standardizing cybersecurity degree programs and “forg[ing] first-rate cybersecurity academies.”⁶⁷ The establishment of a cybersecurity school at the new Wuhan-based National Cybersecurity Center, which aspires to produce more than 2,500 graduates annually, exemplifies this high-level push to build more high-quality cybersecurity institutions.⁶⁸ CAC and the Ministry of Education announced plans in 2017 to build four to six “world-famous” cybersecurity schools between 2017 and 2027.⁶⁹

The Chinese government has also set standards for degree accreditation and created a cybersecurity skill certification system. In 2017, Beijing launched a program to certify academic institutions as World-Class Cybersecurity Schools, a designation similar to Centers of Academic Excellence programs in U.S. universities.*⁷⁰ According to Mr. Cary, China has fashioned other components of its certification regime after U.S. models as well.⁷¹ For example, Chinese universities offering cybersecurity degree programs have implemented standards criteria based on those devised by the National Initiative for Cybersecurity Education, a branch of the U.S. National Institute of Standards and Technology, to measure the quality of curricula and set performance benchmarks.⁷²

China’s Way of Cyberwarfare

China’s views on the military use of cyberspace are rooted in its leadership’s conviction that the Gulf War (1990–1991) transformed the nature of modern warfare.⁷³ Senior Chinese military leaders were impressed by U.S.-led coalition forces’ use of IT to support ground, sea, and air combat against the Iraqi military, which collapsed more quickly than anticipated.⁷⁴ They concluded that future wars would be local, joint, and reliant on high technology, but they worried China was unprepared to win such wars.⁷⁵ U.S. interventions in the Balkans, Afghanistan, and Iraq reinforced the sense of urgency Chinese leaders felt to modernize the PLA and integrate IT on a massive scale, a process they referred to as “informationization.”⁷⁶ Influenced by the U.S. military’s “network-centric warfare” concept, PLA strategists developed a theory of “integrated network-electronic warfare” (INEW) in the early 2000s that similarly emphasized information superiority and the fusion of computer and electronic operations to disrupt the enemy’s military operations (see Appendix II for a table of Chinese terms related to information

* Eleven universities have received this designation since the program’s establishment. China Net, *The Number of First-Class Network Security College Construction Demonstration Projects Has Increased to 11 Universities* (一流网络安全学院建设示范项目高校增至11所), September 17, 2019. Translation.

warfare).^{*77} New cyberspace-related organizations and capabilities sprang up within the PLA throughout the mid-2000s, but they did not advance the INEW vision in a coherent or systematic way.[†]

Under General Secretary Xi, however, China has aligned its warfighting apparatus with the INEW concept and publicly emphasized the strategic importance of cyberspace. The SSF, established on the last day of 2015 amid a wider reorganization of the PLA, aims to employ space, electronic, cyber, and psychological warfare capabilities in unified and innovative ways.⁷⁸ A 2015 defense white paper described space and cyberspace as the “new commanding heights in strategic competition,” acknowledging for the first time that China was building a military force capable of offensive cyber operations.⁷⁹ In a speech the following year, Xi argued that China must enhance both offensive and defensive cyber capabilities to better protect itself and bolster deterrence.⁸⁰ A 2019 defense white paper signaled great ambition in the cyber domain, stating that the PLA would accelerate its cyber capability development in a manner “consistent with China’s international standing and its status as a major cyber country.”⁸¹

Cyber Underpins China’s Information Warfare Strategy

Like their U.S. counterparts, Chinese defense planners view cyberspace capabilities as a supporting component of “information warfare.” Information warfare involves the use and management of information for competitive advantage, including both offensive and defensive operations.⁸² Militaries implement strategies of information warfare by carrying out “information operations,” which utilize various information-related capabilities to create effects and desirable operational conditions on the battlefield.⁸³ The battlefield spans not just the physical domains of land, air, and sea but also space, cyberspace, the electromagnetic spectrum, and the human mind.^{‡84} Both the U.S. and Chinese militaries view cyberspace op-

*According to the U.S. Department of Defense, “information superiority” is “the operational advantage derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary’s ability to do the same.” The United States’ network-centric warfare concept aims to translate information advantages enabled by IT into competitive advantages through the robust computer networking of dispersed friendly forces. Joint Chiefs of Staff, *Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms*, November 8, 2010 (as amended through February 15, 2016), 111; Timothy L. Thomas, “Chinese and American Network Warfare,” *Joint Force Quarterly* 38 (2005): 77, 79–80.

†According to publicly available reports, China stood up an elite corps for cyber operations in 1997 and established a battalion-sized information warfare unit in 2000. The (now defunct) third department of the PLA’s General Staff Headquarters (3PLA, focused on signals intelligence) assumed network defense and cyber-enabled intelligence collection missions, while the fourth department (4PLA, focused on electronic countermeasures) assumed network attack missions. The PLA reportedly developed and field tested a variety of capabilities for cyber-enabled information warfare from the early 2000s onward, including software for network scanning; obtaining and cracking passwords; stealing data; and paralyzing, blocking, or deceiving information systems. The PLA conducted more than 100 military exercises involving some aspect of information warfare between the early 1990s and 2005 and a similar number likely occurred between 2005 and 2010. John Costello and Joe McReynolds, “China’s Strategic Support Force: A Force for a New Era,” in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Phillip Saunders et al., eds., National Defense University Press, 2019, 444, 446; Elsa B. Kania and John K. Costello, “The Strategic Support Force and the Future of Chinese Information Operations,” *Cyber Defense Review* (Spring 2018): 108; Desmond Ball, “China’s Cyber Warfare Capabilities,” *Security Challenges* 7:2 (Winter 2011): 81, 82, 84; Steven A. Hildreth, “Cyberwarfare,” *Congressional Research Service*, June 19, 2001, 12.

‡Both the Chinese and U.S. militaries view cyberspace as a warfighting domain existing within a broader information-based context. The PLA uses the term “information domain” to encompass operations conducted in space, cyberspace, and the electromagnetic spectrum and against the human mind. The U.S. military explicitly includes cyberspace within the “information environ-

erations as but one type of information operation to be employed in a multifaceted assault on an adversary's decision-making process during peacetime, competition, and wartime.⁸⁵

Chinese strategic texts have described the integration of cyber, space, and electromagnetic operations as an operational necessity because such integrated operations can paralyze an adversary's decision-making and generate profound strategic effects.⁸⁶ Some PLA theorists have argued that the SSF's cyber and other information operations should affect an adversary's political system, economy, scientific and technological base, culture, and foreign policy, a practice roughly aligning with the U.S. concept of "strategic cyberwarfare."⁸⁷ Because strategic cyberwarfare ultimately aims to degrade an adversary's will, behavior, and policy choices, these theorists argue that cyber operations should target governmental, economic, and societal networks as well as civilian critical infrastructure.⁸⁸ The 2020 edition of the *Science of Military Strategy*, one of the PLA's leading textbooks on strategy, similarly states that the "key targets" of integrated cyber, space, and electronic operations are an adversary's "national and military decision-makers, strategic early warning systems, military information systems, and information systems in national information infrastructure such as finance, energy, and transportation."⁸⁹ More broadly, the text notes that such integrated information warfare operations are superior to traditional computer network warfare precisely because they transcend multiple domains and can be employed at any point in the continuum between peace and war.⁹⁰

Cyber operations are also foundational to China's information warfare strategy because they enable rapid victory over an adversary in the information domain. Chinese information warfare aims to defeat an adversary in a military engagement by establishing "information dominance," or the ability to gain the initiative by collecting, managing, and employing information more quickly and precisely than the adversary.⁹¹ The *Science of Military Strategy* notes that cyberspace is the "basic platform for information warfare" because blinding cyberattacks on an adversary's computer networks can paralyze its combat processes at the outset of a conflict, thereby ensuring one's own information dominance.⁹² "The victory of the war begins with the victory of cyberspace," the text states.⁹³ "Whoever holds the dominance in cyberspace will win the initiative in the war; whoever loses this center will fall into strategic passivity."⁹⁴

Network Warfare: The Best Equivalent to Cyberwarfare in Chinese Strategic Thought

Chinese strategists use the term "network warfare" to describe a variety of operations that states undertake in cyberspace, also known as the "network space," throughout the peace-war continuum.⁹⁵ The purpose of network warfare is to establish "network dominance" whereby a state's own networks operate smoothly while its adversary's networks cannot.⁹⁶ A state achieves network dominance through a mixture of

ment." The information environment has three components: the "physical dimension" (command and control systems, and associated infrastructure), the "informational dimension" (networks and systems where information is stored), and the "cognitive dimension" (the minds of people who transmit and respond to information). Edmund J. Burke et al., "People's Liberation Army Operational Concepts," *RAND Corporation*, 2020, 4; Joint Chiefs of Staff, *Joint Publication 3-13: Information Operations*, November 27, 2012, I-2, I-3.

network reconnaissance, offense, defense, and support operations (see Table 2).⁹⁷ “Among them, the attack force is the leader, the defensive force is the main body, and the reconnaissance force is the cornerstone,” the authors of the 2020 *Science of Military Strategy* write.⁹⁸

Table 2: Forms of Network Warfare Outlined in the *Science of Military Strategy*

Form	Summary
Network reconnaissance	The use of various methods to surveil an adversary’s networks. ⁹⁹ Network reconnaissance aims to exploit an adversary’s data and information for intelligence purposes rather than to sabotage those information systems. ¹⁰⁰ The difference between network reconnaissance and network attack, however, may simply be a few commands entered into a computer terminal. ¹⁰¹ “Network reconnaissance often is preparation for future possible network attack and defense operations; network reconnaissance thus very easily transforms into attack in network space,” the authors of the 2013 edition of the <i>Science of Military Strategy</i> note. ¹⁰² The authors of the 2020 edition state that network reconnaissance is the most common type of military cyber operation in peacetime. ¹⁰³
Network attack	Offensive operations against an adversary’s information networks and the data within those networks to disrupt or destroy combat capability. ¹⁰⁴ Network attacks can include “soft sabotage” and “hard destruction.” ¹⁰⁵ “Soft sabotage” involves using malicious code to disrupt an adversary’s networks, while “hard destruction” destroys the components in computer facilities, equipment, and network systems through means such as electromagnetic pulse weapons. ¹⁰⁶ The authors of the 2013 edition note that network attack weapons have numerous advantages: they are inexpensive to develop and easy to deploy quickly, and “the risk of being punished when executing network attacks is relatively low.” ¹⁰⁷
Network defense	Efforts to secure one’s own network systems, facilities, and the information that flows through them against adversary attacks. ¹⁰⁸ Network defense methods include building firewalls to prevent unauthorized entry into network systems, encrypting data so they cannot be tampered with, requiring identify verification to access systems, and using antivirus software. ¹⁰⁹ The authors of the 2013 edition acknowledge that network defense is hard because “it is difficult to take initiative to resolve those security problems not yet detected.” ¹¹⁰
Network support (operation, maintenance, and recovery)	Capabilities to operate, maintain, and repair one’s own networks in the face of adversary attacks. ¹¹¹ Network operation and maintenance capabilities enable real-time situational awareness, data sharing, and coordination among commanders on the battlefield. ¹¹² Data backup and recovery methods should be implemented quickly to repair hardware, software, and data damaged by an adversary attack. ¹¹³

Source: Various; compiled by Commission staff.

Chinese strategists envision waging network warfare against a wide range of military and civilian targets. These include the networks involved in Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), air defense networks, and civilian infrastructure.¹¹⁴ Dean Cheng, a former senior research fellow in Asian studies at the Heritage Foundation, confirmed in testimony before the Commission that the PLA views U.S. military and economic networks as attractive targets during a military conflict.¹¹⁵

Chinese Strategists Argue Deterrence Works in Cyberspace

While the question of whether deterrence is possible in cyberspace remains hotly contested among U.S. academics, authoritative Chinese writings on the subject reflect no such qualms.¹¹⁶ Rather, Chinese strategists believe cyber capabilities can be used both to deter an adversary from engaging in malicious cyber behavior and to achieve Chinese political objectives beyond the cyber realm.

The first concept, known as “network deterrence,” aims to deter a hostile state from carrying out cyberattacks by displaying one’s own cyber capabilities and expressing the resolve to retaliate.¹¹⁷ According to the 2020 *Science of Military Strategy*, network deterrence can be practiced at the strategic and tactical levels to respond to threats of varying scale and seriousness.¹¹⁸ Strategic network deterrence works by showing an adversary that one can damage some of its most important strategic assets, such as its C4ISR and transportation systems, thereby persuading it to abandon planned large-scale cyberattacks.¹¹⁹ By contrast, tactical network deterrence may prevent “scattered and small-scale cyberattacks and cyber infiltration behaviors,” though the authors do not explain how these methods differ from those involved in strategic cyber deterrence.¹²⁰

The second concept, known as “information deterrence,” refers to the use of cyber and other information operations to compel an adversary to act in ways that further China’s political goals.¹²¹ Mr. Cheng noted that information deterrence entails both dissuasion and coercion; it also embodies the idea of deterring an adversary’s unwanted action in a conventional, physical domain through information operations rather than deterring operations in the information domain itself.¹²² For example, China could threaten or conduct information operations against the United States in an effort to deter U.S. military intervention on behalf of Taiwan.¹²³ Mr. Cheng stated that Chinese strategists were closely observing the United States’ reaction to Russian threats to conduct cyberattacks against the U.S. government and businesses in retaliation for assistance to Ukraine.*¹²⁴ (For more on China’s reaction to Russia’s war on Ukraine, see Chapter 3, Section 1, “Year in Review: Security and Foreign Affairs.”)

According to Mr. Cheng, Chinese strategists may envision a “deterrence ladder” for information operations similar to those developed in the space and nuclear domains.¹²⁵ This ladder would progress gradually: publicizing experimentation with capabilities for network warfare at the lowest rung; publicly demonstrating plans, prototype development, and equipment production for network warfare; conducting operational exercises; and finally, executing actual offensive network operations at the highest rung.¹²⁶ The highest rung could involve a direct attack against key adversary networks for the purpose of preempting that adversary’s attack or in response to an adversary’s probe for the purpose of retaliating and demonstrat-

*U.S. experts debate the impact of Russia’s cyber operations on Ukraine. A June 2022 report by Microsoft found that the Russian military had launched multiple waves of destructive cyberattacks against 48 distinct Ukrainian agencies and enterprises since the conflict began. Recent advances in cyber defenses (such as threat intelligence and end-point protection) have helped Ukraine withstand a high percentage of these destructive Russian cyberattacks, however. Brad Smith, “Defending Ukraine: Early Lessons from the Cyber War,” *Microsoft*, June 22, 2022; David Cattler and Daniel Black, “The Myth of the Missing Cyberwar,” *Foreign Affairs*, April 6, 2022.

ing capability.¹²⁷ In a news article about information deterrence, one expert from the PLA's Academy of Military Sciences noted that disrupting telecommunications networks, spamming the public's phones with propaganda messages, and attacking the power grid could all produce a deterrent effect.¹²⁸

China's Approach to Cyber Operations Heightens Escalation Risks

The chances that an engagement between China and the United States in cyberspace could escalate to higher levels of violence is higher today than in the past due to China's increasingly aggressive cyber activities. Three risks are especially prominent.

First, inadvertent escalation could result from differing Chinese and U.S. understandings about appropriate behavior in cyberspace. Adam Segal, director of the digital and cyber program at the Council on Foreign Relations, testified before the Commission that military interactions between China and the United States in cyberspace could spill over into a kinetic conflict because the two countries lack a shared understanding of appropriate thresholds, escalation ladders, and signaling.¹²⁹ Without shared understanding of these matters, one party may deliberately take an action in cyberspace that it does not believe is escalatory but that the other party to the conflict interprets as escalatory.¹³⁰ For example, Chinese beliefs about the deterrent effect of cyberspace operations may rely on erroneous assumptions about an adversary's psychology. Using actual offensive cyberspace operations against an adversary in a crisis or the early stages of a conflict could serve to provoke rather than deter that adversary.¹³¹ Moreover, a Chinese cyberattack on the United States' co-located conventional and nuclear assets, such as satellites that enable both conventional and nuclear command and control, would be viewed by U.S. leaders as highly escalatory—even if they were intended simply to disable conventional military operations—because such an attack would appear to threaten nuclear capabilities. Indeed, the *Science of Military Strategy* explicitly describes “strategic early warning systems” as a potential target of integrated cyber operations.¹³²

Second, escalation could result from Chinese leaders' apparent tolerance for risk and lack of concern about potential escalation. Mr. Cheng argued that the PLA's extended incursions into Indian territory in 2021 reflect a view of crisis stability fundamentally at odds with that held by the United States precisely because it is so dangerous to provoke a nuclear-armed neighbor.¹³³ According to research conducted by Georgetown University assistant professor of political science Ben Buchanan and University of Pennsylvania assistant professor of political science Fiona Cunningham, Chinese strategic writings do not scrutinize the escalation risks associated with using cyber intrusions for operational preparation of the environment, and there is no evidence the PLA has practices in place to manage inadvertent cyber escalation.¹³⁴

Finally, Chinese military leaders might be willing to carry out a crippling cyberattack on the United States if they believe attribution will be difficult or impossible.¹³⁵ But the United States may be more capable of attributing cyberattacks than China understands,

noted Mr. Cheng and Winnona DeSombre, a fellow at Harvard University's Belfer Center.¹³⁶ This capability creates the potential for a situation in which Chinese leaders must choose either to escalate further in the face of U.S. retaliation for the initial attack or to back down and risk "losing face" before a domestic audience.¹³⁷

China's Formidable Cyberwarfare Capabilities: A Significant Threat Today

There is a robust debate among experts about whether China is a peer of the United States in cyberspace. Major studies conducted by the Belfer Center and the International Institute for Strategic Studies (IISS) within the past two years have found that the United States remains the world's leading cyber power but that China is a noteworthy second due to the rapid progress it has made in developing its cyber capabilities over the past decade.¹³⁸ According to the IISS, the United States exceeds China on most metrics of cyber power and stands apart from all other countries based on its "ability to employ a sophisticated, surgical [offensive] capability at scale."¹³⁹ For these reasons and others, the IISS assesses that China is likely to remain second for at least the next ten years.¹⁴⁰

Some analysts believe China is already a peer or near-peer adversary in cyberspace, however.¹⁴¹ Ms. DeSombre testified before the Commission that China is a peer in cyberspace because its offensive cyber capabilities "rival or exceed" those of the United States, its cyber operations have successfully compromised U.S. targets, and Chinese cybersecurity firms have claimed to detect some U.S. state-sponsored cyber operations.*¹⁴² She judged that the United States does not presently have adequate cyber defenses, personnel, or supply chain security to "rival China long-term in cyberspace," though it does enjoy several "first mover" advantages.†¹⁴³

Assessing Cyber Power

Assessing cyber power is difficult for many reasons. Most states shroud their cyber capabilities in secrecy to preserve the efficacy of their TTPs and the broader strategic advantages they may confer.¹⁴⁴ A small number of disruptive cyber operations have been publicly attributed to state actors, but these probably reflect only

*Ms. DeSombre pointed to Antiy Labs and Qihoo 360 as examples of two Chinese cybersecurity firms that have published analyses of what they claim to be U.S. National Security Agency and Central Intelligence Agency cyber operations. She argued that in some cases, Chinese cyber operators are able to "turn our own tools against us," citing cybersecurity firm reporting that the Chinese state-sponsored threat group APT3, which contracts for the MSS, used hacking tools allegedly developed by the National Security Agency a full year before those tools were publicized in the Shadow Brokers leak. According to Ms. DeSombre, the incident suggested "that the contractor observed the hacking tools being used against Chinese targets and recreated the tool from those observations." Winnona DeSombre, oral testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 10; Winnona DeSombre, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 6; Symantec, "Buckeye: Espionage Outfit Used Equation Group Tools Prior to Shadow Brokers Leak," May 6, 2019.

†These include U.S. companies' ownership of large portions of international fiber optic cable; U.S. companies' dominance of the largest online platforms and most popular technological products; the global U.S. network of intelligence-sharing alliances and partnerships; and the fact that the United States still attracts much of the world's best technical talent. Winnona DeSombre, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 6.

Assessing Cyber Power—Continued

a fraction of all state-sponsored cyber activities and therefore provide limited insight into the totality of a state's cyber capabilities.¹⁴⁵ Some indicators of cyber power are better assessed through qualitative methods while others are best measured quantitatively, and sometimes the indicators chosen to represent a particular aspect of cyber power offer a poor proxy.¹⁴⁶ Ms. DeSombre noted that some studies also exhibit the “fallacy of sophistication,” inferring that a country such as China is a lesser cyber power because it makes use of unsophisticated techniques like phishing or infected USBs* to facilitate its cyber operations.¹⁴⁷ Despite these complications, existing studies compare countries' cyber power across several categories. These include military strategy and doctrine, offensive cyber capability, cyberespionage capability, dependence on foreign IT and high-tech exports, the scale and quality of the domestic cybersecurity industry, the supply of skilled employees in the IT sector, the percentage of the population that uses the internet, and leadership roles in global cyber governance venues.¹⁴⁸ In the specific case of China, additional insight into the status and future of direction of China's cyber capabilities can come from publications produced by SSF-affiliated researchers, reports about military exercises and training facilities, real-world operations experience attributed to the SSF, and scholarly discussions of the force's potential weaknesses.

Whether or not one believes China is a peer, the country clearly excels in certain aspects of cyber capability, and its offensive cyber operations create considerable dangers for the United States.†¹⁴⁹ According to the U.S. Office of the Director of National Intelligence's *2021 Annual Threat Assessment*, China “possesses substantial cyberattack capabilities” and “can launch cyberattacks that, at a minimum, can cause localized, temporary disruptions to critical infrastructure within the United States.”¹⁵⁰ The IISS similarly assesses that China has likely “developed effective offensive cyber tools for

*A universal serial bus, more commonly known as a USB, is an industry standard for short-distance digital data communication involving a plug and play interface that allows a computer to communicate with other devices. There are many types of USB-connected devices, including flash drives, keyboards, external drives, printers, and many others.

† Offensive cyber capabilities encompass the technologies, people, and organizations that enable offensive cyber operations to manipulate, deny, disrupt, degrade, or destroy targeted computers, information systems, or networks. According to a study by researchers at the Atlantic Council, there are at least five aspects of offensive cyber capabilities relevant to analyses of state capability: vulnerability research and exploit development, malware payload development, technical command and control, operational management, and training and support. Vulnerability research and exploit development refers to the programs that facilitate the proliferation of discovered vulnerabilities and written exploits. Malware payload development refers to the programs that facilitate the development or use of malware or tool by attacks to conduct offensive cyber operations, or any forum that encourages the exchange of malware. Technical command and control refers to the technologies that support offensive cyber operations, such as domain name registration, server side command and control software, or virtual personal network (VPN) services that are vital to the initial creation of an offensive operation. Operational management refers to the functions required to effectively manage an organization conducting cyber operations, such as operations management, teams and resource management, and targeting decisions. Training and support refers to the training or education provided to personnel on the offensive cyber process that facilitates the growth of offensive cyber operations. Winnona DeSombre et al., “A Primer on the Proliferation of Offensive Cyber Capabilities,” *Atlantic Council*, March 1, 2021; Tom Uren et al., “Defining Offensive Cyber Capabilities,” *Australian Strategic Policy Institute*, July 4, 2018.

combat use” based on the content of its cyber doctrine and evidence that it has successfully stolen classified and sensitive information from U.S. government and commercial networks on numerous occasions.¹⁵¹ To take one metric relevant to offensive capability, reporting from multiple cybersecurity firms indicates China is a global leader in vulnerability exploitation and that it exploited more zero-day vulnerabilities than any other nation in the period between 2012 and 2021.¹⁵² More broadly, the PLA reportedly has as many as 60,000 cyber personnel that could support cyberwarfare missions, dwarfing the number of cyber operators associated with U.S. Cyber Command’s Cyber Mission Force by a factor of ten.¹⁵³ China also devotes a greater proportion of its cyber personnel to offensive operations than the United States does. According to the IISS’s *Military Balance+* database, 18.2 percent of the units in China’s SSF focus on offensive operations,* compared to only 2.8 percent of the units commanded by U.S. Cyber Command.†¹⁵⁴

China’s chief challenge in cyberspace may stem from inadequate domestic cybersecurity, which official Chinese government sources portray as a problem requiring immediate attention.‡¹⁵⁵ The IISS similarly assesses that “China’s core cyber defenses remain relatively weak, [as] evidenced by its continued reliance on U.S.-based corporations for core internet technology and its shortage of cybersecurity professionals.”¹⁵⁶ China has tried to alleviate its dependence on foreign technology and talent by cultivating a domestic cybersecurity industry, but that industry is relatively new and considerably smaller than its U.S. counterpart.¹⁵⁷ In fact, China’s domestic cybersecurity industry constituted less than 7 percent of the global cybersecurity industry in 2019, and in general Chinese cybersecurity firms have both lower revenues and smaller global footprints than their U.S. equivalents.¹⁵⁸ The Chinese government has also issued directives to reduce foreign technology in government and corporate settings as part of its broader efforts to mitigate foreign espionage threats and soften the impact of U.S. export controls on advanced technologies.¹⁵⁹ In late 2021, for example, Beijing tasked a quasi-governmental committee to vet and approve local suppliers in

*The *Military Balance+* refers to these offensive operations in terms of generating “effects,” or actions to deny, degrade, disrupt, or destroy adversaries’ networks, computers, or devices or the information they contain. International Institute for Strategic Studies, “Chapter Ten: Military Cyber Capabilities,” in *The Military Balance+* 122:1 (2022): 507.

†The IISS bases these percentages on the distribution of roles across the units within the principal cyber forces of each country, which have their own components. The Network Systems Department is the relevant component of the SSF, China’s principal cyber force. By contrast, the relevant components of U.S. Cyber Command, the United States’ principal cyber force, are Army Cyber Command, Air Forces Cyber, Fleet Cyber Command, Marine Corps Forces Cyber-space Command, Coast Guard Cyber Command, and cyber units within the National Guard. International Institute for Strategic Studies, “Chapter Ten: Military Cyber Capabilities,” in *The Military Balance+* 122:1 (2022): 508.

‡Chinese government sources describe domestic cybersecurity as lacking. A 2020 report by the China Internet Network Information Center, an administrative agency subordinate to CAC, documented a 57 percent increase in hacks of Chinese government websites between 2019 and 2020. More recently, a 2021 report released by the National Computer Network Emergency Response Technical Team/Coordination Center of China noted that “organized and purposeful network attacks” were becoming a more prominent challenge to the country’s cybersecurity, and it highlighted the threat posed by overseas advanced persistent threat (APT) actors’ long-term, latent intrusions in party, government, and commercial networks. China’s National Computer Network Emergency Response Technical Team/Coordination Center of China (CNCERT/CC), *2020 China Internet Network Security Report* (2020年中国互联网络网络安全报告), July 21, 2021, 15, 16–17. Translation; Rogier Creemers, “China’s Cyber Governance Institutions,” *Leiden Asia Centre*, January 2021, 11; China Internet Network Information Center, *Statistical Report on Internet Development in China*, September 2020, 71.

sensitive areas from banking to data centers storing government information.¹⁶⁰ In May 2022, the Chinese government ordered central government agencies and state-backed corporations to replace foreign-branded personal computers (PCs) with local alternatives that run on domestically developed software within two years.¹⁶¹ According to Bloomberg News, the campaign will likely replace at least 50 million PCs on the central government level alone and eventually extend to provincial governments.¹⁶²

Exercises and Training Rehearse Cyberattacks on Adversary Targets

Reporting on Chinese military exercises and training involving cyber capabilities is minimal, but the reporting that does exist demonstrates that the PLA and its militias are rehearsing cyberattacks on military and civilian targets. For example, the PLA's Tibet military command reportedly held a field training exercise in 2020 that integrated "live-fire" offensive cyber operations* into joint air-ground combat drills.¹⁶³ Recent research by Mr. Cary also reveals that China has a number of national- and provincial-level cyber ranges that the PLA's cyber militias are likely using to practice attacking and defending electrical grids, water treatment plants, and industrial control systems.¹⁶⁴ China Aerospace Science and Industry Corporation, a defense state-owned enterprise, also maintains a cyber range that allows civilians who would likely be mobilized by the PLA in wartime to practice attacking and defending space assets.¹⁶⁵ Both types of ranges help simulate the kinds of Chinese cyberattacks on U.S. military assets and critical infrastructure that experts expect in a wartime scenario.¹⁶⁶

Suspected Operations Gain Experience Preparing the Battlefield

Several publicly known examples of Chinese state-sponsored cyber operations suggest the country's cyberwarfare operators are gaining experience in conducting both disruptive cyberattacks and preconflict reconnaissance.¹⁶⁷ For instance, in 2020 Taiwan's government attributed cyberattacks against the state-owned petroleum, gasoline, and natural gas company CPC Corporation and ten other organizations involved in Taiwan's critical infrastructure to the Chinese state-sponsored advanced persistent threat (APT)† group APT41.¹⁶⁸ The attacks shut down these companies' computer systems, prevented gas stations from accessing the digital platforms used to manage revenue records, and rendered customers unable to pay for their gas with certain types of electronic payments.¹⁶⁹ To take another

*According to the IISS, live-fire cyber exercises can entail the injection of malicious code into networks by 'adversary' role players and real-time incident response by a defensive team against either an automated or human opponent. International Institute for Strategic Studies, "Chapter Ten: Military Cyber Capabilities," in *The Military Balance+* 122:1 (2022): 509.

†APT is a broad term used to describe an attack campaign in which an intruder, or team of intruders, establishes an illicit, long-term presence on a network in order to steal sensitive data. Different cybersecurity vendors use different naming conventions for APTs, meaning that a given APT can go by a number of names. For example, "APT41" is also known by the names "BARIUM," "Winniti," "Wicked Panda," and "Wicked Spider." *CrowdStrike*, "What Is an Advanced Persistent Threat?" June 15, 2021; U.S. Department of Justice, *Seven International Cyber Defendants, Including "Apt41" Actors, Charged in Connection with Computer Intrusion Campaigns against More than 100 Victims Globally*, September 16, 2020; Florian Roth, "The Newcomer's Guide to Cyber Threat Actor Naming," *Medium*, March 25, 2018.

example, a 2021 report by the cybersecurity firm Recorded Future found that a Chinese state-sponsored threat actor group known as RedEcho had extensively penetrated the Indian power grid amid heightened border tensions between China and India in 2020.¹⁷⁰ The report's authors concluded that RedEcho's prepositioning on India's energy assets "may support several potential outcomes, including geostrategic signaling during heightened bilateral tensions... influence operations, or as a precursor to kinetic escalation."¹⁷¹ As of 2021, Chinese hackers continued their reconnaissance activities on parts of the Indian electrical grid, strengthening the argument that they are collecting information useful for future attacks.¹⁷²

Recent reports of cyber-enabled disinformation campaigns emanating from China also suggest the country is gaining experience conducting psychological warfare (for more, see "Psychological Warfare Units Amplify the Impact of Offensive Cyber Operations" later in this section). Fake news reports originating from China proliferated throughout Taiwan's online information environment before and during military exercises carried out by the PLA in response to U.S. Speaker of the House of Representatives Nancy Pelosi's visit to Taiwan in August 2022 (see Chapter 4, "Taiwan" for more on the Pelosi visit).¹⁷³ Taiwan's Ministry of National Defense attributed to China's government at least 272 attempts to spread disinformation between August 1 and August 8, which the ministry said reflected themes of "creating an atmosphere of unification by force," "attacking the [Taiwan] government's authority," and "disturbing the morale of the military and citizens."¹⁷⁴ Examples of fake news circulated during this period include reports of a PLA warship entering territorial waters on Taiwan's east coast, a photo of three U.S. B-52 bombers hovering over Taipei, a video of a low-flying missile allegedly shot by the PLA directly over the island, and a video of the PLA transporting rocket launchers to Fujian Province for imminent attacks on Taiwan.¹⁷⁵ The flood of disinformation emanating from China coincided with a number of cyberattacks on the websites of Taiwan's presidential office, Ministry of National Defense, and Ministry of Foreign Affairs, though some experts concluded that the attacks were carried out by Chinese activist hackers not directly affiliated with China's government.¹⁷⁶

Weaknesses Could Undermine China's Cyber Superpower Ambitions

Despite these indications of strength, China's cyberwarfare forces still face several obstacles in their efforts to develop military capabilities commensurate with superpower status. The PLA lacks warfighting experience and has not tested its own theories about the strategic use of cyber operations on the battlefield, making success uncertain.¹⁷⁷ The fact that the SSF channels information from strategic reconnaissance and sensors to the Central Military Commission (CMC) rather than to the theater commands reinforces peacetime control of the military but risks creating persistent delays in wartime for theater commanders, who will have to "call Beijing" to receive coordinates for assets they intend to shoot.¹⁷⁸ Commanders may not understand how to make best use of the SSF reserve units at their disposal, and neither these reserves nor the cyber militias

have been effectively integrated into operational-level exercises.¹⁷⁹ Finally, China's domestic cybersecurity practices in both government and corporate settings remain weak, leaving many exposed targets for a determined adversary.¹⁸⁰

The SSF Is China's Primary Cyberwarfare Agent

China has substantially improved its capabilities for cyberwarfare over the past decade and tasked several organizations inside and outside the PLA with carrying out these missions.¹⁸¹ The most important actor is now the SSF, which is mandated to conduct strategic cyber operations to defeat an adversary in wartime.¹⁸² In addition to active-duty SSF personnel, SSF reserves, cyber militias, and Chinese civilian agencies may all participate in Chinese cyberwarfare activities on a permanent or ad hoc basis.¹⁸³ While little information about the SSF's cyberwarfare capabilities is publicly available, China's competency in certain areas of cyber research suggest the country is a formidable competitor in the cyber domain.¹⁸⁴

The SSF creates synergies between space, cyber, and electronic warfare capabilities in order to execute strategic missions Chinese leaders believe will win future major wars.¹⁸⁵ Like the PLA Rocket Force, the SSF reports directly to the CMC for operations, reflecting its status as a strategic force to be employed only by officials at the highest levels of the CCP.*¹⁸⁶ John Chen, a lead analyst at Exovera's Center for Intelligence and Research Analysis, testified before the Commission that the SSF would "likely prosecute more sensitive missions against political or infrastructural targets at the sole behest of Xi Jinping through the CMC, in keeping with the desire for tight, centralized control over these capabilities."¹⁸⁷ In addition to its primary mission of securing the information domain, the SSF supports other PLA services to execute regional and global military missions.†¹⁸⁸

Network Systems Department Carries Out Reconnaissance and Offensive Cyberwarfare Missions

The SSF's operational forces are split into the Space Systems Department and the Network Systems Department, with the latter responsible for strategic cyber, electronic, and psychological warfare operations.‡¹⁸⁹ The cyber forces subordinate to the Network Systems Department carry out reconnaissance and offensive missions, while the CMC's Joint Staff Department oversees cyber defense through the Information and Communications Bureau Information

*By contrast, other PLA services are under the operational control of the five theater commands. Ziyu Zhang, "China's Military Structure: What Are the Theatre Commands and Service Branches?" *South China Morning Post*, August 15, 2021.

†The SSF supports other PLA services by providing strategic intelligence support from its space-based communications and reconnaissance assets to the theater commands, thereby facilitating power projection and operations. John Costello and Joe McReynolds, "China's Strategic Support Force: A Force for a New Era," in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Phillip Saunders et al., eds., National Defense University Press, 2019, 476.

‡The SSF also has an administrative structure with four departments: the Staff Department, the Equipment Department, the Political Work Department, and the Logistics Department. The Space Systems Department and Network Systems Department each have their own officer corps, train their own personnel, and prioritize their specific needs for capabilities, but the two departments' operations are integrated through the Staff Department. John Costello and Joe McReynolds, "China's Strategic Support Force: A Force for a New Era," in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Phillip Saunders et al., eds., National Defense University Press, 2019, 449–451.

Support Base.*¹⁹⁰ Some of the Network Systems Department's most capable cyber personnel are organized within technical reconnaissance bureaus and bases that report directly to SSF leadership and the CMC, potentially bearing responsibility for carrying out strategic cyberwarfare missions against priority targets like the United States and Taiwan.¹⁹¹ Other technical reconnaissance bases with regional affiliations roughly corresponding to the PLA's five theater commands oversee lower-level brigades and detachments, potentially carrying out less sensitive cyber operations against countries in their areas of responsibility (AORs).¹⁹²

Chinese APTs Linked to the SSF

PLA units now consolidated under the SSF have been linked to Chinese APTs carrying out espionage against military and diplomatic targets (see Appendix III for a list of selected APT groups associated with Chinese state-sponsored espionage). Cybersecurity firms have established these links by examining technical indicators, such as the use of malware or command and control infrastructure known to be employed by the PLA.¹⁹³ The information targeted by these APTs is of clear value to the PLA, which is developing indigenous defense technologies and searching for vulnerabilities within foreign military platforms that could be exploited in a conflict for operational advantage. In some cases, APT activity aligns with AORs corresponding to specific PLA theater commands.¹⁹⁴

- *Tonto Team*: An APT possibly corresponding to Unit 65017 that operates in the Northern Theater Command's AOR and currently focuses on targets in South Korea, Russia, and Japan.¹⁹⁵ It reportedly hacked several South Korean entities involved in the deployment of the Terminal High Altitude Air Defense (THAAD) missile system in 2017.¹⁹⁶
- *Naikon Team*: An APT possibly associated with Unit 78020 that operates in the Southern Theater Command's AOR and currently focuses on military and government targets in Southeast Asia.¹⁹⁷ Naikon Team has hacked international bodies such as the UN Development Program and ASEAN.¹⁹⁸
- *RedFoxtrot*: An APT potentially linked to Unit 69010 that operates in the Western Theater Command's AOR and currently focuses on military technologies and defense targets in Central and South Asia.¹⁹⁹ Over the first half of 2021, RedFoxtrot allegedly hacked Indian aerospace and defense contractors as well as telecommunications companies in Afghanistan, India, Kazakhstan, and Pakistan.²⁰⁰

*The Network Systems Department absorbed several notable PLA units that existed prior to the 2015 military reforms, including the General Staff Department Third Department (3PLA), formerly responsible for cyberespionage, and the General Staff Department Fourth Department (4PLA), formerly responsible for electronic warfare and network attacks. John Costello and Joe McReynolds, "China's Strategic Support Force: A Force for a New Era," in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Phillip Saunders et al., eds., National Defense University Press, 2019, 461–462.

Psychological Warfare Units Amplify the Impact of Offensive Cyber Operations

The SSF has also incorporated psychological warfare units into its structure, enabling it to carry out a “three warfares” (psychological, legal, and public opinion) strategy to influence an adversary’s perceptions and erode its will to resist.*²⁰¹ These units exist under the 311 Base, the only organization within the PLA known to focus exclusively on psychological warfare.²⁰² The 311 Base’s operational forces have reportedly been absorbed into the Network Systems Department, meaning that the psychological operations can be integrated with cyber or electronic warfare missions to maximize impact on an adversary’s cognition.²⁰³ These forces’ operations likely require consensus within the PLA’s political work apparatus and therefore answer to the highest levels of command.²⁰⁴ Mr. Cheng emphasized in his testimony that manipulating and undermining an adversary’s confidence in its perception of a cyberattack on its networks is essential to China’s information warfare strategy.²⁰⁵ “It is not simply computers. It is the human element of interpreting what is on the screen,” he said.²⁰⁶ “Do you believe the emails on your screen? Do you believe that your email went to the right place and conversely that the tweet, the Instagram, the TikTok actually is a reflection of reality?”²⁰⁷

The combination of network and psychological warfare units within the SSF gives China a “boosted” cyberwarfare capability the PLA hopes can trigger a chain reaction of political and social effects resulting from fear or uncertainty caused by the initial cyberattack.²⁰⁸ Mr. Chen argued that the 2021 ransomware attack on Colonial Pipeline,[†] which resulted in fuel shortages across the East Coast and panic buying at gas stations, illustrates the type of attack the SSF could hypothetically pursue in peacetime, a crisis, or a conflict.²⁰⁹ To undermine confidence in Taiwan’s government, for example, the SSF could launch intermittent cyberattacks against the Taipei subway amid a sustained online influence campaign to accuse public transit officials of corruption during election season.²¹⁰ Such a campaign would damage both infrastructure and public confidence, potentially resulting in political repercussions at the polls.²¹¹ “In examples like these, human cognition and responses are more important targets for SSF cyber operations than any network infrastructure,” Mr. Chen observed.²¹²

*According to Mr. Cheng, the “three warfares” strategy is an approach to political warfare that uses different types of information to win the political initiative and seize a psychological advantage over the adversary. “Psychological warfare” involves the application of psychological methods and principles to attack an opponent’s perceptions and mindset, erode its will to fight, and protect one’s own will. “Legal warfare” involves the passage and enforcement of laws to depict an adversary’s actions as unlawful and bolster support for one’s own behavior on the grounds that it is legal, virtuous, and just. “Public opinion warfare” uses information propagated through mass channels to shape public and decisionmaker perceptions of the overall balance of strength between oneself and one’s opponent. Dean Cheng, *Cyber Dragon: Inside China’s Information Warfare and Cyber Operations*, Praeger, 2017, 44, 48, 51.

†The Federal Bureau of Investigation attributed the attack on Colonial Pipeline to DarkSide, a Russian criminal group, in May 2021. Two months later, the Federal Bureau of Investigation and Cybersecurity and Infrastructure Security Agency issued a notification jointly attributing a spearphishing and cyber intrusion campaign targeting U.S. oil and natural gas pipeline companies between 2011 and 2013 to Chinese state-sponsored actors, in what some observers interpreted as a reminder that China’s cyber capabilities remain a significant threat to U.S. pipeline infrastructure. Christian Vasquez and Blake Sobczak, “China Hacking Threat Prompts Rare U.S. Pipeline Warning,” *Energy Wire*, July 21, 2021; Zachary Cohen, Geneva Sands, and Matt Egan, “What We Know about the Pipeline Ransomware Attack: How It Happened, Who Is Responsible and More,” *CNN*, May 10, 2021.

SSF Reserves Supplement Active-Duty SSF Personnel

The SSF can also call up reserve units to supplement cyberwarfare operations.²¹³ These units are drawn from the PLA's standing Reserve Force and constitute a relatively small number of personnel. As of 2018, reservists serving specialized technical functions in the PLA Navy, PLA Air Force, PLA Rocket Force, and SSF combined made up less than 10 percent of the largely ground-centric force.²¹⁴ In wartime, SSF reserve units will be commanded through a military chain of command and are organized by mission set, such as network attack or defense.²¹⁵

Military Cyberwarfare Research

Militaries like that of the United States often rely on in-house engineers and tool developers to create capabilities for cyber missions.²¹⁶ Similarly, the SSF's own personnel and researchers appear to develop some of the tools it requires for cyberwarfare operations.

The SSF's In-House Capabilities Development

While public information about the SSF's in-house capability development is limited, personnel in SSF units and researchers at the Information Engineering University (IEU), a military academy subordinate to the Network Systems Department, have authored technical papers on a variety of subjects relevant to information warfare (see "Dual-Use Research Advances Cyberwarfare Capabilities" later in this section for more).²¹⁷ There is also evidence that SSF units have procured foreign antivirus software, likely for the purposes of testing malware or discovering zero-day vulnerabilities that can be exploited in cyberwarfare operations.²¹⁸

Dual-Use Research Advances Cyberwarfare Capabilities

SSF-affiliated researchers have written papers exploring cybersecurity methods that are inherently dual use, meaning they could be used for both defensive and offensive purposes amid an information warfare campaign.²¹⁹ For example, a 2019 Ph.D. dissertation submitted by an IEU researcher specializing in industrial control systems examined defensive methods for detecting intrusions in electrical power infrastructure, dual-use knowledge that could easily be used to attack an adversary's systems.²²⁰ Others at IEU have studied the application of adversarial machine learning to cyber intrusion techniques.²²¹ Similarly, IEU and 311 Base researchers have published papers and dissertations on topics such as spambot detection, user identification across different social media networks, and automated models for disseminating propaganda—methods that are useful both for controlling domestic information and for conducting psychological warfare or influence campaigns against an adversary.²²²

PLA Leverages Civilian and Commercial Resources for Cyberwarfare

The CCP views military-civil fusion* as an important way to develop the tools and human talent needed to defend against foreign

*The Chinese government's military-civil fusion policy aims both to spur innovation and economic growth through an array of policies and other government-supported mechanisms and to leverage the fruits of civilian innovation for China's defense sector. For more, see U.S.-China

adversaries' cyber operations and prevail on the battlefield.²²³ Accordingly, the PLA looks to militias, Chinese government agencies, universities, research institutes, and domestic hacking competitions for sources of technically competent civilians. Some of these avenues enable the SSF to commandeer personnel who can execute cyberwarfare operations, while others contribute to the research and development (R&D) enterprise that “trains” and “equips” the country's cyber operators.

Cyber Militias Bring Civilian Resources to Bear in Cyberwarfare Operations

The SSF can mobilize cyber militias composed of technically competent civilians to supplement cyberwarfare operations.²²⁴ Militias are formal, permanent groups that operate at the direction of the PLA but are distinct from the official reserves.*²²⁵ Militias vary in terms of composition and domain focus, but those specialized for information warfare have existed since the late 1990s.²²⁶ Since 2017, however, China has formalized a “new-type militia force system” to better support informationized warfare and military operations other than war (such as disaster relief).†²²⁷ Cyber militias are one of 20 kinds of new-type militias listed in a classification table maintained by the CMC's National Defense Mobilization Department.‡²²⁸ Their responsibilities likely include network attack, network security and defense, public opinion monitoring and guidance, psychological warfare, and legal warfare.²²⁹ China's cyber militias could participate in military operations alongside the PLA in times of war.²³⁰

Cyber militias exemplify military-civil fusion because their personnel are drawn from Chinese cybersecurity enterprises and academic institutions.²³¹ Qihoo 360 Technology Corporation has stood up at least one cyber militia unit in Beijing that reportedly ensures local network security, trains personnel, and conducts research on offensive and defensive network operations.²³² Since 2003, the Southwest University of Science and Technology has operated a cyber militia in partnership with the China Academy of Engineering Physics—China's premier nuclear weapons developer—that trains cybersecurity personnel and members of other militias.²³³ The number of cyber militia units within China remains unknown, but there could be thousands or even tens of thousands.²³⁴

Economic and Security Review Commission, Chapter 3, Section 2, “Emerging Technologies and Military-Civil Fusion: Artificial Intelligence, New Materials, and New Energy,” in *2019 Annual Report to Congress*, November 2019.

*In general, Chinese militias train for warfare-oriented support roles (such as logistics, intelligence, and defense operations) and participate in disaster relief, emergency response, and social stability missions. Insikt Group, “Inside China's National Defense Mobilization Reform: Capacity Surveys, Mobilization Resources, and ‘New-Type’ Militias,” *Recorded Future*, March 10, 2022, 13.

†According to Insikt Group, China's new-type militias are intended to carry out emergency response tasks, support the needs of modern warfare, and help China project military power in new strategic spaces. These militias rely on well-educated, skilled professionals from China's civilian economy. Insikt Group, “Inside China's National Defense Mobilization Reform: Capacity Surveys, Mobilization Resources, and ‘New-Type’ Militias,” *Recorded Future*, March 10, 2022, 1.

‡The 20 militia categories listed in the classification table are: emergency response, stability maintenance, special search and rescue, duty support, maritime militia, border/coastal defense militia, air defense militia, special assistance/support, engineering rapid repair, chemical defense/rescue, transportation and shipping, transport/road protection, communications support, reconnaissance/intelligence support, logistics support, equipment support, service and branch support, network (cyber), intelligence and information, and sentry posts. Insikt Group, “Inside China's National Defense Mobilization Reform: Capacity Surveys, Mobilization Resources, and ‘New-Type’ Militias,” *Recorded Future*, March 10, 2022, 16–17.

Ad Hoc Arrangements Enable SSF to Call Up Chinese Government Agency Personnel

During wartime, the SSF may call up personnel within Chinese government agencies like the MSS and MPS to participate in cyberwarfare missions on an ad hoc basis.²³⁵ Little information about these arrangements is available, but both agencies are likely to have operational roles during a conflict.²³⁶ Mr. Kozy speculated that the MSS could turn over to the PLA both targeting recommendations and the access the MSS and its contractors have already gained to adversary networks.²³⁷ The MSS could also instruct its various contractors to engage in “patriotic hacking” of less sensitive targets in order to deconflict with potential SSF operations while sowing chaos within the adversary’s society.²³⁸ More broadly, PLA texts outline a series of support and coordination mechanisms between the SSF and central- and local-level CAC, MSS, and MPS organizations that carry out cyber activities.²³⁹ “These support and coordination mechanisms are meant to ensure that [China’s] various cyber actors act in concert when strategic cyberwarfare is underway,” Mr. Chen observed.²⁴⁰

Chinese government agencies can also mobilize cyber resources owned by civilian organizations for use in wartime. A draft survey used by the National Defense Mobilization Department to identify civilian assets that can be requisitioned in wartime identified several types of “mobilization instruments” relevant to cyber operations.²⁴¹ These include large-scale cybersecurity enterprises, authority for which lies with CAC, the MIIT, and the MPS; large and super-large data centers, authority for which lies with CAC and the MIIT; and cyber ranges, authority for which lies with CAC, the MPS, and the MIIT.²⁴²

A Pipeline for Offensive Research between Chinese Universities and the SSF

According to Mr. Chen, the MIIT and its State Administration of Science, Technology, and Industry for National Defense (SASTIND) together “orchestrate a vast effort to equip the PRC’s [People’s Republic of China’s] cyber agencies with leading-edge technology and supply them with elite talent.”²⁴³ Both entities advance this effort through their supervision of a web of research universities with close ties to China’s defense industry.²⁴⁴ The most visible are the so-called “Seven Sons of National Defense,” but there are at least 60 Chinese universities subordinate to both the MIIT and SASTIND.²⁴⁵ Many of these universities conduct cybersecurity research with potential applications to information warfare, generating knowledge the PLA can consume even in the absence of formal collaboration.*

*According to the China Defense Universities Tracker, at least 23 universities conduct cybersecurity-related research. These include Beijing Electronic Science and Technology Institute, Beijing University of Posts and Telecommunications, Hangzhou Normal University, Harbin Institute of Technology, Harbin University of Science and Technology, Heilongjiang University, Information Engineering University, Nanjing Institute of Information Technology, Nanjing University, National University of Defense Technology, Northwestern Polytechnical University, People’s Public Security University of China, Shandong University, Shanghai Jiao Tong University, Sichuan University, Southeast University, Tsinghua University, University of Electronic Science and Technology of China, Wuhan University, Xi’an Jiaotong University, Xidian University, Zhejiang University, and Zhengzhou University. China Defense Universities Tracker, “Cyber,” *Australian Strategic Policy Institute*.

Other Chinese universities contribute directly to the PLA's offensive and defensive cyber capabilities through joint research facilities and research grants, embodying China's military-civil fusion approach.²⁴⁶ Southeast University jointly operates the Purple Mountain Network Communication and Security Laboratory with the SSF, where researchers work together to fulfill "important strategic requirements" and conduct interdisciplinary cybersecurity research.²⁴⁷ Shanghai Jiao Tong University (SJTU) co-locates its School of Information Security Engineering on a PLA information engineering base in Shanghai.²⁴⁸ SJTU's Cyberspace Security Science and Technology Research Institute also runs a program that conducts APT attack testing and defense, which Mr. Cary framed as "bold admission of their own APT work and their perceived value to the PLA's cyber capabilities."²⁴⁹ Both universities have been implicated in state-sponsored hacking operations and received funding from multiple Chinese government grant programs with potential ties to the PLA that support information warfare-related research.²⁵⁰ Mr. Cary noted that in examples such as these, "the lab-to-field pipeline is clear and direct."²⁵¹

Some universities even have formal agreements with the SSF or provincial governments to institutionalize research collaboration that benefits the military. The SSF signed an agreement with six Chinese universities and three defense industry enterprises in 2017 to facilitate academic exchange and "train high-end talents for new combat forces."²⁵² The schools are the University of Science and Technology of China, SJTU, Xi'an Jiaotong University, Beijing University of Technology, Nanjing University, and Harbin Institute of Technology.²⁵³ Both Zhejiang University and Huazhong University of Science and Technology have partnered with the Zhejiang provincial government to operate Zhejiang Labs.²⁵⁴ Zhejiang Labs' oversight board includes representation from the PLA's National University of Defense Technology, and the laboratory is conducting research with various partners on topics such as artificial intelligence for software vulnerability discovery as well as attack and defense of industrial control systems.²⁵⁵

National Research Centers Leverage Academia and Industry to Enhance China's Cyber Capabilities

National research centers focused on cybersecurity are another part of the R&D ecosystem that equips China's cyberwarfare forces. Endorsed by the top bodies of the CCP and military, these centers bring together government, industry, and academia to develop cyber technologies that will advantage China in future wars and reduce its dependence on foreign technologies.²⁵⁶ The National Cybersecurity Center † (NCC) in Wuhan and the Cybersecurity Civil-Military Fusion Innovation Center in Qingdao are among the most import-

*Southeast University allegedly hacked the healthcare insurance company Anthem in 2015. SJTU allegedly hacked Google and other U.S. technology companies in 2009. China Defense Universities Tracker, "Shanghai Jiao Tong University," *Australian Strategic Policy Institute*, November 18, 2019; China Defense Universities Tracker, "Southeast University," *Australian Strategic Policy Institute*, November 12, 2019; David Barboza, "Hacking Inquiry Puts China's Elite in New Light," *New York Times*, February 21, 2010.

†The NCC is formally known as the National Cybersecurity Talent and Innovation Base. Dakota Cary, "China's National Cybersecurity Center: A Base for Military-Civil Fusion in the Cyber Domain," *Center for Security and Emerging Technology*, July 2021, 6.

ant, though there are smaller cybersecurity parks and industrial bases in Chengdu, Shanghai, Tianjin, and Shanxi Province.²⁵⁷

The NCC is overseen by a guidance committee subordinate to the CCCI, and its research zone hosts two laboratories that likely conduct cybersecurity research for government use.²⁵⁸ The Offense-Defense Laboratory is a network simulation center that applies and tests network security tools in addition to carrying out “practical combat drills.”²⁵⁹ While details are scarce, the laboratory may correspond to or be connected with the similarly named Cyber Offense-Defense Center jointly operated by the PLA and Wuhan University.²⁶⁰ The Combined Cybersecurity Research Institute, by contrast, focuses on the initial development of new cybersecurity technologies.²⁶¹ The institute grew out of a joint effort between Wuhan University and Qihoo 360 and now partners with 12 Chinese companies.²⁶² Mr. Cary observed that two of these companies, Qihoo 360 and Beijing TopSec, are known to train PLA cyber operators.²⁶³ Both companies have also moved or assigned hundreds of their research staff to the NCC.²⁶⁴

The Cybersecurity Civil-Military Fusion Innovation Center was established in 2017 under the guidance of the Central Commission for Integrated Military and Civilian Development and the CMC to enhance the PLA’s cyber capabilities.²⁶⁵ The center’s operations are shrouded in secrecy, but Chinese media reported that the center plans to build cyber defense systems and a threat-intelligence-sharing mechanism for military users, encourage companies to cooperate on R&D projects addressing combat requirements, conduct a pilot study on cyber militia construction, and provide emergency response and APT analysis services to the PLA and local governments.²⁶⁶ Qihoo 360 is responsible for daily operations of the center, reportedly marking the first time a military-civilian fusion center supervised by the military has been operated by a private company.²⁶⁷ A 2021 article on a tourism-oriented WeChat account called *Qingdao Local Treasure* mentioned that the center is located in a smart city complex built by Qihoo 360 in Qingdao, not far from a “network security confrontation base” and “network security talent training base.”²⁶⁸ A 2018 commentary in *PLA Daily* argued that the center’s establishment reflects “an urgent need to deal with the severe situation of global network security, but also [constitutes] a practical measure for our military to use military-civilian integration development to strengthen the construction of network security capabilities.”²⁶⁹

Talent Competitions Uncover Vulnerabilities for Military Use

The PLA also holds hacking competitions that encourage researchers in the commercial and academic sectors to identify vulnerabilities for use in cyberwarfare operations.²⁷⁰ Mr. Cary noted that China’s Robot Hacking Games are modeled on the U.S. Defense Advanced Research Projects Agency’s 2016 Cyber Grand Challenge.²⁷¹ The games are intended to spur innovation in automated software vulnerability discovery, patching, and exploitation technology, tools

*The Central Commission for Integrated Military and Civilian Development was established in 2017 and is chaired by General Secretary Xi. The commission leads decision-making and coordinates policy implementation for matters related to civil-military integration. Brian Lafferty, “Civil-Military Integration and PLA Reforms,” in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Phillip Saunders et al., eds., National Defense University Press, 2019, 648.

that can be used in the development of both offensive and defensive capabilities.²⁷² He observed that while the United States has not hosted any new iterations of the Cyber Grand Challenge since 2016, China has staged more than a dozen rounds of the Robot Hacking Games since their inception in 2017.²⁷³ Specific entities within the PLA, such as the Equipment Development Department, have organized their own hacking competitions to identify and develop tools that can automate vulnerability discovery.²⁷⁴

China's Cyberespionage Goals and Capabilities

China's cyberespionage operations have grown stealthier, more technically sophisticated, and more agile over the past decade.²⁷⁵ Analysts studying China's cyberespionage operations in the early 2010s used to describe Chinese tradecraft as rudimentary and "sloppy."²⁷⁶ One Shanghai-based PLA unit carrying out a massive, multiyear cyberespionage campaign took so few precautions against detection, for example, that cybersecurity firm Mandiant released a landmark report in 2013 that thoroughly documented its operations.²⁷⁷ Since that time, however, Chinese cyberespionage operations have grown more covert, incorporated more advanced TTPs, infiltrated a wider range of targets, and leveraged a more diverse workforce of hackers beyond the PLA.²⁷⁸ This improvement largely reflects the reassignment of responsibility for most global cyberespionage operations from the PLA to the MSS in recent years.*²⁷⁹ According to Mr. Kozy, the MSS is a "unique cyber adversary that has in many ways surpassed the smash-and-grab PLA intrusions of the past and created a much more dangerous environment globally" for victims of Chinese cyberespionage.²⁸⁰

The MSS Leverages Special Advantages in Its Global Cyberespionage Operations

The MSS excels at cyberespionage because of its competence and its unique access to other elements of China's cybersecurity ecosystem.²⁸¹ As a professional intelligence service, the MSS combines human intelligence operations with cyber campaigns, synthesizes big data for targeting operations, and attracts top-level technical talent with generous benefits.†²⁸² Though top-ranking MSS officials were early targets of General Secretary Xi's anticorruption campaign, the agency now enjoys the confidence of China's top leadership and is headed by Chen Wenqing, one of General Secretary Xi's close associates.²⁸³ But the MSS's most consequential advantages stem from its empowered position in the Chinese legal system, its deep ties to the MPS, and its oversight of technical bodies responsible for vulnerability testing and software reliability assessments.²⁸⁴

*According to Mr. Kozy, the Chinese leadership elevated the MSS around 2015 to take advantage of the agency's greater technical competence, to move beyond embarrassing exposures of PLA cyber operations, to buy time for the PLA's various cyber units to be absorbed into the SSF, and to provide an "off ramp" in negotiations with the United States over an agreement to restrict cyberespionage. Adam Kozy, oral testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 84; Adam Kozy, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 2-3.

†Big data analytics enable the rapid processing of vast amounts of data in ways that can facilitate cyber offense and cyber defense.

Vast Legal Authorities Enhance MSS Collection

China's legal system empowers the MSS to compel virtually any individual or organization within China to assist its cyberespionage operations. Specific provisions of the Cybersecurity Law and National Intelligence Law require all Chinese citizens, companies, and government agencies to comply with the MSS's requests for support to intelligence operations.²⁸⁵ Such support can take the form of providing MSS officers intelligence cover, allowing the use of one's organization as a recruiting platform, or granting the MSS access to one's premises, networks, or data.²⁸⁶ The MSS also benefits from security regulations that require all individuals and vendors operating within China to submit discovered vulnerabilities in software to the government within two days.²⁸⁷

For example, some large Chinese technology companies have reportedly lent their data-processing capabilities to the MSS, ostensibly because they are required to do so by law. A 2020 report in *Foreign Policy* magazine found that Alibaba and Baidu have previously assisted the MSS and other elements of the security services with requests to analyze large amounts of data collected in its intelligence operations.²⁸⁸ The report noted that large Chinese technology companies have likely synthesized data Chinese state-sponsored hackers stole from Marriot, Equifax, the U.S. Office of Personnel Management, and other organizations for the purpose of identifying U.S. intelligence personnel.²⁸⁹ Mr. Cary argued that large Chinese technology firms may comply with such one-off requests from the MSS "begudgingly," viewing them as "a cost of doing business, not another profitable venture for the firm."²⁹⁰ More broadly, experts have raised concerns that China's intelligence services could access data about U.S. users from the popular video platform TikTok after *BuzzFeed* reported in June 2022 that China-based employees of TikTok's parent company ByteDance had repeatedly accessed nonpublic data about U.S. users.*²⁹¹

MPS Provides Cover, Office Space, Recruitment Help

The MSS derives significant operational advantages from its longstanding and intimate relationship with the MPS, a law enforcement agency.†²⁹² MSS offices are frequently co-located with MPS

*The Biden Administration's EO 14034 effectively revoked and replaced the Trump Administration's EO 13942 and 13943 on TikTok and WeChat, respectively. Released in August 2020, the Trump Administration orders would have required both apps to cease services provision in the United States and prompted TikTok's parent ByteDance to enter into negotiations with Walmart and Oracle over the sale of TikTok to allow the app's continued operation in the United States. Negotiations over the buyout languished alongside multiple lawsuits against the executive orders on First Amendment grounds, and implementation of these orders was postponed when the Biden Administration's review of policies. In June 2022, TikTok and Oracle announced they had completed the migration of TikTok's collection of U.S. user data into Oracle-owned data centers in the United States. It is not clear whether the Committee on Foreign Investment in the United States will pursue additional mitigation measures with TikTok to secure U.S. users' "sensitive personal data." Richard C. Sofield, John M. Satira, and Olivia Hinerfeld, "TikTok and Oracle Ink Data-Storage Agreement in Apparent Effort to Avoid Further CFIUS Scrutiny," *Vinson & Elkins*, June 24, 2022; Robert Chesney, "TikTok, WeChat, and Biden's New Executive Order: What You Need to Know," *Lawfare*, June 9, 2021; White House, *Executive Order on Protecting Americans' Sensitive Data from Foreign Adversaries*, June 9, 2021.

†The MSS was created in 1983 by combining the CCP's Investigation Department with the MPS departments responsible for intelligence and counterintelligence. The MSS's first minister was a former MPS vice minister. Adam Kozy, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 5.

offices, which provide convenient cover for intelligence operations.²⁹³ The MSS likely accesses data collected by the MPS through domestic surveillance and censorship mechanisms such as the Great Firewall.²⁹⁴ Finally, the two agencies may work together to secure the cooperation of convicted criminals who possess hacking skills that can be leveraged for the state. “New laws during the late 2000s gave new powers to the MPS and MSS to pursue cyber criminals domestically, and it is believed that many of these same individuals came under legal scrutiny or were arrested,” Mr. Kozy observed.²⁹⁵ “It is suspected several were released in exchange for rendering their skills to the state for cyber espionage purposes, and subsequently allowed to continue their criminal activities as long as they targeted victims outside China.”²⁹⁶ He pointed to the example of infamous hacker Tan Dailin (a.k.a. Wicked Rose), who was arrested by the MPS in 2009 but likely received a commuted sentence in exchange for an agreement to contract for the MSS just two years later.²⁹⁷

MSS Mines Vulnerabilities through Its Control of Technical Organizations

The MSS also derives exploits from its control of technical bodies responsible for assessing vulnerabilities in software and hardware. The most important is CNITSEC, which appears to outside observers as an independent agency but in actuality belongs to the MSS’s 13th bureau.²⁹⁸ CNITSEC reviews software for government use, conducts “national security reviews” of foreign technology that will be sold on the Chinese market, interfaces with domestic cybersecurity firms pursuing government contracts, and collects information about vulnerabilities in software, hardware, and information systems.²⁹⁹ It also maintains China’s National Vulnerability Database (CNNVD), which catalogues and provides advisories for vulnerabilities discovered in software.³⁰⁰

The MSS uses its oversight of CNITSEC to evaluate high-value vulnerabilities in software or hardware for operational utility before they are published in CNNVD.³⁰¹ A 2017 analysis by researchers at *Recorded Future* found that CNNVD tended to publish high-threat vulnerabilities substantially later than low-threat vulnerabilities (a discrepancy ranging from 21 to 156 days later) and that the U.S. government’s National Vulnerability Database beat CNNVD to publication on 97 percent of vulnerabilities commonly exploited by malware linked to Chinese APT groups.³⁰² A year later, the same researchers found that CNNVD had altered the dates corresponding to initial publication of high-value vulnerabilities identified by the 2017 report in an apparent attempt to cover up evidence of the MSS’s vulnerability evaluation process.³⁰³ Mr. Kozy stated in his testimony that one example of this process can be seen in the use of zero-day vulnerability by APT40 (a.k.a. Kryptonite Panda) a month before it was publicly reported as being discovered by Qihoo 360.³⁰⁴

The MSS also leverages resources beyond CNNVD to acquire vulnerabilities and exploits for its cyberespionage operations. While details are scarce, the MSS may have access to a common, centralized development and logistics infrastructure that enables its own cyber operators, contractors associated with APTs, and SSF personnel to access the same pool of malware and other tools.³⁰⁵ A common infra-

structure could explain why multiple APTs associated with the MSS often use the same malware.³⁰⁶ The MSS also buys datasets and tools from underground marketplaces that it subsequently customizes.³⁰⁷ Mr. Kozy argued that such purchases on the black market “may account for the variety of tools seen in use by MSS operators and explain why many of them are more advanced than tools typically seen in the domestic Chinese underground marketplaces.”³⁰⁸

Separately, the MSS may run its own domestic hacking competitions to identify vulnerabilities from talented civilian hackers. Mr. Cary noted that CNITSEC has hosted talent competitions in the past to identify and develop tools for vulnerability discovery.³⁰⁹ The MSS also appears to benefit from the Tianfu Cup, one of China’s largest and most important hacking competitions, though the nature of the MSS’s relationship with the competition is unclear.³¹⁰ Modeled after the premier international hacking competition Pwn2Own, the Tianfu Cup hosts three concurrent tournaments focused on identifying vulnerabilities, hacking devices, and compromising operating systems, often taking aim at products produced by the world’s largest technology companies.³¹¹ Reporting from cybersecurity firms and media outlets over 2020 and 2021 revealed that China’s intelligence services had made use of an award-winning vulnerability discovered at the Tianfu Cup to hack the iPhones of Uyghur Muslims.³¹²

China’s Cyberespionage Operators

Multiple Actors Perpetrate China’s State-Sponsored Cyberespionage

While the MSS is the lead agency responsible for global cyberespionage, it does not rely solely on its own technical experts to conduct operations. Rather, the MSS supplements its in-house talent through contracting arrangements with hackers at small firms—some of whom moonlight as cyber criminals—as well as researchers at universities. The PLA also conducts some cyberespionage operations, but most of its cyberespionage portfolio has been transferred to the MSS.³¹³

In-House Talent Conducts Operations Spanning the Globe

The MSS has substantial in-house talent it draws on to conduct global cyberespionage operations, thanks to an earlier drive to recruit capable hackers by offering attractive benefits and more career flexibility relative to the PLA.³¹⁴ Little public information is available about the MSS’s cyber operators, but they are likely located in provincial or functional branches of CNITSEC, serving in penetration tester and tool developer roles.³¹⁵

Some of the most active and notorious Chinese APTs appear to involve MSS cyber operators directly, though it is difficult to ascertain when MSS officers have cyber training and to distinguish between actions of the MSS working through front companies and its contractors, respectively (see Appendix III). For example, APT26 (a.k.a. Turbine Panda), a threat actor run by the MSS’s Jiangsu provincial bureau, targeted U.S. and European commercial airliners between 2010 and 2015 for trade secrets related to turbofan engines that ultimately contributed to the design of China’s C919 aircraft.³¹⁶ According to Mr. Kozy, APT26’s cyber operations were overseen by a

chief of the MSS's cyber bureau, who probably had technical training.³¹⁷ Many of APT26's cyber operations were perpetrated by the hacker Liu Chunliang, who oversaw the work of other hackers and likely worked directly at the Jiangsu bureau.³¹⁸

Outside Contractors Enhance Capability and Offer Plausible Deniability

The MSS also pays contractors to conduct state-sponsored cyberespionage operations while overlooking the collateral damage created by their criminal activities. According to Mr. Kozy, contractors act as both a “force multiplier and alternative tradecraft for the MSS.”³¹⁹ Using contractors allows the MSS to easily terminate operations, add an extra layer of operational security between the victim and the MSS, leverage various technical methods for fulfilling intelligence requirements, create plausible deniability in the event attacks are discovered, and acquire technical expertise that may not exist in house.³²⁰

There is substantial variety across the MSS's contracting relationships, depending on the agency's needs. Some contracting relationships may be formalized through a government contract supervised by CNITSEC, such as those with companies like Qihoo 360 and NSFOCUS.³²¹ Other contracting relationships may be informal, flexible, and characterized by minimal MSS direction regarding collection requirements.³²² An additional benefit of using contractors is that the MSS has a ready scapegoat if an operation goes awry. Mr. Kozy explained that the MSS can rely on its partners within the MPS to “make arrests if they feel like they need to trot out some victims or [assign] some blame.”³²³

In addition to monetary compensation, the MSS may also provide its contractors a kind of “immunity” by turning a blind eye to criminal activities conducted off the job.³²⁴ Mr. Kozy noted that such willful blindness is likely temporary and context dependent rather than constituting any kind of formal or lifelong guarantee.³²⁵ “This makes the relationship between black hat contractors and the MSS a tenuous one, based mostly on those criminals conducting their activities outside of China to prevent a conflict of interest where the MSS and MPS need to protect Chinese citizens from their own operators,” he observed.*³²⁶

There is some public evidence that hackers themselves believe their work with the MSS confers legal protection. According to a 2020 U.S. Department of Justice (DOJ) indictment of hackers associated with APT41, a state-sponsored threat actor that Mandiant has observed using nonpublic malware typically reserved for espionage campaigns in criminal activities for personal gain, hacker Jiang Lizhi boasted of his close connections to the MSS.³²⁷ The indictment noted, “Jiang and his associate agreed that Jiang's working relationship with the Ministry of State Security provided Jiang protection, because that type of association with the Ministry of State Security provided such protection, including from the Ministry of Public Security, ‘unless something very big happens.’”³²⁸ Mr. Kozy noted that such a dynamic probably accounts for the recent surge

*“Black hat” hackers exploit weaknesses in an organization's network for malicious purposes, while “white hat” hackers are typically hired to look for vulnerabilities in an organization's system so that they can be patched. Norton, “What Is the Difference between Black, White and Gray Hat Hackers?” February 25, 2022.

in state-sponsored APT groups using tactics like ransomware and cryptojacking* against foreign targets.³²⁹

Some aggressive Chinese APTs have been outed as contractors for the MSS. For example, cybersecurity researchers discovered in 2017 that activity associated with APT3 (a.k.a. Gothic Panda), a threat actor that stole trade secrets from Siemens AG, Moody's Analytics, and Global Positioning System (GPS) technology company Trimble between 2011 and 2016, was carried out by Guangzhou Boyu Information Technology Company (a.k.a. Boyusec).³³⁰ Boyusec is a contractor working with the MSS's Guangzhou provincial bureau.³³¹ Similarly, activity associated with APT10 (a.k.a. Stone Panda), a threat actor that stole trade secrets from managed service providers and more than 45 technology companies between 2006 and 2018, has been tied to two hackers who worked for Huaying Haitai Science and Technology Development Company, a contractor for the MSS's Tianjin provincial bureau.³³²

Universities Sometimes Collaborate on Cyber Operations

Some Chinese universities help the MSS and PLA conduct state-sponsored cyberespionage operations in a way that simply has no analogue in the United States. Mr. Cary assessed that most Chinese universities probably do not directly participate in PLA and MSS hacking campaigns, instead advancing China's cyber capabilities in a more traditional educational capacity, but those that do constitute a significant threat to U.S. interests.³³³ SJTU allegedly hacked Google and other U.S. technology companies as part of a broader PLA cyberespionage campaign in 2009.³³⁴ More recently, in 2018 U.S. authorities arrested an intelligence officer working for the MSS's Jiangsu provincial bureau who allegedly coordinated with a top-ranking academic official at Nanjing University of Aeronautics and Astronautics to cultivate overseas targets who could facilitate the theft of engine technology from GE Aviation.³³⁵

Other Chinese universities may engage with the MSS through educational and career development activities that result in technical solutions the agency can exploit in cyberespionage operations. At Hainan University, for example, a professor working with the MSS's Hainan provincial bureau allegedly recruited students from on-campus hacking competitions in 2013 and 2016, offering bounties of up to \$73,000 to students and faculty who procured software vulnerabilities that ultimately facilitated hacking operations.³³⁶ Xidian University reportedly operates a jointly administered graduate degree program with the Guangdong Bureau of CNITSEC (known as Guangdong ITSEC), which brings students and graduate students together to solve technical problems that facilitate the MSS's work.³³⁷

Characteristics of China's State-Sponsored Cyberespionage Operations

Like other countries, China uses cyberespionage campaigns to acquire information that advances its national interests. Yet Chinese cyberespionage activity can often be distinguished from espionage

* Cryptojacking is a type of cybercrime that involves the unauthorized use of victims' devices by cybercriminals to mine for cryptocurrency. *Kaspersky*, "What Is Cryptojacking?—Definition and Explanation."

activities perpetrated by other nation-states based on its distinctive collection requirements and its scale.³³⁸ According to Kelli Vanderlee, a senior manager for strategic analysis at Mandiant's threat intelligence division, some of Beijing's intelligence targets—such as those in Hong Kong, Tibet, and the Uyghur diaspora—reflect the CCP's unique priorities and therefore can be easily distinguished from the intelligence collection activities of other countries.³³⁹ Even though the volume of Chinese cyber threat activity Mandiant has observed declined by at least 50 percent from 2013 to 2016, Ms. Vanderlee noted there are more Chinese state-sponsored threat groups conducting more compromises and exploiting more zero-days than any other nation.³⁴⁰

Victims Possess Information Related to China's Key State Priorities

China's cyberespionage operations target political, military, economic, and technical information that advances national priorities, wherever it may be found. According to a 2019 presentation by cybersecurity firm FireEye, between 2016 and 2019 Chinese cyberespionage actors most frequently targeted the telecommunications, government, high-technology, and media/entertainment sectors.³⁴¹ The same report found that Chinese cyberespionage actors most frequently targeted the United States, South Korea, Hong Kong, Germany, Japan, India, and Taiwan.³⁴²

MSS activity can be distinguished from PLA activity based on geographic scope and the identity of the victim.³⁴³ According to Ms. Vanderlee, MSS-affiliated cyberespionage operators generally target the United States and regions outside of the Indo-Pacific, such as Europe, Latin America and the Caribbean, and North America, and their victims align with the agency's mandate to conduct nonmilitary foreign intelligence, carry out domestic counterintelligence, and support aspects of political security.³⁴⁴ By contrast, PLA cyberespionage operations typically correspond to AORs of the theater commands and focus on military intelligence or defense targets.³⁴⁵

Enhanced Collection of Traditional Diplomatic, Political, and Military Intelligence

China's security services have leveraged cyber operations in recent years to enhance traditional espionage campaigns against adversaries, friendly countries, and ethnic minorities of interest. Reflecting the importance Chinese intelligence places on insight into the United States, suspected MSS affiliate APT41 used vulnerable internet-facing web applications to breach the government networks of six U.S. states between 2021 and 2022.*³⁴⁶ MSS affiliate APT40 reportedly carried out an extensive 2018 cyberespionage campaign in Cambodia, a close ally of China, to acquire intelligence about the country's election commission, opposition politicians, and human rights activists ahead of the general

*There are numerous examples of Chinese cyberespionage operations that have targeted the federal government, such as the 2015 hack of the Office of Personnel Management, as well as U.S. political figures, such as the governor of Alaska in the leadup to a trade delegation visit to China in 2018. Insikt Group, "Chinese Cyberespionage Originating from Tsinghua University Infrastructure," *Recorded Future*, August 16, 2018; Ellen Nakashima, "Chinese Breach Data of 4 Million Federal Workers," *Washington Post*, June 4, 2015.

election.³⁴⁷ Chinese APT groups also hacked telecommunications networks and Facebook in 2019 and 2021, respectively, to spy on Uyghur activists living in the United States, Central Asia, and Southeast Asia.³⁴⁸ Numerous Chinese cyberespionage operations have targeted U.S. defense contractors conducting sensitive research in aviation and maritime technologies, successfully stealing designs for advanced U.S. weapons systems such as aircraft carriers and the F-35 fighter jet.³⁴⁹

Pilfered Commercial IP Fills Key Technology Gaps

Chinese state-sponsored groups have aggressively targeted commercial IP that aligns with the requirements identified in the country's various industrial plans.*³⁵⁰ Mr. Kozy contended that Chinese leaders view cyberespionage “as a way to bridge key technology gaps and rapidly gain parity with advanced adversaries like the U.S. in a variety of dual-use technologies... that would otherwise be unattainable without years of research and billions spent on development.”³⁵¹ He pointed to China's first domestic airliner, the C919, as a direct beneficiary of cyberespionage campaigns perpetrated by the MSS-affiliated group APT26 to steal U.S. and European proprietary technology.³⁵² Ms. Vanderlee concurred, noting Mandiant had observed that Chinese state-sponsored cyberespionage groups regularly targeted organizations where commercial IP theft was a plausible objective, such as those in the technology, engineering, construction, transportation, and biotechnology sectors.³⁵³

Theft of Personal Information Could Enable Future MSS Targeting

Chinese cyberespionage operators have also stolen personally identifiable information the MSS could potentially use for blackmail or recruitment purposes. For example, DOJ indictments in 2019 and 2020 alleged that contractors from the cybersecurity firm Chengdu 404—whose personnel are thought to be synonymous with APT41—had collected significant amounts of personally identifiable information in the course of their wide-ranging intrusions into more than 100 companies, research universities, and other organizations around the world.³⁵⁴ Chengdu 404 subsequently constructed a “big data” repository tool known as Sonar-X that allowed users to search social media records that had been collected for individuals of interest, presumably for use by Chinese intelligence.³⁵⁵ The defendants used Sonar-X to find records related to individuals linked to various Hong Kong democracy and independence movements, a U.S. media outlet that reported on China's repression of Uyghurs, and a specific Tibetan Buddhist monk.³⁵⁶ According to Mr. Kozy, “This proves the MSS is likely capable of using data gleaned from other breaches such as 2015's OPM [Office of Personnel Management] breach to create targeting packages for both future cyber and HUMINT [human intelligence] operations.”³⁵⁷

*Relevant Chinese industrial plans include the 863 and 973 Plans, five-year plans, Made in China 2025, and the *Space Science & Technology in China: A Roadmap to 2050* report. Adam Kozy, written testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 12.

Technical Tradecraft Is More Stealthy, Agile, and Complex than Before

While Chinese state-sponsored cyberespionage operators exhibit varying levels of skill and employ TTPs common to many APTs, Ms. Vanderlee assessed that on the whole their technical tradecraft has “steadily evolved to become stealthier and more agile,” and featured efforts to complicate attribution.³⁵⁸ In her view, three tactics Chinese cyberespionage operators use to gain initial access into a victim’s system exemplify trends toward greater efficiency and impact.³⁵⁹ These include vulnerability exploitation, third-party compromise, and software supply chain compromise.³⁶⁰ Chinese cyberespionage operators’ use of malware is also becoming more varied and focused on concealing malicious activity.³⁶¹

Chinese Cyberespionage Operators Exploit N-Days and Zero-Days

Vulnerability exploitation occurs when an actor exploits flaws or vulnerabilities in software or hardware to infiltrate it for malicious purposes, such as gaining unauthorized access to a device, sabotaging a device, or executing the attacker’s commands.³⁶² These flaws may be “n-day vulnerabilities,” which are vulnerabilities that vendors have disclosed and patched, or “zero-day vulnerabilities,” which are unknown to the software developer or hardware manufacturer.³⁶³ Vulnerability exploitation is a powerful tactic because once threat actors know a particular software flaw exists, they can target any internet-accessible device running that software, either in targeted or mass campaigns.³⁶⁴ Ms. Vanderlee testified that Chinese cyberespionage actors made frequent use of both n-day and zero-day vulnerabilities in 2020 and 2021.³⁶⁵ Moreover, she noted that Mandiant analysis of all attributed zero-day exploits between 2012 and 2021 revealed that Chinese state-sponsored cyberespionage groups had utilized more zero-days than any other nation-state.³⁶⁶ Both the Microsoft Exchange hack and the Pulse Secure virtual private network (VPN) hack reported in 2021 occurred in part as a result of Chinese cyberespionage actors leveraging zero-day exploits.³⁶⁷ Ms. Vanderlee stated that several clusters of Chinese cyber threat activity, including one with likely ties to APT5, had exploited Pulse Secure VPN zero-days and n-days to deploy at least 16 families of malware.³⁶⁸ Notably, the actors “took steps to preserve operational security and stymie forensic investigations, such as clearing logs, cleaning up evidence of data staged for exfiltration, and changing file timestamps.”³⁶⁹

Third-Party Compromise Illustrates “Upstream” Movement of Collection Efforts

Third-party compromise involves an intrusion that abuses a trusted channel, such as that between a service provider and a client.³⁷⁰ Chinese cyberespionage operators’ use of this tactic is best exemplified by APT41’s 2019 hack of a telecommunications company to search its users’ text messages, though APT10’s breach of nine managed service providers to gain access to client information as part of the Cloudhopper campaign is a more well-known example.³⁷¹ Ms. Vanderlee explained that APT41’s deployment of MESSAGETAP malware into the network of a telecom-

munications provider enabled it to filter and copy specific users' SMS messages for topics China deems sensitive in a way that left no forensic evidence on users' devices.³⁷² More broadly, she pointed out that APT41's use of malware to collect SMS messages from a telecommunications provider demonstrates that Chinese intelligence collection efforts are moving "upstream," collecting information closer to the backbone of global communications.³⁷³ That means instead of targeting individual devices, APT41 collected the information at the telecommunications company itself, many degrees removed from the end user.³⁷⁴

Supply Chain Compromise

Software supply chain compromise is a type of third-party compromise that occurs when attackers implant malicious code within programs or updates that are distributed via the same trusted channels users normally employ to obtain legitimate hardware, software, packages, or updates.³⁷⁵ According to Mandiant's analysis of software supply chain compromise incidents successfully attributed to state-sponsored actors between 2013 and 2020, Chinese cyberespionage groups conducted nearly double the number of supply chain compromises carried out by Russian and North Korean groups combined.³⁷⁶ APT41's large-scale supply chain compromises of common enterprise software offer a good example of this tactic.³⁷⁷ For example, APT41's 2018 attack leveraged Taiwan-based computer maker ASUS's live update utility to install malicious backdoors on more than 50,000 systems, though the victims targeted and broader goal of the attack remain unclear.*³⁷⁸ Ms. Vanderlee also highlighted several cases of Chinese software supply chain compromises from 2019 and 2020 that involved software recommended or in some cases required by government authorities, explaining that these breaches likely enabled the collection of intelligence about foreign businesses operating in China as well as Chinese citizens.³⁷⁹

Chinese Cyberespionage Groups Change Malware to Conceal Operations

Finally, Chinese cyberespionage operators are changing the types of malware they use to more effectively evade detection by their victims. "Chinese cyber espionage malware use appears to have evolved to operate on a wider variety of operating systems, focus on modular code families, and increasingly incorporate malware only executed in memory,"† Ms. Vanderlee observed.³⁸⁰ She explained that Chinese cyberespionage threat groups use a combination of publicly and nonpublicly available tools to accomplish operations but that they are increasingly leveraging publicly available malware to blend in with other threat activity.³⁸¹

*The live update utility was distributed to about a million users but only installed by around 57,000. The hackers did not appear to target all of those who installed the backdoor, however. According to the cybersecurity firm Kaspersky, "The goal of the attack was to surgically target an unknown pool of [around 600] users, which were identified by their network adapters' MAC addresses." A MAC address, or Media Access Control address, is a unique hardware identifier used by computers, game boxes, and other devices that access the internet. *SecureList by Kaspersky*, "Operation ShadowHammer," March 25, 2019.

†Malware that exists in a computer's memory, rather than as a file or other artifact on a computer's hard drive, is difficult to detect because most digital forensics discover malware by examining alterations to the hard drive.

China Strives to Remake Global Cyber Governance

China's leadership seeks to shape the norms* and institutions underpinning a global cyber governance system it perceives as unfair and disadvantageous to Chinese interests. According to Dr. Segal, Chinese leaders and analysts have long believed the United States unfairly controls the internet due to its historical management of the Internet Assigned Numbers Authority (IANA), its previous contract with the Internet Corporation for Assigned Names and Numbers (ICANN), and the fact that it once hosted most of the world's original root servers.†³⁸² More recently, General Secretary Xi and his top officials have criticized the global cyber governance system as “unsound” and “unreasonable” on the grounds that the United States, its allies, and its partners promote norms China opposes and monopolize the policy discourse within institutions making up that system.³⁸³ In response to these perceived injustices, over the past decade Chinese diplomats have become increasingly proactive in promoting cyber norms conducive to CCP interests while opposing norm-building processes led by the United States, its allies, and its partners in existing cyber governance institutions.³⁸⁴ At the same time, China's leaders have sought to embed China's preferred cyber norms in regional frameworks and create alternative venues for global internet discussions that promote its competing vision of a state-centric cyberspace order.³⁸⁵

United States and China Differ on Norms of Responsible State Behavior in Cyberspace

The United States and China diverge sharply on the norms that should guide responsible state behavior in cyberspace during peacetime. The main points of contention are whether espionage conducted for economic advantage is more or less legitimate than espionage conducted for national security purposes, the appropriate extent of state control over the internet, and how international law applies to state activities in cyberspace.

*A “norm” is a collective expectation for the proper behavior of actors with a given identity. In the context of international relations, for example, it is a norm that all states conduct espionage, though they may not all agree on the specific types of espionage that are appropriate. The global cyber governance system refers to the rules, policies, standards, and practices that shape global cyberspace. Adam Kozy, oral testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States*, February 17, 2022, 157–158; Martha Finnemore, “Cybersecurity and the Concept of Norms,” *Carnegie Endowment for International Peace*, November 30, 2017; Internet Governance Project, “What Is Internet Governance?” *Georgia Institute of Technology*, 2017.

†IANA is a standards organization that oversees global Internet Protocol (IP) addresses, internet domain names, and protocol parameters. Prior to 1998, IANA was operated by a component of the University of Southern California under a contract with DOD. Between 1998 and 2016, IANA was operated by the U.S. nonprofit ICANN under a contract with the U.S. Department of Commerce's National Telecommunications and Information Administration. ICANN oversees the central repository of IP addresses and manages the domain name system. After 2016, IANA functions were transferred to the global multistakeholder community through ICANN affiliate Public Technical Identifiers (PTIs), ending U.S. government stewardship of IANA. Historically, most of the world's 13 domain name system (DNS) infrastructure root servers were based in the United States, but today there are hundreds of root servers at more than 130 locations around the world. Sarah Jelen, “DNS Root Servers: What Are They and Are There Really Only 13?” *Security Trails*, July 30, 2021; Adam Segal, “Chinese Cyber Diplomacy in a New Era of Uncertainty,” *Hoover Institution, Aegis Paper Series No. 1703*, June 2, 2017, 3; ICANN, “Stewardship of IANA Functions Transitions to Global Internet Community as Contract with U.S. Government Ends,” October 1, 2016; Joel Snyder et al. “The History of IANA: An Extended Timeline with Citations and Commentary,” May 9, 2016; Internet Society, “IANA Functions: The Basics,” August 12, 2014; Digital Guide IONOS, “IANA: Admins of the Internet,” 2022.

The (II) Legitimacy of Economic Espionage

While the United States and many other countries assert that states should not conduct or knowingly support cyber-enabled theft of IP, Dr. Segal testified that Beijing has never embraced the distinction Washington draws between legitimate and illegitimate state operations.*³⁸⁶ Some have argued that China's theft of IP will decline as its economy becomes more innovative and less reliant on foreign knowledge and technology.³⁸⁷ Instead, China's burgeoning cyber capabilities have enhanced its widescale cyber-espionage campaigns to steal U.S. and foreign IP for economic and technological advantage in violation of its commitments under a 2015 cyber policy agreement reached between the United States and China.³⁸⁸ Dr. Segal argued that China is unlikely to accept a norm against economic espionage or cease its widespread theft of IP in the future unless the United States imposes greater costs for its activities.³⁸⁹ Ms. Vanderlee concurred that Chinese leaders apparently believe the benefits of continuing to engage in economic espionage over U.S. objections outweigh the risks of persisting. "I don't think that it is that they do not understand our preferences or how we would define acceptable or unacceptable behavior," she said.³⁹⁰ "I think it is simply that they have more to gain by continuing to do the activity that we would prefer they not do than lose."³⁹¹

An Open Internet versus "Cyber Sovereignty"

The United States and many of its allies support a multistakeholder approach[†] to internet governance and believe cyberspace should be free, open, interoperable, secure, and resilient.[‡]³⁹² By contrast, the Chinese government emphasizes the security of the state over the importance of openness, resilience, and decentralization in cyber governance.³⁹³ China rejects the multistakeholder model of cyber governance, arguing instead that national governments and certain technical standards bodies should be the primary makers of governance decisions.³⁹⁴ The intellectual lynchpin of China's cyber diplomacy is "cyber sovereignty," which Xi has defined as "respect[ing] the right of individual countries to independently choose their own path of cyber development, model of cyber regulation and internet public policies, and participate in international cyberspace governance on an equal footing."³⁹⁵ Cyber sovereignty asserts that national governments should be free to erect borders in cyberspace just as they do in the physical world, effectively legitimizing Beijing's internal censorship and surveillance policies.³⁹⁶

*The United States is one of many countries that oppose commercial cyberespionage. Following the agreements of the 2015 UN's Group of Governmental Experts consensus report, for example, both the G7 and G20 released statements urging member states to take "decisive and robust measures" to increase protections against various forms of cybercrime, including "theft of intellectual property" or other forms of proprietary business information. G20, "G20 Leaders' Communiqué," November 15–16, 2015, 6; U.S. Department of State, *G7 Principles and Actions on Cyber*, March 13, 2016.

[†]The "multistakeholder governance model" envisions the governance of the internet implemented through a coordinated structure distributed across many actors, including governments, international organizations, the private sector, civil society, and international technical institutions.

[‡]Other members of the G7 (Canada, France, Germany, Italy, Japan, and the United Kingdom) also support the free, open, interoperable, secure, and resilient internet. U.S. Department of State, *G7 Principles and Actions on Cyber*, March 13, 2016.

Chinese diplomats argue that governments should not use the internet to interfere in other countries' internal affairs, reflecting the CCP's broader concern that information from the outside world transmitted through cyberspace poses a threat to domestic stability and regime legitimacy.³⁹⁷ China's official rhetoric about noninterference in cyberspace is not consistent with its actions, however.³⁹⁸ Ms. DeSombre noted that China "espouses ideals of cyber sovereignty while abusing the free and open Internet to sow disinformation in the United States."³⁹⁹ For example, Chinese intelligence operatives reportedly spread fake text messages and social media posts in April 2020 claiming the Trump Administration was planning to lock down the country, instigating public panic in the early days of the novel coronavirus (COVID-19) outbreak.⁴⁰⁰

Varying Applications of International Law

The United States and China agree on the basic application of international law and the UN charter to cyberspace, but they differ substantially in their interpretations of certain provisions that would be relevant to cyber operations in a military context.⁴⁰¹ The United States and many allies and partners hold that international law and the UN Charter's provisions relating to self-defense, the use of force, and armed conflict apply to cyberspace.*⁴⁰² From the U.S. perspective, malicious cyber activities may constitute a use of force or "armed attack" that triggers a sovereign state's right to defend itself through proportionate offensive operations, cyber or otherwise, as appropriate.⁴⁰³ By contrast, China opposes the idea that the principle of self-defense can be invoked to respond to malicious cyberactivity on the grounds that such an interpretation "militarizes" cyberspace and gives powerful states carte blanche to conduct cyberwarfare.⁴⁰⁴ Instead, Beijing calls on states to observe the principle of sovereign equality enshrined in article 2 of the UN Charter and refrain from carrying out military cyber operations against other states.⁴⁰⁵

China (and Russia) argues that the current framework of international law is unsuitable for regulating the uniqueness and complexity of the cyber domain, requiring the international community to negotiate a binding multilateral treaty for cyberspace instead of continuing to build consensus around common, nonbinding norms.⁴⁰⁶ According to Nikolay Bozhkov, a cyber threat analyst at NATO's cyber defense section, China's reluctance to apply international law to cyberspace reflects concerns about curtailing its own cyber capabilities and providing the United States with a pretext to conduct disruptive cyberattacks during an armed conflict.⁴⁰⁷

U.S.-China Normative Competition Occurs across Cyber Governance Venues

U.S.-China competition over the norms shaping cyberspace spans a variety of formats and venues. According to Dr. Segal, China can now assert that it too has a governance model for data and cyber-

*For example, ASEAN similarly supports the application of international law to cyberspace. Singapore's Ministry of Foreign Affairs, *Statement on Behalf of the Members of Southeast Asian Nations Delivered by Deputy Permanent Representative of Singapore to the United Nations Joseph Teo at the Thematic Debate on Cluster 5: Other Disarmament Measures and International Security of the First Committee, 23 October 2017*, October 23, 2017.

security in addition to those already offered by the United States and Europe.⁴⁰⁸ “This model offers an alternative to the balance between individual rights and state authority, privacy and security, and regulation and innovation that liberal democracies emphasize,” he observed.⁴⁰⁹ “It also explicitly rejects the idea that the balance offered in the other governance models is universal.”⁴¹⁰ With this alternative vision of norms for cyberspace, Chinese diplomats advocate for their preferred norms in international institutions and regional groupings devoted to cyberspace issues. At the same time, China has created or proposed new organizations and conventions to supplant existing cyber governance mechanisms in favor of a Chinese alternative.

China Helps Fracture the UN’s Premier Cyber Governance Body

China has participated in the UN’s Group of Governmental Experts (GGE) process for developing norms of responsible state behavior in cyberspace since 2004, but its recent coordination with Russia has effectively split the global consensus-building process into two separate tracks.⁴¹¹ In the first decade after the GGE’s creation, China joined the United States as a signatory of two major consensus reports in 2013 and 2015.⁴¹² The 2013 report asserted the basic relevance of international law and the UN Charter to cyberspace, while the 2015 report included several U.S.-favored norms related to state responsibility, the duty to assist, not intentionally damaging or impairing other states’ critical infrastructure in peacetime, and not targeting another state’s computer emergency response teams during peacetime.⁴¹³ Despite supporting U.S. positions within these consensus documents, China and Russia jointly opposed U.S. efforts to include a reference to article 51 of the UN Charter’s self-defense provision at the 2015 GGE meeting and criticized the United States’ “naming and shaming” of state-sponsored hackers.⁴¹⁴

After the 2017 meeting of the GGE failed to produce a consensus, China supported a Russian resolution to create a new working group of states, known as the Open-Ended Working Group (OEWG), to develop cyber norms in parallel with the GGE.⁴¹⁵ The two groups produced largely similar reports in 2021, though the OEWG’s report omitted the term “international humanitarian law,” the body of law that protects civilians during armed conflict.⁴¹⁶ In response to comments submitted by the International Committee for the Red Cross, the OEWG’s chair acknowledged that “certain questions on how international law applies to the use of ICTs [information and communications technologies] have yet to be fully clarified.”⁴¹⁷ Dr. Segal noted in his testimony that the OEWG’s opposition to the incorporation of international humanitarian law probably stems from the argument that its inclusion would legitimize cyberattacks against it.⁴¹⁸

Regional Cyber Diplomacy Bolsters China’s Leadership and the Appeal of Its Internet Model

China’s cyber diplomacy initiatives aim to promote its preferred norms and bolster its leadership profile in regional and developing country groupings.⁴¹⁹ For example, China has used the Shanghai

Cooperation Organization (SCO) to incubate and socialize its cyber sovereignty norm, described in SCO documents as a component of the “information security” concept.⁴²⁰ In 2015, the SCO countries submitted (but did not successfully pass) a revised version of the International Code of Conduct for Information Security to the UN General Assembly that attempted to limit states’ cyber activities in a way consistent with the cyber sovereignty concept.⁴²¹ Under the auspices of the BRICS, China has worked with Brazil, Russia, India, and South Africa to promote norms conducive to cyber sovereignty.⁴²² More broadly, China’s 2017 international cyberspace strategy notes other examples of regional frameworks in which it plays a role, such as the China-Japan-Korea cyber policy consultation mechanism, the ASEAN Regional Forum, the Boao Forum for Asia, the Forum on China-Africa Cooperation, the China-Arab States Cooperation Forum, the Forum of China and the Community of Latin American and Caribbean States, and the Asian-African Legal Consultative Organization.⁴²³

Chinese regional diplomacy promotes China’s technical and normative model for cyberspace. For example, in 2021 China and the League of Arab Nations announced the Initiative on China-Arab Data Security Cooperation that invoked the Chinese concept of “community with a shared future in cyberspace” and promised multifaceted data security collaboration, though details about the substance of the agreement are scarce.⁴²⁴ Chinese state media hailed the initiative as a “model” for global cyber governance, while Chinese Deputy Foreign Minister Ma Zhaoxu said the initiative aimed to provide a global solution to “the prominent risks and challenges on data security posed by personal information infringement and massive cyber-surveillance on other countries.”⁴²⁵ Some countries have also proposed or passed cybersecurity laws with provisions on website blocking, real name registration, data sharing, and content removal that are similar to China’s.⁴²⁶ These include Egypt, Laos, Pakistan, Tanzania, Uganda, Vietnam, and Zimbabwe.⁴²⁷

Competing Venues and Conventions Attempt to Supplant Existing Governance Platforms

Finally, China has launched initiatives intended to replace existing platforms for global cyber governance, though the success of these efforts to date has been limited.⁴²⁸ The most prominent example is China’s creation of the World Internet Conference (WIC) in 2014, which is hosted annually in the city of Wuzhen.⁴²⁹ The WIC aims to communicate China’s cyber sovereignty vision to an international audience and garner support against perceived Western encroachments on China’s cyber sovereignty.⁴³⁰ According to Dr. Segal, however, the WIC’s prestige has declined over time.⁴³¹ Though Apple CEO Tim Cook, Cisco CEO Chuck Robbins, and Google CEO Sundar Pichai all spoke at the 2017 WIC meeting, in the years afterward most attendees from foreign technology companies have sent country heads, while the United States and its allies have sent representatives from embassies in Beijing rather than heads of state.⁴³² High-level officials from countries friendly to China, such as Russia, Pakistan, Kazakhstan, Kyrgyzstan, and Tajikistan have attended the WIC.⁴³³

Another example of China's efforts to supplant existing cyber governance platforms is its cooperation with Russia to replace the Budapest Convention on Cybercrime with a new global treaty. The Budapest Convention is a binding, global treaty that harmonizes national laws and procedural law tools relevant to defining, investigating, and handling evidence of cybercrime.⁴³⁴ Originally developed by the Council of Europe, the Budapest Convention entered into force in 2004 and currently lists 67 parties to the treaty within and beyond Europe.⁴³⁵ China is not a party to the Budapest Convention on the grounds that the treaty's provisions encroach on national sovereignty and are unsuitable for non-European countries.⁴³⁶ In 2019, however, China backed a Russian resolution in the UN General Assembly to draft a new global treaty that would replace the Budapest Convention.⁴³⁷ The UN General Assembly approved the resolution later that year, allowing the drafting of the treaty to move forward.⁴³⁸ Negotiations on the Russian draft treaty began in 2022, and the draft treaty will be presented to the UN General Assembly during its 78th session from 2023 to 2024.*⁴³⁹ According to researchers at Human Rights Watch, this draft treaty "has the potential to expand government regulation of online content and reshape law enforcement access to data in a way that could criminalize free expression and undermine privacy."⁴⁴⁰

Implications for the United States

China's activities in cyberspace pose a fundamentally different, more complex, and more urgent challenge to the United States today than they did a decade ago. General Secretary Xi has broken from his predecessors by framing cyber capabilities as a component of China's superpower status, prioritizing cyber capability development, and centralizing the institutions tasked with cyber policy implementation. The SSF offers Chinese leaders a warfighting apparatus that integrates cyber, electronic, space, and psychological warfare in a way that was once purely aspirational. Sophisticated Chinese cyberespionage campaigns in recent years have compromised greater numbers of sensitive targets within the U.S. government and the private sector than ever before, raising questions about CCP insight into U.S. vulnerabilities that could be exploited for coercion or disruption during a crisis or a war. Whereas ten years ago China cooperated with the United States in many policy areas, today Chinese leaders engage in confrontational behavior toward the United States that increases the chances of miscalculation and escalation. The upshot of these changes is that the United States now faces a mature and capable adversary in cyberspace that is hostile to U.S. interests.

China's cyberwarfare capabilities threaten U.S. society, critical infrastructure, and military operations both in peacetime and during a conflict scenario. The SSF's growing capabilities to manipulate social media and disseminate false information enable it to carry

*The war in Ukraine has cast a shadow over negotiations for the treaty. During the initial negotiations convened by the Ad-Hoc Committee Secretariat from the UN Office on Drugs and Crime in March 2022, several member states expressed solidarity with Ukraine and questioned whether Russia could constructively debate potential provisions within the treaty defending state sovereignty in cyberspace while unleashing cyberattacks against Ukraine. Katitza Rodriguez and Karen Gullo, "Negotiations over UN Cybercrime Treaty Under Way in New York, with EFF and Partners Urging Focus on Human Rights," *Electronic Frontier Foundation*, March 3, 2022.

out “boosted” cyber operations against the United States that could spark panic and undermine public trust in institutions. China’s regular cyber forces and militias plan and train to carry out cyberattacks on power grids, water supplies, and transportation networks, demonstrating that China’s cyber operators are ready to turn off the lights—or do something much worse—when the CCP directs them to act. In a war over Taiwan, for example, the PLA will likely attempt to blind and paralyze U.S. forces in the region through cyberattacks on U.S. C4ISR and logistics. The PLA may also launch cyberattacks against targets on the U.S. mainland, such as the U.S. military’s domestic force generation and sustainment capability.

The U.S. Department of Defense (DOD) has taken steps in the right direction but is limited by manpower and resources. Under its new strategy of “persistent engagement,” U.S. Cyber Command is prepared to impose costs on China for malicious cyberactivity, contest its cyber forces in wartime, and disrupt cyber intrusions into U.S. and allied networks in peacetime.* Yet as Hoover Institution fellow Jacquelyn Schneider noted in testimony before the Commission, PLA cyber operators outnumber those of U.S. Cyber Command’s Cyber Mission Force by a factor of nearly ten to one.†⁴⁴¹ This quantitative advantage could give the PLA an edge over U.S. cyber forces if a surge in malicious Chinese cyberactivity overwhelms limited U.S. personnel.

Chinese cyberespionage also undermines the integrity of the U.S. political system and undercuts U.S. innovation. China’s intelligence services are likely making use of personal information stolen in the hacks on the Office of Personnel Management, Marriott, and Equifax to target U.S. officials and others for blackmail and recruitment. The country’s systematic, wide-ranging industrial espionage campaigns have stolen trillions of dollars’ worth of U.S. IP, enabling China to circumvent substantial and time-consuming investments in R&D that would otherwise be required to develop advanced technologies for its military and commercial sector.⁴⁴² With illicit access to U.S. and foreign trade secrets, China is also able to flood U.S. and global markets with cheap copies of foreign products, driving non-Chinese competitors out of business.

China’s formidable cyber capabilities call into question the U.S. government’s preparedness to protect its networks from a major

*Persistent engagement aims to thwart an adversary’s cyberspace operations by continuously anticipating and exploiting its vulnerabilities while simultaneously denying its ability to exploit U.S. vulnerabilities. U.S. cyber forces prevent the exploitation of U.S. vulnerabilities—and sustain U.S. strategic advantage more broadly—by conducting operations that increase resiliency, “defend forward,” and continually engage the adversary in cyberspace. “Defending forward” involves proactively observing and countering adversary operations “as close as possible to the origin of adversary activity” and imposing costs (retaliation) in day-to-day competition to disrupt ongoing cyber campaigns. David Vergun, “Persistent Engagement Strategy Paying Dividends, Cybercom General Says,” *DOD News*, November 10, 2021; Erica D. Lonergan, “Operationalizing Defend Forward: How the Concept Works to Change Adversary Behavior,” *Lawfare*, March 12, 2020; U.S. Cyber Command, *Achieve and Maintain Cyberspace Superiority: Command Vision for U.S. Cyber Command*, 2018, 2, 4, 6.

†The Cyber Mission Force (CMF) executes U.S. Cyber Command’s mission to direct, synchronize, and coordinate cyberspace operations in defense of U.S. national interests. The CMF’s tasks include defensive operations to protect the use of friendly cyberspace capabilities, data, and networks; offensive operations to project power in and through cyberspace; and operations to secure and maintain the DOD Information Network. The CMF currently has 133 cyber mission teams, but more will be created in the coming years. C. Todd Lopez, “Cyber Mission Force Set to Add More Teams,” *DOD News*, April 6, 2022; U.S. Army Cyber Command, *DOD FACT SHEET: Cyber Mission Force*, February 10, 2020.

Chinese cyberattack. Cyber defenses are inconsistent across U.S. civilian government agencies, which have continually struggled to meet their targets for improving cybersecurity best practices.*⁴⁴³ Marked variation in cybersecurity practices also exists across the U.S. military, since each service tends to have its own networks and teams dedicated to the defense of those networks.⁴⁴⁴ Dr. Schneider also argued that DOD employs “byzantine and arcane” network architectures and IT processes that do not align with commercial best practices.⁴⁴⁵ According to media reports, slightly more than half of the 133 Cyber Mission Force teams originally set up by U.S. Cyber Command are focused on defending DOD networks, though this proportion may change as the command stands up additional teams.⁴⁴⁶ Dr. Schneider argued that too few cyber protection teams are dedicated to the defense of old, insecure DOD systems.⁴⁴⁷

U.S. critical infrastructure is vulnerable to Chinese cyberattacks and poorly regulated by the federal government. According to Microsoft’s 2021 *Digital Defense Report*, China-based threat actors displayed the strongest interest in targeting critical infrastructure among all nation-state threats the firm observed that year.⁴⁴⁸ In the United States, the private sector owns and operates the majority of critical infrastructure.⁴⁴⁹ Neil Jenkins, chief analytic officer at the Cyber Threat Alliance, testified before the Commission that the federal government has little directive authority over most of this infrastructure and is generally limited to providing information that helps manage risk and fostering cross-sector collaboration.⁴⁵⁰ Participation by critical infrastructure operators in federal cybersecurity activities is voluntary, and existing regulations for critical infrastructure pertains only to a small number of sectors, such as energy and finance.⁴⁵¹ While the U.S. government has historically favored less cybersecurity regulation on the private sector, Dr. Jenkins argued that the ransomware attack on Colonial Pipeline and other cybersecurity incidents have sparked public concerns that “the market has not been able to keep up with the threat.”⁴⁵²

More broadly, public-private sector cooperation on cybersecurity is insufficient to meet the challenge posed by China’s cyber capabilities. The U.S. government has expanded information sharing and operational collaboration with the private sector over the past 15 years, most notably through the Cybersecurity and Infrastructure Security Agency’s public alerts about malicious cyberactivity and the newly created Joint Cyber Defense Collaborative.⁴⁵³ Challenges remain because federal information sharing is often slow and because the fundamental interests of the government and the private sector are sometimes at odds.⁴⁵⁴ Dr. Jenkins noted that private sector organizations may be unwilling to share information with the government due to concerns about the potential usage and reputational consequences of the shared information becoming public, increased regulations on them or their sector, and exposure to legal liability.⁴⁵⁵ New cybersecurity incident reporting requirements for

*A January 2022 report by the U.S. Government Accountability Office (GAO) evaluated agencies’ inconsistent implementation of federal cybersecurity policies and practices. Since 2010, GAO has made about 3,700 recommendations to agencies aimed at remedying cybersecurity shortcomings. The report found that about 900 of these recommendations were not yet fully implemented as of November 2021. Jennifer R. Franks, testimony for the U.S. House of Representatives Committee on Oversight and Reform, U.S. Government Accountability Office, January 11, 2022, i.

public and private companies in the Securities and Exchange Commission's March 2022 rules and the Cyber Incident Reporting for Critical Infrastructure Act of 2022, also signed into law in March, constitute initial steps to address the vulnerability of U.S. critical infrastructure.

On the global stage, China continues to promote cyberspace norms that suit its authoritarian political system while undermining institutions where the United States historically builds consensus around norms of responsible state behavior in cyberspace. China's creation of the WIC and its push to replace the Budapest Convention with a new cybercrime treaty exemplify its efforts to supplant existing venues for global governance with Chinese alternatives it can manipulate for its own interests.

China enjoys an asymmetric advantage over the United States in cyberspace due to the CCP's unwillingness to play by the same rules. China does not fully accept the applicability of international law to its cyber operations, commits cyber-enabled industrial espionage on a massive scale, uses its domestic law to compel researchers and companies in China to supply it with vulnerabilities, and plans to exploit its commercial IT sector for cyber operations in wartime. By contrast, the United States accepts the rights and constraints imposed by international law on its cyber operations, does not use its professional intelligence services to commit industrial espionage, does not legally compel its researchers or the private sector to supply it with vulnerabilities, allows its adversaries access to U.S. society and markets, and will not exploit the entirety of its civilian economy to wage wartime cyber operations on its adversaries. "This means that during the last decade, given its different doctrinal approach and greater regard for legal and ethical constraints, the U.S. is more likely to have been the victim of an offensive cyberattack than the perpetrator," the IISS observed.⁴⁵⁶ "The U.S. may be the most powerful cyber state, but arguably other countries are making greater use of their cyber capabilities in order to exert power."⁴⁵⁷ To prevail in the long-term competition with China, policymakers must find ways to impose greater costs for malicious cyberactivity and strengthen domestic cyber defenses while upholding the liberal values the United States has historically championed.

Appendix I: Select Chinese Measures Related to Cybersecurity

Title	Summary	Date
National Security Law	<ul style="list-style-type: none"> • Requires all “core network and information technologies” to be secure and controllable.⁴⁵⁸ • Criminalizes for cyber-enabled hacking, theft of secrets, dissemination of illegal and harmful information, and other cyber-enabled crimes.⁴⁵⁹ 	Effective July 2015
Ninth amendment of the Criminal Law	<ul style="list-style-type: none"> • Criminalizes the cyber-enabled dissemination of “false” information that disrupts social order.⁴⁶⁰ • Mandates penalties for network service providers that fail to comply with national cybersecurity regulations or provide deliberate assistance to those breaking laws.⁴⁶¹ 	Effective November 2015
Counterterrorism Law	<ul style="list-style-type: none"> • Requires telecommunications operators and internet service providers to provide technical interfaces, decryption, and other technical assistance to the security services conducting investigations of terrorist activities.⁴⁶² • Requires telecommunications operators and internet service providers to halt the dissemination of, delete, and report any information involving terrorist or extremist content.⁴⁶³ 	Effective January 2016
Cybersecurity Law	<ul style="list-style-type: none"> • Requires network operators to implement network security protections, backups of important data, and encryption.⁴⁶⁴ • Requires network operators to formulate and implement emergency response plans for cybersecurity incidents.⁴⁶⁵ • Requires operators of critical information infrastructure to meet stringent cybersecurity standards, such as annual risk reviews and mandatory testing and certification of computer equipment.⁴⁶⁶ • Requires network operators to store sensitive data domestically.⁴⁶⁷ • Requires network operators to cooperate with China’s law enforcement and security services upon request.⁴⁶⁸ 	Effective June 2017
National Intelligence Law	<ul style="list-style-type: none"> • Requires individuals, organizations, and institutions to assist the security services in carrying out intelligence work, including by lending their “communications tools, premises and buildings.”⁴⁶⁹ 	Effective June 2017
Informal prohibition on participation in foreign cybersecurity events	<ul style="list-style-type: none"> • Media reporting indicates that the Chinese government has prohibited Chinese security researchers from sharing their knowledge at some foreign cybersecurity events, such as Pwn2Own and Capture the Flag competitions.⁴⁷⁰ 	Reported March 2018

Appendix I: Select Chinese Measures Related to Cybersecurity—*Continued*

Title	Summary	Date
Cryptography Law	<ul style="list-style-type: none"> • Requires critical information infrastructure operators to conduct a security assessment of their use of commercial encryption.⁴⁷¹ • Requires critical information infrastructure operators to apply for a national security review led by the Cyberspace Administration of China and the State Cryptography Administration.⁴⁷² 	Effective January 2020
National Defense Law	<ul style="list-style-type: none"> • Asserts that the Chinese government will take necessary measures to protect its activities, assets, and other interests in cyberspace.⁴⁷³ 	Effective January 2021
Data Security Law	<ul style="list-style-type: none"> • Establishes a system of data classification and obligations for organizations handling data, including security requirements and assessments for data protection, collection, use, and transfer internally and overseas.⁴⁷⁴ 	Effective September 2021
Critical Information Infrastructure Protection Regulations	<ul style="list-style-type: none"> • Clarifies the obligations of critical information infrastructure operators in performing cybersecurity duties.⁴⁷⁵ • Clarifies that the MPS is the national lead for the protection of critical information infrastructure.⁴⁷⁶ • Clarifies that the Cyberspace Administration of China will coordinate an interagency cybersecurity information-sharing mechanism and receive mandatory reports on cybersecurity incidents.⁴⁷⁷ 	Effective September 2021
Regulations on the Management of Security Vulnerabilities in Network Products	<ul style="list-style-type: none"> • Requires vendors and individuals to report all vulnerabilities discovered to the MIIT within two days.⁴⁷⁸ • Bans sharing data about vulnerabilities with overseas organizations, except for vendors selling the affected product.⁴⁷⁹ • Prohibits security researchers from releasing details about vulnerabilities before vendors had an opportunity to develop a patch.⁴⁸⁰ • Criminalizes the sale of vulnerabilities for profit.⁴⁸¹ 	Effective September 2021
Cybersecurity Review Measures	<ul style="list-style-type: none"> • Outlines security procedures for operators of critical information infrastructure and organizations handling data sensitive to national security, including initial public offerings and organizations handling data of more than one million users.⁴⁸² 	Effective February 2022

Source: Various; compiled by Commission staff.

Appendix II: Chinese Concepts Relevant to Information Warfare and Cyberspace Capabilities

Information warfare	A form of warfare in which the PLA seeks to secure information dominance over the adversary's military forces and contest the information domain as a warfighting domain. ⁴⁸³ Chinese writings conclude information warfare is the "main operational form" of informationized warfare. ⁴⁸⁴
Informationization	The process by which militaries are moving toward greater collection, systematization, distribution, and utilization of information. ⁴⁸⁵ "Informationized warfare" applies IT to all domains and aspects of military operations to increase precision, lethality, and tempo by networking together weapons and C4ISR systems.
Network warfare	A range of offensive, defensive, and intelligence collection activities undertaken by opposing states within the network space. ⁴⁸⁶ The purpose of network warfare is to establish "network dominance" whereby a state's own networks operate smoothly while its adversary's networks cannot. ⁴⁸⁷
Three warfares	A political warfare strategy that calls for the coordinated use of psychological warfare, public opinion warfare, and legal warfare to control perceptions and shape narratives that advance Chinese interests and undermine those of an opponent. ⁴⁸⁸
Integrated joint operations	In informationized warfare, the services and branches achieve higher levels of interoperability and synergy by merging together to form a unified "system of systems" rather than coordinating operations by single services. ⁴⁸⁹
Systems warfare	The main form of conflict in informationized war is a confrontation between opposing complex networks ("systems of systems") rather than by force-on-force or platform-on-platform combat. ⁴⁹⁰ The PLA may target critical elements of an adversary's system of systems (such as command and control centers, leadership institutions, and information hubs) via cyberattacks and other means to paralyze its decision-makers. ⁴⁹¹
Integrated Network and Electronic Warfare (INEW)	An approach to warfare that leverages both network and electronic warfare capabilities to disrupt an adversary's networked information systems and, by extension, to secure information dominance. ⁴⁹²
Peacetime-wartime integration	Maoist idea that victory in war depends on the preparations made in peacetime, which has influenced the organization of China's contemporary information warfare units into permanent operational groupings designed to transition seamlessly from peacetime into wartime command structures. ⁴⁹³

Source: Various; compiled by Commission staff.

Appendix III: Selected APT Groups Likely Associated with China's State-Sponsored Espionage

Different cybersecurity firms use different naming conventions to refer to APTs* that are likely affiliated with nation-states such as China. Some popular naming conventions include CrowdStrike's use of animal names associated with geography; Mandiant and Mitre's use of numbered groups; Microsoft's use of elements; Recorded Future's use of colors and the phonetic alphabet; Secureworks' use of elements plus a nickname; and Symantec's use of species of insects.⁴⁹⁴ Cybersecurity firms may employ different names for what appears to be the same threat actor group in accordance with their naming conventions and what they observe in the particular slice of the overall cyber threat landscape they monitor through their customer base.[†]⁴⁹⁵ Generally speaking, cybersecurity firms identify a threat actor group by analyzing the telemetry‡ gathered by the security threat monitoring product used by their customers for signs of malicious activity.⁴⁹⁶ Analyzing multiple instances of malicious activity for distinguishing characteristics, such as particular families of malware or TTPs, may allow cybersecurity firms to identify a “cluster of activity” and attribute it to a single entity.⁴⁹⁷ Tracking APT groups can be confusing in part because one cybersecurity firm may track a single threat actor group in connection with a given cluster of activity while another cybersecurity firm may track multiple groups in connection with that same cluster (for example, the same cluster of threat activity is tracked by CrowdStrike as Vixen Panda and by FireEye/Mandiant§ as two groups, APT15 and APT25).⁴⁹⁸ The facts that APTs may merge, split, or share their toolsets with others, and that cybersecurity firms may sometimes name APT groups after types of malware or particular cyber campaigns, all complicate attribution and tracking.⁴⁹⁹ The table below provides a select list of Chinese APTs that may be state-sponsored and makes extensive use of Mandiant's nomenclature and reporting because of the relative completeness and accessibility of the firm's publicly available resources on APT groups.¶ The table presents alternative nomenclatures and reporting when possible.

*An APT is a broad term used to describe an attack campaign in which an intruder, or team of intruders, establishes an illicit, long-term presence on a network in order to steal sensitive data.

†Because their customer bases and the types of attacks observed on these customer bases may differ, different cybersecurity firms may see different aspects of the same malicious cyber activity (such as different types of TTPs). No one firm has a comprehensive view of all the malicious threat activity occurring in cyberspace at one time.

‡In the cybersecurity context, telemetry refers to the automated communication processes from multiple data sources. Data collected by telemetry is used to monitor the security of networks and detect malicious cyber threats.

§FireEye acquired Mandiant in 2014, but the two companies parted ways in 2021, and Google announced its plans to acquire Mandiant in 2022.

¶The table does not list *individual* Chinese hackers who have been implicated in cyberespionage activities or charged by DOJ.

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT41 (a.k.a. Wicked Panda, Wicked Spider, BARIUM, BRONZE ATLAS, Winntf) ⁵⁰⁰	A prolific cyber threat actor likely associated with the MSS that conducts state-sponsored espionage as well as financially motivated activity for personal gain. ⁵⁰¹ APT41's campaigns have targeted organizations in at least 14 countries, stealing IP from the healthcare, telecommunications, technology, and videogame sectors. ⁵⁰² The group's operations have also targeted political dissidents in Hong Kong. ⁵⁰³ In March 2022, Mandiant reported that APT41 had compromised six U.S. state government networks. ⁵⁰⁴	<i>Vectors:</i> Uses spear-phishing, SQL injection, followed by more sophisticated TTPs. ⁵⁰⁵ <i>Malware:</i> Known to use at least 46 different malware families, including backdoors, credential stealers, keyloggers, and rootkits; ransomware; cryptojacking. ⁵⁰⁶	2019 & 2020: DOJ charges hackers from APT41 in connection with computer intrusions affecting over 100 victims globally. ⁵⁰⁷
APT40 (a.k.a. Kryptonite Panda, GADOLINIUM, BRONZE MOHAWK, TEMP. Periscope, Levathan) ⁵⁰⁸	A cyber threat actor associated with Hainan Xiandun Technology Development Co., Ltd, a front company for the MSS's Hainan branch, that conducts state-sponsored espionage likely facilitating China's naval modernization program. ⁵⁰⁹ APT40 has targeted governments, companies, and universities for IP spanning a wide range of industries—including maritime research—across the United States, Canada, Europe, the Middle East, and Belt and Road Initiative countries. ⁵¹⁰ APT40 may be connected to or overlap with HAFNIUM. ⁵¹¹	<i>Vectors:</i> Uses spear-phishing, often posing as a prominent individual of interest to the target. ⁵¹² <i>Malware:</i> Known to use at least 51 different malware families, including 37 that are nonpublic and seven of which (BADSIGN, FIELDGOAL, FINDLOCK, PHOTO, SCANBOX, SOGU, and WIDETONE) are associated with other Chinese state-sponsored groups. ⁵¹³	2021: DOJ charges members of APT40 in connection with a global computer intrusion campaign between 2011 and 2018 targeting IP, including infectious disease research. ⁵¹⁴
HAFNIUM (a.k.a. Operation Exchange Marauder) ⁵¹⁵	A cyber threat group associated with the MSS that exploited multiple zero-day vulnerabilities in Microsoft's Exchange Server email software to carry out a massive hack affecting thousands of organizations around the world in early 2021. ⁵¹⁶ The U.S. government and a number of allied governments jointly attributed the hack to the MSS in July 2021. ⁵¹⁷	<i>Vectors:</i> Exploits zero-day vulnerabilities in the internet-facing and vulnerable Microsoft Exchange servers for initial access; then uploaded web shells using these vulnerabilities and executed malicious commands. ⁵¹⁸ <i>Malware:</i> Backdoor.Hafnium web shells ⁵¹⁹	

*The numbered APT presented first in every entry follows Mandiant's nomenclature and reporting.

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT31 (a.k.a. Judgment Panda ZIRCONIUM) ⁵²⁰	A cyber threat group associated with the MSS that has conducted cyberespionage against government, financial, and defense organizations and attempted cyberattacks against individuals involved in the 2020 U.S. presidential elections. ⁵²¹ In March 2022, Google's Threat Analysis Group warned multiple Gmail users associated with the U.S. government that they were targeted in phishing attacks conducted by APT31. ⁵²²	<i>Vectors:</i> Exploits vulnerabilities in applications such as Java and Adobe Flash; SQL injection. ⁵²³ <i>Malware:</i> SOGU, LUCKYBIRD, SLOWGYRO, and DUCKFAT ⁵²⁴	
APT30 (a.k.a. Over-ride Panda BRONZE GENEVA) ⁵²⁵	A cyber threat group that targets government and commercial organizations in Southeast Asia and India. ⁵²⁶ According to Mandiant, APT30 "is particularly interested in regional political, military, and economic issues, disputed territories, and media organizations and journalists who report on topics pertaining to China and the government's legitimacy." ⁵²⁷ It shares many characteristics with the cyber threat group Naikon, but they are not exact matches. ⁵²⁸	<i>Vectors:</i> Uses a variety of tools including downloaders, backdoors, a central controller, and several components designed to infect removable drives and cross air-gapped networks to steal data. ⁵²⁹ <i>Malware:</i> SHIPSHAPE, SPACE-SHIP, and FLASHFLOOD ⁵³⁰	
Naikon Team	A cyber threat group associated with PLA Unit 78020 that operates in the Southern Theater Command's area of responsibility and currently focuses on military and government targets in Southeast Asia. ⁵³¹ Naikon has been active since 2010 and has attacked government agencies as well as civil and military organizations in the Philippines, Malaysia, Cambodia, Indonesia, Vietnam, Myanmar, Singapore, Nepal, Thailand, Laos, and China. ⁵³² Naikon Team has also hacked international bodies such as the UN Development Program and ASEAN. ⁵³³	<i>Vectors:</i> Uses social engineering and spearphishing emails with crafted lures containing malicious attachments. ⁵³⁴ <i>Malware:</i> Aria-Body remote access trojan, RARSTONE, BACKSPACE, NETEAGLE, XSControl ⁵³⁵	
Tonto Team (a.k.a. Karma Panda BRONZE HUNT-LEY, Earth Akhlut, CactusPete) ⁵³⁶	A cyber threat actor associated with PLA Unit 65017 that operates in the Northern Theater Command's AOR and currently focuses on targets in South Korea, Russia, and Japan. ⁵³⁷ It reportedly hacked several South Korean entities involved in the deployment of the THAAD missile system in 2017. ⁵³⁸	<i>Vectors:</i> Uses phishing websites, spearphishing emails with malicious attachments, and vulnerabilities in software. ⁵³⁹ <i>Malware:</i> Bisonal, ShadowPad ⁵⁴⁰	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
RedFoxrot	A cyber threat group potentially linked to PLA Unit 69010, now part of the SSP's Network Systems Department, that operates in the Western Theater Command's AOR and currently focuses on military technologies and defense targets in Central and South Asia. ⁵⁴¹ Over the first half of 2021, RedFoxrot allegedly hacked Indian aerospace and defense contractors as well as telecommunications companies in Afghanistan, India, Kazakhstan, and Pakistan. ⁵⁴²	<i>Vectors:</i> Unclear. ⁵⁴³ <i>Malware:</i> PCShare RAT, QUICK-HEAL, PlugX, Icefog, RoyalRoad, PoisonIvy. ⁵⁴⁴	
RedEcho	A cyber threat group that has targeted Indian critical infrastructure. ⁵⁴⁵ Cybersecurity firm Recorded Future notes that RedEcho shares some common infrastructure TTPs with APT41 and Tonto Team. ⁵⁴⁶	<i>Vectors:</i> Unclear. ⁵⁴⁷ <i>Malware:</i> ShadowPad ⁵⁴⁸	
RedAlpha (a.k.a. Deepcliff; Red Dev 3) ⁵⁴⁹	A cyber threat group likely composed of contractors associated with the Chinese intelligence services that targets humanitarian, think tank, and government organizations globally as well as members of the Tibetan and Uyghur communities. ⁵⁵⁰ According to Recorded Future, in recent years RedAlpha has displayed a particular interest in spoofing political, government, and think tank organizations in Taiwan for the apparent purpose of gathering political intelligence. ⁵⁵¹	<i>Vectors:</i> Registering domains to spoof organizations, credential phishing activity imitating web-mail login portals. ⁵⁵² <i>Malware:</i> NjRAT. ⁵⁵³	
APT27 (a.k.a. IronPanda, Emisary Panda, Lucky Mouse, Iron Tiger, ZipToken, Group 35, TEMP.Hippo, TG 3390, BRONZE UNION, Threat Group 3390) ⁵⁵⁴	A cyber threat group that conducts cyberespionage to acquire political and military intelligence as well as IP from organizations in the aerospace, government, defense, technology, energy, manufacturing, and gambling/betting sectors around the world. ⁵⁵⁵ In 2015, the cybersecurity firm TrendMicro reported that the group had stolen “trillions of bytes of data from defense contractors in the United States, including emails, IP, and strategic planning documents.” ⁵⁵⁶ APT27 has been active for over a decade but has conducted financially motivated cybercrime activities since 2021, sometimes using ransomware. ⁵⁵⁷ In January 2022, Germany's domestic intelligence service said APT27 is engaged in an ongoing hacking campaign against German commercial organizations. ⁵⁵⁸	<i>Vectors:</i> Uses unauthorized access, spearphishing, watering hole attacks (strategic web compromises), remote code execution, living off the land attack, rootkit attack, supply chain attack. ⁵⁵⁹ <i>Malware:</i> PANDORA, SOGU, ZX-SHELL, GHOST, WIDEBERTH, QUICKPULSE, FLOWERPOT, and others. ⁵⁶⁰	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT26 (a.k.a. Turbine Panda) ⁵⁶¹	A cyber threat group associated with the MSS's Jiangsu branch that has conducted cyberespionage campaigns targeting the aerospace, defense, and energy sectors. ⁵⁶² In 2019, CrowdStrike revealed that the group, which it calls Turbine Panda, had stolen IP from multiple foreign companies that manufactured components for China's domestic C919 airliner between 2010 and 2015. ⁵⁶³ The hackers were overseen by MSS Jiangsu intelligence officers and successfully breached the systems of suppliers like Ametek, Honeywell, Safran, Capstone Turbine, GE, and others. ⁵⁶⁴	<i>Vectors:</i> Uses watering hole attacks (strategic web compromises) and custom backdoors once inside a victim's network. ⁵⁶⁵ <i>Malware:</i> SOGU, HTRAN, POST-SIZE, TWOCHAINS, BEACON, PlugX ⁵⁶⁶	2018: DOJ charges two intelligence officers from MSS's Jiangsu branch with conspiring to steal sensitive data, IP, and confidential business information, including information related to a turbofan engine used in commercial airliners. ⁵⁶⁷
APT25 (a.k.a. Uncool, Vixen Panda, Ke3chang, Sushi Roll, Tor)* ⁵⁶⁸	A cyber threat group that targets organizations in the defense industrial base, media, financial services, and transportation sectors in the United States and Europe for their data. ⁵⁶⁹	<i>Vectors:</i> Uses spearphishing and publicly available zero-day vulnerabilities. ⁵⁷⁰ <i>Malware:</i> LINGBO, PLAYWORK, MADWOLF, MIRAGE, TOUGH-ROW, TOYSNAKE, SABER-TOOTH ⁵⁷¹	
APT24 (a.k.a. Pitty Tiger) ⁵⁷²	A cyber threat group that has targeted organizations in the government, healthcare, construction and engineering, mining, nonprofit, and telecommunications industries, often headquartered in the United States and Taiwan. ⁵⁷³ According to Mandiant, APT24 has documents with "political significance," suggesting that "its intent is to monitor the positions of various nation states on issues applicable to China's ongoing territorial or sovereignty dispute." ⁵⁷⁴ The cybersecurity firm FireEye reports that Pitty Tiger has likely been active since 2008. ⁵⁷⁵	<i>Vectors:</i> Uses phishing, often relying on military, renewable energy, or business strategy themes as lures. ⁵⁷⁶ <i>Malware:</i> PITYTIGER, ENFAL, TAIDOOH ⁵⁷⁷	

* Mandiant's current webpage on APTs describes APT25 as synonymous with threat groups that other cybersecurity firms track as VixenPanda and Ke3chang; however, other cybersecurity firms have linked VixenPanda and Ke3chang with the APT designated by FireEye as APT15.

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
<p>APT23 (a.k.a. Prate Panda, KeyBoy, Tropic Trooper, BRONZE HOBART, G0081)⁵⁷⁸</p>	<p>A cyber threat group that has targeted information of political and military significance from media and government organizations in the United States, the Philippines, Vietnam, and Taiwan.⁵⁷⁹ Mandiant observes that APT23 may perform data theft in support of more traditional espionage operations.⁵⁸⁰ Cybersecurity firm Anomali reported in 2020 that Prate Panda had carried out a spearphishing campaign targeting Vietnamese government officials located near the Paracel Islands in the South China Sea, which both China and Vietnam claim.⁵⁸¹</p>	<p><i>Vectors:</i> Uses spear phishing, often relying on education-related themes as lures; occasionally leverages public zero-day vulnerabilities.⁵⁸² <i>Malware:</i> NONGMIN⁵⁸³</p>	
<p>APT22 (a.k.a. Barista, BRONZE OLIVE)⁵⁸⁴</p>	<p>A cyber threat group that has targeted public sector entities, private sector entities, and dissidents in East Asia, Europe, and the United States since 2014.⁵⁸⁵ According to Secureworks, BRONZE OLIVE conducted a long-running espionage campaign against Indian government and commercial organizations between 2014 and 2015.⁵⁸⁶</p>	<p><i>Vectors:</i> Uses strategic web compromises; identifies vulnerable public-facing web servers on victim networks, and uploads webshells to gain access to the victim network.⁵⁸⁷ <i>Malware:</i> PISCES, SOGU, FLAT-NOTE, ANGRYBELL, BASELESS, SEAWOLF LOG-JAM, DestroyRAT, PlugX, TCP/ICMP RAT⁵⁸⁸</p>	
<p>APT21 (a.k.a. Zhenbao, Hammer Panda)⁵⁸⁹</p>	<p>A cyber threat group that targets government organizations in Russia with information about state security as well as dissident groups seeking greater independence from China, such as those in Tibet or Xinjiang.⁵⁹⁰ According to Mandiant, APT21 leverages strategic Russian-language attachments themed with national security issues in lure documents.⁵⁹¹ According to CrowdStrike, Hammer Panda was likely associated with the PLA's first Technical Reconnaissance Bureau in the former Lanzhou Military Region and may have been incorporated into the SSF.⁵⁹²</p>	<p><i>Vectors:</i> Uses spear phishing emails with malicious attachments, links to malicious files, or web pages; strategic web compromises; frequently uses the TRAVELNET and TEMPFUN backdoors.⁵⁹³ <i>Malware:</i> SOGU, TEMPFUN, GH0st, TRAVELNET, HOMEUNIX, ZEROTWO⁵⁹⁴</p>	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT20 (a.k.a. Twivy) ⁵⁹⁵	A cyber threat group that targets organizations in the construction, engineering, healthcare, nonprofit, defense industrial base, and chemical sectors in order to steal data and IP. ⁵⁹⁶ According to Mandiant, APT20 also steals data from or monitors the activities of individuals with particular political interests. Mandiant believes APT20 may be a freelancer group with some state sponsorship. ⁵⁹⁷ In 2019, cybersecurity firm FOX-IT reported that APT20 had carried out a campaign dubbed Wocao that bypassed two-factor authentication used by businesses and governments in ten countries to protect their networks. ⁵⁹⁸	<i>Vectors:</i> Uses strategic web compromises, often hosted on websites that deal with issues such as democracy, human rights, freedom of the press, ethnic minorities in China, and other matters. ⁵⁹⁹ <i>Malware:</i> QIAC, SOGU, Gh0st, ZXSHELL, Poison Ivy, BEACON, HOMEUNIX, STEW ⁶⁰⁰	
APT19 (a.k.a. Deep Panda, C040s0, Pupa, BRONZE FIRESTONE) ⁶⁰¹	A cyber threat group that targets organizations in the defense, finance, energy, pharmaceutical, telecommunications, high-tech, education, manufacturing, legal and investment sectors, likely composed of freelancers with some degree of state sponsorship. ⁶⁰² In 2017, FireEye observed APT19 carry out a phishing campaign targeting at least seven global law and investment firms. ⁶⁰³ Some analysts believe APT19 and Deep Panda are the same group, but this is not clear from open source reporting. ⁶⁰⁴	<i>Vectors:</i> Phishing emails with malicious attachments. ⁶⁰⁵ <i>Malware:</i> BEACON, COBALT-STRIKE ⁶⁰⁶	
APT18 (a.k.a. Wekby, Dynamite Panda, TG-0416) ⁶⁰⁷	A little-known cyber threat group that targets the manufacturing, health and biotechnology, aerospace, defense, construction, engineering, education, high-tech, telecommunications, and transportation sectors as well as human rights groups. ⁶⁰⁸ Some sources link APT18 to the PLA Navy, but this cannot be confirmed with open source research. ⁶⁰⁹	<i>Vectors:</i> Uses spearphishing, develops or adapts previously known zero-day vulnerabilities. ⁶¹⁰ <i>Malware:</i> Gh0st RAT, HTTP-Browser, Pisbader ⁶¹¹	
APT17 (a.k.a. Deputy Dog, Tailgator Team) ⁶¹²	A cyber threat group associated with the MSS's Jnan bureau that targets the U.S. government, international law firms, IT companies, mining companies, and nongovernmental organizations. ⁶¹³ Among the more memorable campaigns attributed to APT17 was a 2017 spearphishing attack that used a <i>Game of Thrones</i> -themed lure purporting to contain spoilers for the current season to convince victims to download a remote access trojan. ⁶¹⁴	<i>Vectors:</i> Uses spearphishing; creates profiles and posts in forums to embed encoded command and control infrastructure for use with a variant of the malware it uses. ⁶¹⁵ <i>Malware:</i> BLACKCOFFEE ⁶¹⁶	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT16	<p>A cyber threat group that has targeted Japanese and Taiwanese organizations in the high-tech, government services, media, and financial services industries.⁶¹⁷ In late 2015, FireEye attributed to APT16 a cyber operation targeting Taiwan media organizations through a modified version of a known vulnerability in the Microsoft Encapsulated Postscript.⁶¹⁸ In some cases, the webmail addresses from which the emails were sent seemed intended to appear as though they were legitimate communications from Taiwan's Democratic Progressive Party.⁶¹⁹</p>	<p><i>Vectors:</i> Uses spearphishing emails from fake webmail addresses containing malicious attachments; uses compromised VPN credentials to maintain persistent access.⁶²⁰ <i>Malware:</i> IRONHALO, ELMER⁶²¹</p>	
APT15 (a.k.a. Vixen Panda, NICKEL, Ke3chang) ^{*622}	<p>A cyber threat group potentially associated with Chinese defense contractor Xi'an Tianhe Defense Technology that targets organizations in the trade, economic, financial, energy, and military sectors in Europe, the United States, and South Africa.⁶²³</p> <p>In 2020, cybersecurity firm Lookout attributed a years-long hacking campaign targeting Uyghurs and Tibetans living in China with Android malware to APT15 and stated that its members may be contractors at Xi'an Tianhe Defense Technology.⁶²⁴ In late 2021, Microsoft seized dozens of malicious sites used by APT15, which it calls NICKEL, to compromise the servers of governments, diplomatic entities, and nongovernmental organizations across 29 countries, mainly in Europe and Latin America.⁶²⁵</p>	<p><i>Vectors:</i> Spearphishing; watering hole attacks distributing malware for Android.⁶²⁶ <i>Malware:</i> ENFAL, BALDEAGLE, NOISEMAKER, MIRAGE, and others⁶²⁷</p>	
APT14 (a.k.a. Anchor Panda) ⁶²⁸	<p>A cyber threat group associated with the PLA Navy that targets government, telecommunications, construction, and engineering organizations for data relevant to military and maritime equipment, operations, and policies.⁶²⁹ CrowdStrike notes that Anchor Panda has heavily targeted companies in the United States, Germany, Sweden, the UK, and Australia that provide maritime satellite systems, aerospace companies, and defense contractors.⁶³⁰ Mandiant believes the stolen data, especially encryption and satellite communication equipment specifications, are used to enhance China's military operations.⁶³¹</p>	<p><i>Vectors:</i> Uses spearphishing, exploits zero-days once they have been made public.⁶³² <i>Malware:</i> Ghost, POISONIY, CLUBSEAT, GROOYV⁶³³</p>	

* Many cybersecurity firms and media organizations state that the FireEye-designated APT15 is synonymous with groups known as NICKEL, VixenPanda, and Ke3chang. However, Mandiant's webpage on APTs currently associates VixenPanda and Ke3chang with APT25.

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
<p>APT12 (a.k.a. Calc Team, Numbered Panda, IXESHE, JOYRAT, DyncCalc, DyncCalc, DN-SCALC, BRONZE GLOBE)⁶³⁴</p>	<p>A cyber threat group associated with the PLA that frequently targets journalists, governments, and the defense industrial base.⁶³⁵ In 2012, APT12 hacked the <i>New York Times</i> as it worked on a story about the multibillion-dollar fortune accumulated by relatives of then Prime Minister Wen Jiabao.⁶³⁶ In 2014, Mandiant reported that APT12 had conducted a cyberespionage campaign targeting organizations in Japan and Taiwan.⁶³⁷</p>	<p><i>Vectors:</i> Uses phishing emails from valid but compromised accounts.⁶³⁸ <i>Malware:</i> RIPTIDE, HIGHTIDE, THREBYTE, WATERSPOUT⁶³⁹</p>	
<p>APT10 (a.k.a. Menupass Team, Stone Panda, POTASSIUM, Red Apollo, Cicada, CVNX)⁶⁴⁰</p>	<p>A cyber threat group associated with the MSS that has historically targeted construction and engineering, aerospace, and telecom firms as well as foreign governments in support of China's national security goals.⁶⁴¹ Mandiant assesses that these goals include acquiring military and intelligence information as well as confidential business data to benefit Chinese corporations.⁶⁴² APT10 perpetrated Operation Cloud Hopper, a global cyberespionage campaign that compromised a number of managed service providers in the United States and other countries to obtain the information of their clients in the engineering, industrial manufacturing, retail, energy, pharmaceuticals, telecommunications, and government industries.⁶⁴³ APT10 has also historically targeted Japanese corporations and media organizations, though reporting by Symantec in April 2022 indicated the group is now targeting government-related institutions and nongovernmental organizations in North America, the Middle East, and Europe.⁶⁴⁴</p>	<p><i>Vectors:</i> Uses spearphishing and access to victims' networks through managed service providers.⁶⁴⁵ <i>Malware:</i> HAYMAKER, SNUGRIDE, BUGJUICE, QUASAR-RAT⁶⁴⁶</p>	<p>2018: DOJ charges two members of APT10 in connection with a campaign of global computer intrusions over a decade that targeted managed service providers and more than 45 technology companies for IP and confidential information.⁶⁴⁷ The indictment alleged that the defendants worked for a company called Huaying Haitai Science and Technology Development Company (Huaying Haitai) and acted in association with the MSS's Tianjin State Security Bureau.⁶⁴⁸</p>

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT9 (a.k.a. Nighthade Panda, FlowerLady, Flower-show) ⁶⁴⁹	A cyber threat group composed of freelancers with some degree of state sponsorship that has targeted organizations in the healthcare, pharmaceuticals, construction, engineering, aerospace, and defense industries for data and IP. ⁶⁵⁰ According to the Institute for Critical Infrastructure Technology, Nighthade Panda (APT9) shares some similarities with Stone Panda (APT10). ⁶⁵¹	<i>Vectors:</i> Uses spearphishing, compromised valid accounts, and remote services for initial access. ⁶⁵² <i>Malware:</i> SOGU, HOMEUNIX, PHOTO, FUNRUN, Gh0st, ZX-SHEL, Poison Ivy, PlugX ⁶⁵³	
APT8	A cyber threat group that targets organizations in the media and entertainment, construction, engineering, aerospace, and defense industries for their IP. ⁶⁵⁴	<i>Vectors:</i> Uses spearphishing emails with malicious attachments or links, exploits vulnerable internet-facing web servers to compromise targets, sends malicious links to victims via instant messaging or chat programs. ⁶⁵⁵ <i>Malware:</i> HASH, FLYZAP, GOLF-PRO, SAFEPUIT ⁶⁵⁶	
APT7	A cyber threat group that targets organizations in the construction, engineering, aerospace, and defense industrial base industries for their IP. ⁶⁵⁷ APT7 has targeted organizations headquartered in the United States and UK. ⁶⁵⁸	<i>Vectors:</i> Uses access to one organization to infiltrate others under the same corporate parent. ⁶⁵⁹ <i>Malware:</i> DIGDUG, TRACKS ⁶⁶⁰	
APT6	A cyber threat group likely associated with the Chinese government that targets organizations in the transportation, automotive, construction, engineering, telecommunications, electronic, construction, and materials sectors for valuable data. ⁶⁶¹ APT6 has targeted organizations headquartered in the United States and UK. ⁶⁶² In 2016, the Federal Bureau of Investigation issued an alert about an ongoing cyber campaign that had compromised and stolen data from numerous government and commercial networks over a five-year period, which cybersecurity experts attributed to APT6. ⁶⁶³	<i>Vectors:</i> Uses custom backdoors, including some used by other APT groups. ⁶⁶⁴ <i>Malware:</i> BELUGA, EXCHAIN, PUPTEENT ⁶⁶⁵	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
<p>APT5 (a.k.a. Keyhole Panda, MANGANESE, DPD, BRONZE FLEET, WOOD, Poisoned Flight, TG-2754)⁶⁶⁶</p>	<p>A cyber threat group active since 2007 that is likely associated with the Chinese government and targets organizations in the telecommunications and technology sectors in the United States, Europe, and Southeast Asia.⁶⁶⁷ Mandiant posits that APT5 may be a large threat group consisting of several subgroups with distinct tactics and infrastructure.⁶⁶⁸ In 2019, media organizations reported that a subgroup of APT5 had reportedly exploited vulnerabilities in Fortinet and Pulse Secure VPN servers—which are used by a variety of government and corporate organizations—to harvest files with password information or VPN session data.⁶⁶⁹</p>	<p><i>Vectors:</i> Uses malware with keylogging capabilities to target telecommunication companies' employees; compromises networking devices and manipulates the underlying software supporting them.⁶⁷⁰</p> <p><i>Malware:</i> BRIGHTCREST, SWEETCOLA, SPIRITBOX, PALEJAB, WIDERIM, WINVAULT, HAPPYSAD, BIRDWORLD, FARCRY, CYFREE, FULLSILO, HELLOTHEWORLD, HAZELNUT, GIF89A, SCREENBIND, SHINYFUR, TRUCKBED, LEOUNCIA, FREESWIM, PULLTAB, HIREHELP, NEDDYHORSE, PITCHFORK, BRIGHTCOMB, ENCORE, TABCTENG, SHORLEASH, CLEANACT, BRIGHTCYAN, DANCEPARTY, HALFBACK, PUSHBACK, COOLWHIP, LOWBID, TIGHTROPE, DIRTYWORD, AURIGA, KEYFANG, Poison Ivy.⁶⁷¹</p>	
<p>APT4 (a.k.a. Maverick Panda, BRONZE EDISON, Sykipot Group, Wisp)⁶⁷²</p>	<p>A cyber threat group that targets organizations in the aerospace, defense, industrial engineering, electronics, automotive, government, telecommunications, and transportation sectors.⁶⁷³ Mandiant notes that APT4 appears to target the defense industrial base more frequently than other commercial organizations.⁶⁷⁴ Secureworks observes that BRONZE EDISON has "been linked to intrusions in the fossil fuels, defense and telecoms sectors, with a historic focus on Russia and South Korea."⁶⁷⁵ It is not clear whether the group is still active.⁶⁷⁶</p>	<p><i>Vectors:</i> Uses spearphishing messages involving U.S. government, DOD, or defense industrial base themes.⁶⁷⁷</p> <p><i>Malware:</i> GETKYS, LIFESAV-ER, CCHIP, SHYLILT, SWEET-TOOTH, PHOTO, SOGO.⁶⁷⁸</p>	

APT Name*	Overview and Targets	Typical Attack Vector for Initial Access/Associated Malware	Charged by U.S. Department of Justice?
APT3 (a.k.a. UPS Team, Gothic Panda, TG-0110, Boyusec, Buckeye) ⁶⁷⁹	A cyber threat group associated with the Chinese cybersecurity firm Guangzhou Boyu Information Technology Company, Ltd (“Boyusec”), a known contractor for the MSS. ⁶⁸⁰ APT3 targets organizations in the aerospace, defense, construction, engineering, high-technology, telecommunications, and transportation sectors. ⁶⁸¹ APT3 has carried a number of high-profile cyberespionage campaigns, including Operation Clandestine Fox and Operation Double Tap. ⁶⁸² According to Symantec, since 2015 APT3 has shifted from targeting U.S.-based victims to political organizations in Hong Kong. ⁶⁸³	<i>Vectors:</i> Uses phishing emails, zero-days vulnerabilities in browsers (e.g., Internet Explorer, Firefox, and Adobe Flash Player). ⁶⁸⁴ <i>Malware:</i> SHOTPUT, COOKIECUTTER, SOGU. ⁶⁸⁵	2017: DOJ charges three hackers from Boyusec for hacking corporations in the financial, engineering, and technology industries for commercial advantage. ⁶⁸⁶
APT2 (a.k.a. Putter Panda, MSUpdater) ⁶⁸⁷	A cyber threat group associated with PLA Unit 61486 (formerly of the 12th Bureau of the PLA’s 3rd General Staff Department) that targets U.S. and European organizations in the military, satellite, and aerospace sectors for their IP. ⁶⁸⁸	<i>Vectors:</i> Uses spearphishing emails that exploit a particular vulnerability known as CVE-2012-0158. ⁶⁸⁹ <i>Malware:</i> MOOSE, WARP. ⁶⁹⁰	
APT1 (a.k.a. Command Crew, Command Panda) ⁶⁹¹	A cyber threat group associated with PLA Unit 61398 (formerly of the Second Bureau of the PLA’s 3rd General Staff Department) first revealed by Mandiant in a landmark February 2013 report. ⁶⁹² APT1 has stolen hundreds of terabytes of data from at least 141 organizations in a wide variety of sectors. ⁶⁹³ In 2014, the U.S. government accused APT1 of stealing trade secrets and IP from Westinghouse Electric, U.S. Steel, SolarWorld, United Steel Workers Union, Allegheny Technologies Inc., and Alcoa to benefit Chinese state-owned enterprises. ⁶⁹⁴ DOJ’s indictment against the hackers marked the first time the United States has leveled criminal charges against a foreign country for cyberespionage. ⁶⁹⁵	<i>Vectors:</i> Uses spearphishing emails with malicious attachments and hyperlinks, then custom backdoors. ⁶⁹⁶ <i>Malware:</i> TROJAN.ECLYTS, BACKDOOR.BARKIOFORK, BACKDOOR.WAKEMINAP, TROJAN.DOWNBOT, BACKDOOR.DALBOT, BACKDOOR.REVIRD, TROJAN.BADNAME, BACKDOOR.WUALESS. ⁶⁹⁷	2014: DOJ charges five hackers from APT1 with conducting cyberespionage against U.S. companies in the nuclear power, metals, and solar products industries. ⁶⁹⁸

Source: Various; compiled by Commission staff.

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SECTION 3: CHINA'S ACTIVITIES AND INFLUENCE IN SOUTH AND CENTRAL ASIA

Abstract

Chinese leaders consider South and Central Asia critical to securing China's western borders and ensuring access to Eurasia and the Indian Ocean. Accordingly, the Chinese government has escalated its efforts to exert influence in the regions over the past decade and has tried to establish its development and internal security interests as regional priorities by leveraging political influence through investment and loans. In South Asia, the Chinese government has become a more significant presence, but it has also damaged its relations with India and contributed to India's increasingly close relationship with the United States. In Central Asia, China has accrued significant influence, yet public opinion toward China remains mixed in the region. Meanwhile, the Chinese government remains concerned about its ability to manage regional security risks emanating from Afghanistan.

Key Findings

- Chinese strategists view the U.S. Navy as China's principal challenge in the Indian Ocean. In response, People's Liberation Army (PLA) Navy warships and submarines regularly exercise expeditionary capabilities in the Indian Ocean in what the PLA claims are antipiracy operations. China's efforts to secure its interests in the Indian Ocean region have included significant development financing in Sri Lanka and the Maldives, two small but strategically located island countries near India. Despite these efforts, however, China has yet to convert its economic ties into significant political or security gains.
- Over the past decade, China's government has worked to undermine India's influence in South Asia and exert its own, including by escalating military tensions along the two countries' disputed border. As a result, China-India relations are now at their lowest point in decades. The Indian government has increased its efforts to reduce its economic reliance on China, though it has had limited success to date.
- China has longstanding security ties with Pakistan motivated largely by a common geopolitical rivalry and territorial disputes with India. Since 2015, these ties have been bolstered by the China-Pakistan Economic Corridor (CPEC), an initiative that promises massive infrastructure investment as part of China's Belt and Road Initiative (BRI). While rhetorical support for CPEC remains strong in both countries, its implementation has fallen short of original expectations, and Pakistan's deteri-

orating security situation makes significant expansion of CPEC highly unlikely in the near term.

- China's engagement in Central Asia and Afghanistan is primarily driven by security concerns and preventing unrest in the regions from crossing into China's Xinjiang Uyghur Autonomous Region. The Chinese government also views the region as an important source of commodities such as oil, natural gas, and uranium and as a gateway to westward expansion of BRI. Its integration with Central Asia has recently accelerated as the region's traditional hegemon, Russia, has experienced setbacks in the wake of its unprovoked invasion of Ukraine.
- The Chinese government's development financing in South and Central Asia has helped recipient countries build much-needed infrastructure, but it also serves China's own economic and political aims. Its opaque lending, which typically does not require institutional economic reforms, often exacerbates underlying governance issues in recipient countries. Its lending terms are also more onerous than those from the United States or international financial institutions such as the International Monetary Fund (IMF). The turbulence in Sri Lanka that has occurred throughout 2022 is exacerbated by the hazards of accepting significant Chinese lending.

Recommendations

The Commission recommends:

- Congress direct the Secretary of State, Secretary of Defense, and Administrator of the U.S. Agency for International Development (USAID) to submit a strategy on U.S. interests in the Indian Ocean region with considerations for competition with China in the region, including:
 - Enhancing development and U.S. economic activity in the region;
 - Defending freedom of navigation;
 - Supporting and facilitating regional allies and partners in addressing security challenges in the region; and
 - Promoting cooperation with U.S. allies in the Indo-Pacific, including Japan and Australia, and major defense partners, including India, and NATO allies, including the United Kingdom and France, to support a rules-based order in the region.
- Congress direct the Administration to submit a strategy on U.S. interests in Central Asia with considerations for significant changing circumstances in the region, including:
 - Russia's diminishing presence as a result of its invasion of Ukraine;
 - The Taliban's rise to power in Afghanistan; and
 - China's growing influence on members of the Shanghai Cooperation Organization through promoting Chinese governance concepts, including anti-terrorism and law enforcement

norms aimed at suppressing political opposition and cyber sovereignty and information security standards that empower authoritarian regimes to restrict the free flow of information.

- Congress direct the U.S. Agency for International Development (USAID), the Development Finance Corporation, and other relevant agencies to make available training to relevant officials in South and Central Asia in assessing and mitigating the risks of China's investment and lending in the regions.

Introduction

Over the last decade, China's government has significantly escalated its efforts to exert influence in South and Central Asia. Chinese leaders consider the two regions critical to securing China's western borders and ensuring access to Eurasia and the Indian Ocean. At the 2014 Shanghai Cooperation Organization (SCO) Summit at Dushanbe, Tajikistan, Chinese Foreign Minister Wang Yi announced, "Central and South Asia lie at the core of the Eurasian continent" and serve as "security barriers for China's development and stability."¹ In both South and Central Asia, China's government has tried to establish its economic and internal security interests as regional priorities by leveraging political influence through investment and loans. These efforts target what China's leaders consider to be their key security challenges in the regions: in Central Asia, Chinese leaders see a likely source of instability in Afghanistan's Taliban government, while in South Asia, Chinese leaders consider India to be a geopolitical rival that continues to draw closer to the United States.

China's strategies in South and Central Asia have yielded mixed results. China's government has advanced its strategy by adapting its investments to fit each country's needs. China's efforts to compete with U.S. and Indian investments in smaller South Asian countries have produced an environment in which prospective recipients of investment may play India,* China, and the United States off one another to extract greater benefits without shifting their political alignments. Furthermore, China's efforts to undermine Indian influence in South Asia have severely damaged China-India relations. As a result, India's government has taken steps to reduce India's dependency on Chinese investment and imports and has increased its security cooperation with the United States and other countries of the Quadrilateral Security Dialogue, or Quad. China's government has engaged with Central Asian governments and with the Taliban government in Afghanistan to create an expanding security perimeter, hoping to insulate Chinese interests from violent extremism. While China has accrued significant influence over the Central

*A 2021 AidData report found that India's development finance and international aid efforts focus heavily on India's neighbors, with the exception of Pakistan. According to a dataset compiled by AidData analyzing India's development finance between 2007 and 2014, Indian development finance disbursements to its neighboring countries totaled more than \$1.5 billion, accounting for more than 98 percent of India's development finance disbursements. The largest recipient was Bhutan (\$914 million), followed by Afghanistan (\$226 million), Bangladesh (\$102 million), Sri Lanka (\$62 million), Burma (Myanmar) (\$33 million), the Maldives (\$6 million), and Pakistan (\$47,000). Gerda Asmus et al., "Does India Use Development Finance to Compete with China? A Subnational Analysis," *AidData*, September 2021, 13; AidData, "Indian Development Finance Dataset."

Asian countries, it remains concerned about its ability to manage regional security risks emanating from Afghanistan.

This section describes China's objectives and policies in South and Central Asia and provides an assessment of its relative successes to date. First, the section discusses the Indian Ocean as a theater of competition, identifying Chinese efforts to contest India's role as a net security provider to Indian Ocean island countries such as Sri Lanka and the Maldives. Second, the section overviews the Chinese government's policies in South Asia and rivalry with India, including military tensions along the two countries' disputed borders and steps India's government has taken to weaken ties between the countries' economies. Third, it provides a focused study on China's efforts to cultivate Pakistan to balance against or counter India's influence in South Asia. Fourth, it assesses China's investment and security cooperation in Central Asian countries and with Afghanistan's Taliban government itself. Finally, the section considers implications for the United States arising from China's efforts to expand its influence in South and Central Asia. This section is based on the Commission's May 2022 hearing on "China's Activities and Influence in South and Central Asia," consultations with experts, and open source research and analysis.

Competing Visions for the Indian Ocean

China-India competition for influence in South Asia extends into the Indian Ocean, where the two countries advance their naval postures and compete for political sway over Indian Ocean island countries. Like the continental competition, the two countries asymmetrically prioritize the region, with Chinese leaders considering South Asia and the Indian Ocean a secondary theater and Indian leaders considering the region central to their economic and security objectives.*² Senior leaders in Indian Prime Minister Narendra Modi's government have maintained that India has the "primary responsibility" for economic integration in the region, and both Prime Minister Modi and his predecessor Manmohan Singh declared India's intent to be a "net security provider" responsible for the security of the Indian Ocean region.³

The PLA Navy in the Indian Ocean: Nascent but Growing

Chinese strategists consider the U.S. Navy's presence to be China's principal challenge in the Indian Ocean. Christopher Colley, assistant professor of security studies at the National Defense College of the United Arab Emirates, testified to the Commission that Chinese leaders aspire to expand the PLA Navy's presence in the Indian Ocean to secure its economic and strategic interests, but the PLA Navy is far from achieving the capabilities needed to gain sea control in meaningful segments of the Indian Ocean.⁴ As such, Dr. Colley explained that Chinese strategists "see the American Navy as their principal challenge in the region, and there is real concern in Beijing that in the event of hostilities, the United States or Amer-

*One indicator of a theater's importance is the amount of diplomatic attention it receives from high-level leaders. According to data collected by the China Power Project between 2014 and 2020, Foreign Minister Wang made 13 trips to three countries in East Asia, 32 trips to 11 countries in Southeast Asia, and only 15 trips to 6 countries in South Asia. China Power Project, "Chinese High-Level Diplomatic Activity, 2014–2020," *Center for Strategic and International Studies*.

ican warships may block passage of Chinese merchant ships and oil tankers from reaching China.”⁵ Parochial Chinese interests have exaggerated these concerns to gain BRI funding for local projects. For example, Dr. Colley noted that the Yunnan provincial government, PLA officers, and the China National Petroleum Corporation promote the threat of the “Malacca Dilemma” to gain BRI funding for overland oil and gas pipelines to circumvent the Strait of Malacca.⁶

China’s current naval strategy calls for greater power projection into the Indian Ocean to protect its critical sea lanes from pirates and, eventually, potential U.S. Navy interdiction. China’s 2015 Defense White Paper stated that the PLA Navy will “gradually shift” from a focus on “near seas”^{*} defense to a strategy of simultaneously ensuring “near seas defense and far seas protection.”[†]⁷ The PLA Navy will demonstrate its emerging capabilities to conduct far seas operations in what PLA strategists call the “two ocean region,” defined as an “arc shaped strategic zone that covers the western Pacific Ocean and the northern Indian Ocean.”⁸ For example, between December 2008 and January 2022 the PLA Navy conducted 40 antipiracy deployments from its base in Djibouti, exercising capabilities almost certainly designed to demonstrate that PLA Navy sailors can project power along sea lanes in the Indian Ocean.⁹

The PLA Navy currently lacks the force structure to impose meaningful access denial in the Indian Ocean.¹⁰ According to a 2020 report published by the U.S. Naval War College, the PLA Navy has 100 warships and submarines capable of conducting operations in the Indian Ocean, but it is currently only capable of maintaining about 18 ships full time in the Indian Ocean.¹¹ The actual PLA Navy presence in the Indian Ocean has typically been even less, with six to eight ships in the region transiting to and from antipiracy operations in the Gulf of Aden and one or two submarine deployments each year.¹² In order to effectively block access to key sea lanes of communication, the PLA Navy will need to improve its anti-air and anti-submarine warfare or compensate this technical deficiency by sustaining a larger fleet presence. Despite China’s currently limited presence in the Indian Ocean, the PLA Navy is likely to develop over 67 additional major surface combatants and 12 nuclear-powered submarines within the decade while conducting annual far seas training that improves the PLA Navy’s ability to sustain ships far from China’s shores.¹³

Further, the PLA Navy’s exercises in the Indian Ocean reveal limited anti-air and anti-submarine capabilities as PLA Navy ships in the theater learn to operate without the cover of shore-based air

^{*}China’s “near seas” refer to the Bohai, Yellow, East China, and South China Seas and waters east of Taiwan. Chinese documents contrast the near seas with the “far seas” beyond. China Ministry of Natural Resources, First Institute of Oceanography, *Which Seas Comprise China’s Near Seas?* (我国的近海都包括哪些海?), May 4, 2017. Translation.

[†]The 2015 Defense White Paper marked a significant shift in China’s naval strategy. Since the 2006 Defense White Paper called on the PLA Navy to transition from focusing on territorial defense by extending its strategic depth into China’s near seas, all of China’s defense white papers—issued in 2008, 2010, and 2013—used the same language stipulating that the PLA Navy has a near seas defense strategy and remains in the course of building capabilities for far seas protection. China State Council Information Office, *The Diversified Employment of China’s Armed Forces*, April 2013; China State Council Information Office, *China’s National Defense in 2010*, March 2011; China State Council Information Office, *China’s National Defense in 2008*, January 2009; China State Council Information Office, *China’s National Defense in 2006*, December 2006.

defense systems and naval aviation.*¹⁴ Finally, even with its base in Djibouti, the PLA Navy would be dependent on “strategic strongpoints”—defined as strategically located commercial investment with high military potential—for repair and resupply of a much larger force presence or in the event of any maritime conflict.¹⁵ According to an analysis by Janes prepared for the Commission in 2020, potential strategic strongpoints that could feasibly become PLA bases in the Indian Ocean may include Chittagong Port, Bangladesh; Hambantota Port and Columbo Port, Sri Lanka; and Karachi Port and Gwadar Port, Pakistan.¹⁶ Some experts dispute the value of a strategic strongpoint. Joshua White, nonresident fellow at the Brookings Institution, notes that China’s investments in commercial ports may prove to be a net liability in a major conflict, noting that “high-end operations require sophisticated infrastructure and logistics of a kind that simply cannot be borrowed *in extremis* from commercial ventures.”¹⁷

The PLA Navy’s Future Force Structure in the Indian Ocean

The PLA Navy is preparing for a larger future presence in the Indian Ocean through the use of antipiracy missions. According to Dr. Colley, the PLA Navy is far from the ability to outmatch a U.S. naval battle group.¹⁸ To minimize the gap in naval capabilities, China’s leaders have adopted an Indian Ocean approach that modernizes the PLA Navy and employs its forces in a way that increases the level of operational risk to U.S. sailors and submariners in the Indian Ocean. The logic of this approach, Dr. Colley testified, is to raise the costs of conflict with the hopes the U.S. Navy will be deterred from confronting the PLA Navy.¹⁹ Darshana Baruah, South Asia fellow at the Carnegie Endowment for International Peace, testified to the Commission that the PLA Navy is actively using its operations and exercises to mitigate its operational disadvantages in the Indian Ocean.²⁰ Although China’s government publicly asserts these exercises are antipiracy missions intended to provide a regional public good, Ms. Baruah also notes the PLA Navy regularly deploys submarines, which are not optimized for antipiracy missions, to the Indian Ocean, suggesting the PLA’s deployments have motives other than providing public goods.²¹

PLA strategy documents appear to anticipate a much more capable force in the Indian Ocean in the future. According to the *2020 Science of Military Strategy*, the current deployment “is mainly to deal with the threat of piracy,” but the scope of the PLA Navy’s Indian Ocean missions “may expand” if “hegemonic countries,” referring to the United States, “exercise control over important transit routes that are vital to China.”²² In reality, the PLA Navy’s Indian Ocean mission set is already scheduled to expand regardless of U.S. action. Within the next ten to 15 years, the PLA aims to be capa-

*The PLA Navy’s most well-developed capabilities are those it exercises in defense of China’s near seas, which enjoy the benefit of land-based sensors, aircraft, and offensive fires. PLA strategists have historically described “using the land to control the sea” precisely to exploit the strategic benefits of augmenting a local navy with shore-based fire. The 2013 *Science of Military Strategy* explicitly embraces this approach, describing continental China as the “support and backstop” from which power radiates to the “focal point” of the maritime Indo-Pacific region. Shou Xiaosong, ed., *Science of Military Strategy* (Revised in 2013), Military Science Press, 2013, 246; Andrew S. Erickson and David D. Yang, “Using the Land to Control the Sea?—Chinese Analysts Consider the Antiship Ballistic Missile,” *Naval War College Review* 62:4 (2009): 53–86.

ble of fighting a limited war along BRI, and by midcentury it aims to be capable of rapidly deploying forces anywhere in the world.²³ While official Chinese documents available to the public do not discuss a future Indian Ocean fleet in the PLA Navy to execute these missions, Director of the Center for Maritime Strategy Studies and research professor at the Institute of Ocean Research at Peking University Hu Bo has proposed that the PLA Navy “consider developing two oceangoing fleets, centered around aircraft carriers—the Pacific fleet and the Indian Ocean fleet.”²⁴

India’s Indian Ocean Ambitions

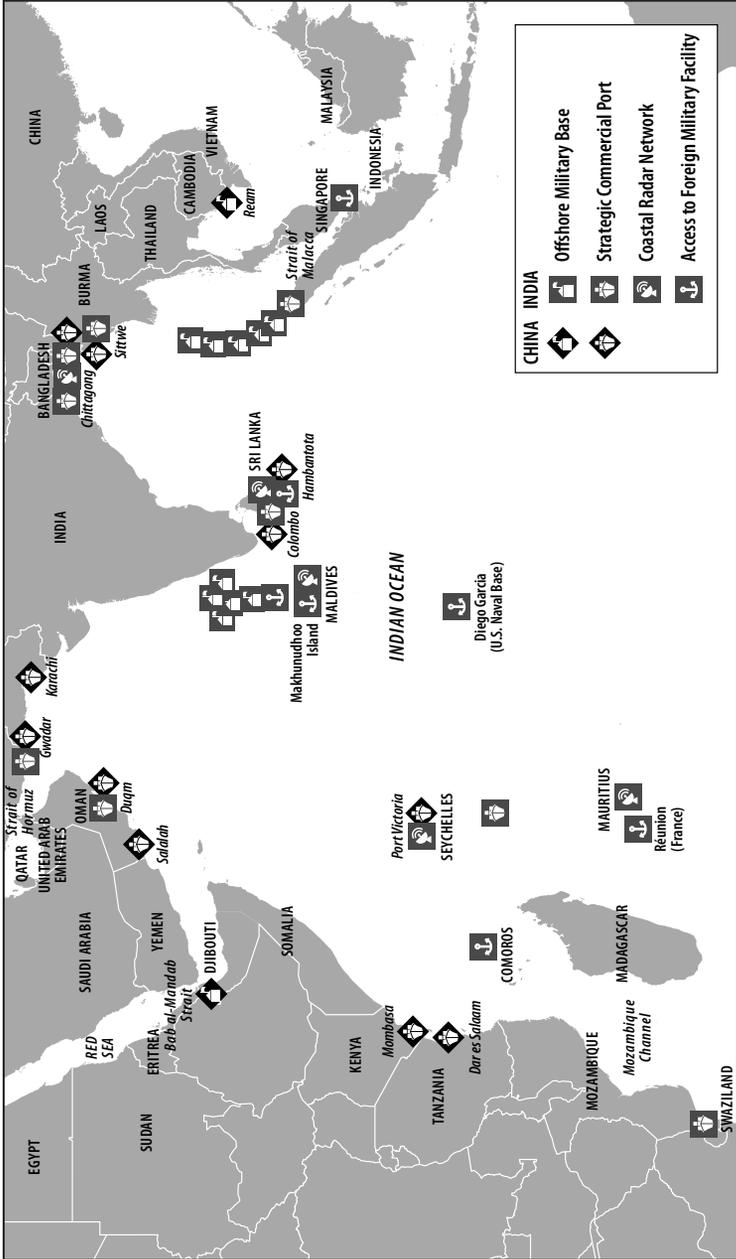
India’s maritime strategy emphasizes its ability to be a “net security provider”* in the Indian Ocean, building trust and confidence among countries in the region to counterbalance growing Chinese influence.²⁵ The Indian Navy’s latest maritime strategy document, published in 2015, describes “net security” as “the state of actual security available in an area, upon balancing prevailing threats, inherent risks and rising challenges in a maritime environment, against the ability to monitor, contain, and counter all of these.”²⁶ India’s maritime strategy closely associates its provision of net security with closer cooperation and interoperability with friendly maritime forces in the region by regularly dispatching the Indian Navy to perform port calls, provide training support, and participate in joint naval exercises with partner countries.²⁷

India’s government operationalizes its strategy to provide net security by investing in maritime domain awareness and brokering intelligence-sharing agreements with other states in the Indian Ocean (see Figure 1). For example, in 2018 the Indian Navy launched an Information Fusion Center to process radar and sensor data from participating countries.²⁸ At the same time, India’s government invested in radar arrays in Bangladesh, the Maldives, Mauritius, the Seychelles, and Sri Lanka, effectively improving the data each of these states could contribute to the Information Fusion Center.²⁹ India’s government has also broached the possibility of building military infrastructure on the Seychelles or Mauritius, potentially giving the Indian Navy facilities from which to project power in the western Indian Ocean.³⁰

According to Ms. Baruah, India’s turn toward net security in the Indian Ocean comes after years of low diplomatic outreach to Indian Ocean islands, while Chinese diplomats developed robust ties with the same countries.³¹ In testimony before the Commission, Ms. Baruah noted that while Prime Minister Modi’s 2015 visit to Sri Lanka was the first by an Indian prime minister in nearly 27 years, senior Chinese officials had made consistent visits to the region.³² Similarly, Prime Minister Modi’s 2015 visits to Mauritius and Seychelles were the first by an Indian head of government in over 20 years.³³ Senior Chinese leaders prioritized economic engagement with the Maldives as early as 2001, and Chinese leaders similarly prioritized

* U.S. government officials initially raised this term and concept. At the 2009 Shangri-La Dialogue, then U.S. Secretary of Defense Robert Gates urged “India to be a partner and net provider of security in the Indian Ocean and beyond.” India’s then Prime Minister Singh and Prime Minister Modi have both embraced the phrase as an Indian national security policy objective. Anit Mukherjee, “India as a Net Security Provider: Concept and Impediments,” *S. Rajaratnam School of International Studies*, August 2014, 1.

Figure 1: Major Indian and Chinese Security Investments in the Indian Ocean



Source: Asia Maritime Transparency Initiative, "Ports and Partnerships: Delhi Invests in Indian Ocean Leadership," *Center for Strategic and International Studies*, December 5, 2019; Chad Peltier, Tate Nurkin, and Sean O'Connor, "China's Logistics Capabilities for Expeditionary Operations," *Janes* (prepared for the U.S.-China Economic and Security Review Commission), April 15, 2020, 26.

Seychelles and Mauritius as part of China's then emerging Africa strategy from 2006, when China designated Mauritius as one of five Chinese Special Economic Zones in Africa.³⁴ Reaffirming the Chinese government's commitment to growing its influence in these islands, then General Secretary Hu Jintao visited Seychelles in 2007 and Mauritius in 2009 as part of his tours through Africa.³⁵ In comparison, the Indian government's strategic investments in Indian Ocean island states have responded to the Chinese government's growing economic influence in the region.³⁶

According to Ms. Baruah's research, India's vision of net security is overly concerned with geostrategic competition with China while providing inadequate attention to the nontraditional security challenges the island states consider paramount.³⁷ Indian Ocean island representatives who participated in a 2021 dialogue hosted by Ms. Baruah were unanimous in naming the following as the top security threats in the Indian Ocean: climate change; illegal, unregulated, and unreported fishing; and piracy, plastic pollution, and oil spills.³⁸ Indian Ocean island countries typically welcome China's growing presence as an opportunity to form a lucrative partnership with a country that has maintained more consistent diplomatic engagement with the island states than either India or the United States.³⁹

China Advances Its Indian Ocean Strategy through Economic Diplomacy

One of China's means of advancing its strategic goals in the Indian Ocean has been through increased economic ties with Sri Lanka and the Maldives, two island countries in the Indian Ocean near the southern tip of India. According to data compiled by AidData, between 2000 and 2018 China funded an estimated \$15.7 billion in projects in the two countries.⁴⁰ Beijing's primary motivation for its economic outreach to Sri Lanka and the Maldives is to extend its presence in the countries. As Sam Custer, director of analysis at AidData, testified before the Commission, "Beijing's ability to cultivate friendly relations with [Sri Lanka and the Maldives] not only helps secure its maritime trade, but access 'dual use' ports for its naval vessels to project power vis-à-vis India and the U.S. in the Indian Ocean."⁴¹ Gaining influence in Sri Lanka and the Maldives also reflects the Chinese government's geopolitical aims, as the countries' voting power in international fora such as the UN can help insulate Beijing from international criticism over human rights violations such as its repressive campaigns in Xinjiang and Hong Kong.

From the perspective of Sri Lanka and the Maldives, China is an important source of lending for public infrastructure, which political leaders in the countries have used for both productive investments and politically expedient projects. Financing from Beijing has indeed helped meet serious infrastructure shortfalls in these countries. A 2020 Chatham House study found that between 2009 and 2019, Chinese investment funded the construction of 68 percent of all expressways in Sri Lanka, leading to "improving national road connectivity, enhancing road safety, and reducing journey times."⁴² According to Ms. Custer, several factors make Beijing an appealing development partner despite the fact that Beijing's financing is offered on less generous terms than many other bilateral or multi-

lateral lenders.* First is the sheer scale of financing offered, which China deploys “at a scale which outstrips what most bilateral and multilateral actors can offer.”⁴³

Lending from China has also proven appealing to politicians in Sri Lanka and the Maldives due to the relative lack of requirements for environmental protection, social safeguards, or institutional reform that often accompany funding from other lenders, such as the United States. As a result, political leaders accepting Chinese lending are able to more quickly begin construction of politically advantageous projects. For example, in Sri Lanka, then President Mahinda Rajapaksa used Chinese financing to fund multiple projects in his hometown of Hambantota during his presidency from 2005 to 2015, including fast-tracked construction of “a state-of-the-art international convention center, a 35,000-seat cricket stadium, a 300-acre botanical garden, a 235-acre ‘Tele Cinema Park’ for TV and film production, an oil refinery, a sports complex, and a string of luxury hotels and housing projects.”⁴⁴ Because these projects are not subject to the same rigorous planning requirements, they are at greater risk of being economically untenable, adding to concerns about Chinese-funded projects leading to unsustainable debt loads in recipient countries.†

China’s Development Finance

Beijing’s development finance aims to satisfy several Chinese Communist Party (CCP) goals. Beijing’s funding of infrastructure projects across the world frequently benefits Chinese state-owned firms in industries such as aluminum and cement that suffer from domestic overproduction by providing them with new markets.⁴⁵ The opportunity to obtain natural resources is also an important factor in Beijing’s overseas development finance. In 2008, then chairman of China Development Bank Chen Yuan, when discussing the future of Chinese outbound investment, said, “I think we should not go to America’s Wall Street, but should look more to places with natural and energy resources.”⁴⁶ China’s investments in South and Central Asia have indeed extended to natural resources, such as copper mining in Kazakhstan or natural gas in Turkmenistan.⁴⁷ In addition to economic aims, the political conditionalities attached to China’s development finance give Beijing potential geopolitical leverage, helping to ensure recipient countries will support or at least refrain from criticizing the Chinese government on the global stage. The political conditionalities that Beijing attaches to its lending contrast with its general lack of

*According to a study by AidData analyzing China’s overseas lending from 2000 to 2018, Chinese loans on average had an interest rate of 4.2 percent, a repayment period of 9.4 years, and a grace period of 1.8 years. By contrast, in 2018, across all official development loans offered by members of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee—a forum of 30 major donor countries including the United States—the average interest rate was 1.1 percent with an average repayment period of 28 years. Ammar A. Malik et al., “Banking on the Belt and Road: Insights from a New Global Dataset of 13,427 Chinese Development Projects,” *AidData*, September 2021, 37.

†For more on concerns over Beijing’s development financing in different regions, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, “China’s Influence in Latin America and the Caribbean,” in *2021 Annual Report to Congress*, November 2021, and U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, “China’s Strategic Aims in Africa,” in *2020 Annual Report to Congress*, December 2020.

China's Development Finance—Continued

requirements for any economic or governance reforms, which are more common from bilateral lenders such as the United States and multilateral lenders such as the IMF.* A recent analysis on China's development finance has found evidence that Chinese financing "seems to discourage policy reform, weaken public sector institutions, and fuel corruption."⁴⁸

An initiative recently launched by the G7 that aims to help developing countries meet their infrastructure needs could provide an alternative to China's development finance. In June 2022, U.S. President Joe Biden and other G7 leaders announced the formation of the Partnership for Global Infrastructure and Investment (PGII), under which the United States and G7 partners will "aim to mobilize \$600 billion by 2027 in global infrastructure investments," including \$200 billion from the United States.⁴⁹ According to the White House press release, the PGII will "deliver game-changing projects to close the infrastructure gap in developing countries, strengthen the global economy and supply chains, and advance U.S. national security."⁵⁰ China's official response to PGII has been positive, with Chinese Ministry of Foreign Affairs Spokesman Zhao Lijian saying, "China always welcomes initiatives that promote global infrastructure," and mentioning that BRI and PGII could be complementary.⁵¹ Chinese state media have published stories highlighting criticisms of PGII, however, including opinions that PGII is an attempt to compete with BRI.⁵²

China Adapts to Changing Political Environments in Sri Lanka and the Maldives, with Mixed Results

China's financing practices in Sri Lanka and the Maldives have adapted in response to changes in domestic environments in the two countries as well as changes in their relations with other lenders. Beijing's changing diplomatic tactics have helped it weather backlash against Chinese lending and retain significant, if changing, economic ties to both countries. China's economic engagement with Sri Lanka and the Maldives increased notably in the first decade of the 2000s as both countries experienced economic setbacks and scrutiny from traditional development partners. In the Maldives, Beijing provided financial assistance in the wake of a 2004 tsunami that devastated the country's economy. According to a 2019 AidData report, this 2004 tsunami relief aid marked the first officially recorded financial assistance from China to the Maldives.⁵³ During the administration of then Maldivian President Abdulla Yameen, which began in 2013, concerns over unsustainable lending practices also led the IMF to curb concessional financing to the Maldives, and the United States and EU considered sanctioning the Maldivian government for President Yameen's human rights practices.⁵⁴ Similarly, Beijing's

*China is not a member of the Paris Club, a group of 22 creditor nations that strive to coordinate workable solutions to mounting debt problems among debtor nations. The 22 permanent members of the group are Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Russia, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Paris Club, "Permanent Members."

development financing to Sri Lanka increased in 2007–2009, during the end of Sri Lanka’s civil war, while other lenders reduced their economic ties due to concerns over human rights abuses by the Rajapaksa government.⁵⁵

The Chinese government’s economic outreach, while initially popular, eventually led to backlash in both countries. In Sri Lanka, concerns over expensive and unprofitable projects, along with alarm over the country’s mounting debt, led to growing dissatisfaction with the country’s economic alignment with China.⁵⁶ In 2015, then President Rajapaksa was unseated in an electoral upset that was viewed as a referendum on the country’s ties with Beijing.⁵⁷ The winner of the election, Maithripala Sirisena, launched a review of major Chinese investments, placing several major projects on hold and seeking to renegotiate the country’s debt.⁵⁸ The Maldives saw a similar political backlash in 2018 with the election of current President Ibrahim Mohamed Solih, who represented an opposition that was critical of China’s investments in the country amid concerns of unsustainable debt growth.⁵⁹ After coming to power, President Solih also indicated that the Maldives may pull out of a free trade agreement with China, signed in 2017 but not yet ratified, in an attempt to renegotiate more favorable terms.⁶⁰

According to Ms. Custer, this backlash caused Beijing to change its approach in both countries. Newly mindful of public opinion, Beijing increased its public diplomacy in fields such as education, cultural exchange, and the media. At the same time, China continued its old tactics of funding politically advantageous projects, approving a \$100 million grant to construct a hospital in President Sirisena’s hometown.⁶¹ As a result, China has remained an important economic partner to Sri Lanka and the Maldives, albeit in different ways from before. In Sri Lanka, after the 2019 election of pro-Beijing candidate Gotabaya Rajapaksa—the brother of former President Mahinda Rajapaksa—China has become an important source of liquidity for the country, which has experienced a sharp fall in its foreign exchange reserves.⁶² In her testimony before the Commission, Ms. Custer described China’s role as one of an “emergency lender of first resort,” as the country initially sought help from China before multilateral lending institutions such as the IMF.⁶³ In the Maldives, Ms. Custer said, “the heyday of large-scale megaprojects may be over,” but the Maldivian government has nevertheless signed agreements for smaller Chinese-funded infrastructure projects.⁶⁴

The political landscape in both Sri Lanka and the Maldives continues to evolve, leaving the future of China’s engagement subject to change. Sri Lanka in particular has experienced political and economic turmoil in 2022 that has led to the resignation of former President Rajapaksa (for more on China’s role in Sri Lanka’s economic crisis, see textbox, “Chinese Lending to Sri Lanka Exacerbates Ongoing Financial Crisis,” later in this section). In the Maldives, an upcoming presidential election in 2023 could mark a larger role for China, as former President Yameen has been campaigning on an anti-India platform.⁶⁵ According to Ms. Custer, smaller countries such as the Maldives and Sri Lanka have more leverage during and shortly after national elections, when Beijing’s economic presence attracts greater scrutiny and a policy reorientation toward other

development partners becomes a possibility.⁶⁶ For similar reasons, these countries also have a stronger negotiating position with China when other development partners are willing to offer funding.

Beijing's Development Assistance Has Resulted in Limited Leverage

The Chinese government's changing tactics have enabled it to retain significant economic ties to Sri Lanka and the Maldives. In her testimony before the Commission, Ms. Custer argued that Beijing's clearest geopolitical success "has been in areas that are less costly foreign policy concessions for South Asian countries to cede but are highly prized wins for Beijing," such as abiding by its "One China" principle.⁶⁷ China's economic diplomacy in Sri Lanka and the Maldives has been correlated with these countries adopting positions favorable to Beijing or at least refraining from criticizing Beijing. This trend is particularly observable in Sri Lanka, whose voting record at the UN has closely mirrored that of China: between 2006 and 2014, Sri Lanka and China had a 99 percent similarity in their voting records at the UN General Assembly.⁶⁸ Sri Lanka has also signed several statements to the UN supporting some of China's most controversial policies, including letters in 2020 supporting Beijing's crackdowns in Hong Kong and Xinjiang.⁶⁹ While the Maldives did not sign the same letters, it has avoided signing statements condemning China's policies. One Solih Administration official interviewed for a 2019 AidData report on China's influence in South and Central Asia stated, "Given the financial hold China has on us, we would be reluctant to issue statements of direct condemnation to Beijing."⁷⁰

Beijing has had a more difficult time parlaying its economic influence into a durable security presence in the two countries. The Sri Lankan government's 2017 signature of a 99-year lease deal giving control of the country's Hambantota Port to a Chinese company in exchange for \$1.1 billion in debt relief has attracted controversy for being an example of Beijing's "debt trap diplomacy," referring to the idea that Beijing lends at predatory terms in order to receive greater leverage over the recipient country, including the possibility of seizing strategically significant infrastructure in the event of default. Claims of "debt trap diplomacy" have themselves drawn controversy from other observers, however, who argue that there is little evidence the Chinese government has sought to gain control over distressed assets and that Sri Lanka's debt issues are largely unrelated to China's lending.^{*71} In 2018, then Sri Lankan Prime Minister Ranil Wickremesinghe stated that the Sri Lankan government had informed the Chinese government that Hambantota could not be used for military purposes.⁷² A 2021 report by the U.S. Department of Defense found that China has likely considered Sri Lanka as one potential location for a PLA base or military logistics facility, though there is currently no evidence of Chinese plans to use Hambantota as a military station.⁷³ Nevertheless, recent activity in Hambantota has continued to raise concerns. In July 2022, the Sri Lankan gov-

*According to IMF figures, as of the end of 2020, Sri Lanka's external central government debt totaled \$32.7 billion, amounting to 40.6 percent of the country's gross domestic product (GDP). Of this, the largest amount was owed to private creditors (\$13.3 billion), followed by multilateral creditors (\$8.8 billion), non-China bilateral creditors (\$5.6 billion), and China (\$5 billion). International Monetary Fund, "Sri Lanka 2021 Article IV Consultation," March 2022, 51.

ernment approved a request from the Chinese ship *Yuan Wang 5*, a space satellite tracking ship, to dock in Hambantota.⁷⁴ The ship was originally scheduled to dock at Hambantota between August 11 and 17, before the Sri Lankan government asked it to defer arrival, reportedly due to concerns from the U.S. and Indian governments that the ship could be used to spy on Indian facilities.⁷⁵ On August 12, the Sri Lankan government granted permission for *Yuan Wang 5* to dock at Hambantota, saying the U.S. and Indian governments did not give “concrete reasons” for their opposition.⁷⁶

While the Chinese government has not established a permanent military presence in Sri Lanka, there have been limited military exchanges between the two countries. In 2019, the PLA Navy donated a decommissioned frigate to the Sri Lankan Navy, which Sri Lanka’s government said would join “patrol and surveillance missions in deep seas around Sri Lanka, providing maritime security, and help in search-and-rescue operations.”⁷⁷ China’s PLA National Defense University hosted more than 110 senior officers in the Sri Lankan armed forces for training between 2000 and 2020.⁷⁸ Moreover, in 2021 China’s embassy in Sri Lanka and the Sri Lankan military organized a series of events celebrating the 94th anniversary of the founding of the PLA.⁷⁹ A retired Sri Lankan general appeared at one event, where he gave prepared remarks that included CCP propaganda points such as “without the CCP, there would be no new China” and “the PLA is a Great Wall of Steel protecting China.”⁸⁰

Beijing has made less headway in establishing a security presence in the Maldives, whose government has stated it has no plans to allow foreign military bases in the country.⁸¹ In 2017, China and the Maldives finalized a deal to build a Joint Ocean Observation Station on Makunudhoo, an island in the northern Maldives close to Indian waters that could reportedly give China a view of key Indian Ocean shipping lanes.⁸² In June 2019, a Solih Administration official said the project, which had been agreed to under the previous Yameen Administration, was “not on the table” anymore.⁸³

Chinese Lending to Sri Lanka Exacerbates Ongoing Financial Crisis

Throughout 2022, Sri Lanka has experienced ongoing economic and political turmoil, including the resignation in July of the country’s former president and prime minister.⁸⁴ The country’s economic issues stem from a number of factors, including political corruption, the global economic slowdown caused by the novel coronavirus (COVID-19) pandemic, and a 2021 policy banning chemical fertilizers that led to declining agricultural production.⁸⁵ As a result of these problems, Sri Lanka’s foreign exchange reserves have fallen, leaving the country struggling to pay for essential imports and unable to pay its foreign debts.⁸⁶ In April 2022, the Sri Lankan government announced it would suspend

⁷⁴The Type-053 HRG (JIANGWEI) frigate that the PLA Navy donated is Sri Lanka’s only principal surface combatant. Sri Lanka’s navy also operates four offshore patrol vessels of similar size. Two are *Saryu*-class patrol vessels decommissioned from the Indian navy, one is a *Sukanya*-class patrol vessel also from the Indian navy, and the last is a Hamilton-class cutter transferred from the U.S. Coast Guard. International Institute for Strategic Studies, “The Military Balance 2022,” February 2022, 306.

Chinese Lending to Sri Lanka Exacerbates Ongoing Financial Crisis—Continued

foreign debt payments, the country's first default on foreign debt since gaining independence in 1948.⁸⁷

The country's ongoing economic turmoil has brought increased attention to the Chinese government's role in Sri Lanka's accumulation of debt and its reluctance to renegotiate the debt. Early in the COVID-19 pandemic, Sri Lankan officials reportedly considered requesting bailout funds from the IMF, which last provided lending to Sri Lanka in 2016.⁸⁸ Ultimately, rather than asking for IMF assistance, which generally requires economic and institutional reforms, the Sri Lankan government instead accepted \$3 billion in additional funding from the Chinese government throughout 2020 and 2021.⁸⁹ Sri Lanka's government also sought economic assistance from Beijing shortly before its default. In March 2022, Chinese Ambassador to Sri Lanka Qi Zhenhong announced China was considering a request from the Sri Lankan government for \$2.5 billion in loans and economic assistance.⁹⁰

As the Chinese government delayed responding to this request, and as the extent of Sri Lanka's crisis became clear, the Sri Lankan government finally sought help from the IMF. In March, Bloomberg reported that a Sri Lankan delegation was preparing to fly to Washington to seek \$4 billion in aid from the IMF.⁹¹ Following the Sri Lankan delegation's visit, China's ambassador to Sri Lanka expressed disappointment in the discussions and warned a debt restructuring "definitely [would] have an impact on future bilateral loans."⁹² In June 2022, then Prime Minister Wickremesinghe discussed the negotiations with U.S. Secretary of State Antony Blinken, who said the United States would support Sri Lanka and promote investment in the country after the IMF talks concluded.⁹³ That month, the country's central bank governor said Sri Lanka should have gone to the IMF earlier, saying, "If we started the debt resettlement process one year before, we could have managed the situation without this kind of suffering in the country."⁹⁴ Then Prime Minister Wickremesinghe also said that once Sri Lanka and the IMF reach a deal, the Sri Lankan government will seek to restructure its debts with Beijing.⁹⁵ In July 2022, U.S. Secretary of the Treasury Janet Yellen said it was "quite frustrating" that the Chinese government had not done more to contribute to global debt relief and expressed hope that China would work with Sri Lanka to restructure its debt.⁹⁶ In September 2022, the Sri Lankan government reached a staff-level agreement with the IMF for \$2.9 billion in loans over the next four years, though before the deal can be finalized Sri Lanka must reach debt restructuring agreements with its creditors, including China, India, and Japan.⁹⁷

*Then Prime Minister Wickremesinghe was sworn in as Sri Lankan president on July 21, 2022, following the resignation and exile of President Gotabaya Rajapaksa the week before. He had taken office as prime minister, his sixth time holding the office, in May 2022 following the resignation of Prime Minister and former President Mahinda Rajapaksa. Marwaan Macan-Markar, "Meet Wickremesinghe: Sri Lankan President Sworn In as Doubts Swirl," *Nikkei Asia*, July 21, 2022; Skandha Gunasekara and Mujib Mashal, "In Blow to Ruling Family, Sri Lanka's Prime Minister Quits in Face of Unrest," *New York Times*, May 9, 2022.

China's South Asia Strategy

China's government is trying to increase its economic and political influence in South Asia by developing bilateral ties in the region and actively shaping its multilateral groupings.⁹⁸ China's strategy to deepen its influence in South Asia includes two key lines of effort. First, it has imposed costs on India—investing in counterbalancing Pakistan and escalating tensions along China's and India's disputed borders—to occupy time and resources that India's foreign and defense establishments could otherwise direct to contest China's activities in South Asia. Second, it has leveraged capital investments as wedge issues between India and other South Asian countries, targeting its investment projects to undercut Indian investment while also attempting to shape the South Asian countries' political environments to become more favorable to Chinese interests.

China's strategy appears to overestimate its ability to influence South Asian countries while significantly underestimating South Asian states' agency. As a result, South Asian countries are able to play Chinese investors off of Indian or U.S. investors, extracting more funding while hedging against any changes to political realignment toward China or away from India.⁹⁹ Moreover, China's cost imposition approach to India has incurred significant blowback, with the Indian government placing greater restrictions on trade and investment* with China and increasing security cooperation with the United States and other Quad countries in response to China's provocations.¹⁰⁰

China's current strategy to undermine Indian influence while asserting its own strategic influence elsewhere in South Asia took shape in 2013. Vijay Gokhale, who served as India's foreign secretary from 2018 to 2020, observed a “perceptible shift in China's strategic outlook” around the same time General Secretary of the CCP Xi Jinping convened the first-ever Conference on Diplomatic Work with Peripheral Countries† in 2013.¹⁰¹ At this conference, Xi asserted that China's diplomatic strategy for its peripheral regions “must keep pace with the times and be more proactive,” indicating CCP leaders observed changes in China's foreign policy environment sufficient to require a new diplomatic strategy.¹⁰² At the time, Zhao Minghao, senior fellow at Fudan University's Institute of International Studies, noted that China's foreign policy toward South Asia has been an enduring “weak link” in its peripheral diplomacy.¹⁰³ Ambassador Gokhale assessed that China's new strategic outlook “elevated the periphery in the order of China's priorities” and signaled new objectives in South Asia, likely including an objective to “establish strategic control” along the China-India border and in nearby countries.¹⁰⁴

These new political objectives were parallel to similar developments in China's economic engagement in South Asia. In 2013, the

*According to a 2022 report in Indian media, foreign direct investment from China and Hong Kong into India averaged \$1.5 billion every year from fiscal year 2015 to fiscal year 2019. In fiscal year 2020, that amount fell to \$200 million dollars. During the first half of fiscal year 2021, foreign direct investment from China and Hong Kong into India totaled just \$36 million. India's fiscal year begins in April and extends through March 31 of the following year. Sai Manish, “Ladakh Fallout: How India Bled Chinese FDI,” *Rediff*, February 9, 2022.

†In Chinese foreign policy parlance, “peripheral countries” refer to countries sharing a border with China.

Chinese and Pakistani foreign ministers signed a joint statement committing to “the joint study and formulation of a long-term plan for the China-Pakistan Economic Corridor” to enhance China-Pakistan economic ties.¹⁰⁵ Tanvi Madan, director of the India Project at the Brookings Institution, testified to the Commission that the logic of China’s relationship with Pakistan remains “containment on the cheap” whereby empowering Pakistan complicates India’s security environment and decision-making.¹⁰⁶

China Drives Ties with India to Their Lowest Point in Decades

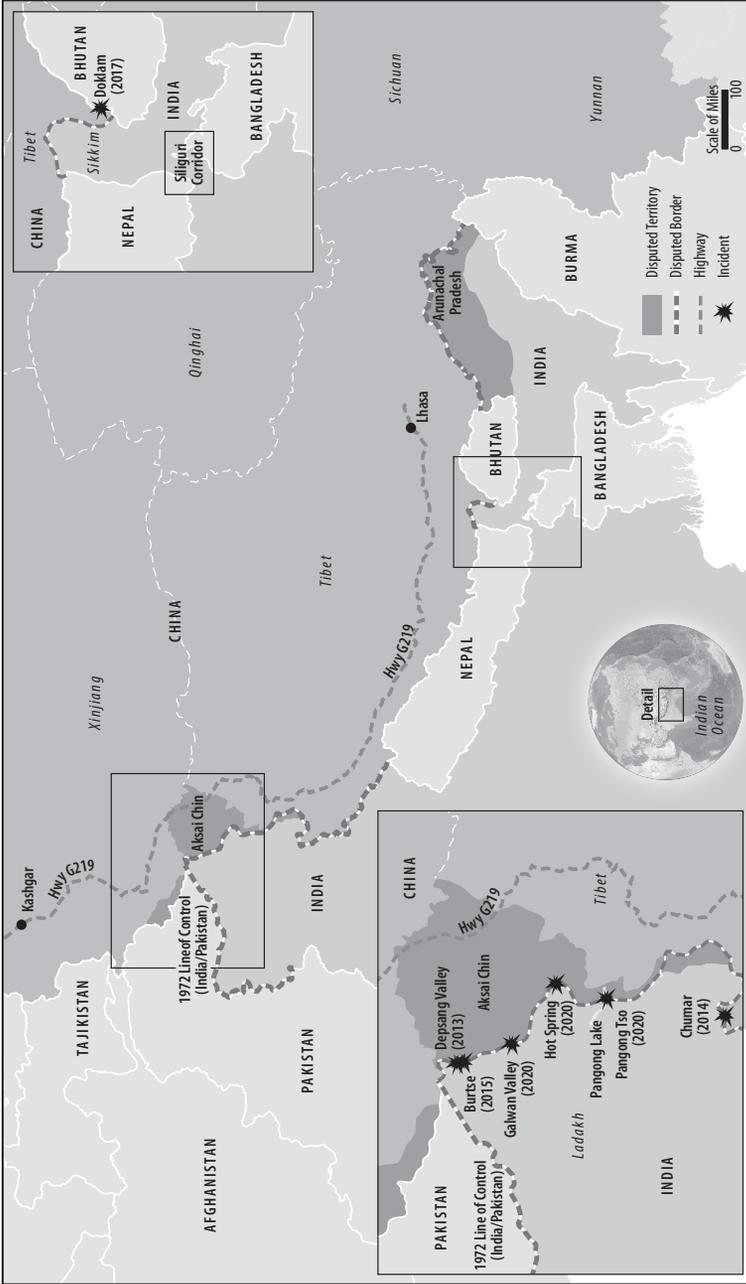
China’s approach to the region centers on neutralizing India as a rival power in South Asia. According to the Stimson Center’s China Program Director Yun Sun, “Beijing’s vision for Asia is strictly hierarchical—with China at the top—and does not consider India an equal.”¹⁰⁷ Jagannath Panda, head of the Stockholm Center for South Asian and Indo-Pacific Affairs at the Institute for Security and Development Policy, further describes how Xi has elevated South Asia’s importance in China’s foreign policy by pursuing “a more active and assertive policy” in the region.¹⁰⁸ This approach involves two steps. First, China’s diplomats engage directly with India to downplay any tensions while the PLA maintains protracted and calculated tensions over the two countries’ disputed boundaries. Dr. Panda testified before the Commission that Xi “has definitely tried to derail the boundary negotiation process” as part of a “calculated conflict” that requires constant diplomatic attention from India to manage, potentially distracting the country from other priorities in the region.¹⁰⁹ Second, China’s government attempts to create what Dr. Panda called “a strategic divide” between India and other South Asian countries such as Nepal, Bhutan, Bangladesh, and Sri Lanka by trying to create dependencies on Chinese investment while undercutting Indian investments in these countries.¹¹⁰ Dr. Madan testified that as a result of China’s provocative behavior in South Asia, particularly along the two countries’ disputed boundary, “China-India ties are at their lowest point in decades.”¹¹¹

China Increases Its Assertiveness along the Disputed Border with India

China has taken a more aggressive policy toward the border since 2013 and engaged in five significant border altercations between 2013 and 2020 (see Figure 2).¹¹² In April 2013, a PLA platoon entered the Depsang Valley in what India’s government considered an incursion of the Line of Actual Control (LAC)* only weeks before Chinese Premier Li Keqiang’s first official visit to India.¹¹³ The standoff was not resolved until the Indian government agreed to destroy several fortifications and bunkers near the site.¹¹⁴ In September 2014, Indian and PLA soldiers engaged in a standoff at Chumar in eastern Ladakh while Xi was on an official visit to India, requir-

*The LAC is the demarcation that separates Indian-controlled territory from Chinese-controlled territory on the two countries’ shared border. It is made up of three sectors: eastern, middle, and western. The two countries do not agree on many details of the LAC, including the exact length. Beijing and New Delhi have been unable to overcome their differences despite signing agreements and committing to various confidence-building measures. Sushant Singh, “Line of Actual Control: Where It Is Located, and Where India and China Differ,” *Indian Express*, June 1, 2020.

Figure 2: Disputed Areas and Military Incidents along the Sino-Indian Border (2013 to 2022)



Source: Ashley J. Tellis, "Hustling in the Himalayas: The Sino-Indian Border Confrontation," *Carnegie Endowment for International Peace*, June 4, 2020, 2; Will Green, conflict on the Sino-Indian Border: Background for Congress," *U.S.-China Economic and Security Review Commission*, July 2, 2020.

ing Prime Minister Modi to request Xi's intervention to facilitate disengagement on both sides.¹¹⁵ The following September, the PLA constructed a watch tower in the disputed Burtse region of northern Ladakh, which the Indo-Tibetan border police dismantled, leading to another standoff.¹¹⁶ Local commanders of the PLA and Indian Army met in a series of flag meetings* to resolve the situation.¹¹⁷ Tensions flared again in 2017, this time in the Sino-Indian-Bhutan border region, as PLA engineers attempted to extend a road from China toward Indian territory through an area controlled by Bhutan.¹¹⁸ This strategically advantageous location near the Doklam region would provide China a position near a narrow stretch of land called the Siliguri Corridor that connects India's northeastern states to the rest of India.¹¹⁹ China's road construction drew an Indian military response, leading to a 73-day armed standoff before both sides withdrew.¹²⁰ The 2020 China-India LAC crisis, which included multiple standoffs in eastern Ladakh at Pangong Tso, Hot Springs, and in the Galwan Valley also involved the first fatalities resulting from the boundary dispute in 45 years.¹²¹ The Galwan Valley offers a strategically desirable location from which to control Aksai Chin and prevent access to the region from Ladakh, India. Aksai Chin is the disputed region where Tibet, Kashmir, and Xinjiang all meet and through which China has built a highway to connect Tibet and Xinjiang.¹²²

China's aggressive behavior has improved its military position in the border dispute while severely straining its diplomatic relationship with India.¹²³ According to Andrew Small, senior transatlantic fellow at the German Marshall Fund, it is "clear that China has achieved certain tactical gains" but at the expense of Indian policymakers' trust.¹²⁴ For example, after withdrawing from the most recent standoff in 2020, the PLA shortly returned to the Galwan Valley and succeeded in shifting the agreed-upon buffer zone onto India's side of the LAC.¹²⁵ By constructing roads and bridges that facilitate troop movement, China has since strengthened its position along the LAC.¹²⁶ The PLA has built water wells, solar water heaters, and larger-capacity troop accommodations along the western sector to increase the army's capacity near Ladakh and improve its logistics and sustainment during harsh Himalayan winters.¹²⁷ China's actions on the border have not been an effective signal to India in warning against deeper security ties with the United States and allies.¹²⁸ Rather than intimidating India into softening its China policy, China's calculated escalation has pushed India toward closer cooperation with the United States and other Quad countries.¹²⁹

Chinese leaders have failed to keep the border tensions from having a negative impact on China's cooperation with India in economic, social and educational sectors. Indian officials reject China's attempt

*A flag meeting is a confidence-building exercise where commanders of both sides meet to resolve tensions at the local level. The LAC has five designated Border Meeting Points (BMPs) for these flag meetings to occur, and the last BMP was established just one month before the Burtse incident. After the Galwan crisis in 2020, China and India established regular talks at border meeting points between commanders at the corps level. The 16th round of talks took place at the Chushul BMP in Ladakh on July 17, 2022. Ajay Banerjee, "India, China Open 5th Border Meeting Point," *Tribune India*, August 1, 2015; *IndiaTV*, "India, China Hold Second Round of Corps Commander-Level Talks amid Heightened Tensions," June 22, 2020; China's Ministry of National Defense, *Joint Press Release of the 16th Round of China-India Corps Commander Level Meeting*, July 18, 2022.

to compartmentalize the border dispute by emphasizing the damage it does to the whole relationship.¹³⁰ Since the fatal clash in the Galwan Valley in 2020, Chinese diplomats have urged India's government to maintain positive China-India ties despite China's mounting pressure on the disputed border, and they have done so without offering compromise or concessions to reduce tensions.¹³¹ During an official visit in March 2022, Foreign Minister Wang told Indian External Minister Subrahmanyam Jaishankar that China and India, as "mature and rational major developing countries," should "not let the boundary issue define or even affect the overall development of bilateral relations."¹³² Senior Indian government officials, however, have maintained that the ongoing border crises culminating in the Galwan Valley conflict led to a watershed moment in China-India relations. In an April 2021 speech to Chinese and Indian scholars, India's then Ambassador to China Vikram Misri noted an "inadvisable" tendency among Chinese diplomats to "characterize it as just a minor issue," which he warned was "tantamount to running away from the problem."¹³³ In a joint press briefing following his March 2022 meeting with Foreign Minister Wang, External Minister Jaishankar asserted, "The frictions and tensions that arise from China's deployments since April 2020 cannot be reconciled with a normal relationship between two neighbors."¹³⁴ External Minister Jaishankar also emphasized the China-India border dispute's decisive role in bilateral relations, telling a reporter, "If you ask me, is our relationship normal today? My answer to you is no, it is not. And it cannot be normal, if the situation in the border areas is abnormal."¹³⁵

China's government has also taken ostensibly nonmilitary measures to shape China-India border's security environment. Since 2016, China's government has advanced a Plan for the Construction of Moderately Well-Off Villages in the Border Area of the Tibet Autonomous Region.¹³⁶ A July 2017 document issued by the Chinese-controlled Tibet Autonomous Regional government specified that the plan involved building 628 such villages near the contested border through 2020 in what was reportedly a "rural revitalization" project.¹³⁷ As of July 2022, the construction of all 628 villages had been completed, according to Tsewang Dorji, research fellow at the Tibet Policy Institute, a think tank based in India.¹³⁸ Satellite imagery from March 2022 has shown that at least one of these villages is now fully inhabited, with cars in nearly every driveway.*¹³⁹ This project included building "militarized village[s]" that position electronic warfare and air defense stations in Tibet, bordering India.¹⁴⁰ Independent analyst Suyash Desai notes that nearly all of these villages have access to broadband, optical fiber, or 4G communications infrastructure, capabilities that are unique for the area and that position the villages to be effective "border watch posts for the PLA."¹⁴¹ China's government has also taken coercive actions against other countries, such as expanding its village construction into neighboring Bhutan, which researcher Robert Barnett describes

*The Chinese government's construction of villages in Tibet is similar to its establishment of settlements in other border areas, including the western Xinjiang Province, where the PLA sent troops beginning in the 1950s. Unlike border settlements in other parts of territory claimed by the Chinese government, however, the residents of the Tibetan border villages are largely ethnic Tibetans. This is in part due to the high altitudes of the settlements. As a result, most ethnic Han settlers in Tibet live in urban areas. Robert Barnett, "China Is Using Tibetans as Agents of Empire in the Himalayas," *Foreign Policy*, July 28, 2021.

as part of an effort to “force the Bhutanese government to cede territory that China wants elsewhere in Bhutan to give Beijing a military advantage in its struggle with New Delhi.”¹⁴² According to a 2022 Reuters report, China continued and accelerated construction of these villages in regions it disputes with Bhutan over 2021, building as many as 200 structures across six locations between six and 17 miles from the location of the 2017 Doklam standoff.¹⁴³

China Tries to Drive a Wedge between India and Other South Asian Countries

China’s efforts to drive wedges between India and other South Asian countries have led countries to select among competing offers of development financing while maintaining relations with both China and India. India-China competition and U.S.-China competition in South Asia have enabled South Asian countries to play each side off the other to maximize their economic and political benefit.¹⁴⁴ This dynamic of playing India and China against one another cuts both ways. For example, in early 2022 Sri Lanka’s government received currency swaps and \$1.5 billion in financial assistance from India, likely as part of broader negotiations in which India’s government seeks to preserve its presence in Sri Lanka’s Colombo port as a counterweight to Chinese investment in Sri Lanka’s Hambantota port.¹⁴⁵ Conversely, according to fieldwork conducted for a Carnegie Endowment for International Peace study on China’s influence in South Asia, Chinese companies in Nepal often undermine Indian projects by offering larger versions of the same projects at lower cost and with shorter production timelines.¹⁴⁶ South Asian countries also continue to consider proposals from countries other than China and India. In 2020, the government of Bangladesh canceled the Sonadia deep sea port over the terms of a Chinese loan in favor of another deep sea port financed by Japan.¹⁴⁷

Nepal’s* deepening ties to China illustrate how Beijing’s competitive funding commitments could lead South Asian states to reduce their cooperation with India or India’s partners in the region. In March 2022, Foreign Minister Wang visited Nepal one month after the country had ratified a \$500 million grant associated with the Millennium Challenge Corporation Compact in 2022.¹⁴⁸ During Foreign Minister Wang’s visit, Nepali Prime Minister Sher Bahadur Deuba requested more BRI grant funding from China.¹⁴⁹ After the visit, Nepal’s government also declined to participate in the U.S. State Partnership Program, which facilitates military-to-military engagement with the U.S. National Guard. Nepal’s government had previously asked to participate in the program in 2015 and 2017.¹⁵⁰ Chinese Foreign Ministry spokesperson Wang Wenbin lauded Ne-

*Nepal is a federal parliamentary republic with multiple competing parties, many of which are communist. The Chinese Communist Party has been expanding its ties to the communist parties of Nepal and encouraging them to unite. In 2018 the Communist Party of Nepal—Maoist-Centre and the Communist Party of Nepal—United Marxist Leninist merged to form the Nepal Communist Party (NCP) until its split in 2020. The current ruling party, Nepali Congress (NC), came to power in 2021 and is wary of Beijing’s engagement with the communist parties. The visit to Nepal in July 2022 by Liu Jianchao, head of the CCP’s International Liaison Department, may mark a shift in Beijing’s strategy from seeking a united communist party to hedging its bets by engaging the NC. Central Intelligence Agency, “The World Factbook: Nepal,” September 14, 2022; Aneka Rebecca Rajbhandari and Raunab Singh Khatri, “One Party, Two Countries?” *Nepali Times*, June 28, 2022; Santosh Sharma Poudel, “What Lies behind Chinese Delegation’s Visit to Nepal,” *Diplomat*, July 13, 2022.

pal's decision to sidestep the State Partnership Program.¹⁵¹ In August 2022, during a visit from Nepalese Foreign Minister Narayan Khadka to China, Chinese Foreign Minister Wang announced a set of support measures for Nepal, including pledges to provide \$118 million (renminbi [RMB] 790.6 million) in aid, fund a feasibility study for a Nepal-China railway, and cancel tariffs for 98 percent of exports from Nepal to China.*¹⁵² Nepalese economists have expressed concerns that BRI projects could undermine Nepal's sovereignty and lead to unsustainable debt growth.¹⁵³

Competition with China Drives Closer U.S.-India Cooperation

Concurrent U.S. and Indian competition with China in South Asia has deepened ties between India and the United States and its allies as well as ties between China and Pakistan.¹⁵⁴ Since 2020, both the United States and India have expanded bilateral intelligence-sharing agreements and maintained robust participation in the Quad grouping.¹⁵⁵ China's government has similarly cultivated a closer relationship with Pakistan in hopes the China-Pakistan axis will act as a counterweight to U.S.-India cooperation.¹⁵⁶ In a May 2021 interview, Pakistan's then Foreign Minister Shah Mahmood Qureshi suggested any decision on plans for a PLA Navy base in Pakistan "depends on how the Quad turns out."¹⁵⁷ Highlighting the importance of the relationship to Chinese leaders, in March 2022 Foreign Minister Wang described the China-Pakistan relationship as "unbreakable and rock solid," further asserting that any interference in that relationship would be "a red line no one can cross."¹⁵⁸

China's efforts to undermine Indian influence in South Asia have softened Indian reluctance to increase security cooperation with the United States. As Indian leaders grew more concerned about China's assertions of power in South Asia, the Indian and U.S. governments became increasingly aligned and more effective at managing differences, including those regarding China.¹⁵⁹ (For more on the China-India relationship and Russia's role in it, see Chapter 3, Section 1: "Year in Review: Security and Foreign Affairs.") Ms. Baruah assessed that India and the United States are now able to coordinate security efforts in the Indian Ocean, though India's government would likely not have been ready to do so five years ago.¹⁶⁰

China's antagonistic approach to India has driven closer security cooperation between India and the other Quad countries. India had previously been inconsistent in its support for furthering the Quad, retaining its nonaligned status by hedging against too much security cooperation with the other Quad countries.¹⁶¹ In testimony before the Commission, Dr. Panda argued that "there has been a significant change about India's position and undertaking towards the Quad" as a result of China's aggressive behavior in the region.¹⁶² Dr. Madan noted that in recent years, India's government has deepened Quad security cooperation. In 2020 and 2021, India included Australia in the annual Malabar naval exercise, bringing all four Quad countries into this Indian exercise, which has included maritime forces from India and the United States for decades and Japan since 2014.¹⁶³ Notably, Dr. Panda and Ms. Baruah both testified before the Com-

*Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB.

mission that they believe India's government may decide to support Taiwan against a PLA invasion depending on the intensity of the China-India border dispute and whether Taiwan's government will similarly support India in that dispute.¹⁶⁴

Few Prospects for U.S.-China Cooperation in South Asia

Prospects for U.S.-China cooperation in South Asia have significantly diminished as China's approach to South Asia has become more assertive. According to Dr. Madan's testimony, U.S. officials considered China's involvement in the February 2019 India-Pakistan crisis to be unhelpful despite successful U.S.-China cooperative efforts to manage tensions following the Kargil conflict in 1999 and after the Mumbai terrorist attacks in 2008.¹⁶⁵ U.S. and Chinese interests regarding the India-Pakistan relationship have diverged since China's government began cultivating stronger ties with Pakistan as a means of geopolitical competition with India, reducing the Chinese government's incentive to mitigate India-Pakistan tensions.¹⁶⁶ The Chinese government's interest in intensifying India-Pakistan tensions, as it continues to inflame China-India border tensions, conflicts with the United States' strategic interests of a stable South Asia.

India Attempts to Reduce Economic Reliance on China

The border clash and economic downturn in 2020 galvanized long-standing concerns among Indian policymakers about economic dependency on China, prompting restrictions on Chinese investment and trade as well as measures to support domestic industry. These actions have had some success in reducing reliance on Chinese imports, particularly in critical sectors like telecommunications. Continued trade reliance with China has contributed to a marked shift in New Delhi's openness to trade agreements, with the Modi Administration actively pursuing closer trade ties around the world.

Indian Restrictions on Chinese Trade and Investment Accelerate Starting in 2020

Indian policymakers have long been concerned over the nature of the country's economic relations with China, which they view as largely one-sided in favor of China. A 2016 analysis of India-China economic relations since the late 1980s in the German *Journal of Current Chinese Affairs* identified unequal trade as a longstanding issue in the bilateral relationship, finding that "perennial and worsening trade deficits deeply concern New Delhi as these are perceived to reflect unequal terms of trade between the two countries as China primarily exports manufactured goods to India while India's exports to China are largely composed of raw materials."¹⁶⁷ At an October 2019 summit between General Secretary Xi and President Modi, the two leaders agreed to launch a High Level Economic and Trade Dialogue, under which officials from both countries would meet regularly to discuss ways to boost bilateral trade and investment flows, though no such meeting has yet occurred.¹⁶⁸ India's November 2019 withdrawal from the Regional Comprehensive Economic Partnership—the world's largest economic regional trade agreement—was due in large part to concerns that the agreement did not adequately

address potential surges in imports, particularly from China. (For more on the Regional Comprehensive Economic Partnership, see Chapter 2, Section 2, “Challenging China’s Trade Practices.”)¹⁶⁹

Since 2020, India’s concerns over excessive economic reliance on China have grown, leading to a series of new policies aimed at reducing China’s presence in and leverage over India’s economy. At the beginning of the COVID-19 pandemic in 2020, the Indian government enacted a policy requiring government approval for investment from countries sharing a land border with India.* The Indian government explicitly framed this policy as a response to the pandemic, introducing it as a measure to stop “opportunistic takeovers/acquisitions of Indian companies due to the current COVID-19 pandemic.”¹⁷⁰ According to Indian media reports, as of June 2022 the Indian government had received 382 proposals for Chinese investment since enacting the investment approval requirements, of which it approved 80.†

More recently, the Indian government announced a series of investigations into Chinese telecommunications companies operating in India for alleged legal violations, including tax evasion and customs evasion.¹⁷¹ The companies under investigation by the Indian government include Xiaomi, Vivo, Oppo, and Huawei, which are among the largest smartphone vendors in India.‡¹⁷² As part of the investigations, the Indian government raided the offices of all four companies and seized more than \$758.9 million (60 billion Indian rupees) in funds from Xiaomi and Vivo connected with alleged illegal remittances.§¹⁷³ In response to the investigations, Xiaomi said the outcomes could “adversely affect its operating results or cash flows,” though the company did not quantify the potential financial effects.¹⁷⁴

The 2020 Galwan Valley border conflict amplified existing concerns over ties with China and led to further economic restrictions against China. The most notable action has been banning Chinese phone and mobile device apps, including TikTok, WeChat, and Weibo. In June 2020, following the border clashes, the Indian government initially banned 59 Chinese apps and has since expanded the prohibition to a total of 321 apps.¹⁷⁵ In July 2020, shortly after the bans were announced, the Chinese business magazine *Caixin* reported that sources close to the senior management of ByteDance, the parent company of TikTok, expected \$6 billion in losses as a result of the bans.¶¹⁷⁶ The Indian government did not explicitly

*Although the announcement did not specifically mention China, it was widely understood to be aimed primarily at Chinese investment. Before the April 2020 announcement, similar restrictions already applied to investments from Pakistan and Bangladesh. The other countries affected by the April 2020 announcement were Bhutan, Burma, Afghanistan, and Nepal. Aditya Kalra and Aftab Ahmed, “India Toughens Rules on Investments from Neighbours, Seen Aimed at China,” *Reuters*, April 18, 2020.

†The report did not specify the value of the proposed investments. The report also did not specify how many of the remaining 382 proposals had been rejected or were awaiting decision from the Indian government. Pavan Burugula, “Nod for 80 FDI Proposals from China Entities,” *Economic Times*, July 6, 2022.

‡Xiaomi was the largest smartphone seller in India in the first quarter of 2022, while Vivo and Xiaomi were the fourth and fifth largest, respectively. Du Zhihang and Ding Yi, “Vivo Says It’s Cooperating with Indian Authorities after Raids,” *Caixin*, July 6, 2022.

§Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 78,970 Indian rupees.

¶Despite the magnitude of the expected losses, India did not account for one of ByteDance’s top ten markets by revenue share as of 2020. An internal ByteDance memo reportedly showed that the company’s revenue jumped to \$34.3 billion in 2020, a 111 percent year-on-year increase.

tie the bans to the border clashes; in a statement, India's Ministry of Electronics and Information Technology said it enacted the bans after receiving "many complaints from various sources" about the apps "stealing and surreptitiously transmitting users' data in an unauthorized manner."¹⁷⁷ Despite a broad user base in India for the most popular apps, public opinion supported retaliation: in an online poll conducted by an Indian media company shortly after the clashes, 89 percent of respondents were in favor of the ban, with 87 percent agreeing that it should be extended to other apps.¹⁷⁸

Some of the Indian government's policies have sought to bolster the position of domestic Indian companies that have struggled against Chinese competitors. In August 2022, Bloomberg reported that Indian authorities were considering restrictions that would prevent Chinese companies from selling smartphones under \$150 (12,000 Indian rupees).¹⁷⁹ The restriction is reportedly due to concerns over Chinese companies' domination of this segment of the smartphone market, which accounted for approximately one-third of India's smartphone sales in the first quarter of 2022.¹⁸⁰ Chinese smartphone makers currently account for nearly 70 percent of India's smartphone market and up to 80 percent of smartphones sold for under \$150.¹⁸¹ Indian firms, by contrast, currently account for less than 1 percent of smartphone sales in India, down from approximately 35 percent at their peak in 2015.¹⁸² Later in August, Rajeiv Chandrasekhar, India's Minister of State for Electronics and Information Technology, denied that the government had any plans to ban Chinese phones but also expressed support for the development of domestic Indian smartphone brands.¹⁸³

Indian Government Enacts Domestic Manufacturing Initiatives

In addition to levying economic restrictions against Chinese firms, the Indian government has sought to bolster its economic self-sufficiency through policies aimed at developing India's manufacturing capabilities. In March 2020, the Indian government introduced a set of production-linked incentive schemes providing subsidies to firms in select industries that manufacture in India.*¹⁸⁴ In February 2021, the Indian government announced it would commit approximately \$25 billion (1.97 trillion Indian rupees) to the schemes over the next five years.¹⁸⁵ The production-linked incentive schemes currently apply to 14 sectors, including pharmaceuticals, medical devices,

Revenue growth slowed to 70 percent in 2021 for a total of \$58 billion, though this slowdown was largely attributed to the Chinese government's crackdown against tech companies. Coco Feng, "TikTok Owner ByteDance Said to Post Slower Revenue Growth in 2021 amid China's Tech Crackdown," *South China Morning Post*, January 21, 2022; BBC, "TikTok Owner ByteDance Sees Its Earnings Double in 2020," June 18, 2021; Manai and Mudit Kapoor, "How Much Money Does TikTok Make in India?" *Business Today*, June 30, 2020.

*The Indian government has had a long history of heavy subsidization and highly protectionist trade policies. While the Indian government removed many of its restrictions as part of an IMF bailout in the early 1990s, India's government continues to intervene in many aspects of the economy. A 2020 WTO trade policy review of India found that "to support both domestic production and exports, India continues to provide a number of incentives, in the form of direct subsidies and price support schemes, tariff concessions or exemptions, or preferential rates of interest." Tariffs in India remain higher than almost any other country. According to the 2022 WTO *World Tariff Profiles*, India's average most-favored nation tariff rate is 18.3 percent, lower than tariffs in only Iran and Sudan. World Trade Organization, "World Tariff Profiles 2022," 10–13; World Trade Organization, "Trade Policy Review: India," November 25, 2020, 10; Szu Ping Chan, "Why India Is One of World's Most Protectionist Countries," *BBC*, April 11, 2019.

textiles, and automobiles.* According to Akhil Bery, former director of South Asia initiatives at the Asia Society Policy Institute, these schemes have proven successful, with companies such as Nokia and Foxconn increasing their manufacturing in India to take advantage of the incentives.¹⁸⁶ In some sectors, however, the production-linked incentive schemes have fallen short of their goals. In March, Indian media reported that of 14 companies eligible under the plan for the information technology (IT) hardware industry, only two or three were likely to meet their first-year production targets.¹⁸⁷

India Diversifies away from China to Other Trade Partners

India has also shown willingness to engage with other key trade partners in its efforts to diversify away from China. In February 2022, India and the United Arab Emirates signed a trade agreement, and in April 2022—only six months after negotiations began—India and Australia signed a trade agreement.¹⁸⁸ Negotiations are also underway for agreements with Canada, Israel, the United Kingdom, the EU, and the Gulf Cooperation Council.[†]¹⁸⁹ Additionally, in November 2021 India and the United States revived the Trade Policy Forum, aimed at enhancing bilateral economic ties.¹⁹⁰ Mr. Bery testified that while these trade deals are limited in scope, they nevertheless “mark an important shift in India’s mindset” away from earlier “pro-investment but anti-trade” policies under the Modi Administration.¹⁹¹

Despite Efforts, India Remains Heavily Reliant on China

In the first half of 2022, India’s bilateral trade with China grew 16.7 percent year-on-year to a record \$67.1 billion, with the trade deficit growing 70.7 percent to \$48 billion.¹⁹² Cheap Chinese inputs and lack of alternative capital sources make it difficult for India to decouple. Chinese suppliers offer competitive prices for many of India’s most important imports, in comparison with both Indian prices and prices of other potential suppliers. For example, in 2018 Chinese prices of telephone set parts—India’s most imported item from China that year—were 43 percent less expensive compared with the top five other global suppliers.¹⁹³ Indian government officials have eased restrictions on Chinese imports in certain instances due to cost concerns. For instance, in July 2022 the Indian paper the *Economic Times* reported that Indian government-owned enterprises involved in renewable energy projects would soon be able to import components from China, in an exemption from restrictions enacted in 2020.¹⁹⁴

The decrease of Chinese investment into India since 2020 has also reportedly caused the Indian government to reconsider the extent

*The full list consists of the following sectors, announced in three tranches. The original list, announced in March 2020, consisted of (1) key starting materials/drug intermediates and active pharmaceutical ingredients; (2) large-scale electronics; and (3) medical devices. In November 2020, the list was expanded to include (4) electronic/technology products, (5) pharmaceuticals; (6) telecom and networking products; (7) food products; (8) white goods (air conditioners and LEDs); (9) high-efficiency solar photovoltaic modules; (10) automobiles and auto components; (11) advanced chemistry cell batteries; (12) textile products; and (13) specialty steel. In September 2021, the list was further expanded to include (14) drones and drone components. Invest India, “Production Linked Incentive (PLI) Schemes in India.”

†The Gulf Cooperation Council is a political and economic alliance consisting of the United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar, and Kuwait. Secretariat General of the Gulf Cooperation Council, “Member States.”

of its investment restrictions. In January 2022, Bloomberg reported that the additional review step on Chinese investments had created a bottleneck of approximately \$6 billion in proposed funding awaiting review.¹⁹⁵ As a result, Indian government officials have reportedly considered exempting potential investments with ownership interest of less than 10 percent.¹⁹⁶ As of September 2022, there is no update on the proposed revision. According to Ananth Krishnan, a journalist and author of the *India China Newsletter*, “Slowly, Chinese investments are coming back, [though] these are individual deals, and it’s still a trickle and nowhere near the flood of the 2014–2019 period.”¹⁹⁷

China’s Significant Investment in Pakistan

China-Pakistan relations have traditionally been defined by the two countries’ overlapping security concerns, in particular their mutual interest in containing India’s power and influence in South Asia.¹⁹⁸ Security relations between the two countries remain robust, with ongoing cooperation including supply of military hardware, nuclear development, and military-to-military exchanges.¹⁹⁹ In recent years, China and Pakistan have also deepened their bilateral economic relationship. These closer economic ties have been most visible through CPEC, China’s massive investment initiative in Pakistan’s economy announced in 2015. As a central part of BRI, CPEC has been referred to as BRI’s “most ambitious undertaking in any single country.”²⁰⁰

By any account, CPEC represents a significant expansion of China’s investment in Pakistan. A RAND Corporation report on China’s foreign aid found that between 2003 and 2011—before the announcement of CPEC—China provided approximately \$4 billion of foreign aid and government investment in Pakistan.²⁰¹ By contrast, a 2020 report by Andrew Small, senior transatlantic fellow at the German Marshall Fund, found that China’s investments since the establishment of CPEC totaled approximately \$25 billion.²⁰² Pakistani and Chinese politicians continue to proclaim their support for CPEC and have even proposed extending the initiative to Afghanistan.²⁰³ There are, however, ongoing questions about the initiative’s viability, particularly given Pakistan’s deteriorating economic and security conditions. Additionally, recent flooding across Pakistan (see textbox below) has called into question the future of many CPEC projects. In August 2022 Pakistani Foreign Minister Bilawal Bhutto-Zardari said that the floods would have dire effects on Pakistan’s economy and would affect infrastructure projects, including CPEC.²⁰⁴

Natural Disasters in Pakistan Create Need for Financial Support

Throughout the summer of 2022, large sections of Pakistan suffered from unprecedented floods that have killed more than 1,200 people and have had devastating humanitarian and economic consequences across the country. More than 33 million people in Pakistan have been affected, with at least 6.4 million in dire need of humanitarian aid, according to a World Health Organization representative in Pakistan.²⁰⁵ The Pakistani government cut its

Natural Disasters in Pakistan Create Need for Financial Support—*Continued*

economic growth forecast from 5 percent to 2.3 percent as floods have affected millions of acres of arable land and caused factories to suspend operations.²⁰⁶ In early September 2022, Pakistani Prime Minister Shehbaz Sharif estimated that the damage caused to houses, infrastructure, and farms amounted to more than \$10 billion.²⁰⁷

The damage caused by the floods has led to an acute need for disaster relief funds, and has increased scrutiny on China's role in supporting Pakistan. The Chinese government has pledged \$59.7 million (RMB 400 million) in relief supplies to Pakistan, though it is unclear how much of the pledged support has been delivered.²⁰⁸ Husain Haqqani, Pakistan's former ambassador to the United States, said that "China is not rising to the occasion" and compared China's disaster relief efforts unfavorably to those of the United States, which he said is generally more capable at rapid response.²⁰⁹ According to the U.S. Agency for International Development, since August 2022 the U.S. government has provided more than \$50 million in disaster relief to Pakistan and has deployed a Disaster Assistance Response Team to lead U.S. government humanitarian response efforts.²¹⁰

CPEC Motivated by Security and Economic Concerns

From Beijing's perspective, CPEC offers a mixture of both strategic and economic opportunities. The construction of much-needed infrastructure in Pakistan would enable it to continue serving as a counterweight to India even as India's economic strength grows, a longstanding motivation behind Beijing's relations with Islamabad. CPEC offers additional benefits for China, including a potential land route to the Indian Ocean, allowing China to avoid what former General Secretary Hu referred to as the "Malacca Dilemma"—China's dependence on the Strait of Malacca as a shipping thoroughfare for oil and other natural resources coming from the Middle East.²¹¹ (For more on vulnerabilities in China's access to oil, see "China's Oil Insecurity and the Shadow of Conflict" in Chapter 2, Section 3, "China's Energy Plans and Practices.") The large-scale infrastructure projects also promise construction contracts for Chinese firms—an important part of Beijing's "Going Out" strategy, which seeks new markets for Chinese industries suffering from domestic overcapacity.²¹² More broadly, CPEC provides an opportunity to showcase the development potential of China's BRI, which was announced two years prior to CPEC's 2015 launch. At its inception, CPEC was billed as BRI's flagship project, a term Chinese state media still uses to describe the undertaking.²¹³

From the perspective of Pakistani policymakers, Chinese investment has been crucial to helping Pakistan address critical shortfalls in its economy. As Muhammad Tayyab Safdar, postdoctoral researcher at the University of Virginia, testified before the Commission, "CPEC offers a rare opportunity to address some of the country's long-standing bottlenecks to sustained economic growth, not least

its chronic energy deficits, poor transportation infrastructure and connectivity, and weak industrial development.”²¹⁴ In particular, Pakistani politicians viewed Chinese investment in the power sector as “perhaps the only opportunity to address chronic power shortages within a short period.”²¹⁵ Pakistan’s government viewed improving the country’s power supply not only as an issue of internal security but also as an opportunity to signal to foreign investors “that Pakistan was open to business and therefore spur economic growth.”²¹⁶ The imperative for economic development is particularly strong for Balochistan Province, a sparsely populated, economically underdeveloped region with separatist movements that have engaged in violent attacks around Pakistan.²¹⁷ Some of the infrastructure projects also have broader strategic importance for Pakistan. The Port of Gwadar, for instance, not only seeks to address domestic development and security objectives in Balochistan but also provides Pakistan with an alternative to its ports in Karachi and Qasim, which could be blockaded in the event of a conflict with India.²¹⁸

Infrastructure Is a Key Pillar of CPEC

Investment in large-scale infrastructure is a key focus of CPEC projects. Very little of this investment in CPEC has gone toward establishing physical connectivity between China and Pakistan, however. According to Dr. Small, “Despite the use of the term ‘corridor,’ [CPEC] was never intended as a serious cross-border artery, and there are still no plans for railways, pipelines, or even large-scale road traffic” between the two countries.²¹⁹ Rather, CPEC infrastructure funding has focused on projects in Pakistan’s energy sector.²²⁰

Much of the early CPEC investment in Pakistan’s energy sector has gone toward building coal-fired power plants. Several studies of CPEC investments have noted that the emphasis on coal was driven by Pakistani politicians, who viewed coal plants as the most effective way to tackle energy shortages.²²¹ By the 2010s, most foreign and multilateral lenders had grown hesitant to finance coal-powered plants, leaving China as one of the only viable financing partners.²²² In order to secure Chinese financing, Pakistani politicians offered special terms that mitigated risk to Chinese lenders, including generous payments to power generation companies, guaranteeing a high return on equity.²²³ In 2021, General Secretary Xi claimed in a speech at the UN General Assembly that China would not continue to build new coal-powered plants abroad, bringing the future of coal projects in CPEC into question.*²²⁴ In February 2022, however, media reported that the coal-fired Gwadar Power Plant was proceeding, despite the fact that construction on the plant had not yet begun.²²⁵

CPEC-funded power projects have contributed significantly to meeting Pakistan’s energy needs, though the country still faces serious problems with a weak grid and unreliable power supply. In 2013, when negotiations for CPEC began, installed generation capacity totaled 23,725 megawatts, with an energy deficit of 5,000

* Observers have noted that General Secretary Xi’s pledge was vague in many respects. According to Li Shuo, a policy advisor at Greenpeace China, it was unclear whether Xi’s pledge applied to the nonstate sector or to projects that have already been proposed, been approved, or begun construction. Additionally, Mr. Li said it was unclear whether the moratorium applied to the financing of projects in addition to construction. Azi Paybarah, “China Says It Won’t Build New Coal Plants Abroad. What Does That Mean?” *New York Times*, September 22, 2021.

megawatts.²²⁶ As of 2020, total generation capacity in the country had increased to 38,719 megawatts.²²⁷ According to Dr. Safdar, CPEC power plants accounted for nearly one-third of Pakistan's power generation that year.²²⁸ Chinese-invested power plants have contributed to a growth in generation capacity that, by some estimates, may exceed Pakistan's immediate needs. In 2021, a Pakistani government official estimated that by 2023, Pakistan could have as much as 50 percent too much electricity-generating capacity.²²⁹ A 2021 report by Pakistan's National Electric Power Regulatory Authority also found that underutilization of efficient power plants was a problem in the country's electricity system and "one of the major causes of increase in consumer-end price of electricity."²³⁰ The report also found, however, that underutilization occurred for reasons beyond lack of demand, including nonavailability of fuel and poor governance.²³¹ In other words, underutilization of capacity does not reflect generating capacity in excess of Pakistan's energy needs. Moreover, according to Dr. Safdar, chronic underinvestment in Pakistan's energy grid has meant that despite growth in generating capacity, Pakistan continues to experience unreliability in its power supply.²³²

While energy infrastructure has been called "the most effectively executed part of CPEC," it has also suffered from the problem of circular debt, which occurs when Pakistan's state-owned distribution companies fail to collect sufficient revenues, leaving them unable to pay Pakistan's Central Power Purchasing Agency. As a result, the Central Power Purchasing Agency is unable to pay other power companies—including Chinese-owned companies—which are in turn unable to pay their fuel suppliers.²³³ This problem has become particularly acute amid rising commodities prices and a depreciation in the Pakistani rupee.²³⁴ Throughout summer 2022, Pakistan experienced nationwide blackouts, due in part to Chinese-run power companies in the country shutting down power plants amid \$1.5 billion (300 billion Pakistani rupees) in unpaid fees.*²³⁵

Challenges with Gwadar Port

One of CPEC's most notable infrastructure projects is Gwadar Port, which has been described as the flagship project of CPEC.²³⁶ Despite Gwadar Port's close association with CPEC, China's involvement in the port significantly predates the CPEC and BRI initiatives. The Gwadar project, located in Balochistan Province, was initially proposed in 2000 by Pakistan's then President Pervez Musharraf during his first visit to China, and it was constructed by a Chinese firm between 2002 and 2006.²³⁷ In 2007, the Port of Singapore Authority took over management after winning a bid for a 40-year contract to operate the facility.²³⁸ Control of the port returned to China in 2013, when the Singapore Port Authority exited the contract early, reportedly over a dispute with the Pakistani government concerning land rights in Gwadar.²³⁹ Beyond the port itself, planned CPEC investments in Gwadar

*Unless noted otherwise, this Report uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 204.03 Pakistani rupees.

Challenges with Gwadar Port—Continued

have grown to include projects such as an international airport, water desalination plants, and a hospital.²⁴⁰

Theoretically, a port in Gwadar could offer economic upsides for both China and Pakistan, though under current conditions it is not commercially viable. For Pakistan, a port in Gwadar—if connected to adequate overland transportation infrastructure—could facilitate closer trade linkages with Central Asia, Afghanistan, and Iran. According to Dr. Safdar, however, the success of such a venture depends on improved security in Afghanistan.²⁴¹ Developing a port in Gwadar could also give China overland access to the Indian Ocean, theoretically reducing China's reliance on the Strait of Malacca, through which more than 70 percent of China's petroleum and liquefied natural gas imports currently transit.²⁴² While the costs of transporting goods and energy supplies through Gwadar overland to China are currently prohibitively high, Dr. Safdar noted in his testimony before the Commission that technological improvements and continued geopolitical tensions with India could make Gwadar Port a viable alternative in the future.²⁴³

A port in Gwadar also has strategic significance for both countries. As mentioned above, Gwadar Port offers a hedging strategy for Pakistan, as the country's largest ports—in Karachi and Qasim—are closer to India and vulnerable to a blockade by the Indian Navy.*²⁴⁴ According to a 2020 report by the U.S. Naval War College's China Maritime Study Institute, Chinese analysts have highlighted the port in Gwadar as a top choice for establishing a strategic presence overseas, and the port's facilities are capable of supporting the PLA Navy's largest vessels.²⁴⁵ According to Dr. Small, "There is no need to dig out secret documents and hidden plans when vast arms sales, naval cooperation, and joint weapons systems development all occur openly, with no need of any 'cover' from CPEC."²⁴⁶

Gwadar has so far failed to live up to its promised economic potential, with only minimal shipping and industrial activity at the port.²⁴⁷ In late 2021, large-scale protests broke out across Gwadar, blaming China for a shortage of water and electricity in the city and demanding an end to illegal fishing by Chinese vessels.²⁴⁸ In May 2022, Pakistan's media reported that only three CPEC projects in Gwadar had been completed, while 12 additional projects remain unrealized, having fallen behind schedule.²⁴⁹

Technology Infrastructure

China has also invested in the construction of technological infrastructure projects across Pakistan. According to Dr. Small, while China's technological investment in Pakistan is currently small

*During the Indo-Pakistani War of 1971, the Indian Navy accomplished a blockade of the Port of Karachi. The Port of Qasim had not yet been constructed but is considered functionally part of the Port of Karachi given its proximity. Azhar Ahmad, "Gwadar: Potential and Prospects," Seminar on Gwadar, Pak Institute for Conflict and Security Studies and Federation of Pakistan Chambers of Commerce & Industry, Islamabad, Pakistan, January 29, 2015, 12.

compared to other parts of CPEC, it “may ultimately prove to have a more lasting impact, as Beijing takes on an ever-more dominant role in the country’s digital architecture.”²⁵⁰ China’s technological infrastructure investment includes “safe city” projects, which involve the installation of digital monitoring equipment and are billed as crime-fighting initiatives.²⁵¹ For example, according to a 2019 study by the Lowy Institute, the Lahore “safe city” project built by Huawei uses “some 8000 high-grade CCTV cameras, 4G wireless connectivity, facial recognition, automated vehicle number plate recognition, multiple tracking options, integrated communication platforms, geographic information systems, and specialized apps for use by security personnel.”²⁵²

The proliferation of “safe city” projects has increased concerns that China is exporting its authoritarian “police state” governance model to other countries.²⁵³ It has also led to claims that Chinese companies are illicitly monitoring information collected inside Pakistan as part of these projects. In August 2021, a U.S. contractor that worked on a “smart city” project in Pakistan sued Huawei, alleging the telecom giant used the contractor’s software systems to establish a “back door” into Pakistan that allowed Huawei to view sensitive data related to Pakistan’s national security as well as personal data of Pakistani citizens.²⁵⁴

CPEC technology infrastructure projects also include several network cables connecting China to Pakistan. The China Pakistan Fiber Optic Project, started in 2018, is the first land-based telecommunications cable linking China and Pakistan, with plans to eventually provide connectivity to Afghanistan and Iran.²⁵⁵ Pakistan is also the beginning point of an undersea high-speed internet cable that will connect Pakistan to East Africa as part of China’s Digital Silk Road project. The shareholders on this Pakistan to North and East Africa cable project include Chinese telecom giant Huawei. The project currently extends through several East African countries and is slated to reach to France, with plans to expand branches to Singapore and South Africa in later phases.²⁵⁶

CPEC Projects Raise Concerns of Debt

Like many other countries that are recipients of Chinese development funding, Pakistan’s involvement in CPEC has given rise to concerns that the country is amassing unsustainable and undisclosed debt to China. A 2020 report by the U.S. Institute of Peace found that “Chinese-funded development projects are hardly the sole cause of problems in Pakistan, but BRI projects, in working outside established standards, can exacerbate underlying weaknesses in governance and contribute to an already unsustainable debt load.”²⁵⁷ According to IMF data, Pakistan’s government had \$99.1 billion in external debt—totaling 28 percent of its gross domestic product (GDP)—at the end of fiscal year 2021.* China was Pakistan’s largest external creditor, accounting for \$29.8 billion of its debt or 8.4 percent of GDP.†

*Pakistan’s fiscal year runs from July 1 of the previous calendar year through June 30 of the current year. Fiscal year 2021 ended on June 30, 2021. International Monetary Fund, “Pakistan 2021 Article IV Consultation,” February 2022, 4, 49.

†Of this debt, \$23.1 billion was owed directly to Chinese state entities, while a further \$6.7 billion was due to commercial banks in China. International Monetary Fund, “Seventh and Eighth

A key concern is that any debt relief extended to Pakistan by other bilateral lenders or multilateral institutions may simply enable Pakistan to satisfy undisclosed debt owed to China. In 2019, Pakistan received a \$6 billion bailout from the IMF.*²⁵⁸ Ahead of that bailout, several U.S. lawmakers voiced their concern that the funds would be used “to relieve debts incurred largely from predatory Chinese infrastructure projects” under CPEC, whose “debt repayment and profit repatriation terms are not transparent.”²⁵⁹ In June 2022, Pakistani media reported that the IMF had asked Pakistan’s government to renegotiate CPEC energy deals before paying the approximately \$1.5 billion (300 billion Pakistani rupees) to Chinese power plants operating in Pakistan.²⁶⁰ The IMF reportedly suspected that Chinese independent power producers had been overcharging Pakistan.²⁶¹ Nevertheless, according to Dr. Safdar, “Pakistan’s debt, including undisclosed debt to China, has been less of a factor in the relationship with the IMF than structural problems in the Pakistani economy,” including disputes over Pakistan’s domestic fuel subsidies.²⁶²

Pakistan’s Security Situation Jeopardizes CPEC’s Future

A deteriorating security situation in Pakistan—including attacks directed at Chinese nationals and Chinese investment projects—presents one of the most significant impediments to further implementation of CPEC. Chinese interests in Pakistan have long been under threat from a range of actors, including ethnic separatist movements in Balochistan and Sindh provinces, as well as the Tehreek-e-Taliban Pakistan, a militant umbrella organization affiliated with al Qaeda and the Afghan Taliban.²⁶³ These attacks have added to China’s reluctance to invest in CPEC projects and in some cases have resulted in at least the temporary closure of projects under construction. In July 2021, for instance, an attack on a bus with Chinese and Pakistani workers at the Dasu Dam project, allegedly carried out by militants affiliated with the Tehreek-e-Taliban Pakistan, resulted in the deaths of 13 people, including nine Chinese workers.²⁶⁴ The project, funded by the World Bank, was not part of the CPEC framework. The day after the attacks, however, Chinese authorities postponed a meeting of the Joint Coordination Committee, the body that oversees implementation of CPEC.²⁶⁵ When the committee eventually met in September 2021, Chinese authorities asked Pakistan to upgrade security for CPEC projects.²⁶⁶ The increasing cost of CPEC security poses another challenge for Pakistan’s government.²⁶⁷ In April 2022, for instance, Pakistan’s media reported that Pakistani politicians had delayed implementation of over \$176.4 million (36 billion Pakistani rupees) in security upgrades associated with a CPEC railway project between Karachi and Peshawar.²⁶⁸ Officials from the Chinese government have also reportedly asked the Pakistani government to allow a Chinese se-

Reviews under the Extended Arrangement under the Extended Fund Facility,” September 2022, 44.

*The IMF has bailed out Pakistan a total of 22 times, most recently in 2019. As of April 2021, Pakistan’s debt to the IMF accounts for 8 percent of its external debt. International Monetary Fund, “Pakistan 2021 Article IV Consultation,” February 2022, 49; International Monetary Fund, “Pakistan: History of Lending Commitments,” February 29, 2020.

curity company to protect Chinese citizens and projects in Pakistan, though the Pakistani government has so far refused.²⁶⁹

Despite the difficulties in implementing CPEC, Chinese and Pakistani officials have continued to voice their support for the initiative. During his victory speech after his election in April 2022, Pakistani Prime Minister Sharif promised that the government would speed up implementation of CPEC.²⁷⁰ The Chinese government similarly reaffirmed its commitment to CPEC, with Chinese Foreign Ministry Spokesman Zhao saying, “We will continue to work with the new Pakistani administration to ... build CPEC with high standards in a sustained manner.”²⁷¹ Officials from China and Pakistan have also expressed interest in incorporating Afghanistan into the initiative. In March 2022, Foreign Minister Wang called for closer three-way cooperation among China, Pakistan, and Afghanistan and said the countries should “jointly advance Belt and Road cooperation and extend [CPEC] to Afghanistan, and help Afghanistan participate in regional connectivity.”²⁷² According to David Sacks, research fellow at the Center for Foreign Relations, the incorporation of Afghanistan into CPEC is unlikely due to security concerns in the country.²⁷³

China Insulates Itself from Threats in Central Asia and Afghanistan

China’s strategy for Central Asia and Afghanistan employs peripheral diplomacy to insulate itself from external sources of instability along China’s western border. As with its southern neighbors, China aims to influence Central Asian States and Afghanistan to accept China’s security interests as regional priorities.²⁷⁴ Although China’s engagement with Central Asia and Afghanistan has historically been led by economic activities, in recent years Chinese leaders perceive urgent new security threats, such as the return of Taliban rule in Afghanistan, that may lead to instability in Xinjiang. As a result, China’s government has attempted to grow its economic and political influence in Central Asia to ensure its security objectives in the region.

For the last three decades, China’s most significant source of regional influence has been economic engagement in Central Asia.²⁷⁵ According to Raffaello Pantucci, senior fellow at the S. Rajaratnam School of International Studies, “Underpinning the direct security responses that China undertakes is a vision for economic prosperity and development across the region which Beijing believes will ultimately stabilize the region and deliver long-term security guarantees.”²⁷⁶ China’s state-focused approach coopts illiberal governments in Central Asia to pursue China’s security interests, sometimes assisting in suppressing dissent through tools like surveillance technology.²⁷⁷

China has significantly increased its security engagement in Central Asia and Afghanistan.²⁷⁸ Chief among China’s growing concerns is that the Taliban’s recent return to power in Afghanistan will enable Uyghurs to foment unrest in the predominantly Uyghur province of Xinjiang.²⁷⁹ China calls this perceived threat the East Turkistan Islamic Movement (ETIM)* and uses this term indiscriminately.

*ETIM was an ethnically Uyghur-led movement that advocated for independence of Xinjiang under their preferred name for the region, East Turkistan. Most members of this group, including

inately to label Uyghur activity as terrorism.²⁸⁰ Chinese leaders also fear that growing opposition to China's presence in the region from both reemerging violent extremist groups and local populations will challenge China's ability to shape the region for its interests.²⁸¹

China uses multilateral security institutions with Central Asian states and Afghanistan as a platform to enshrine its security concerns in a shared regional agenda.²⁸² Through these platforms and other agreements, China cooperates with its neighbors in bilateral training exercises that function as part of an extended security perimeter reaching beyond China's borders.²⁸³ This cooperation is designed to ensure Chinese security interests rather than provide regional security.²⁸⁴ China's government has also increased its physical security presence in the region by increasing joint border patrols, investing in border surveillance technology, and, in one instance, stationing Chinese armed forces abroad to manage security risks in Tajikistan.²⁸⁵ Chinese leaders likely intend these short-term measures to have cascading effects for broader regional security.²⁸⁶

China's Economic Engagement in Central Asia Seeks Stability and Resources

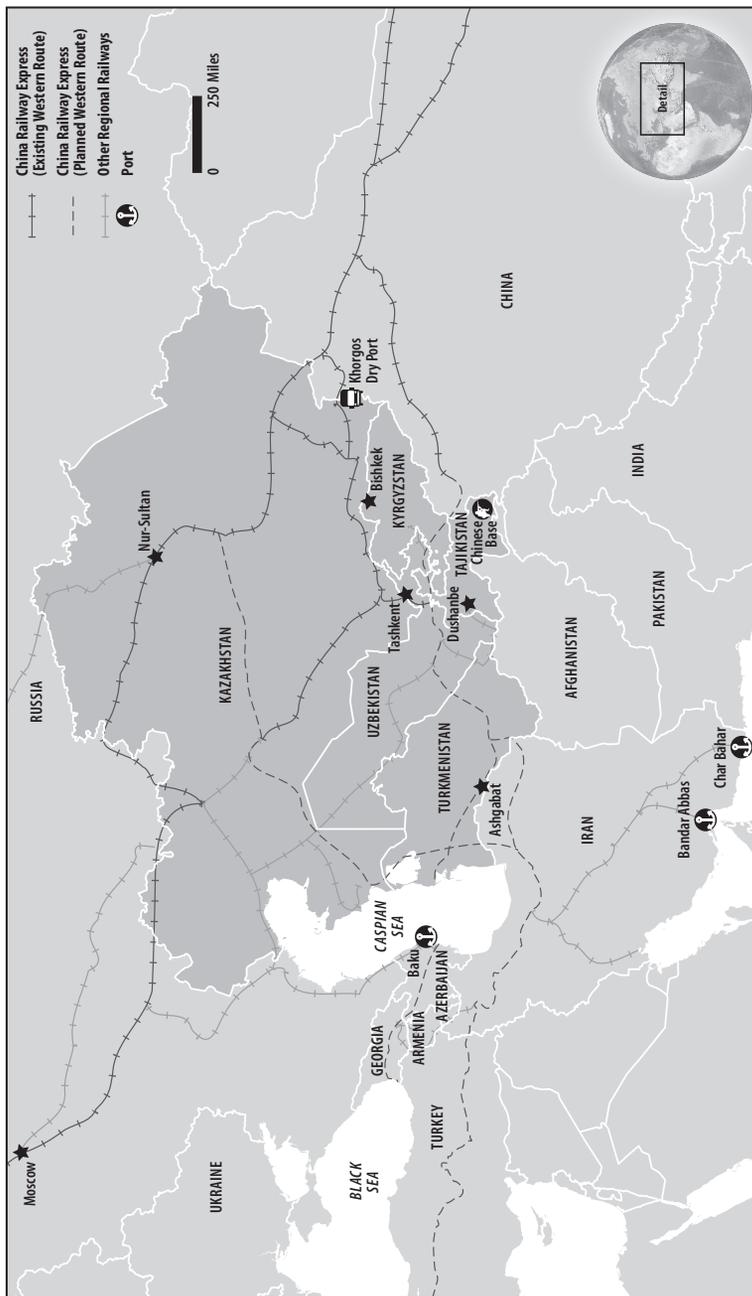
From China's perspective, economic engagement in Central Asia and Afghanistan helps China create a stable periphery that supports China's development.²⁸⁷ Central Asia provides China with resources that China considers critical to its energy security.²⁸⁸ China also uses Central Asia as a market for products manufactured in Xinjiang, which China's leadership believes will mitigate instability in the autonomous region by creating a more economically dynamic Xinjiang.²⁸⁹ The region also offers alternative and faster* shipping routes for Chinese goods going to European and Middle Eastern markets (see Figure 3).²⁹⁰ As with China's bilateral lending in other regions, Chinese infrastructure loans have contributed to significant debt burdens in some Central Asian countries while often failing to benefit local populations (see "Transport Infrastructure Fosters Connectivity, Debt, and Corruption" later in this section).²⁹¹ Chinese firms have also taken advantage of elite corruption† and weak formal institutions to elicit commitments from Central Asian govern-

its leader, were captured or killed in Afghanistan and Pakistan by 2003. In 2008, a second militant independence movement that called itself the Turkestan Independence Party (TIP) emerged with threats against the Beijing Olympics and today primarily operates in Syria. The connection between TIP and ETIM are unclear, but the Chinese government used threats from TIP to revive discussions of ETIM and continues to use the name ETIM as an umbrella term for Uyghur activity. As of 2020, the United States no longer recognizes ETIM as a terrorist organization. Sean R. Roberts, "Why Did the United States Take China's Word on Supposed Uighur Terrorists?" *Foreign Policy*, November 10, 2020.

*Transport from eastern China to western Europe takes two weeks by train, in contrast to 40 days by sea. While rail transit through Kazakhstan could offer a faster and cheaper route than maritime shipping for more goods, incomplete infrastructure and the lack of reliable schedules prevent a higher volume of goods transiting the region. Cordula Rastogi and Jean-Francois Arvis, "Improving the Eurasian Connection: Supply-Chain Efficiency along the Modern Silk Route through Central Asia." *World Bank*, 2014, 65.

†According to the World Bank, "Elite capture refers to situations where elites shape development processes according to their own priorities and/or appropriate development resources for private gain." Chinese business and political leaders use informal relationships with elite in Central Asia to benefit Chinese interests. Nargis Kassenova, senior fellow and director at Harvard University's Davis Center for Russian and Eurasian Studies Program on Central Asia, argues that because China is not the sole cause of Central Asian elite corruption, China has only partial elite capture in the region. World Bank, "CDD and Elite Capture: Reframing the Conversation," *Social Development How To Series*, 3, February 2008; Nargis Kassenova, oral testimony for the U.S.-China Economic and Security Review Commission, *Hearing on China's Activities and Influence in South and Central Asia*, May 12, 2022, 183.

Figure 3: Map of Central Asia with Major Railways and Ports



Source: Jack Farchy and James Kynge, "Map: Connecting Central Asia," *Center for Strategic and International Studies*, May 9, 2016; Ji Siqu, "China-Europe Rail Shipping Growth Slows as Ukraine War Pushes Companies Back to the Seas," *South China Morning Post*, July 29, 2022.

ments to suppress expression the CCP judges as dangerous to its interests or supportive of Uyghur autonomy.²⁹² As local populations grow disillusioned with these behaviors, China has started to respond to local demands in an effort to protect its image in Central Asian countries.²⁹³

In Central Asia, China has found partners that are eager to accept investment that advances a vision of regional integration and connectivity.²⁹⁴ With limited options for development finance, Central Asia looks to China as a means of hedging against overdependence on Russia. Additionally, China's conditions for economic engagement are relatively inexpensive and low risk. These conditions often involve political commitments, including recognition of China's "One China" principle and a commitment to cooperate in China's efforts to reduce perceived threats of separatism, extremism, and terrorism—a trio China calls the "Three Evils."²⁹⁵ According to Niva Yau, senior researcher at the OSCE Academy* in Kyrgyzstan, the Chinese government "promised economic development without political liberation, good governance, and social justice," which are often costly and complex conditions for international development assistance.²⁹⁶

China's expansion of economic ties with Central Asia creates potential points of friction with Russia, the traditional hegemon of Central Asia. According to a 2018 analysis by the Carnegie Endowment for International Peace, "Many of China's goals in [Central Asia]—economic development, political stability, and keeping the West at bay—either coincide with Russia's agenda or at least do not contradict Russia's short-term interests."²⁹⁷ In many ways, China's economic-focused approach to Central Asia complements Russia's presence, which is more focused on military and security relations.²⁹⁸ However, Alexander Cooley, a Russia and Eurasia expert at Colombia University, argues that the Russia-China relationship in Central Asia is more akin to "public cooperation and private rivalry."²⁹⁹ In January 2022, India's former ambassador to Denmark wrote in an op-ed that Russia had asked India to expand its own economic presence in Central Asia due to concerns over China's growing footprint in the region.³⁰⁰

China's Energy Interests in Central Asia

China's long-term aims in Central Asia and Afghanistan largely revolve around securing access to energy and natural resources, which play a key role in China's efforts to both develop its western provinces and diversify the nation's energy suppliers and import routes.³⁰¹ China's "Go West" initiative aims to narrow the wealth and development gap between China's prosperous eastern provinces and China's underdeveloped western provinces.³⁰² Gas from Turkmenistan and pipe infrastructure through Turkmenistan, Uzbekistan, and Kazakhstan supply the West-East Pipeline Project aimed at developing western China.³⁰³ The project, initiated in 2002, has completed three of four projected pipeline routes that bring gas from Central Asia through Khorgos, Xinjiang, and across central China

*The OSCE Academy is a partnership between the Organization for Security and Cooperation in Europe (OSCE) and the government of the Kyrgyz Republic. OSCE Academy in Bishkek, "OSCE Academy Factsheet."

to Shaanxi, Fujian, Guangdong, and Sichuan provinces.³⁰⁴ (For more on China's energy interests in Central Asia, see Chapter 2, Section 3, "China's Energy Plans and Practices.")

By "going west," China also hopes to diversify its energy providers and delivery routes.³⁰⁵ According to the Warsaw Institute, more than 70 percent of China's petroleum and liquified natural gas imports traverse the Strait of Malacca, a vulnerable chokepoint that if threatened would rapidly and severely undermine China's economic production and military development.³⁰⁶ Kazakhstan still only provides a small fraction of China's overall energy imports, averaging 400,000 barrels per day compared with the 6.5 million barrels per day China imports through the Strait of Malacca.³⁰⁷ Kazakhstan also largely provides natural gas, which is less strategically important than oil.³⁰⁸

In addition to meeting domestic energy needs, China's heavy investment in Central Asian energy infrastructure has deepened Chinese influence in the region at Russia's expense.³⁰⁹ By building the Central Asia-China gas pipeline, which began operating in 2009, China created an avenue for Central Asian states to reduce their dependence on Russia's market and prepared itself to surpass Russia as the primary consumer of Central Asian gas.³¹⁰ As a result of China's significant investments in Central Asia, Russia now relies on some Chinese-built energy infrastructure to transport and export energy resources.³¹¹

Transport Infrastructure Fosters Connectivity, Debt, and Corruption

China's most significant economic ties with Central Asian countries have occurred through Beijing's financing of investment projects in the region. According to research from AidData, between 2000 and 2017 China's financial diplomacy* to Central Asia amounted to more than \$54 billion, the majority of which consisted of infrastructure financing.³¹² These infrastructure projects have helped further China's goals in Central Asia in several ways. First, much of the transportation infrastructure has been constructed to increase capacity of exports from Xinjiang to Central Asia, and in 2019, 81 percent of Xinjiang's total exports went to Kazakhstan, Kyrgyzstan, and Tajikistan.³¹³ According to Nargis Kassenova, senior fellow and director at Harvard University's Davis Center for Russian and Eurasian Studies Program on Central Asia, Chinese leaders have long tried to embed Xinjiang into Central Asian trade networks.³¹⁴

Central Asia also benefits from Chinese investment in rail networks that improve connectivity and trade opportunities between Central Asian countries and the rest of the world.³¹⁵ Central Asia lacks a regionally connected rail system because most rail networks in the region were designed by the Soviet Union to reinforce a dependence on Moscow.³¹⁶ With its New Eurasian Land Bridge between Jiangsu Province and Kazakhstan, China built Central Asia's first rail link that did not go to Russia.³¹⁷ China's planned transpor-

*AidData's definition of financial diplomacy includes "grants, concessional loans, and non-concessional loans from government agencies, policy banks, state-owned commercial banks, or investment funds. This also includes technical assistance and debt forgiveness" as well as technical assistance and debt forgiveness. Samantha Custer et al., "Silk Road Diplomacy: Deconstructing Beijing's Toolkit to Influence South and Central Asia," *AidData at William & Mary*, 2019, 6.

tation links aim to further connect China with all five countries in Central Asia through the “China-Central Asia-West Asia Economic Corridor.”³¹⁸ As of 2021, the majority of Chinese goods going to Europe by rail passed through Russia, although discussions of additional rail that would bypass Russia could theoretically provide faster and cheaper transit routes for China.³¹⁹ Russia strongly objects to projects in Central Asia that cut Russia out of the market and has used institutions like the Eurasian Economic Union to pressure Kazakhstan to limit deals with China.³²⁰ Although China has used a “velvet glove” approach toward Russia’s traditional sphere of influence in the region, China’s growing concerns about international sanctions on Russia for its war on Ukraine may incentivize China to accelerate development of new routes that bypass Russia.³²¹

Chinese infrastructure projects have also contributed to debt sustainability concerns across Central Asia. According to Temur Umarov, fellow at the Carnegie Endowment for International Peace, debt to China is particularly acute in Kyrgyzstan and Tajikistan.³²² Tajikistan’s bilateral government debt to China at the end of 2020 totaled \$1.1 billion, according to IMF data, accounting for 38 percent of its total public and publicly guaranteed external debt of \$2.9 billion and roughly 14 percent of its GDP in 2020.³²³ The IMF has not reported Kyrgyzstan’s total government debt to China, but Kyrgyzstan’s finance ministry indicated in 2020 that the country owed \$1.8 billion to China Exim Bank alone, roughly 23 percent of the country’s GDP and almost 40 percent of its external debt of \$4.5 billion that year.³²⁴ The unsustainable debt burden has raised questions about what will happen if these states cannot repay China.³²⁵ In February 2021, Kyrgyz President Sadyr Japarov said Kyrgyzstan may have to forfeit certain assets if the country could not repay its debts, though he did not specifically address debt to China in his remarks.³²⁶ Many Central Asians fear that China will exact land in exchange for debt relief and that their desperate governments will accept, as Tajikistan did in 2011.³²⁷ China has been unwilling to restructure or forgive Central Asian debt, offering only extended deadlines at a higher interest rate to struggling Central Asian states during the COVID-19 shutdown.³²⁸ While IMF loans helped to reduce the negative impact of COVID-19 on Tajikistan and Kyrgyzstan’s economy, they have also likely subsidized Tajik and Kyrgyz repayments to China.³²⁹ The IMF and World Bank assess that Tajikistan is already at “high risk” of debt distress, and according to the Center for Global Development, BRI-related financing will likely add to both Tajikistan and Kyrgyzstan’s risk of debt distress.³³⁰ While Kyrgyzstan is currently considered to be at a “moderate risk” of debt distress, its currency depreciated against the U.S. dollar by 19 percent between March 2020 and August 2021.³³¹ The IMF has identified further depreciation as a risk that could raise public debt and affect the country’s economic growth.³³²

Chinese firms also take advantage of established patterns of corruption to coopt Central Asian elites for China’s economic and political benefit.³³³ According to Dr. Kassenova, China did not export corruption or weak rule of law to Central Asia; rather, Chinese political and business leaders operate in a local context where informal relationships often have more power than formal institutions.³³⁴

Drawn to the prospect of Chinese wealth, political elite in Central Asia lobby for Chinese companies to win contracts that enrich them, and they strike deals that use national resources to benefit their family members.³³⁵ China's threat of fining or blacklisting companies that publicly criticize China also muffles popular anger over China's Xinjiang policies.³³⁶ Central Asian governments, eager to remain in China's favor, avoid challenging China's policies and have arrested refugees from Xinjiang and shut down Kazakh and Uyghur rights activists.³³⁷ China courts local elites because it cannot afford to lose political support where it invests heavily.³³⁸ Backlash in countries like Burma (Myanmar) and Pakistan reinforce this view, while turbulent political environments in Central Asia question the reliability of China's cultivated elite relationships.³³⁹ Mr. Umarov notes that China has made efforts to bring pro-China politicians to power in Kyrgyzstan in an effort to protect against widespread distrust of China among Kyrgyzstan's citizens.³⁴⁰ He also notes that the growing number of anti-China protests in Central Asia also serve as protests against these captured elites and China's complicity in their corruption.³⁴¹

China Adapts to Local Demands

Disappointment with Chinese projects has tempered Central Asian states' initial optimism regarding BRI.³⁴² According to Ms. Yau, Central Asia's local populations have become disillusioned as Chinese investments enrich elites while the public receives poor-quality infrastructure, such as power plants that fail within a year and poorly constructed roads.³⁴³ For example, in 2018 a Chinese-repaired power plant in Kyrgyzstan malfunctioned, leading to a cold winter for many Kyrgyz, who in turn lost trust in Chinese investment.³⁴⁴ As a result, Chinese-financed projects in Central Asia have been subject to protests, strikes, and even violent attacks.³⁴⁵ China's domestic policies in Xinjiang further spur anti-China sentiment, often expressed through public demonstrations, as in Kyrgyzstan and Kazakhstan.³⁴⁶ Dr. Kassenova noted that corruption throughout Central Asia, weak rule of law, and poor government regulations limit successful commercial engagements with many countries, not just China.³⁴⁷ Due to their lack of alternatives, Central Asian states continue to partner with China to build much-needed hard infrastructure, including railroads, pipelines, and power plants.³⁴⁸ China's narrow focus on its own development leaves Central Asian states without much-needed soft infrastructure such as customs rules, human capital, and institutions.

One enduring point of friction between local populations in Central Asia and Chinese infrastructure investment is the popular fear that Chinese leaders intend to erode Central Asian states' sovereignty by encroaching on their land.³⁴⁹ This suspicion of Chinese territorial expansion fuels popular resistance to China buying or renting land, particularly in Kazakhstan, Kyrgyzstan, and Tajikistan.³⁵⁰ Although China's border disputes with these states have been formally resolved* since 1999, 2002, and 2011, respectively,

* Each of these border agreements faced large domestic opposition for ceding large portions of land to China. Bruce Pannier, "Central Asian Land and China," *Radio Free Europe Radio Liberty*, May 2, 2016.

Chinese public statements and school textbooks that refer to the whole of Kyrgyzstan and parts of Kazakhstan and Tajikistan as part of a Chinese empire drive fears that China will renege on border agreements.³⁵¹ Compounding this distrust of China's government, domestic populations in Central Asian states fear their own governments will give China land in return for corrupt personal gain or as an unofficial means of achieving debt relief.³⁵² These fears have erupted in protests over China buying land, establishing companies, and even renting farmland. On occasion, public demonstrations against Chinese companies buying or leasing land have led Central Asian governments to terminate Chinese investment projects.³⁵³

In order to improve its image in Central Asia and thus help Central Asian leaders justify China's presence in the region, China is adapting to domestic concerns.³⁵⁴ Most notably, China has shifted from debt financing to investment in infrastructure projects, according to research from Ms. Yau and Dirk van der Kley, research fellow at Australian National University.³⁵⁵ China has also begun to implement programs called "Luban workshops" that teach technical skills relating to industrial sensors, machinery equipment manufacturing, and high-speed rail technologies, enabling trained Central Asian workers to contribute to local economies.³⁵⁶ Creating local employment will likely affect migrant workers, who currently send remittances home from jobs in Russia.³⁵⁷ Similarly, China's efforts to transfer industrial capacity temper the dramatic trade imbalance between China and the region.³⁵⁸ Ultimately, China's concern for its image in the region is largely a function of securing political goodwill, which General Secretary Xi established as the first directive of Peripheral Diplomacy* in a 2013 speech.³⁵⁹

China's Indirect Security Strategy

China's approach to securing its interests in Afghanistan and Central Asia relies heavily on partnerships with the region's governments. China commits the minimum resources its strategists consider necessary for securing its interests, and it relies on other actors to stabilize the region whenever possible. For example, between 2001 and 2014, while China benefited from the International Security Assistance Force's (ISAF) presence in Afghanistan, Beijing did not commit resources to support the region's security with troops, equipment, or funds.³⁶⁰ Only after ISAF drew down its forces in 2014 did China increase its role through multilateral organizations.† China's leadership also charged the PLA with developing counterterrorism capabilities that were previously the remit of the domestically focused Ministry of Public Security.³⁶¹ The following

* In his address to the 2013 Peripheral Diplomacy Work Conference, General Secretary Xi listed four directives of securing goodwill, deepening regional economic ties, increasing cultural influence, and improving security cooperation. Michael D. Swaine, "Chinese Views and Commentary on Periphery Diplomacy," *China Leadership Monitor* 44 (July 28, 2014): 2.

† Since 2014, China has created several Afghanistan-focused initiatives, including the SCO's Regional Anti-Terrorist Structure (SCO-RATS) in 2015 and the Quadrilateral Cooperation and Control Mechanism (QCCM) in 2016 with Afghanistan, Pakistan, and Tajikistan to curtail potential spillover of illegal drugs, weapons, and terrorists. Both of these mechanisms aim to keep threats contained to Afghanistan rather than fill a power vacuum within Afghanistan. Ahmad Bilal Khalil, "Afghanistan and the Shanghai Cooperation Organization," *Diplomat*, July 14, 2021; Raffaello Pantucci, "Commentary: China's Expanding Security Role in Afghanistan," *Reuters*, March 1, 2017; Eva Seiwert, "The Shanghai Cooperation Organization Will Not Fill Any Vacuum in Afghanistan," *Foreign Policy Research Institute*, September 30, 2021.

year, China passed a counterterrorism law that enabled the People's Armed Police, another domestically focused organization, to engage overseas.³⁶² Whereas the Chinese government has previously insisted that its armed forces would not deploy overseas without either a UN mandate or an invitation from a host nation, this law could now authorize Chinese deployments overseas in situations where Chinese nationals are attacked.³⁶³ Despite China's growing involvement, Chinese leaders view their limited security engagement in Afghanistan as a necessary burden and have resisted accepting the role of security guarantor.

China's effort to shape its western neighbors into a willing and able first line of defense for China's interests overlooks important domestic political dynamics that will likely undermine its security policies.³⁶⁴ China is not concerned with solving domestic problems in Central Asia or conditioning state relations on a value system in Afghanistan. Whereas the United States and its allies and partners emphasize the importance of upholding human rights—including those of women, children, and minorities—as a basic precondition for international legitimacy, China is more concerned with having a predictable partner on its western border, no matter how that regime maintains control.³⁶⁵ This approach has backfired. In Kyrgyzstan, for example, China's willingness to operate in bribes and corruption led to the criminal conviction of former Prime Minister Sapar Isakov, costing China a political ally and much public favor.³⁶⁶ Jennifer Brick Murtazashvili, founding director of the University of Pittsburgh's Center for Governance and Markets, notes that this approach of only looking out for China's own interests will leave vulnerabilities in regional stability as it ignores fundamental governance issues.³⁶⁷

Building Capacity and Influencing Central Asia to Act as China's First Line of Defense

China is increasing its security engagement in Central Asia and Afghanistan through multilateral and bilateral defense agreements to secure its western border. While Chinese leaders' perceived threat of Uyghur-led separatism continues to drive this trend, growing threats from nonstate militant groups in and around Afghanistan as well as anti-China sentiment in Central Asia further prompt China's security engagement. By influencing state leadership and building military capacity in Central Asia, China aims to cultivate neighbors that are willing and able to act as its first line of defense.

China uses multilateral platforms such as the SCO, the China-Central Asia Foreign Ministers Mechanism (C+C5), and the Lianyungang Forum* for law enforcement to establish its own security concerns as regional security priorities.³⁶⁸ Largely considered ineffective for building military capacity, the SCO provides a tool for China to normalize the language of its security concerns and persuade Central Asian states to view China's concerns as their own.³⁶⁹ Having accepted China's designation of the "Three Evils" in its first summit in 2001, the SCO continues to prioritize China's security

*The Lianyungang Forum is a multilateral platform for security dialogue focused on law enforcement. The forum began in 2015 and is hosted by China's Ministry of Public Security. "The Fifth Lianyungang Forum Successfully Concluded Deputy Minister Delivered Speech" March 9, 2021.

concerns in Central Asia and normalize the narrative that because the member states' security fates are interconnected they must not pursue security separately from one another.³⁷⁰ China is binding together the region's interest in a way that prioritizes China's security concerns, effectively reducing Central Asian states' ability to determine their own interests or independently assess what constitutes a threat.³⁷¹ According to Ms. Yau, China has successfully "lobbied for Central Asian countries to criminalize the status of [Uyghur diaspora] organizations" and agree to a "consensus over non-tolerance of Uyghur independence supporters."³⁷² For example, China has effectively lobbied Central Asian states to limit Uyghur activity, including peaceful movie screenings, even though Central Asian citizens oppose this repression. China has also demanded Kyrgyzstan extradite refugees from Xinjiang and pressured Kyrgyzstan to censure activist films.³⁷³ According to Mr. Umarov, China's actions lay "the foundation in Eurasia for a scenario in which 'Pax Sinica' will dominate every aspect."³⁷⁴

The SCO has also adopted increasingly broad definitions of security that could offer China the opportunity to align member states' discussion of threats with China's interests. The SCO Development Strategy 2025 further states its goal of not only ensuring physical security but also "counter[ing] threats to the political, economic, and social security of the member states," and it aims to do so with increased cooperation in educational institutions, mass media, research centers, religious organizations, and nongovernmental organizations.³⁷⁵ For example, think tank experts have discussed expanding the SCO's role in Central Asia to nontraditional security areas such as food security and energy security, though it does not appear the SCO has done so to date.³⁷⁶

Where China lacks confidence in regional actors' ability to act in its interest, it has increased bilateral engagement to build military capacity. The most notable example is in Tajikistan, where the "security forces are beset with corruption and institutional weakness" and deemed by China as incapable of managing security threats emanating from Afghanistan.³⁷⁷ China's establishment of a People's Armed Police base in Tajikistan in 2016 demonstrates its willingness to take assertive action to protect its interests where another state cannot. China has also lost confidence in Russia's ability to maintain stability with its longstanding contingent of troops stationed in Tajikistan.³⁷⁸ The Russian military's poor performance in Ukraine and Russia's withdrawal of over 1,500 soldiers from Tajikistan for deployment to Ukraine has reduced the region's confidence in Russia as a security partner.³⁷⁹ Additionally, China's military outpost in Tajikistan suggests China's leaders are expanding the definition of peripheral security to consider actions in a neighboring state's sovereign territory as China's legitimate security prerogative. According to Stephen Blank, a senior fellow at the Foreign Policy Research Institute, China is increasingly "determined to assert itself wherever it has major interests at stake," and this behavior may include more Chinese troops stationed in Central Asia and elsewhere.³⁸⁰

As China increases its security footprint in Central Asia, the region has become an arena of soft competition for influence between China and Russia. Through a "velvet glove" approach toward Rus-

sia's traditional sphere of influence, China has maintained a stable relationship with Russia and demonstrated respect for Russia's political concerns. According to Paul Stronski and Nicole Ng of the Carnegie Endowment for International Peace, Russia and China have more to gain from cooperation than competition, though their "partnership may be tempered by unfulfilled expectations on both sides."³⁸¹ China will likely become more assertive where it lacks confidence in an existing security structure's capacity to guarantee its security interests.³⁸² Additionally, China's arms sales to Central Asia are quickly growing and have the potential to undermine Russian influence in some Central Asian republics. Between 2015 and 2020, China supplied 18 percent of Central Asian arms imports, demonstrating significant growth from the 1.5 percent it supplied between 2010 and 2014.³⁸³ Although Russia cornered 62 percent of the regional arms market between 2015 and 2020, China is quickly catching up.³⁸⁴ China's weapons sales are particularly notable in advanced technology where Russia cannot offer the most modern equipment. Whereas Russia continues to provide basic hardware and military platforms like small arms and vehicles, China offers communications technology, unmanned aerial vehicles, dual-use cyber infrastructure, and some missile platforms, which have a higher value than Russia's equipment.³⁸⁵ Chinese weapons sales have found particular success in Uzbekistan, which has spent more on arms from China than from Russia.³⁸⁶ Despite China's growing presence, Russia remains the dominant security partner in Central Asia, and obstacles—including language barriers—prevent true military interoperability between China and the Central Asian republics.³⁸⁷

Xi Boosts China's Influence in SCO with Promises at 2022 Summit

During the 2022 SCO Summit in Samarkand, Uzbekistan, Xi announced a series of new commitments to the SCO member states that signify China's growing assertiveness as a security and economic partner in Central Asia.³⁸⁸ Xi pledged to train over 2,000 law enforcement personnel from SCO member states in five years and committed to establish a China-SCO base for counterterrorism training, which will strengthen China's security ties to the region.³⁸⁹ Closer ties and joint training experience remove barriers to interoperability and create people-to-people ties between Chinese and the SCO members' security forces. China's promises of security cooperation in the region take advantage of the declining influence of Russia, which has historically been the region's dominant security partner.³⁹⁰ By promising high-value collaboration such as a China-SCO Big Data Cooperation Center and an agreement to share satellite data, China continued to carve out its position as a regional security partner in areas of cooperation where Russia cannot compete.³⁹¹ As Central Asian states view Russia's unprovoked invasion of Ukraine with distrust and concern for their own security, there is a growing appetite for cooperation outside of Russia, and China is capitalizing on the opportunity.³⁹²

China also offered greater economic cooperation to the Central Asian republics at the Samarkand Summit. Growing interest in expanding a Eurasian trade network that bypasses Russia culminated

in China, Kyrgyzstan, and Uzbekistan signing a memorandum of understanding on the long-discussed railway path that would cut out Russia and Kazakhstan.³⁹³ With Kazakhstan, China signed agreements for bilateral border trade between the two states to be conducted in RMB.³⁹⁴ China signed 30 additional cooperation documents regarding finance, water management, development and digital currency with the SCO member states.³⁹⁵ Through these economic and security measures, China is solidifying its influence in Central Asia through the SCO.

At the Samarkand Summit it was also announced that the SCO's membership and observer positions will expand to include new states, while reaffirming that the Central Asian states are the core of the SCO.³⁹⁶ In what will become the first expansion of SCO membership since India and Pakistan joined in 2017, SCO initiated the paperwork for Iran to gain membership in the organization.³⁹⁷ Additionally, Bahrain, the Maldives, the United Arab Emirates, Kuwait, and Burma each began the process of becoming dialogue partners.³⁹⁸ While the summit saw no movement on admitting Afghanistan as a member, Xi emphasized the role of SCO cooperation with Afghanistan in order to promote regional security.³⁹⁹

The summit demonstrated limits and potential disagreements among SCO member states. While Xi attended bilateral discussions with several attending heads of state, including Russian President Vladimir Putin, he did not meet with President Modi.⁴⁰⁰ (For more information on Xi's meeting with President Putin, please see Chapter 3, Section 1, "Year in Review: Security and Foreign Affairs.") In the summit's declaration document, there was no mention of Russia's invasion of Ukraine or China's territorial claims over Taiwan.⁴⁰¹ During the summit, a border dispute between Tajikistan and Kyrgyzstan erupted into the worst violence between the two states since they gained independence in 1991.⁴⁰² The clash demonstrated the limits of the SCO as a mechanism for diplomacy and security cooperation, and Xi himself made no public comment on the conflict.⁴⁰³

Hedging Political Relationships in Afghanistan

China's engagement with the Taliban since the latter's return to power is not a show of support but rather a continuation of a strategy that hedges against volatile power shifts.⁴⁰⁴ For decades, China has approached Afghanistan by developing simultaneous relationships with both controlling and contesting parties, never fully committing to back one.⁴⁰⁵ In its engagements with the Afghan Republic, China sold weapons and hosted military training with the legitimate government while simultaneously maintaining a relationship with the Taliban.⁴⁰⁶ Now that the Taliban again governs Afghanistan, China still hedges its relationship by neither recognizing nor condemning the Taliban, remaining flexible to cooperate without alienating itself from the international community.⁴⁰⁷

China leverages its investment and diplomatic legitimacy to attain security cooperation from the Taliban, with only limited success.* In

*The Taliban has also acquiesced to Russian demands to stem opium production. We have yet to see whether this will be followed up with action or if this nominal commitment is merely lip service to a regional power. Jennifer Brick Murtazashvili, oral testimony for the U.S.-China

2021, the Taliban reassured China it would not “allow any force to use Afghan territory to engage in acts detrimental to China,” and it once relocated ethnic Uyghurs from Afghanistan’s Badakhshan Province on China’s border to central Afghanistan (see Figure 4).⁴⁰⁸ This example of Taliban action to suppress Uyghurs does not indicate consistent cooperation with China, and no evidence suggests the Taliban has extradited any Uyghurs to China.⁴⁰⁹ By contrast, China once enjoyed a high degree of cooperation with former Afghan President Ashraf Ghani, who made a commitment to counter anti-China militants, and with former President Hamid Karzai, who witnessed the two states sign an extradition treaty.⁴¹⁰

China has taken measures to demonstrate opportunity for commercial ties with and aid to Afghanistan, yet current economic engagement remains extremely limited. According to Mr. Pantucci and Alexandros Petersen, a late academic at the American Universities of Afghanistan and Central Asia, “The tangible economic links between China and Afghanistan amount to the export of Afghan pine nuts to China and the construction of a fiberoptic cable down the Wakhan Corridor to help Afghanistan get on the internet.”⁴¹¹ The Chinese government has announced more recent measures to increase Sino-Afghan economic activity.⁴¹² In August 2022, China resumed processing visas for Afghan businessmen and declared that 98 percent of Afghan imports will enter China without tariffs.⁴¹³ China has also increased pledges of humanitarian aid to Afghanistan in an effort to strengthen its image in the region. In September 2021, following the return of Taliban rule, the Chinese government pledged \$29 million (RMB 200 million) to Afghanistan, with a further \$7.2 million (RMB 50 million) pledged after an earthquake in June 2022.* In an interview with The China Project, Ms. Yau indicated that Chinese leadership was interested in using propaganda to showcase Chinese aid in contrast to the United States’ long-term military presence.⁴¹⁴ The United States remains the largest humanitarian donor to Afghanistan, however, providing more than \$774 million in assistance to Afghanistan since August 2021, including nearly \$55 million in response to the June earthquake.⁴¹⁵

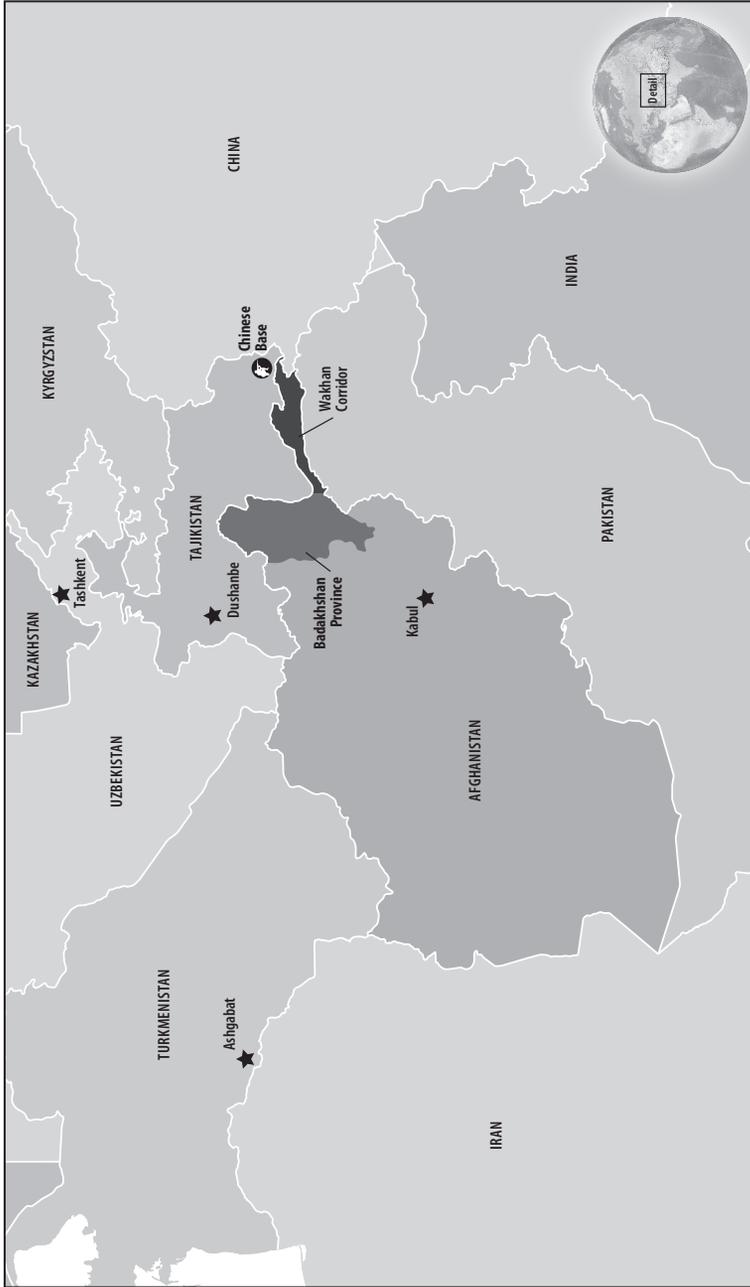
The Taliban is also trying to leverage its cooperation for China’s support, yet it is cognizant of the limits to this support.⁴¹⁶ China will not be able to secure the cooperation it desires or hedge against the Taliban as successfully as it hedged against the former Afghan Republic. Not only does a hardline faction within the Taliban oppose China’s policies toward Uyghurs and thus obstruct cooperation, but also any cooperation China can secure may fuel the resurgence of Islamic State Khorasan (ISK), a rival of the Taliban and self-declared adversary of China. ISK accrues public support for its extremist agenda and undermines Taliban authority by accusing the Taliban of betraying Muslims and Islamic values.⁴¹⁷ While ISK has long opposed China’s treatment of Muslims in Xinjiang and abroad,† the terrorist group remained preoccupied with its “principle adversary,”

Economic and Security Review Commission, *Hearing on China’s Activities and Influence in South and Central Asia*, May 12, 2022, 20.

*According to China’s embassy in Afghanistan, these pledges have been fulfilled as of July 2022. Kate Zhang, “China Delivers US\$37 Million in Aid to Afghanistan, Fulfilling Promise to Taliban,” *South China Morning Post*, July 6, 2022.

†Some reports suggest that China’s activity will drive Uyghurs toward ISK, but this has not been seen yet. Jennifer Brick Murtazashvili, oral testimony before the U.S.-China Economic and

Figure 4: Map of Afghanistan



Source: Jack Farchy and James Kynge, "Map: Connecting Central Asia," *Center for Strategic and International Studies*, May 9, 2016; Ji Siqu, "China-Europe Rail Shipping Growth Slows as Ukraine War Pushes Companies Back to the Seas," *South China Morning Post*, July 29, 2022.

the United States.⁴¹⁸ According to Mr. Pantucci, without the dominant United States presence in the region, ISK and similar extremist groups can turn their attention more directly to China.⁴¹⁹

China has increasingly become the target of nonstate militant extremists.⁴²⁰ ISK claimed responsibility for the 2021 Kunduz Mosque bombing and took the unusual step of identifying the suicide bomber's ethnicity by naming him Muhammad al-Uyghuri.⁴²¹ This additional step signals not only that China is on ISK's radar but also that China cannot trust the Taliban to contain ethnic Uyghurs in Afghanistan.⁴²² Since the NATO-led Resolute Mission Support in Afghanistan ended in 2021, ISK now has fewer targets to distract its focus from China.⁴²³ China also faces growing threats from the Taliban in Pakistan (Tehreek-e-Taliban Pakistan) and Balochi militants,* both groups that denounce China's self-serving investments in their communities. Tehreek-e-Taliban Pakistan is a subgroup of the Pakistani Taliban that continues to conduct attacks in Pakistan, and the group is suspected to be behind the 2021 car bombing in Pakistan's western province of Khyber-Paktunkhwa that killed nine Chinese nationals.⁴²⁴

Implications for the United States

South and Central Asia are regions of growing importance in Chinese foreign policy, and each present important trends for the United States to monitor. China's attempts to exert influence and control over South Asia by undermining Indian influence directly threaten the critical interests of a key U.S. partner. Similarly, China's expanding investments and security cooperation in Central Asia are actively reshaping the strategic environment around Afghanistan. The U.S. Interim National Security Strategic Guidance asserts that the United States will "only succeed in advancing American interests and upholding our universal values by working in common cause with our closest allies and partners."⁴²⁵ Moreover, China's manufactured crises along China and India's disputed border impose outsized risks on India, challenging India's national security and threatening to spark armed conflicts between two nuclear weapons states. Deteriorating relations with China have already driven the Indian government to greater strategic alignment with the United States. This trend could improve the U.S. ability to respond to the CCP's increased aggression in South and Central Asia, even as the U.S. and Indian governments differ on crucial issues such as relations with Russia's government in the wake of its invasion of Ukraine.

Chinese leaders have grander ambitions for future PLA presence and operations in the Indian Ocean that directly challenge U.S. protection of the commons and role in the region. The PLA Navy takes the U.S. Navy as their principal challenge and regularly deploys warships and submarines to exercise expeditionary capabilities un-

Security Review Commission, *Hearing on China's Activities and Influence in South and Central Asia*, May 12, 2022, 11.

*"The BLA [Balochistan Liberation Army] is part of the Baloch Raji Aajoi Sangar (BRAS) umbrella group of Baloch nationalists, which comprises... the BLA, the Baloch Liberation Front (BLF), the Baloch Republican Guard... [and] the Baloch Republic Army. BRAS and its affiliates are generally pro-independence for the Balochistan region; they regard both Pakistan and China as threats." Yumi Washiyama, "Balochi Militants Take Aim at Chinese Interests," *Diplomat*, July 24, 2020.

der the guise of antipiracy operations. Although the PLA's ambitions to be able to conduct operations in the Indian Ocean remain far from its current capabilities, a future PLA Navy operating in close proximity to U.S. Navy or Indian Navy warships heightens friction and risks of inadvertent escalation, challenging India's intended role as a net security provider in the Indian Ocean.

The Chinese government has funded the construction of some sorely needed infrastructure in many South and Central Asian countries. These projects, if properly implemented, could boost economic growth in the countries and help their economic and technological integration with the rest of the world, thereby providing greater opportunities for U.S. businesses. In practice, however, the Chinese government's funding is accompanied with an expectation that recipient countries will provide support for Beijing's authoritarian policies on the global stage, or at the very least refrain from criticizing Beijing. The Chinese government is likely to use this support to reshape international norms and standards to suit the CCP's interests, particularly through consensus-based international fora such as the UN. Chinese-funded technological projects can also serve as a means of locking in Beijing's preferred technological standards, creating a landscape more favorable to the CCP's authoritarian practices.

Chinese-financed infrastructure projects have also contributed to an unsustainable debt buildup in many recipient countries across South and Central Asia, increasing the risk that the United States and other development finance partners will be responsible for extending further debt relief to many highly indebted countries. The opacity and lack of rigorous standards during the planning stages of these projects also increases the risk that such projects will saddle recipient countries with added debt rather than provide economic growth. This risk is particularly prevalent amid current trends of slowing global economic growth and high interest rates. In the event of such a crisis, any debt relief provided by the United States and multilateral lending institutions may ultimately benefit China, which has historically proven unwilling to participate in multilateral debt-relief efforts.

Appendix: Indian Government Restrictions on Economic Ties with China

Date	Action	Note
April 2020	India's Ministry of Commerce and Industry requires government approval of foreign direct investment (FDI) coming from countries that share a land border with India to curb "opportunistic takeovers/acquisitions of Indian companies due to the current COVID-19 pandemic." ⁴²⁶	Between April 2020 and March 2022, the Indian government has received 347 FDI proposals, of which 281 remain pending. ⁴²⁷ The backlog has reportedly led New Delhi to consider relaxing the restrictions. ⁴²⁸
June 2020, September 2020, November 2021, and February 2022*	India's Ministry of Electronics Information Technology placed restrictions on downloading Chinese apps (321 as of October 2022). ⁴²⁹	The initial bans in 2020 impacted one of the Chinese internet industry's largest overseas markets. TikTok had been downloaded by over 100 million users in India. ⁴³⁰
July 2020	India's government amended its public procurement law to restrict bids from companies in countries that share a land border with India. ⁴³¹	In September 2022, Indian media reported that the Indian government had exempted several types of goods used in renewable energy in an effort to boost such projects. ⁴³²
April 2021	India's government began requiring mandatory registration for certain types of copper and aluminum. ⁴³³	According to Indian government officials, this restriction aimed to curb copper and aluminum imports from China and other Asian countries in order to protect India's domestic producers. ⁴³⁴
May 2021	India's government announced that mobile companies were to conduct 5G trials with foreign equipment makers, including Ericsson, Nokia, and Samsung, but it did not mention Huawei or ZTE. Several Indian government officials said New Delhi would likely block mobile carriers from using Huawei equipment, though no ban has been announced. ⁴³⁵	In July 2020, two Indian state-owned telecommunications companies canceled bids on upgrading to 4G, apparently to prevent Huawei and ZTE from participating in the project. ⁴³⁶

*Some of the latest apps include those belonging to major Chinese tech companies, such as Alibaba, Tencent, and NetEase, that had already been blocked by India's government in 2020 but which the firms had rebranded. *Bloomberg*, "India Bans 54 Chinese Apps, Including Those of Tencent, Alibaba and NetEase, on Security Concerns, Report Says," February 14, 2022.

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CHAPTER 4

TAIWAN

Abstract

In 2022, China adopted a significantly more aggressive stance toward Taiwan, ramping up displays of military force in addition to diplomatic and economic coercion. Beijing has also carefully observed Russia's war on Ukraine, presumably drawing lessons that would inform its approach if Chinese leaders ultimately decide to force unification with Taiwan. While the lessons being learned are not yet clear, Chinese leaders may conclude that managing information, mitigating the potential impact of sanctions, and examining the Russian military's combat performance are paramount. For their part, Taiwan's leaders may conclude on the basis of Ukraine's experience that they must adopt an asymmetric warfighting strategy, involve the populace in resistance to a Chinese military operation, and build stockpiles of critical materials.

Key Findings

- Russia's unprovoked invasion of Ukraine in 2022 provided a contemporary case study of the potential challenges and opportunities the People's Republic of China (PRC) might face if its leadership decides to attempt unification with Taiwan through the use of force. The war in Ukraine also injected urgency into ongoing discussions in Washington and Taipei about how to enhance the island's self-defense capabilities amid the People's Liberation Army's (PLA) massive military buildup as well as current and future challenges and disruptions to the global supply chains vital for weapons production.
- Beijing continued its multifaceted coercion campaign against Taiwan this year to isolate its people from the world. Chinese officials leveraged their power in international institutions to propagate falsehoods about a global consensus underpinning their "One China" principle and to prevent Taiwan from sharing its valuable expertise on issues ranging from global health to oceanic science. The PLA continued its intimidating and frequent operations in the air and waters around Taiwan, conducting large-scale live-fire exercises in August after Speaker of the U.S. House of Representatives Nancy Pelosi's visit to Taiwan.
- Taiwan and the United States are pursuing closer economic and trade collaboration. In June 2022, the U.S.-Taiwan Initiative on 21st-Century Trade was launched as the two economies agreed to pursue deeper integration. The U.S.-Taiwan Initiative will also address shared concerns related to China's nonmarket

practices, including discussions on state-owned enterprise and nonmarket economy-related issues.

- China's economic coercion of Taiwan targets export industries that are both relatively small and highly dependent on China's consumer market, attempting to send a political message and inflict pain on Taiwan while avoiding fallout on China's own economy. The Chinese government used the pretext of Speaker Pelosi's trip to increase its economic coercion of Taiwan, implementing a variety of import bans on food products that in particular originate from areas supportive of Taiwan's President Tsai-Ing Wen. Beijing's decision to leave the far more consequential trade in semiconductors untouched demonstrates its approach to economic targeting of Taiwan industries that are relatively small and highly dependent on China's consumer market.
- Beijing's messaging to foreign and domestic audiences evolved in new and concerning ways. Chinese officials' international messaging asserted China's ownership of the entire Taiwan Strait and conveyed their disdain for international norms. Speaking to its own members, the Chinese Communist Party (CCP) unveiled and credited to General Secretary of the CCP Xi Jinping a new "overall strategy for resolving the Taiwan question in the new era." While much of the strategy repeats longstanding tenets of China's policy toward Taiwan, certain phrases raise questions about whether the CCP could announce significant changes to Taiwan policy at its 20th Party Congress in late 2022.
- Taiwan's effective containment of the novel coronavirus (COVID-19) pandemic and strong demand for Taiwan exports led to robust economic growth through the first quarter of 2022. In contrast to the extended lockdowns that have shuttered substantial swaths of China's economy, Taipei has shifted to a less stringent set of COVID-19 management policies, allowing for greater economic openness. However, China's lockdowns and inflationary concerns in advanced economies have slowed Taiwan's growth relative to 2021.
- Taipei is accelerating efforts to respond to risks related to China-centric supply chains, including through cooperation with the United States. Domestically, development and investment initiatives continue to seek to draw Taiwan firms back from the Mainland, recalibrating cross-Strait supply chains.

Recommendations

The Commission recommends:

- Congress enact legislation creating a permanent interagency committee in the executive branch charged with developing options and creating plans for the imposition of sanctions or other economic measures in a range of possible scenarios, including (but not limited to) a Chinese attack, blockade, or other hostile action against Taiwan. This committee would evaluate the potential economic and political consequences of various options, coordinate their implementation, and advise Congress of any amendments to statutory authorities or mandates required to

enhance their effectiveness. The committee should coordinate and seek to devise joint plans with the relevant agencies of other governments that may be contemplating similar measures. The committee should include participants from the U.S. Departments of State, Treasury, Commerce, Defense, and Homeland Security.

- Congress direct the U.S. Department of Defense to produce a classified report on current and future military posture, logistics, maintenance, and sustainment requirements to bolster the United States' "capacity to resist force" in the event of a Chinese attack and attempted invasion of Taiwan. The report shall assess the requirements for all scenarios, including protracted combat in a contested environment (e.g., anti-access, area denial), and evaluate how to best enable a dispersed, distributed force in the Indo-Pacific.
- Congress should make available significant additional multiyear defense funds in conjunction with: (i) a joint planning mechanism made up of Taiwan and U.S. defense officials identifying sets of interoperable and complementary capabilities required for the defense of Taiwan; and (ii) Taiwan legislatively committing significant additional funds to procure its share of those capabilities for its military.

Introduction

Speaker Pelosi and a delegation of five Members of the House of Representatives visited Taiwan on August 2–3, 2022. The day after Speaker Pelosi departed Taiwan, the PLA began a series of live-fire exercises that some observers described as unprecedented in scale and proximity to the island.¹ Scores of Chinese military aircraft and naval vessels crossed the median line, long an informal buffer between the Chinese and Taiwan militaries, while Eastern Theater Command forces conducted a variety of firepower strike and combat drills that could facilitate a blockade or invasion in six zones encircling the island.² The PLA's test-firing of missiles into Taiwan's eastern waters, some of which reportedly overflew the island and five of which landed in Japan's exclusive economic zone, shattered convention and appeared intended to intimidate the people of Taiwan and U.S. allies that might oppose a Chinese military operation against Taiwan.³ The United States and its Group of 7 allies both released statements condemning China's military response as extreme, disproportionate, and needlessly escalatory.⁴ The most noteworthy aspect of the August 2022 exercises, however, was arguably the fact that they were entirely consistent with Beijing's longstanding strategy to isolate Taiwan through coercion and changes to the status quo. This strategy played out across the military, diplomatic, and economic realms in 2022 as the top CCP leadership geared up for its Party Congress in the fall. This section analyzes developments in Taiwan's security, external relations, and economy between late 2021 and late 2022. It is based on the Commission's consultations with experts, open source research, and its August 2022 hearing on "Challenges from Chinese Policy in 2022: Zero-COVID, Ukraine, and Pacific Diplomacy."

Cross-Strait Politics and Military Relations

China employed harsh rhetoric toward Taiwan in 2022 while provocatively operating in the air and waters near the island. The PLA also continued to train its force for a wartime campaign against Taiwan, though U.S. officials assessed there were no indications of an imminent attack.⁵ The CCP's domestic propaganda apparatus unveiled General Secretary Xi's "overall strategy for resolving the Taiwan question in the new era" at the Sixth Plenum in November 2021 and elaborated on its contents in a series of official and media commentaries in the months afterward, prompting speculation that the CCP may announce more changes in Taiwan policy after the 20th Party Congress in the fall of 2022.⁶ Meanwhile, Taiwan's government sought to improve military readiness by examining a potential extension of compulsory military service, piloting a new training program for the reserve forces, and increasing defense spending. Alarmed by the war in Ukraine, Taiwan citizens began to prepare for a potential invasion through grassroots civil defense seminars, and public polling appeared to show more public support for traditionally unpopular military reforms than before.

Beijing Publicly Threatens War to Deter "Separatism" while Internally Promoting Its New "Overall Strategy" for Resolving the Taiwan Question

Chinese officials adopted a bellicose and uncompromising stance on Taiwan in remarks aimed at the United States and the international community in 2022, sparking concerns Beijing might use force to resolve its territorial disputes and constrain freedom of navigation to lay the groundwork for forcible unification with the island. The CCP's messaging to politicians on Taiwan adopted a similar tone, suggesting Beijing would not engage constructively with the island's democratically elected leadership for the foreseeable future. Chinese officials' efforts to deter what they characterize as destabilizing moves by the United States and Taiwan were consistent with the much-touted "overall strategy for resolving the Taiwan issue in the new era," which largely restates China's longstanding policy of encouraging "peaceful reunification" through economic and cultural integration while forestalling a declaration of independence through threats of force.

China Aggressively Claims Ownership over Taiwan and the Taiwan Strait

In remarks aimed at the international community in 2022, Chinese officials claimed ownership of Taiwan and threatened to respond violently to moves facilitating Taiwan's independence. In an interview with National Public Radio in January 2022, Chinese Ambassador to the United States Qin Gang described Taiwan as the "biggest tinderbox between the United States and China" and warned, "If the Taiwanese authorities, emboldened by the United States, keep going down the road for independence, it most likely will involve China and the United States, the two big countries, in a military conflict."⁷ He repeated China's longstanding position that Chinese leaders would not rule out the use of force to achieve unification because doing so would undermine their ability to deter a

declaration of independence.⁸ At the annual Shangri-La Dialogue in June 2022, Chinese Minister of National Defense General Wei Fenghe emphasized that “Taiwan is first and foremost China’s Taiwan” and vowed that Beijing would resolutely “crush” efforts to pursue independence through the use of force.⁹ “If anyone dares to secede Taiwan from China, we will not hesitate to fight,” he said.¹⁰ “We will fight at all costs and we will fight to the very end.”¹¹ Both sets of remarks signaled Beijing’s resolve to prevent the formal separation of Taiwan from the Mainland, something its officials describe as a “core interest.”¹²

Chinese officials have also recently departed from precedent by asserting ownership of the entire Taiwan Strait, challenging internationally recognized principles of freedom of navigation in the Indo-Pacific region.¹³ According to Bloomberg, Chinese military officials in multiple meetings at various levels this year have told their U.S. counterparts that the Taiwan Strait is not within international waters, generating concern in Washington.¹⁴ Instead, Chinese officials assert that the Taiwan Strait is part of China’s exclusive economic zone (EEZ) and believe there are limits to the activities of foreign military vessels in those waters.*¹⁵ Chinese Foreign Ministry Spokesperson Wang Wenbin said publicly in mid-June that “China has sovereignty, sovereign rights and jurisdiction over the Taiwan Strait” and alleged that “certain countries call the Taiwan Strait ‘international waters’ in order to find a pretext for manipulating issues related to Taiwan.”¹⁶ The U.S. government responded to Spokesperson Wang’s remark by stating that “the Taiwan Strait is an international waterway... where high seas freedoms, including freedom of navigation, [and] overflight, are guaranteed under international law” and reasserting that the U.S. military will operate wherever international law allows.¹⁷ Similarly, Taiwan’s foreign ministry spokesperson stated that most of the Taiwan Strait constitutes international waters and the U.S. and allied naval presence served to “promote peace and stability in the region.”¹⁸ In mid-August, Ambassador Qin issued a veiled warning that China could respond militarily to any future routine transits of the Taiwan Strait by U.S. naval vessels.¹⁹ China’s statements may aim to establish a legal basis on which to attempt to deny U.S. and foreign military vessels access to the Taiwan Strait.²⁰

Beijing Continues to Freeze Out Taipei and Chastises Both Major Parties

Cross-Strait political relations remained frigid this year as Beijing continued to refuse to engage the Tsai Administration construc-

*An exclusive economic zone, or EEZ, lies beyond a country’s 12-nautical-mile territorial waters. The 1989 UN Convention on the Law of the Sea (UNCLOS) establishes that an EEZ gives a country certain rights, including the right to exploit the natural resources there, and it also guarantees freedom of navigation through the EEZ. The implications of UNCLOS’s provisions for warships are debated, however. “Many Western countries interpret UNCLOS as permitting external states to conduct military exercises within another country’s EEZ under the principle of ‘navigational freedom,’” James Brown, a professor at Temple University’s Japan campus, told the newspaper *Stars and Stripes* in an email. “However, this interpretation is not shared by Beijing. China takes the view that military exercises are harmful to national security and thus should not be permitted within its EEZ,” Dr. Brown stated. The United States and other nations regard the Taiwan Strait as international waters where their warships are free to transit. Alex Wilson, “China Asserts Jurisdiction over Taiwan Strait, Shuns ‘International Waters’ Stance by US,” *Star and Stripes*, June 14, 2022.

tively and insisted on Taipei's acceptance of the "1992 Consensus" as a precondition for dialogue.* Instead, Chinese officials continued to endorse "one country, two systems"† as a viable framework for unification despite the framework's failure in Hong Kong and unpopularity in Taiwan, emphasizing their willingness to use force against the island if necessary.²¹ The CCP's domineering public statements contrasted sharply with overtures by Premier Tsai and Premier Su Tseng-chang, who both expressed Taipei's willingness to engage with Beijing in the spirit of goodwill on the basis of equality and reciprocity.²²

Chinese officials also criticized both mainstream political parties in Taiwan for their stance on cross-Strait relations in 2022. Chinese officials and media repeated their longstanding accusations that the ruling Democratic Progressive Party (DPP) is planning to achieve independence and alleged the party is conducting a "green terror"‡ to harass Taiwan people friendly to the Mainland.²³ China's Taiwan Affairs Office also departed from its traditionally friendly treatment of the Kuomintang (KMT) by lashing out at KMT Chairman Eric Chu§ after he called the 1992 Consensus a "non-consensus consensus" during a visit to the United States in June 2022.²⁴ The office's spokesperson warned that "the 1992 Consensus cannot be willfully

*The "1992 Consensus" refers to a tacit understanding that the Kuomintang (KMT) under then President Ma Ying-jeou and Beijing said was reached between representatives of Taiwan and China in 1992 regarding the idea that there is only one state called "China" and that both mainland China and Taiwan belong to that state. The KMT defined the consensus as "one China, respective interpretations," interpreting "one China" as the Republic of China, the formal name of Taiwan's government. By contrast, Beijing accepts only the definition embodied in its "one China" principle: mainland China and Taiwan are part of one and the same China, the PRC, and Taiwan is a subnational region. Although in official documents and statements Beijing has never acknowledged that the consensus allows different interpretations of "one China," in practice it has at times officially ignored, but grudgingly tolerated, the KMT's definition of the consensus. By contrast, the ruling Democratic Progressive Party and current Taiwan Administration have consistently refused to recognize the 1992 Consensus or the "one China" principle. For more, see U.S.-China Economic and Security Review Commission, Chapter 5, "Taiwan," in *2019 Annual Report to Congress*, November 2019, 459.

†"One country, two systems" is the Chinese government's proposed political framework for unification with Taiwan. Under "one country, two systems," Chinese officials claim Taiwan can enjoy a high degree of autonomy in exchange for recognizing the existence of and its role as a constituent part of only "one China." China's crackdown on the rights and freedoms of people in Hong Kong has shown that its promises of autonomy under the framework are empty, however. In 2019, General Secretary Xi equated "one country, two systems" to the 1992 Consensus, leading President Tsai to emphatically reject the framework. For more, see Derek Grossman, "Where Does China's 'One Country, Two Systems' Stand in 2020?" *Diplomat*, February 13, 2020.

‡Ahead of Taiwan's 2020 presidential election, the KMT and mainland officials accused the DPP of carrying out a "green terror" campaign to suppress pro-Beijing political dissent, charging that the passage of the Anti-Infiltration Act and other political measures would enable the DPP to suppress its political opponents. The Anti-Infiltration Act increased penalties for those accepting money or guidance from mainland China to lobby Taiwan politicians or participate in election campaigns. The term "green terror" is a variation on "white terror," a political term used in Taiwan to describe the campaign of political repression carried out by the KMT during the period of martial law from 1949 to the late 1980s. During the "white terror" period, at least 140,000 people were convicted of political crimes in military courts, and 4,000–5,000 people were executed between 1950 and 1954 alone. Green is the official color of the DPP. Oiwan Lam, "Ahead of Taiwan's Presidential Election, KMT Accuses DPP of 'Green Terror' and Beijing Echoes," *Global Voices*, January 8, 2020; Nick Aspinwall, "Taiwan Passes Anti-Infiltration Act ahead of Election amid Opposition Protests," *Diplomat*, January 3, 2020.

§Chu won the election for KMT chairmanship in September 2021, defeating incumbent Chairman Johnny Chiang. Chu previously served as KMT chairman and met with General Secretary Xi in Beijing in 2015. The CCP did not send a congratulatory letter to Chiang after his election, departing from its usual practice of congratulating the new KMT chairman through party-to-party communication, signaling its disapproval of Chiang's desire to potentially abandon the 1992 Consensus to make the KMT more electable. It did, however, send congratulations to Chu upon his election. Chu made his remark about the non-consensus consensus nine months after his election. *Xinhua*, "Xi Focus: Xi Congratulates Eric Chu on Election as KMT Chief," September 26, 2021; Keoni Everington, "Beijing Fails to Congratulate Taiwan KMT's New Chairman," *Taiwan News*, March 9, 2020.

distorted” and urged the KMT to “stay on the correct path.”²⁵ Despite this criticism of Chairman Chu, the KMT still participated virtually in the Mainland’s 14th annual Straits Forum, which Taiwan’s Mainland Affairs Council has described as a major venue by which China carries out “United Front” work,* over several days in July.†²⁶ The KMT’s vice chairman also went through with a pre-planned trip to the Mainland in early August after the PLA began military exercises in response to Speaker Pelosi’s visit.²⁷

How Will the “China Factor” Impact Taiwan’s 2024 Presidential Election?

Taiwan’s relationship with China is among the most important political issues in any Taiwan national election, and the 2024 presidential election is no exception.‡²⁸ President Tsai is approaching the end of her second consecutive term and is ineligible to run again due to term limits.²⁹ Pollsters in Taiwan have already identified likely contenders from each of the island’s major parties, and media outlets on and off the island have begun scrutinizing the candidates’ words and actions for insight into their stance on China.³⁰ The November 2022 “nine-in-one” local elections§ may foreshadow the 2024 race insofar as the results reflect continuing public support for the reigning DPP or precipitate an internal party revolt against current KMT Chairman Chu, who is seeking to make the KMT more electable by shifting its unpopular positions on issues like the 1992 Consensus and its image as a “pro-China” party.¶³¹ Media sources speculate that the DPP will likely choose current Vice President William Lai, who was President Tsai’s running mate in the 2020 election and has described himself as a “political worker advocating for Taiwan independence.”³² The KMT may field current New Taipei Mayor Hou Youyi, who has recently signaled his independence from the party line and is among the most popular politicians in Taiwan, or Chairman Chu, who is facing significant challenges

* China uses “United Front” work to co-opt and neutralize sources of potential opposition to the CCP’s policies and authority. The CCP’s United Front Work Department—the agency responsible for coordinating these kinds of influence operations—carries out global influence operations and manages potential opposition groups inside China, such as ethnic minorities, religious groups, and intellectuals outside of the CCP. The United Front Work Department’s operations toward Taiwan aim to suppress the Taiwan independence movement, undermine local identity, and promote support for “one country, two systems.” For more on the United Front Work Department, 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, 3.

† By contrast, the KMT under Chiang boycotted the 12th Straits Forum in 2020 after a talk show on Chinese state-run central television ran a headline during the show describing the forthcoming visit of the KMT delegation as Wang Jin-pyng “coming to the Mainland to plead for peace.” Nick Aspinwall, “Taiwan’s KMT Skips Key Cross-Strait Forum over Comment by Chinese Talk Show Host,” *Diplomat*, September 21, 2020.

‡ Taiwan-based scholar Nathan Batto calls this single dominant political fault line over Taiwan’s national identity “the China cleavage.” Nathan Batto, “The NPP’s Internal Divisions, Ko’s New Party, and the China Cleavage,” *Frozen Garlic*, 2019.

§ Nine categories of elected office, ranging from mayors and heads of large counties to chiefs of small villages, are up for grabs in these local elections, which occur every four years.

¶ Chairman Chu has sought to portray the KMT as “pro-United States” by visiting the United States, attending the reopening of the KMT’s office in Washington, and emphasizing the KMT’s long history of ties with the United States. Even so, a June 2022 poll conducted by the Taiwanese Public Opinion Foundation found that 65 percent of respondents view the KMT as a “pro-China” political party. Courtney Donovan Smith, “Is the New KMT Pro-US Shift Actually for Real?” *Taiwan News*, June 22, 2022; Taiwan Public Opinion Foundation, “June 2022 National Polls Summary Report” (2022 年 6 月全國性民意調查摘要報告), June 21, 2022. Translation.

How Will the “China Factor” Impact Taiwan’s 2024 Presidential Election?—*Continued*

from so-called “deep blue”* members of the party favoring closer ties—or even unification—with China.³³ The recently established Taiwan People’s Party, which some polls have shown is more popular than the KMT, may put forward Taipei City Mayor Ko Wen-je, who has stated that China and Taiwan are “one family across the Strait” and supported a proposed bridge linking Taiwan’s outlying islands with the Mainland.³⁴

China Hardens Its Position on Taiwan ahead of 20th Party Congress

While the Chinese government continued to accuse the United States of changing the “status quo” in the Taiwan Strait, several signs emerged that its own position toward Taiwan is hardening ahead of the 20th Party Congress.³⁵ These signs include the debut of the CCP’s new “overall strategy” for managing cross-Strait relations and the publication of an official white paper on Taiwan that omits some of the assurances China has previously made that Taiwan would enjoy a high degree of autonomy under “one country, two systems.”

CCP Touts “Overall Strategy” for Resolving the Taiwan Question ahead of the 20th Party Congress

Since November 2021, CCP officials and media have promoted the Party’s “overall strategy for resolving the Taiwan question in the new era” as a novel, comprehensive, and theoretically profound framework for achieving Taiwan’s unification with the Mainland.³⁶ Most of the strategy is consistent with the policy of “peaceful reunification” that China has pursued toward Taiwan since the late 1970s, however.³⁷ According to a July commentary by Taiwan Affairs Office Director Liu Jieyi in *People’s Daily*, the strategy encompasses five lines of effort.³⁸ First, China views “reunification” as an “inevitable requirement” of national rejuvenation and will promote both aims at the same time, aiming to “create a favorable environment in the Taiwan Strait” and rely on “our growing comprehensive strength and significant institutional advantages.”³⁹ Second, China continues to view “peaceful reunification and one country, two systems” as the best policy option but still reserves the option to use force as required.⁴⁰ Third, China maintains that the “One China principle”† and 1992 Consensus are the political foundation of cross-Strait relations and the precondition for any official dialogue with Taipei.⁴¹ Fourth, China will continue to promote cross-Strait integration and development, namely through economic initiatives and cultural exchanges.⁴² Finally, China will continue its efforts to deter Taiwan

*Political parties in Taiwan are affiliated with different colors: green stands for the DPP and blue stands for the KMT, for example.

†The “One China principle” refers to the Chinese government’s position that Taiwan is an inalienable part of the state called “China” ruled by the PRC. By contrast, the “one China policy” refers to the U.S. government position that the PRC—rather than the Republic of China government on Taiwan—is the sole legal government of China and acknowledges the Chinese position that Taiwan is part of China.

politicians from declaring independence and foreign countries from “interfering” in any matter China regards as its internal affairs.⁴³ Director Liu described the strategy as “a theoretical crystallization of epoch-making significance for Taiwan work” and credited Xi with most of the theoretical innovation behind the strategy.⁴⁴ Like other officials before him, Director Liu called on CCP members at all levels to “thoroughly study and implement” the new guidance on Taiwan work.⁴⁵

Despite this continuity, the CCP’s use of certain phrases in connection with the strategy raises questions about whether it foreshadows a significant change in Taiwan policy at the upcoming 20th Party Congress.⁴⁶ The strategy’s inclusion of the words “resolving” and “in the new era” could imply that China seeks a definitive solution to the ongoing dispute over Taiwan’s political status during Xi’s tenure instead of postponing unification indefinitely.⁴⁷ Chinese officials discussing the need to implement Xi’s guidance on Taiwan work have also asserted that China possesses “the initiative” in cross-Strait relations, suggesting Beijing believes it controls the direction and pace of cross-Strait relations.⁴⁸ According to John Dotson, deputy director at the Global Taiwan Institute, China’s narratives surrounding its “initiative” to resolve Taiwan’s political status show that Beijing seeks to deny Taiwan’s people legitimacy or agency over their own affairs.⁴⁹ Instead, Beijing seeks a position of dominance in cross-Strait relations, believes there is an “inevitable historical trend” of unification with Taiwan, and insists that Taiwan’s populace bow to China’s superior power and authority, Mr. Dotson argued in a May analysis.⁵⁰

Official White Paper Suggests “One Country, Two Systems” for Taiwan Will Be Less Autonomous

China also published a white paper in August 2022 that discusses “one country, two systems” in a post-unification Taiwan in ways that suggest Beijing intends to exert more control over Taiwan than it has promised in the past or than it has in Hong Kong. The 2022 white paper emphasizes that Beijing remains committed to peaceful unification and “one country, two systems,” remaining consistent with the 1993 and 2000 white papers in its expression of Beijing’s preferences (see Appendix for a detailed comparison of the three white papers).⁵¹ The white paper states that China’s national development and growing influence “set the direction of cross-Strait relations,” providing China with “a more solid foundation for resolving the Taiwan question and greater ability to do so.”⁵² It also repeats the call of previous white papers* to deepen cross-Strait engagement and clarifies that the “use of force would be the last resort taken under compelling circumstances.”⁵³

At the same time, the white paper makes clear “one country, two systems” as previously conceived is too lax to account for challenges to its authority that Beijing anticipates in a post-unification Taiwan. Unlike its 1993 version, the 2022 white paper does not contain assurances of the specific rights Taiwan could enjoy after unification that would allow the island to keep its democratic political system.⁵⁴ These missing assurances include Taiwan’s right to “its own

* China published white papers laying out its position on Taiwan in 1993 and 2000.

administrative and legislative powers”; “an independent judiciary and the right of adjudication on the island”; the ability to “run its own party, political, military, economic, and financial affairs”; the right to “keep its military forces” and corollary promise that “the Mainland will not dispatch troops or administrative personnel to the island” (also repeated in the 2000 version); and the prospect that “representatives of the government of the special administrative region and those from different circles of Taiwan may be appointed to senior posts in the central government and participate in the running of national affairs.”⁵⁵ The omission of the promise not to dispatch mainland troops leaves open the possibility that the PLA might occupy Taiwan for an extended period of time as Beijing roots out those it deems separatists who cannot be brought into the fold of a unified society. Moreover, the 2022 white paper’s language contradicts the 2000 white paper’s promise that “after peaceful reunification, [the Mainland] is prepared to apply a looser form of the ‘one country, two systems’ policy in Taiwan than in Hong Kong and Macao.”⁵⁶ Instead, the 2022 white paper notes that “Hong Kong faced a period of damaging social unrest caused by anti-China agitators both inside and outside the region,” leading the CCP to make “appropriate improvements” to “one country, two systems” similar to those applied in Hong Kong that presumably would be implemented in Taiwan after unification.⁵⁷

Some Mainland Voices Advocate for More Repression in a Unified Taiwan ahead of 20th Party Congress

Some Chinese academics and diplomats have gone farther than official policy in their calls for greater restrictions on politics and society in a post-unification Taiwan, potentially reflecting currents of thinking that may influence adjustments in Taiwan policy announced after the 20th Party Congress in the fall. Tian Feilong, a leading hardline intellectual and staunch advocate for Hong Kong’s 2020 National Security Law, published an article in July 2021 assessing that the difficulty of bringing Hong Kong under mainland control had proven “the ‘one country, two systems’ system design that simply delegates power and benefits is not an ideal and sound solution, and effective institutional arrangements for state authority must be made at the beginning.”⁵⁸ He argued that ensuring stability in Taiwan after unification would require governance by “patriots” only; a new “national unification law” as well as updates to the Anti-Secession Law, the Hong Kong National Security Law, and the Anti-Foreign Sanctions Law; the incorporation of pro-CCP content into the curriculum for all Taiwan students; and Taiwan’s participation in Chinese global initiatives like the Belt and Road Initiative (BRI), among other things.⁵⁹ More recently, China’s Ambassador to France, Lu Shaye, told the French press repeatedly in August 2022 that China would need to “reeducate” Taiwan’s population after unification to counteract popular support for independence and cultivate acceptance of the CCP’s rule.⁶⁰ His remarks about reeducation echoed Beijing’s language surrounding its treatment of Uyghurs in Xinjiang, who are forcibly interned in “reeducation” camps for political indoctrination.⁶¹

Beijing Intensifies Coercion while Taipei Mulls Military Reform

PLA Escalates Frequent and Intimidating Operations around Taiwan

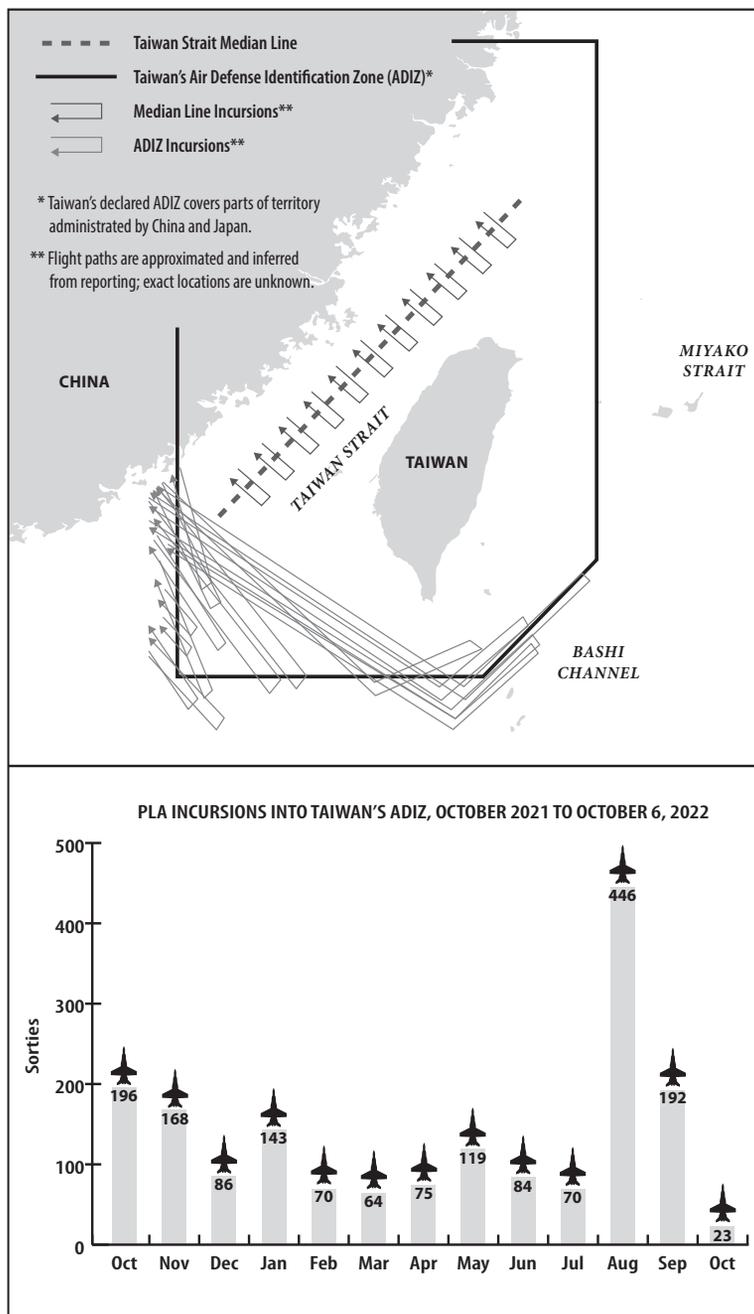
The PLA escalated its provocative operations around Taiwan in 2022, violating the island's air defense identification zone (ADIZ) on an almost daily basis to attempt to normalize its presence in the area (see Figure 1).⁶² According to a database maintained by Systems Planning and Analysis, Inc. analyst Gerald Brown that compiles data published by Taiwan's Ministry of National Defense, PLA aircraft made approximately 1,286 sorties into Taiwan's ADIZ between January and October 6, 2022, exceeding the 972 sorties that occurred over the entirety of 2021 by 32 percent.⁶³ About 26 percent of these, or 339 sorties, occurred over the first three weeks of August as the PLA conducted military exercises in response to Speaker Pelosi's visit to Taiwan.⁶⁴ U.S. officials have repeatedly condemned China's violations of Taiwan's ADIZ in 2022, including U.S. Secretary of Defense Lloyd Austin in his recent speech at the annual Shangri-La Dialogue.⁶⁵

The PLA also practiced a variety of military operations in 2022 relevant to a Taiwan conflict, all of which likely aimed to deter intervention by outside parties, enhance military readiness, and make routine its presence in the Strait and around Taiwan.⁶⁶ The most significant of these exercises occurred between August 4 and 10* following Speaker Pelosi's trip to Taiwan, though the PLA carried out a number of small-scale training events during the first half of the year and flew a joint strategic bomber patrol with Russia near Japan in June.⁶⁷ The August exercises reportedly involved:

- Live-fire drills and military operations carried out in six zones encircling the island of Taiwan, which allowed the PLA to target the island from the north, south, east, and west.⁶⁸ Previous PLA exercises and the live-fire exercises targeting Taiwan during the 1996 crisis had been held along the coasts of Fujian and Zhejiang provinces.⁶⁹ Several of the zones appeared to extend within 12 kilometers (6.5 nautical miles) of Taiwan's coast, an area regarded as territorial seas under the UN Law of the Sea.⁷⁰
- Test-firing of long-range rockets and conventional missiles from four regions in China into multiple exercise zones.⁷¹ Japan's Ministry of National Defense reported that China fired nine short-range ballistic missiles into four exercise zones, assessing that five had landed in Japan's EEZ and that four had likely flown over Taiwan.⁷² By contrast, China and Taiwan both reported that 11 missiles had been fired.⁷³ Taiwan's Ministry of Defense did not issue air raid warnings and said that the mis-

*On August 1, China announced it would conduct military exercises in the South China Sea between August 2 and 6 as well as military exercises including live-fire drills around Taiwan between August 4 and 7. Though the military exercises around Taiwan were slated to end on August 7, China announced new military operations around Taiwan on August 8 and 9 to practice "joint anti-submarine and sea assault" and "joint containment and joint support." The PLA's Eastern Theater Command announced the end to the military exercises on August 10, but PLA aircraft and vessels continued to operate around Taiwan in the weeks afterward. China Power Project, "Tracking the Fourth Taiwan Strait Crisis (Updated August 19)," *Center for Strategic and International Studies*, August 19, 2022.

Figure 1: PLA Incursions in Taiwan’s ADIZ, October 2021 to October 6, 2022



Source: Taiwan’s Ministry of National Defense, compiled by Gerald C. Brown. See Gerald C. Brown, “Taiwan ADIZ Violations,” last updated October 10, 2022.

siles had flown high above the atmosphere, posing no threat to people on the island.⁷⁴

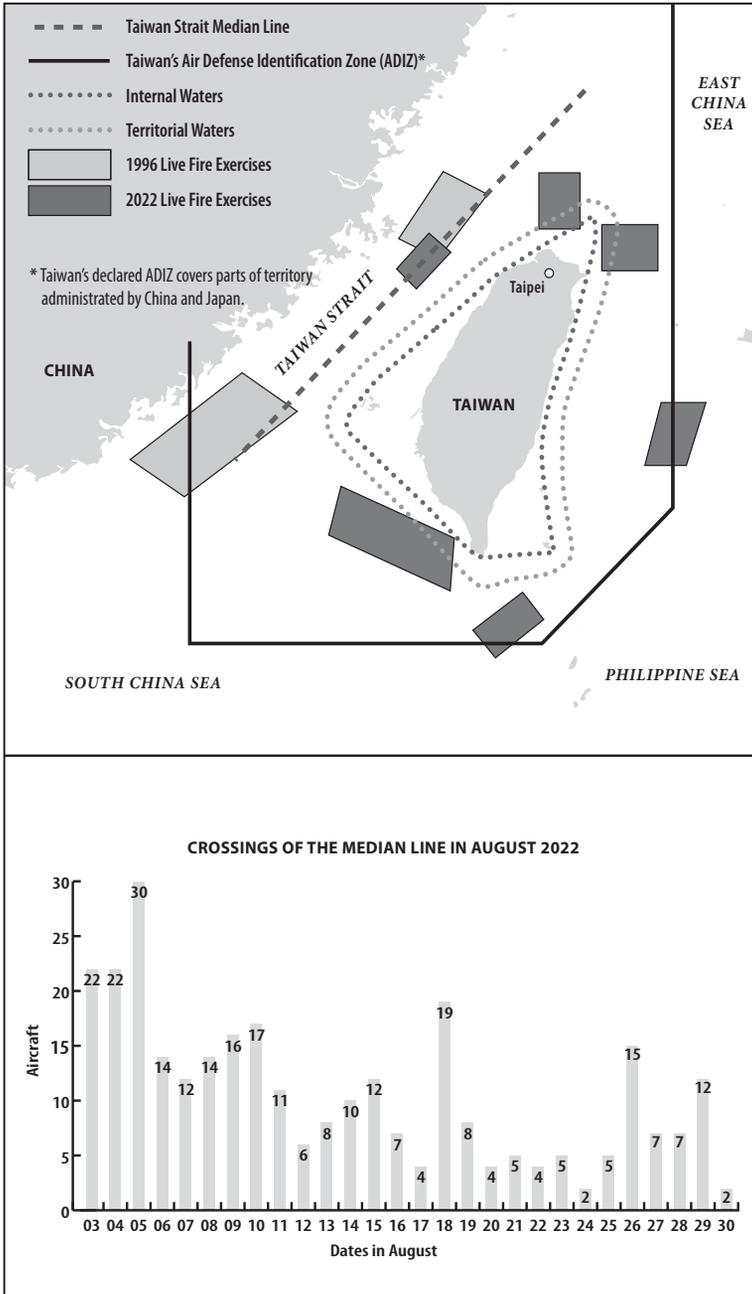
- Large numbers of Chinese military aircraft operating in Taiwan's ADIZ and crossing the median line* (see Figure 2), though there were no credible reports that any aircraft had entered Taiwan's territorial airspace.⁷⁵ Unmanned aerial vehicles (UAVs) also flew over Taiwan's Kinmen Islands and Matsu Islands.⁷⁶
- Large numbers of Chinese naval vessels operated in the waters around Taiwan, with some crossing the median line, though Taiwan's Ministry of National Defense confirmed that none had come within 24 nautical miles of the coast.⁷⁷ During the exercises, Chinese and Taiwan warships reportedly played a game of "cat and mouse," sailing at close quarters as the Taiwan vessels monitored or at times attempted to prevent Chinese vessels from crossing the median line.⁷⁸
- The PLA Eastern Theater Command carried out what Chinese state media described as training focusing on "practical subjects" such as "joint containment and control"—its euphemism for operations supporting a blockade—simulated firepower strikes on land and maritime targets, air superiority operations, joint anti-submarine warfare, and joint support.⁷⁹ The PLA Navy, Air Force, Rocket Force, Strategic Support Force, and Joint Logistic Support Force all reportedly participated, suggesting that the PLA also tested new command and control structures implemented after the 2015 military reorganization.⁸⁰
- Disruptions to civilian sea and air traffic as marine shippers and airlines rerouted to avoid the areas the PLA had declared off-limits during the exercise.⁸¹

While certain aspects of the PLA's August exercises were novel, others seemed consistent with the CCP's previous coercive activities toward Taiwan and intended mainly to achieve deterrent effects. Some U.S. media outlets and experts described the exercises as "unprecedented" in terms of scale and proximity to Taiwan, emphasizing the high tempo of aircraft flights the PLA sustained over the exercises and the fact that the PLA had apparently shattered previous norms against shooting missiles over the main island of Taiwan or into the EEZs of U.S. allies like Japan.[†]⁸² At the same time, the PLA's dispatch of large numbers of military aircraft into

*The median line, also known as the center line, is an informal demarcation extending down the middle of the Taiwan Strait. The line was drawn in 1955 by General Benjamin O. Davis, then commander of the U.S. Air Force's Taiwan-based 13th Air Force. While the Chinese government never formally agreed to the establishment of the median line, both the PLA and Taiwan's military observed the line in practice. In the decades immediately following the drawing of the median line, Taiwan's military superiority made it too dangerous for PLA aircraft to cross the line. In fact, the Taiwan military also never publicly acknowledged the median line until 1999, when the PLA's first deliberate crossing occurred, because it could control the airspace over the entire Taiwan Strait. With the shift in the cross-Strait military balance in China's favor over the last two decades, Taiwan is no longer able to prevent PLA planes from crossing the line. While China's foreign ministry said in September 2020 that the median line did not exist, Taiwan's defense ministry described its existence as a "fact" in August 2022. For more, see U.S.-China Economic and Security Review Commission, Chapter 5, "Taiwan," in *2019 Annual Report to Congress*, November 2019, 449.

†Some analysts also assessed that the UAV flights over Taiwan's offshore islands were an historical first. Center for Strategic and International Studies, "The Military Dimensions of the Fourth Taiwan Strait Crisis," August 23, 2022; China Power Project, "Tracking the Fourth Tai-

Figure 2: Crossings of the Median Line in August 2022



Note: Prior to the August 2022 exercises, PLA aircraft had crossed the median line twice in September 2021 and once in May 2022.

Source: Taiwan’s Ministry of National Defense, compiled by Gerald C. Brown. See Gerald C. Brown, “Taiwan ADIZ Violations,” last updated August 30, 2022.

Taiwan's ADIZ mirrored some of the air activities it has conducted in the Taiwan Strait over the past two years, and neither its missiles nor its ships actually entered Taiwan's territorial waters, aligning with past PLA practice when operating around Taiwan.*⁸³ Notably, some of the missiles China launched into the waters around Taiwan appeared to be DF-15B short-range ballistic missiles, which are optimized for land targets, rather than antiship missiles, which would have been more appropriate for simulating precision strikes on enemy ships.⁸⁴ According to public reporting, the exercises also did not appear to integrate amphibious operations; include visit, board, search, and seizure activities that would be required to inspect vessels attempting to transit a blockaded area; or feature enough ships, aircraft, submarines, and surface-to-air missile units working in concert to repel intervening forces.⁸⁵

Gray Zone Activities Lay the Groundwork for Enforcement of China's Claims over Taiwan

China also continued to conduct gray zone activities† around Taiwan, normalizing its presence near the island and potentially creating a pretext for future enforcement of its territorial claims. In November 2021, members of Taiwan's Mainland Affairs Council expressed concern that the Chinese Coast Guard‡ constituted a de facto "second navy" and that it might attempt to interdict the Taiwan Coast Guard Administration's regular maritime law enforcement duties, such as disrupting illegal fishing or checking merchant vessels for stowaways.⁸⁶ In July 2022, Chinese media also reported that a large patrol and rescue ship known as *Haixun 06* had been commissioned and assigned to the Fujian Maritime Safety Administration.§⁸⁷ *Haixun 06* will reportedly patrol the Taiwan Strait to conduct emergency rescues of mainland and Taiwan vessels involved in maritime traffic accidents.⁸⁸ The commissioning of *Haixun 06* came just weeks after Chinese officials claimed sovereignty over the entire Taiwan Strait, leading some analysts to assess that the ship's patrol activities will create a pretext for the potential enforcement of Chinese maritime laws in the Taiwan Strait.⁸⁹

Chinese Disinformation and Propaganda Flood Taiwan's Information Environment

In 2022, China continued to target Taiwan with coordinated disinformation campaigns to subvert public trust in its institutions and epidemic response. Disinformation campaigns have been carried out by

wan Strait Crisis (Updated August 19)," *Center for Strategic and International Studies*, August 19, 2022.

* For example, PLA aircraft conducted 149 sorties into Taiwan's ADIZ over the first four days of October 2021 during China's National day celebrations. Adrian Ang U-Jin and Olli Pekka Suorsa, "Explaining the PLA's Record-Setting Air Incursions into Taiwan's ADIZ," *Diplomat*, October 14, 2021.

† Gray zone activities are coercive actions to change the status quo that remain below the threshold justifying a kinetic military response. Lyle J. Morris et al., "Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression below the Threshold of Major War," *RAND Corporation*, 2019, iii.

‡ The Chinese Coast Guard is subordinate to the People's Armed Police force, which in turn answers to the Central Military Commission. This operating structure mirrors that of the PLA and effectively puts Chinese maritime law enforcement activities under the control of its military. Shigeki Sakamoto, "China's New Coast Guard Law and Implications for Maritime Security in the East and South China Seas," *Lawfare*, February 16, 2021.

§ Unlike the Chinese Coast Guard, the Maritime Safety Administration is not directly subordinate to the Central Military Commission.

China's central government, China's local governments, Chinese companies acting as content farms, or Taiwan-based public figures who wittingly or unwittingly propagate fake news.*⁹⁰ In January, the Investigation Bureau of Taiwan's Ministry of Justice said China is currently using more than 400 fake accounts† to spread disinformation on Taiwan's most popular social media and internet forums to divide society and interfere with the upcoming elections.‡⁹¹ In May, National Security Bureau Director-General Chen Ming-tong stated publicly that China pays and trains Taiwan social media celebrities (or "influencers") to produce fake content in what he termed "cognitive warfare."⁹² Director-General Chen pointed to the example of a Taiwan TikTok celebrity based in Hangzhou who circulated false claims after Russia's invasion of Ukraine and claimed the Chinese government was assisting with the evacuation of Taiwan citizens from Ukraine, but Taiwan's government was not.⁹³ Taiwan's government agencies are now considering measures to counter China's use of Taiwan influencers to spread disinformation, including through fines or other punishments.⁹⁴ For example, a man from Taiwan's Hualien county and his wife were sentenced in May to several months in prison for using the two Facebook groups they administered to spread disinformation about COVID-19 and domestic politics in the runup to Taiwan's 2020 election.§⁹⁵ More broadly, Chinese-language pro-Russian fake news of probable Chinese origin has flooded Taiwan's online environment since the start of Russia's invasion into Ukraine, amplifying Kremlin and CCP narratives about the origin of the crisis.⁹⁶

China also continued leveraging Taiwan celebrities to manufacture grassroots support for unification.⁹⁷ In January 2022, Chinese media company CMG Cross-Strait Radio and the TV program *Looking at the Taiwan Strait* released the music video for the ballad "We're Singing a Song Together" featuring major Taiwan pop stars Jam Hsiao and Nana Ouyang.⁹⁸ Alternating between Mandarin, Hokkien, and Southern Min—all languages spoken in Taiwan—the ballad's lyrics convey pro-unification messages such as likening Taiwan's people to "fallen leaves return[ing] to their roots in China" and emphasizing that "the two sides [of the Taiwan Strait] have always been one family."⁹⁹ In May, several Taiwan YouTube celebrities based in China attended the fifth Cross-Strait Youth Development Forum in Hangzhou, where they discussed their professional success in the Mainland and urged other young people in Taiwan to join them.¹⁰⁰ Such activities aim to facilitate unification by encouraging Taiwan youths to view their identities and futures as deeply intertwined with the Mainland.

* In February, the Taiwan FactCheck Center found that 90 percent of those polled in a recent survey reported having encountered disinformation at some point in the past, and 93 percent said disinformation is having a "serious impact" on Taiwan's society. Yang Mien-chieh and William Hetherington, "Most Taiwanese Encounter Media Disinformation: Poll," *Taipei Times*, February 20, 2022.

† The Investigation Bureau said it investigated 2,773 cases of fake accounts propagating such information in 2021 alone, tracing them back to content farms in mainland China. Chien Li-chung, "PRC Targets Taiwan with New Disinformation Ploy," *Taipei Times*, January 24, 2022.

‡ China launched a major but ultimately unsuccessful campaign to influence the results of Taiwan's 2020 presidential election. For more, see Nick Monaco, Melanie Smith, and Amy Studdart, "Detecting Digital Fingerprints: Tracing Chinese Disinformation in Taiwan," joint report by the Institute for the Future's Digital Intelligence Lab, Graphika, and the International Republican Institute, August 2020.

§ Both had traveled to China in August 2019 to receive propaganda training and spread the disinformation upon their return. Wang Chin-i and Liu Tzu-hsuan, "Hualien Man Sentenced to Three Months for Spreading COVID-19 Rumors Online," *Taipei Times*, May 9, 2022.

Taiwan Debates New Steps to Resist Beijing's Military Pressure

Taiwan Explores Ways to Enhance Military Readiness

Taiwan's government has explored, though not yet implemented, several ways to enhance military readiness this year. Taiwan's regular military is in the midst of a transition to an all-volunteer force and suffers from a shortage of active-duty personnel, with some front-line combat units reportedly at only 60 percent of their required manpower.¹⁰¹ Some critics have panned training for both active-duty army personnel and the reserve forces as scripted and unrealistic.¹⁰² Problems of military readiness are particularly acute in Taiwan's reserve force. Taiwan's Ministry of National Defense has assessed that only one-third of its 2.3 million reservists were demobilized recently enough to be effective if they were to be mobilized for conflict.¹⁰³ Of that fraction, over 40 percent have completed only basic training and another 45 percent were conscripts who served for no more than four months.¹⁰⁴ Taiwan's Ministry of National Defense can mobilize only 260,000 reservists quickly enough to respond to a crisis.¹⁰⁵ Some analysts have also expressed concern that the Ministry of National Defense is not consistently implementing the asymmetric warfighting strategy known as the Overall Defense Concept that it adopted just a few years ago.¹⁰⁶ Taiwan's military also struggles to recruit soldiers from a society in which military service is often regarded with disdain and military careers are often seen as a last resort.¹⁰⁷ President Tsai has called for sweeping reforms to address these longstanding deficits during both her terms, but progress has been slow (for more, see Chapter 4, "A Dangerous Period for Cross-Strait Deterrence: Chinese Military Capabilities and Decision-Making for a War over Taiwan" in the Commission's 2021 Annual Report).

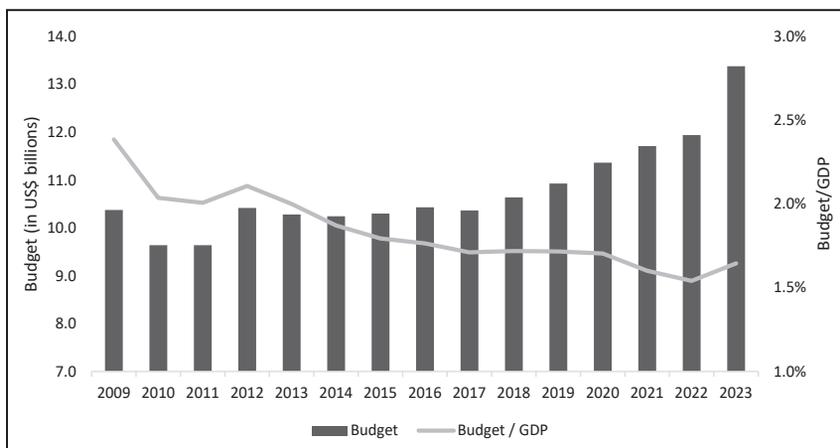
Top Taiwan government and defense officials proposed several solutions to ameliorate these problems in 2022. The All-Out Defense Mobilization Agency was launched in January 2022 to improve Taiwan's capacity to mobilize its reserves and signal Taiwan's willingness to resist a Chinese invasion.¹⁰⁸ In March, Taiwan's defense minister proposed extending compulsory military service from four months to one year, a change that one poll found nearly 76 percent of respondents favored.*¹⁰⁹ The Ministry of Defense has also set up a task force to research extending mandatory military training to women, a move that one poll found 56 percent of respondents favored.¹¹⁰ A new pilot program featuring extended training for about 15,000 reservists also began in March 2022.¹¹¹ Reservists participating in the program receive two weeks of training instead of the standard five to seven days, and they spend more time on combat training instead of support tasks.†¹¹² The Ministry of Defense also released a civil defense handbook in April 2022 to help civilians survive an invasion, though it announced that a forthcoming revision would be released in September 2022 after receiving withering public comments that its content was impractical.¹¹³

*The decision on whether to extend conscription will not be made for about a year.

†The program will be reviewed in the fourth quarter of 2022 before a final decision is made about whether to adopt it.

Taipei also increased its defense spending to fund capabilities that would counter a PLA invasion. In January 2022, Taiwan's Legislative Yuan passed a special budget of \$8.6 billion to procure precision missiles, UAVs, missile corvettes, and naval weapons systems for the Taiwan Coast Guard's patrol vessels during wartime.¹¹⁴ Yet Taiwan's defense budget today still only constitutes 1.5 percent of gross domestic product (GDP) (see Figure 3).¹¹⁵ While Taiwan's defense budget has been increasing on an absolute basis each year since 2017, it has nonetheless continuously declined as a percentage of GDP over the last decade.¹¹⁶ This is likely to change in 2023, however, as Taiwan responds to Beijing's growing hostility with a proposed defense budget that is set to increase at a greater rate than GDP for the first time in a decade.¹¹⁷

Figure 3: Taiwan's Defense Budget vs. GDP, 2009–2023



Note: GDP and budget estimates for 2023 are projections.

Source: Various.¹¹⁸

Taiwan's Civilians Take Defense Matters into Their Own Hands

Concerned by Russia's invasion of Ukraine, some Taiwan citizens have signed up for first aid and weapons training courses to prepare themselves for a potential Chinese invasion.¹¹⁹ Taipei-based Forward Alliance, a nongovernmental organization that trains civilians in medical skills relevant for emergencies and disasters, told *Newsweek* in June 2022 that its workshops have been fully booked for weeks.¹²⁰ While instructors are holding 15 classes a month, the waiting list is more than 1,000 people long, and Forward Alliance's founder acknowledged that the organization was "completely overwhelmed by demand."¹²¹ Others have flocked to airsoft training classes, where they can practice shooting low-powered air guns without metallic projectiles to safely replicate realistic training.¹²² The chief executive of one airsoft company, Polar Light Training, said the numbers of attendees in his classes had "tripled or quadrupled" since the start of the Ukraine conflict.¹²³ Recent polling has shown a growing majority of Taiwan's population is willing to fight in the event of a Chinese invasion.¹²⁴

Taiwan's External Relations

The year 2022 saw a continued struggle between Beijing and Taipei over Taiwan's status in the world. Chinese officials continued to manipulate international institutions and bilateral relationships alike to exclude Taiwan's experts from important global discussions and consolidate support for Beijing's position that Taiwan is a part of China. Meanwhile, Taiwan officials decried China's efforts to marginalize the island and modeled good global citizenship by donating food, supplies, and money to Ukrainian hospitals and refugees.*¹²⁵ Taiwan officials also offered to send emergency responders to aid rescue efforts in China after a 6.8 magnitude earthquake struck Sichuan Province in September 2022.¹²⁶ For their part, the United States and its allies resisted Beijing's moves to isolate Taiwan by deepening their relations with Taiwan and signaling their unwillingness to tolerate an unprovoked attack on the island.

Beijing Aims to Isolate Taipei from the World

In 2022, Beijing continued its longstanding campaign to suppress Taiwan's participation in the international community and promote a narrative of Chinese sovereignty over the island. Elements of this campaign include Chinese diplomats' efforts to exclude Taiwan from international organizations, entice its remaining diplomatic allies to switch recognition to China, and dissuade other countries from deepening ties with Taiwan.¹²⁷ Chinese leaders apparently believe that isolating Taiwan from the international community will demoralize its populace, thereby weakening public support in Taiwan for a declaration of independence in the near term and cultivating public acquiescence to Taiwan's absorption by the Mainland in the long term.¹²⁸ Beijing has refused to engage constructively with President Tsai Ing-wen and members of the DPP since 2016 despite their legitimate election and reelection.¹²⁹

Shut Out of Most International Organizations, Taiwan Faces New Obstacles

In 2022, Taiwan again faced exclusion at the World Health Organization's (WHO) annual assembly, moves by China to block its experts from attending the 2022 UN Oceans Conference, and efforts to label Taiwan citizens attending the World Cup as Chinese citizens. All three episodes underscored the degree to which Beijing has largely succeeded in isolating Taipei from important international institutions over the past 50 years. Taiwan currently has no official representation in the UN General Assembly† or in the UN's specialized agencies.‡¹³⁰ While Taiwan's government has sought "meaning-

*A Taiwan government campaign held from March 2 to April 1 raised \$33 million in humanitarian aid and supplies to help Ukraine. By contrast, in March China announced it would provide \$15 million in aid to Ukraine. John Feng, "As China's Xi Jinping Shuns Volodymyr Zelensky, Taiwan Engages with Ukraine," *Newsweek*, June 21, 2022.

†On October 25, 1971, the UN General Assembly voted to expel the Republic of China (Taiwan) and admit the PRC as a member of the body. United Nations General Assembly, "2758 (XXVI) Restoration of the Lawful Rights of the People's Republic of China in the United Nations," 1971.

‡The 15 specialized agencies are the Food and Agriculture Organization (FAO); the International Civil Aviation Organization (ICAO); the International Fund for Agricultural Development (IFAD); the International Labor Organization (ILO); the International Monetary Fund (IMF); the International Maritime Organization (IMO); the International Telecommunication Union (ITU); the United Nations Educational, Scientific and Cultural Organization (UNESCO); the United Nations Industrial Development Organization (UNIDO); the World Tourism Organization (UNWTO);

ful participation” in the UN system and other organizations requiring statehood as a prerequisite for membership since 2008, Chinese diplomats have used their influence as a full member and other tactics to stymie initiatives that would grant the island observer status or any other substantive role.*¹³¹ As research fellow Jacob Stokes and his colleagues at the Center for a New American Security observed, “China uses existing institutional authorities (such as its permanent seat on the UN Security Council) and external coalition-building (through BRI and other foreign policy initiatives) in a mutually reinforcing fashion to shape and shove international institutions in its preferred directions.”¹³²

WHO Denies Taiwan Observer Status at 2022 World Health Assembly

The WHO rejected a proposal by 13 of its member states † to allow Taiwan to observe the 75th annual World Health Assembly (WHA) in May 2022, apparently in response to pressure from Chinese diplomats. ‡¹³³ WHA President Ahmed Robleh Abdilleh § announced that the proposal would be omitted from the agenda at the recommendation of the WHA General Committee—which had discussed the proposal in a closed-door session the previous day—after a perfunctory “debate” on the assembly floor.¹³⁴ Representatives from China and Pakistan made statements in favor of the General Committee’s recommendation to exclude Taiwan, falsely asserting that UN General Assembly Resolution 2758 ¶ and WHA Resolution 25.1** had

the Universal Postal Union (UPU); the World Health Organization (WHO); the World Intellectual Property Organization (WIPO); the World Meteorological Organization (WMO); and the World Bank Group. United Nations, “What Are UN Specialized Agencies, and How Many Are There?”

* In the decades after its expulsion from the UN, Taiwan developed informal means of participating in some UN specialized agencies, such as sending its civil servants to these bodies as part of delegations of nongovernmental organizations (NGOs). Since President Tsai’s election, however, China has sought to choke off these forms of participation. For example, in 2017 Chinese officials prevented the head of Taiwan’s Environmental Protection Agency from entering a meeting of the UN Framework Convention on Climate Change (UNFCCC) as part of an NGO delegation, even though he had valid credentials and Taiwan civil servants had participated in the UNFCCC’s general assembly meetings between 1996 and 2015. Taiwan, however, is a member or observer in some international organizations that allow participation by subnational units; these organizations include the World Trade Organization (WTO), the Asia-Pacific Economic Cooperation (APEC), and the Asian Development Bank. Alexander Gray, Russell Hsiao, and Robert Wang, “US-Taiwan Relations in the 21st Century: Building the Foundation for a Global Partnership,” *Global Taiwan Institute*, June 2022, 20–21; Jacob Stokes, Alexander Sullivan, and Zachary Durkee, “Global Island: Sustaining Taiwan’s Participation amid Mounting Pressure from China,” *Center for a New American Security*, April 2022, 7; Jess Macy Yu, “Taiwan Says Shut Out of U.N. Climate Talks Due to China Pressure,” *Reuters*, November 14, 2017.

† The member states that sponsored the proposal were all Taiwan’s diplomatic partners: Belize, Eswatini, Guatemala, Haiti, Honduras, the Marshall Islands, Nauru, Palau, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Tuvalu. Separately, the Czech Republic’s Senate passed a resolution calling for Taiwan’s admission to the WHA as an observer, and the World Medical Association published an open letter calling for the same. Brian Hioe, “Taiwan’s Quest to Attend the World Health Assembly,” *Diplomat*, May 18, 2022; World Health Organization, “Proposal for Supplementary Agenda Item,” May 3, 2022.

‡ Taiwan participated in the WHA’s annual assembly as an observer from 2009 to 2016, when the KMT’s Ma Ying-jeou was president and ties between Taipei and Beijing were warm. Since President Tsai and her DPP Administration took power, however, the WHA has not allowed Taiwan to participate. Brian Hioe, “Taiwan’s Quest to Attend the World Health Assembly,” *Diplomat*, May 18, 2022.

§ Mr. Abdilleh concurrently serves as Djibouti’s Minister of Health.

¶ UN General Assembly Resolution 2758 recognized the PRC as “the only legitimate representative of China to the United Nations,” but it did not recognize Taiwan as a part of China. Jessica Drun and Bonnie Glaser, “The Distortion of UN Resolution 2758 and Limits on Taiwan’s Access to the United Nations,” *German Marshall Fund*, March 2022, 7–8.

** WHA Resolution 25.1 stated that the WHO would “restore all its rights to the People’s Republic of China and to recognize the representatives of its Government as the only legitimate representatives of China to the World Health Organization,” but it did not recognize Taiwan as a part of China. World Health Assembly, “WHA25.1 Representation of China in the World Health Organization,” May 10, 1972, at the 25th World Health Assembly in Geneva, May 9–26, 1972, 1.

laid the legal foundation for the WHO's adherence to the One China principle in dealing with proposals involving Taiwan, though neither document makes any statement or determination regarding Taiwan.¹³⁵ Representatives from Eswatini and Tuvalu then rebutted the Chinese and Pakistani statements, arguing that the question of Taiwan's participation in the WHA as an observer should be regarded as a public health issue, not a political issue.¹³⁶ After cutting off Tuvalu's representative as she was speaking, President Abdilleh stated to the assembly, "I take it that the [World] Health Assembly accepts the recommendation of the General Committee not to include the proposed supplementary item on the agenda."¹³⁷ He waited less than ten seconds before announcing that the WHA had approved the General Committee's recommendation to omit from the agenda the proposal regarding Taiwan's observer status.¹³⁸ No additional time was allotted for any review, vote, or discussion of the matter during the assembly, suggesting the real decision had been made beforehand by the WHA General Committee, a decision-making body over which China appears to wield undue influence.

Tuvalu and Palau Protest after China Blocks Taiwan Delegates from Attending UN Ocean Conference

In June 2022, China reportedly prevented the issuance of credentials to several Taiwan nationals participating in Tuvalu and Palau's delegations to the 2022 UN Ocean Conference in Lisbon, Portugal.¹³⁹ According to a U.S. delegate at the conference, the UN's credentialing committee violated a longstanding practice whereby each member state is free to decide the membership of its own delegation.¹⁴⁰ In response to the news that Chinese delegates had successfully challenged the accreditation of the Taiwan-based experts serving in the Tuvaluan and Palauan delegations, Tuvalu's foreign minister boycotted the conference and one of Palau's delegates made a public statement condemning the decision. "They were not given badges and were not allowed to be part of our delegation simply because they hold Taiwanese passports," the Palauan delegate said.¹⁴¹ "We view this as a violation of our sovereign rights... ocean issues are global issues and we call on all of us to work together without discrimination."¹⁴² After the Palauan delegate's remark, the Chinese representative called the mention of Taiwan "regrettable" and added, "Taiwan is part of China and cannot possibly attend a UN conference."¹⁴³

World Cup ID Card Flip-Flops on Description of Taiwan Citizens' Nationality

The same month, organizers of the upcoming World Cup in Qatar provoked a public outcry by repeatedly changing the reference to Taiwan visitors' nationality on the application for an identification card that doubles as an entry visa to the country.¹⁴⁴ The drop-down menu of the online system for the identification card initially omitted an option for Taiwan altogether, leading Taiwan-based soccer fans to complain that they could not proceed through the application without picking "China" as their nationality and listing a China-based phone number.¹⁴⁵ Following a senior Qatari official's announcement that the online system would likely list Taiwan-based attendees as

Chinese, the drop-down menu option changed to “Taiwan, Province of China” drawing fierce protests from Taiwan’s government.¹⁴⁶ The menu option was updated briefly to display “Taiwan” before finally being changed to “Chinese Taipei,” a name used for Taiwan in most international sports events to sidestep political problems.¹⁴⁷ Taiwan’s Ministry of Foreign Affairs expressed its disappointment about the change of Taiwan’s name to “Chinese Taipei” and condemned “the Chinese government’s bullying... and its political manipulation of international sports events.”¹⁴⁸ By contrast, China’s foreign ministry expressed appreciation for the Qatari government’s “commitment to the one-China principle and its handling of the issue in line with the established practice of international sports events.”*¹⁴⁹

After Nicaragua’s Switch, Taiwan Has 14 Diplomatic Partners

Nicaragua broke official ties with Taipei and established diplomatic relations with Beijing in December 2021, reducing Taiwan’s diplomatic partners to 13 countries and the Holy See.¹⁵⁰ The Nicaraguan foreign ministry’s statement went further than other countries that had broken ties with Taipei by declaring that “Taiwan is an inalienable part of Chinese territory.”¹⁵¹ The switch came after months of growing tensions between Nicaragua and the United States over Nicaragua’s sham presidential election and the U.S. decision to sanction a number of officials appointed by President Daniel Ortega.¹⁵² China’s foreign ministry described the switch as “a political decision without any economic precondition,” but analysts observed that Nicaragua—the second-poorest country in the Western hemisphere—was likely incentivized by promises of Chinese aid, trade, and investment.¹⁵³ Nicaragua is the eighth country to sever ties with Taipei since 2016,† when Beijing responded to President Tsai’s election by reviving its campaign to pick off the island’s diplomatic partners through a mixture of carrots and sticks.¹⁵⁴

Countries that switch recognition to Beijing have not always enjoyed the prosperity promised by China. Though China signed a deal with El Salvador pledging \$500 million in infrastructure projects shortly after it switched recognition in 2018, Center for Strategic and International Studies senior associate Evan Ellis confirmed that as of June 2022, few of these projects had been realized.¹⁵⁵ The Solomon Islands, which switched recognition in 2019 amid allegations China bribed its senior officials, has experienced high unemployment and corruption over the past two years and was rocked by riots in December 2021, which were partly inflamed by lingering public anger over the decision to break ties with Taipei.¹⁵⁶ After surviving a no-confidence vote in

*Taiwan has for decades been compelled to compete in international sports events as “Chinese Taipei” rather than as Taiwan or under its formal name, Republic of China. The International Olympic Committee’s rules prohibit delegations from Taiwan from using alternate names or any symbols suggesting the island is a sovereign nation. Amy Chang Chien, “Chinese Taipei? Republic of China? For Taiwan, There’s a Lot in a Name,” *New York Times*, February 4, 2022.

†These include Sao Tome and Principe (December 2016), Panama (June 2017), the Dominican Republic (May 2018), Burkina Faso (May 2018), El Salvador (August 2019), the Solomon Islands (September 2019), and Kiribati (September 2019). Jacob Stokes, Alexander Sullivan, and Zachary Durkee, “Global Island: Sustaining Taiwan’s Participation amid Mounting Pressure from China,” *Center for a New American Security*, April 2022, 4.

parliament, Solomon Islands Prime Minister Manasseh Sogavare deflected criticism of his government's policies by accusing "Taiwan's agents" of instigating the unrest.¹⁵⁷

Taiwan's remaining 14 diplomatic relationships are "in various states of duress," as Global Taiwan Institute senior nonresident fellow Alexander Gray observes, with China "often actively campaigning, overtly or covertly or both, to secure a switch in recognition."¹⁵⁸ Such campaigns may take the form of courting an opposition party that is likely to come to power through national elections or promising foreign assistance to governments in exchange for switching recognition.¹⁵⁹ For example, current Honduran President Xiomara Castro garnered public support as an opposition candidate during the 2021 election by promising to switch recognition to China, though her officials walked back this stance after winning the election in December (see Chapter 3, Section 1, "Year in Review: Security and Foreign Affairs" for more).¹⁶⁰ The leaders of Paraguay and Guatemala similarly reaffirmed their support for the relationship with Taiwan at the end of 2021, though the 2023 Paraguayan election and the deterioration of Guatemalan President Alejandro Giammattei's relationship with the Biden Administration over corruption concerns raises questions about whether a switch of recognition could occur in the near future.¹⁶¹

Beijing Leverages Coercion, Threats to Veto Taiwan's Ties with Nondiplomatic Partners

China continues to punish countries that deepen ties with Taiwan, even when countries describe these ties as nondiplomatic or unofficial. In late 2021, for example, Lithuania opened its "Taiwanese Representative Office" in Vilnius, departing from the usual nomenclature for Taiwan's de facto embassies abroad that uses "Taipei Representative Office" or "Taipei Economic and Cultural Office" to avoid implying statehood.¹⁶² China responded to the office opening by recalling its ambassador to Lithuania, imposing a trade embargo, and levying informal secondary sanctions against European firms that source products from Lithuania.¹⁶³ China's heavy-handed and disproportionate response appeared to give Lithuanian officials pause in the first quarter of 2022.¹⁶⁴ Reuters reported that in January 2022, a broader debate was occurring within the Lithuanian government about whether to ask Taiwan to alter the Chinese translation of the name.¹⁶⁵ Lithuanian President Gitanas Nausėda said in April 2022 that the decision to allow "Taiwan" in the title of the representative office was "a mistake," but as of July 2022 the office's website retained Taiwan in the title.¹⁶⁶ Condemning China's naked coercion, in January 2022 the EU filed a complaint with the WTO regarding Chinese restrictions on trade with Lithuania.¹⁶⁷ Later in the year, the European Commission will decide whether to move beyond the consultation phase of the dispute-settlement process to seek an adjudication by panel.¹⁶⁸

At other times, Chinese threats of retaliation have proved empty. Before Taiwan Foreign Minister Joseph Wu's trip to Slovakia and the Czech Republic in October 2021, for example, China's foreign ministry accused the two countries of "promoting secessionism" and warned that China would take all "necessary measures" to defend

its sovereignty.¹⁶⁹ China also threatened to retaliate before members of the European Parliament delegation made their planned trip to Taiwan at the beginning of November 2021 to discuss the island's experience fighting disinformation and foreign interference.¹⁷⁰ In neither case did China follow up the threats with action.

U.S. Allies and Partners Send Deterrent Signals to Beijing

Over the past year, U.S. allies and partners have publicly expressed concern about China's unilateral efforts to change the status quo in the Taiwan Strait and made statements intended to deter Chinese leaders from a use of force. In November 2021, Australian Defense Minister Peter Dutton said the "price of inaction" if China attacked Taiwan would be greater than the alternative, and it was "inconceivable" his country would not help the United States defend Taiwan.¹⁷¹ Japanese Prime Minister Kishida Fumio said in September 2021 that Washington and Tokyo should conduct joint military simulations for a Taiwan scenario.¹⁷² Three months later, media outlets citing Japanese government sources reported that the U.S. and Japanese militaries had drawn up plans for a joint operation in the event of a Taiwan contingency.¹⁷³ In April 2022, then British Foreign Secretary Liz Truss said NATO should consider protecting Taiwan as part of its efforts "to tackle global threats" amid reports that the United States and the United Kingdom have held talks about responding to a Taiwan contingency.¹⁷⁴ In May, a joint statement issued after the summit between U.S. President Joe Biden and South Korean President Yoon Suk-yeol reiterated "the importance of preserving peace and stability in the Taiwan Strait as an essential element in security and prosperity in the Indo-Pacific region."¹⁷⁵ On the sidelines of the annual Shangri-La Dialogue in June, Japanese and Australian defense ministers joined Defense Secretary Austin in a similar statement underscoring their mutual concern for stability in the Taiwan Strait.¹⁷⁶

The G7 nations have also publicly called for stability in the Taiwan Strait this year. In June, the G7 nations released a communiqué underscoring "the importance of peace and stability across the Taiwan Strait and... a peaceful resolution of cross-Strait issues," signaling that its members would likely oppose a Chinese attack on Taiwan.¹⁷⁷ The G7 followed this communiqué with an unprecedented statement in August condemning China's destabilizing activities in the Taiwan Strait after Speaker Pelosi's visit. "We are concerned by recent and announced threatening actions by the People's Republic of China (PRC), particularly live-fire exercises and economic coercion, which risk unnecessary escalation," the statement said.¹⁷⁸ "There is no justification to use a visit as pretext for aggressive military activity in the Taiwan Strait."¹⁷⁹

U.S.-Taiwan Political and Security Relations

In 2022, the United States continued its long-running efforts to expand Taiwan's participation in the international community, deepen technical cooperation, and bolster the island's self-defense capacity. The policy debate in Washington took on new urgency as U.S. officials and lawmakers assessed Beijing's heavy-handed response to Speaker Pelosi's visit and the implications of Russia's war against

Ukraine for a potential Chinese attack on Taiwan (see “The Impact of the Crisis in Ukraine” later in this section for more).

U.S. Government Supports Taiwan Domestically and Globally

Various branches of the U.S. government praised Taiwan’s democracy and advocated for its participation in the international community this year. The Biden Administration included Taiwan officials in its first-ever Summit for Democracy in December 2021 and signed into law a bipartisan bill in May 2022 that directed U.S. Secretary of State Antony Blinken to develop a strategy to regain observer status for Taiwan in the WHO.¹⁸⁰ Meanwhile, members of the U.S. Congress introduced legislation to counter Chinese economic coercion of countries supporting Taiwan, facilitate Taiwan’s participation in international organizations, and combat Beijing’s false claim that UN General Assembly Resolution 2758 committed the UN to its One China principle, among other things.¹⁸¹

The executive branch expressed political support for Taiwan by dispatching a delegation of high-ranking former officials to the island, and a number of congressional delegations also visited. In March, the Biden Administration sent a group of former senior defense officials to Taipei to underscore U.S. commitment just days after Russia’s invasion of Ukraine.*¹⁸² In April, a high-profile bipartisan congressional delegation led by Senator Lindsay Graham (R-SC) touched down in Taiwan for a surprise one-day visit, meeting with President Tsai and other senior officials.¹⁸³ In May, a delegation led by Senator Tammy Duckworth (D-IL) spent two days meeting with Taiwan leaders to discuss cooperation on regional security, economics, and trade.¹⁸⁴ Senator Rick Scott (R-FL) visited Taiwan in July as part of a larger trip to the Indo-Pacific region to discuss U.S.-Taiwan relations, regional security, trade and investment, and global supply chains, among other things.¹⁸⁵ Speaker Pelosi led a delegation to Taipei in early August, marking the first visit by a sitting speaker to the island in 25 years.¹⁸⁶ A delegation led by Senator Ed Markey (D-MA) touched down in Taipei for a day-long visit in mid-August, while Senator Marsha Blackburn (R-TN) visited Taipei for three days in late August.¹⁸⁷

China Retaliates for Pelosi Visit by Suspending Bilateral Cooperation, Levying Sanctions

Following Speaker Pelosi’s visit to Taiwan, Beijing announced it would cut off or suspend bilateral cooperation in a number of policy areas.¹⁸⁸ According to China’s foreign ministry, “countermeasures in response” to the visit included the cancellation of several military dialogues† and the suspension of talks on returning illegal immigrants, criminal matters, illegal drugs, and climate change.¹⁸⁹ Notably, the foreign ministry statement spared bilat-

*The delegation was led by former Joint Chief of Staff Mike Mullen and included former Deputy National Security Adviser Meghan O’Sullivan, former Undersecretary of Defense for Policy Michele Flournoy, and former National Security Council Senior Directors for Asia Mike Green and Evan Medeiros. *Reuters*, “Biden Sends Former Top Defense Officials to Taiwan in Show of Support,” *Taipei Times*, March 1, 2022.

†China’s Foreign Ministry specified that the U.S.-China Theater Commanders talks, U.S.-China Defense Policy Coordination Talks (DPCT), and U.S.-China Military Maritime Consultative Agreement (MMCA) meetings would be canceled.

China Retaliates for Pelosi Visit by Suspending Bilateral Cooperation, Levying Sanctions—*Continued*

eral engagement on economic and trade issues, provoking speculation that it limited the measures to areas representing the Biden Administration's priorities.¹⁹⁰ U.S. National Security Council Coordinator for Strategic Communications John Kirby condemned Beijing's decision to cancel military dialogues with the United States as "irresponsible" but said that some channels of communication remain open between military officials in the two countries.¹⁹¹ China's unilateral cancelation of military-to-military contacts with the United States is not unprecedented; in 2010, it canceled all military-to-military contacts, including a planned trip to China by then Defense Secretary Robert Gates, in response to the Obama Administration's first arms sale to Taiwan.¹⁹²

Beijing also imposed sanctions on Speaker Pelosi and a number of Taiwan political figures shortly after the visit. China's foreign ministry announced the sanctions on Speaker Pelosi and her immediate family on August 5, though it did not specify what the sanctions entailed.¹⁹³ China also issued a more specific set of sanctions on Taiwan political figures it views as "diehard elements" supporting Taiwan's independence.¹⁹⁴ The sanctioned figures included Taiwan's de facto ambassador to the United States, Hsiao Bi-khim; legislators Ker Chien-ming, Koo Li-hsiung, Tsai Chi-chang, Chen Jiau-hua, and Wang Ting-yu; and activist Lin Fei-fan.¹⁹⁵ The Taiwan Affairs Office said these individuals would be prohibited from traveling to mainland China, Hong Kong, and Macau and from having financial or personal connections with people in those places.¹⁹⁶

The U.S. government also highlighted Taiwan's valuable expertise in science, technology, and civil affairs by deepening technical cooperation across multilateral and bilateral formats. The Global Cooperation and Training Framework* entered its seventh year, with the United States, Taiwan, Japan, and Australia holding workshops on eliminating hepatitis C, ending gender-based violence, and combating digital crimes.¹⁹⁷ In March, the United States and Taiwan signed a memorandum of understanding to continue bilateral scientific and technological cooperation on the Formosat-7/COSMIC-2 satellites, a constellation of weather observation satellites.[†]¹⁹⁸ Separately, U.S. Department of Health and Human Services Assistant Secretary for Global Affairs Loyce Pace met with Taiwan Deputy

*The Global Cooperation and Training Framework (GCTF) is a platform for Taiwan to share its expertise with partners around the world. Established in 2015, the GCTF is administered jointly by the American Institute in Taiwan (AIT), the Japan-Taiwan Exchange Association, the Australian Office in Taipei, and Taiwan's Ministry of Foreign Affairs. Under the GCTF, the United States, Taiwan, Japan, and Australia jointly train experts from the Asia Pacific in areas such as public health, energy, the digital economy, the empowerment of women, and humanitarian and disaster relief.

†As of December 2021, there were more than 270 memorandums of understanding and bilateral agreements on science and technology between the United States and Taiwan. U.S.-Taiwan science and technology cooperation includes basic and advanced research across many fields, such as physics, atmospheric science, meteorology, nuclear energy, environmental conservation, space science, medicine, and the life sciences. Taipei Economic and Cultural Representative Office in the United States, "Taiwan-US Cooperation in Science and Technology," April 20, 2022.

Minister of Health and Welfare Li-Feng Lee on the sidelines of the WHA in June and committed to continue technical health collaboration.¹⁹⁹

U.S. Bolsters Cross-Strait Deterrence through Signaling, Arms Sales, and Training

The U.S. government took a number of steps to enhance Taiwan's defensive capabilities between late 2021 and the first half of 2022 in line with the Taiwan Relations Act (TRA) and other cornerstones of longstanding U.S. policy toward China and Taiwan. President Biden and other top Administration officials issued statements regarding an attack on Taiwan, and Congress proposed and passed legislation to deter such an attack. The Administration also implemented more explicit conditionality in arms sales to Taiwan and continued its engagement with Taiwan's military.

Key Elements of U.S. Policy toward Taiwan

Important elements of U.S. policy toward Taiwan include the three communiqués, the Taiwan Relations Act, and the Six Assurances.

- The three communiqués are a series of joint statements made by the governments of the United States and the PRC in 1972, 1979, and 1982 that established the foundation for the normalization of diplomatic relations. In these communiqués, the United States acknowledged—though did not accept—Beijing's position that “all Chinese on either side of the Taiwan Strait maintain there is but one China and that Taiwan is a part of China” and recognized the government of the PRC as the sole legal government of China.²⁰⁰ These statements became the basis for the United States' One China policy, which differs from China's One China principle in that it does not take a position on the sovereignty of Taiwan.²⁰¹ The communiqués also declared that U.S. willingness to reduce arms sales to Taiwan is conditioned upon the continued commitment of the PRC to the peaceful resolution of cross-Strait differences.²⁰²
- The 1979 TRA laid the legal foundation for continued ties between the United States and Taiwan after Washington switched diplomatic recognition to Beijing in 1979. In addition to creating a nonprofit corporation called the American Institute in Taiwan, through which U.S.-Taiwan relations are conducted, the TRA 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”; “make available to Taiwan such defense articles and defense services in such quantity as may be necessary to enable Taiwan to maintain a sufficient self-defense capability”; and “maintain the capacity... to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people on Taiwan.”²⁰³

Key Elements of U.S. Policy Toward Taiwan—Continued

- The Six Assurances are a series of promises first issued by the U.S. government to Taiwan in 1982 regarding the future conduct of U.S. foreign policy toward China and Taiwan. The assurances were and remain that the United States: has not set an end date for arms sales, has not agreed to consult with China on arms sales, would not mediate between Taipei and Beijing, had not agreed to revise the Taiwan Relations Act, had not altered its position on the question of Taiwan's sovereignty, and would not pressure Taipei to negotiate with Beijing.²⁰⁴

Biden Administration and U.S. Congress Back Taiwan and Condemn Beijing's Aggression

Executive branch officials repeatedly affirmed the U.S. commitment to Taiwan and expressed their concern about a potential Chinese use of force against the island in late 2021 and 2022. President Biden said on four separate occasions that the United States would come to Taiwan's defense in the event of a Chinese attack, though his aides stressed afterward that the remarks occurred within the context of existing U.S. policy toward Taiwan.²⁰⁵ At the Shangri-La Dialogue in June 2022, Defense Secretary Austin reiterated that the United States would uphold its commitments under the TRA and condemned the PLA's "provocative and destabilizing military activity near Taiwan."²⁰⁶ More broadly, the Biden Administration's 2022 Indo-Pacific Strategy explicitly stated that "the United States will defend our interests, deter military aggression against our own country and our allies and partners—including across the Taiwan Strait—and promote regional security by developing new capabilities, concepts of operation, military activities, defense industrial initiatives, and a more resilient force."²⁰⁷

Meanwhile, Congress has actively explored new laws that would better enable the United States to defend Taiwan or deter a Chinese attack. Congress mandated an annual report on Taiwan's asymmetric defensive capabilities and a briefing on the potential to enhance cooperation between Taiwan and the U.S. National Guard in the 2022 National Defense Authorization Act (NDAA).²⁰⁸ A number of bills introduced by members during the 117th Congress have also investigated ways to better deter a Chinese use of force against Taiwan, including by accelerating Taiwan's procurement of weapons, imposing sanctions on China in response to aggression, and unambiguously stating a U.S. intention to intervene.²⁰⁹

Snarled by Ukraine and Supply Chain Issues, U.S. Arms Sales Emphasize Counterinvasion Capabilities

The U.S. government continued to sell arms to Taiwan in 2022 amid reporting that the Biden Administration is now explicitly conditioning the sale of weapons on whether the systems in question are optimized to defend against a Chinese invasion.²¹⁰ As of September, the U.S. Department of State has approved seven potential sales of military equipment and technical assistance to Taiwan

totaling \$1.5 billion in 2022, including Harpoon anti-ship missiles, Sidewinder air-to-air missiles, and an engineering and maintenance agreement for the island's existing Patriot Air Defense System.²¹¹ At the same time, major media outlets report that the Biden Administration has privately withdrawn, redirected, or denied several of Taiwan's requests for weapons systems it does not deem sufficiently current or "asymmetric,"* which the U.S. Department of State has defined as "capabilities that are credible, resilient, mobile, distributed, and cost-effective."²¹² Officials from the U.S. Army sent Taiwan a letter in March suggesting it buy an upgraded version of the M109A6 Paladin self-propelled howitzer† Taipei had previously requested.²¹³ That same month, the State Department indicated it would not process a request for MH-60R Seahawk helicopters‡ on the grounds that the helicopters do not "enhance Taiwan's ability to deter [China's] aggressive actions and defend itself."²¹⁴ A State Department official told Politico that "continuing to pursue systems that will not meaningfully contribute to an effective defense strategy is inconsistent with the evolving security threat that Taiwan faces."²¹⁵ The Administration has also reportedly told U.S. weapons manufacturers to refrain from asking the U.S. government to approve Taiwan's requests for weapons.²¹⁶

The adjustment in U.S. arms sales policy has occurred in tandem with Russia's invasion of Ukraine, which Biden Administration officials say proves that Taiwan should adopt an asymmetric warfare strategy against the PLA. U.S. officials have highlighted Ukraine's resolute civilian volunteers as well as its successful use of small, shoulder-fired missiles like the Stinger anti-aircraft and Javelin antitank missiles to attrite Russia's numerically superior force as testaments to the efficacy of an asymmetric warfare strategy.²¹⁷ Lieutenant General Scott D. Berrier, director of the U.S. Defense Intelligence Agency, said at a Senate hearing in March that the U.S. Department of Defense (DOD) could further study the Ukraine war for suggestions for Taiwan and "help them understand what this conflict has been about, what lessons they can learn and where they

*"Asymmetric warfare" refers to war fought between belligerents whose relative military power differs so significantly that their strategies and tactics also differ significantly. For instance, guerrilla warfare waged by partisans armed with rifles against a conventional army is an example of asymmetric warfare. While definitions of "symmetric" and "asymmetric" weapons vary and often depend on one's perspective, "symmetric" weapons are those that are similar to the enemy's weapons and attempt to outmatch and overpower them. By contrast, "asymmetric" weapons engage the enemy in ways that maximize one's own advantages while minimizing the advantages conferred by the enemy's superior size or technology. For example, when fighting an enemy tank, a symmetric weapons system is a tank, while an asymmetric system is an antitank weapon, such as the Javelin man-portable anti-armor weapons system. Examples of platforms often described as "asymmetric" in the context of a Taiwan scenario include coastal defense cruise missiles, short-range mobile air defenses, naval mines, and drones. Noah Sylvia, "Asymmetric Weapons: The Most Bang for Your Buck (Literally)," *University of Pennsylvania Perry World House*, May 13, 2022; E. Sexton, "Asymmetrical Warfare," *Encyclopedia Britannica*, November 17, 2016.

†In a March 22 letter, the Army indicated that it was retiring the M109A6 Paladin self-propelled howitzers and warned of likely delivery delays until 2026 due to supply chain problems and "known obsolescence issues." Instead, it urged Taiwan to purchase the newer M109A7 Paladin, which would cost about \$250,000 less than the A6 to operate annually, or the M142 High Mobility Artillery Rocket System, which offers "a similar capability with a faster delivery schedule." Taiwan ultimately decided to cancel its planned purchase of 40 M109A6 Paladins, which were originally scheduled to be delivered between 2023 and 2025. Lara Seligman, Alexander Ward, and Nahal Toosi, "In Letters, U.S. Tries to Reshape Taiwan's Weapons Requests," *Politico*, May 10, 2022; Yu Nakamura, "Taiwan Faces Delays in U.S. Arms Deliveries Due to Ukraine War," *Nikkei Asia*, May 4, 2022; Christian Shepherd and Vic Chiang, "Howitzer Delivery to Taiwan Delayed by Strained U.S. Supply Chain," *Washington Post*, May 3, 2022.

‡The MH-60R Seahawk is among the world's most advanced maritime helicopters and is designed to hunt submarines. Lockheed Martin, "MH-60R."

should be focusing their dollars on their defense and their training.”²¹⁸ Similarly, Assistant Secretary of State for Political-Military Affairs Jessica Lewis told a Senate hearing in May that “we must not just consider, but act upon, the implications of this conflict for the defense of Taiwan.”²¹⁹ Speaking on condition of anonymity to Politico the same month, a DOD official argued that “the Ukraine situation validated some long-standing steps we’ve been taking in Taiwan.”²²⁰

The diversion of existing stocks of weapons and munitions to Ukraine and pandemic-related supply chain issues has exacerbated a sizeable backlog in the delivery of weapons already approved for sale to Taiwan, undermining the island’s readiness.²²¹ In April 2022, Deputy Secretary of State Wendy Sherman testified before members of the House Foreign Affairs Committee that there were more than 400 pending cases of foreign military sales of U.S. equipment or technical assistance to Taiwan, though it was not clear from her remarks how many of these cases dated from purchases agreed to within the last few years.²²² F-16 fighter jets, Stinger missiles, and Paladin self-propelled howitzers are reportedly among the systems whose deliveries have been delayed.²²³ Mr. Dotson observed that many of the systems Taiwan has purchased are the same ones now being shipped to Ukraine.²²⁴ “With many of these systems on long, multi-year timetables for delivery—and with production capacity limited by parts shortages and other constraints—the war in Ukraine is likely having a significant impact on Taiwan’s own defense planning,” he wrote.²²⁵ U.S. defense industry sources also attribute the delays to increased demand resulting from the Ukraine conflict, the worldwide shortage of semiconductors, and other supply chain issues caused by COVID-19.²²⁶

Delayed Stinger Delivery Exemplifies Challenges to Taiwan’s Defense Planning

The delayed delivery of Stinger missiles to Taiwan demonstrates how demand related to the war in Ukraine and supply chain issues have snarled the island’s defense acquisitions. In 2019, the State Department approved a potential sale of 250 Block I-92F MANPAD Stinger missiles and related equipment worth \$223 million to Taiwan.²²⁷ Taiwan subsequently signed the contract and paid for the missiles, which were initially scheduled to be delivered in batches between 2022 and 2026.²²⁸ In late April 2022, however, Raytheon Technologies CEO Greg Hayes said during a quarterly earnings call that the company would not be able to ramp up production of Stinger missiles needed to replenish the stocks U.S. allies had donated to Ukraine until 2023 due to a lack of parts and materials.*²²⁹ Mr. Hayes stated that Raytheon’s production line is capable of building only a limited number of Stingers at a time and argued that the U.S. government would need to fund and sustain a higher rate of production in order to replenish global stocks of the system.²³⁰ The following week, Taiwan’s de-

*In March 2022, Ukraine reportedly told the United States it needed about 500 Stinger anti-aircraft missiles and 500 Javelin antitank missiles per day to sustain the fight. Zachary Cohen and Oren Lierbmann, “Ukraine Tells the US It Needs 500 Javelins and 500 Stingers Per Day,” CNN, March 24, 2022.

Delayed Stinger Delivery Exemplifies Challenges to Taiwan's Defense Planning—Continued

fense minister confirmed that the first batch of Stinger missiles originally slated to begin delivery this year had been delayed.²³¹ In late May, a Tucson, Arizona-based Raytheon unit won a \$624.6 million U.S. Army contract to produce approximately 1,300 Stinger anti-aircraft missiles to replenish supplies sent by the United States and its allies to Ukraine, but delivery could take up to 30 months and it is unclear which of the donor countries will receive priority or how long Taiwan will have to wait for its Stingers.*²³²

United States Engages Taiwan through Military Training and Dialogue

The United States continues to engage with Taiwan through military training and dialogues. In October 2021, the *Wall Street Journal* reported that a U.S. special operations unit had been operating in Taiwan training Taiwan's ground forces.²³³ In November 2021, a platoon of Taiwan's marines traveled to Guam to participate in exercises led by their U.S. counterparts simulating amphibious and airborne assault, urban warfare, and joint operations.²³⁴ In May 2022, President Tsai said publicly that the U.S. National Guard would cooperate with Taiwan's military, though she did not provide details.²³⁵ In June 2022, military officials from Taiwan attended the Pacific Amphibious Leaders Symposium † security forum, hosted jointly by the Japan Ground Self-Defense Force and the U.S. Marine Corps, as observers to discuss regional security issues.²³⁶ The same month, U.S. and Taiwan officials also met under the auspices of a recurring strategic dialogue known as the "Monterey Talks" to discuss arms sales and training.²³⁷ In line with a longstanding training agreement from the 1990s, ‡ in June six of the Taiwan Air Force's F-16V fighters also flew to Luke Air Force Base, where they joined a training squadron used to train Taiwan pilots.²³⁸

Taiwan's Economics and Trade

A combination of effective COVID-19 containment measures and strong external demand for Taiwan's exports, most importantly semiconductors, has allowed Taiwan's economy to maintain robust growth during the COVID-19 pandemic. However, emerging domestic and external issues are challenging Taiwan's economy. Domestically, Taiwan's transition to coexist with COVID-19 has entailed weakened domestic consumption. Externally, intermittent lockdowns in mainland industrial hubs have led to varying demand for Taiwan

*Thirty countries allied with the United States use the Stinger. David Wichner, "Tucson-Based Raytheon Unit Gets \$625M Deal for Stinger Missiles," *Tucson.com*, May 29, 2022.

†The Pacific Amphibious Leaders Symposium (PALS) is intended to contribute to peace and stability in the Indo-Pacific by enabling discussions about crisis response, interoperability, and maritime capability development. Nearly 70 military personnel from 18 countries attended the 2022 PALS forum. Yang Ming-chu and Teng Pei-ju, "Taiwan Military Officers Attend U.S.-Japan Security Forum in Tokyo," *Focus Taiwan*, June 16, 2022.

‡Under the agreement, Taiwan pilots train at Luke Air Force base, AZ, using Taiwan-owned aircraft. The program allows Taiwan pilots to fly more often and train under more realistic conditions than they would be able to do at home.

inputs from China's manufacturing sector. At the same time, Russia's invasion of Ukraine has sent energy prices soaring and further disrupted global supply chains, sharply increasing production costs as Taiwan's energy mix relies heavily on imported sources.

The United States and Taiwan are enhancing cooperation through new trade and supply chain initiatives in response to these challenges from Beijing and out of mutual desire to protect shared values and bolster their market-based economies. The Tsai Administration is also building on ongoing policies to maintain robust and sustainable growth, emphasizing stimulus measures to support services impacted by the pandemic, increasing efforts to draw businesses back to Taiwan and diversify away from the Mainland, and accelerating initiatives to improve innovation and move up the value chain.

Headwinds Loom after Two Years of Strong Economic Growth

Taiwan's successful response to the COVID-19 pandemic has buttressed its economy. Quick and strict border controls coupled with contact tracing and home quarantine measures assured that Taiwan's economy has been able to operate normally and perform favorably in comparison to most industrialized nations.²³⁹ In late December 2021, Taiwan reported its 850th death from just under 17,000 confirmed cases, or roughly 700 cases per million, one of the world's lowest rates.²⁴⁰ By the time Taiwan's health minister effectively announced the end of Taiwan's Zero-COVID strategy on April 7, 2022, roughly 80 percent of the population had been completely vaccinated.²⁴¹ Taiwan's choice to relax its pandemic policies in April represents yet another marked divergence with the Mainland, which once again began sending large cities into harsh, extended lockdowns just weeks prior.²⁴²

In conjunction with Taiwan's effective COVID-19 containment policies, a continuing global demand spike for semiconductor-enabled electronic products has bolstered Taiwan's GDP growth. In 2021, Taiwan's economy grew at an impressive 6.6 percent year-on-year, up from 3.4 percent growth in 2020 and 3.1 percent in 2019.²⁴³ Although decelerating relative to 2021, robust growth continued into 2022, with Taiwan's GDP expanding 3.1 percent year-on-year in the second quarter.²⁴⁴ Official government estimates forecast 3.8 percent growth for the year, while a lower estimate of 3.2 percent growth from the International Monetary Fund reflects its more pessimistic view of the global economy following Russia's invasion of Ukraine.²⁴⁵

Strong external demand also enabled record growth in Taiwan's export values and export orders. The overall value of Taiwan's exports rose 29.4 percent in 2021, reaching a record \$446.6 billion, up from \$345.2 billion in 2020.*²⁴⁶ Taiwan's electronics exports continued to drive trade, with electronic components constituting 38.5 percent of exports and audiovisual products accounting for an additional 13.7 percent.²⁴⁷ Strong external demand has continued into 2022, with Taiwan's exports totaling \$330.3 billion in January through August, up 16.1 percent from the first eight months of 2021.²⁴⁸ April 2022, however, saw the first decline in export orders since the start of the COVID-19 pandemic, an indicator that headwinds may be

*The exchange rate used in this section is 1 USD = 29.6 New Taiwan Dollars (NTD) unless otherwise stated.

arriving.²⁴⁹ Further, the unprecedented rise in import costs, led by energy, is narrowing Taiwan's trade surplus, which is down 12.1 percent through the first eight months of 2022 compared to the same period in 2021.²⁵⁰ Taiwan's producer price inflation has also been soaring since late 2021, reaching its highest year-over-year growth in 40 years.²⁵¹ Producer price inflation in August 2022 remained high at 8.6 percent year-over-year, although on a downward trajectory relative to May's peak of 14.2 percent.²⁵²

Taiwan's economic performance during the pandemic has thus far kept consumer inflation manageable and employment and wages stable. Taiwan's year-over-year inflation rate has risen from 2.3 percent in August 2021 to 2.7 percent as of August 2022, but it remains substantially lower than most other advanced economies.*²⁵³ From January to July 2022, Taiwan's unemployment rate averaged 3.7 percent, continuing a strong recovery from a moderate unemployment spike in mid-2021.²⁵⁴ Unemployment among younger workers—although high—is also stable. In the first seven months of 2022, unemployment among workers between the ages of 20 and 24 was 12.4 percent, slightly lower than 2021's average.²⁵⁵ Average regular earnings of full time employees (excluding foreigners) in June 2022, meanwhile, increased 4.6 percent year-on-year.²⁵⁶

Supply Chain Challenges, Energy Costs, and Weak Consumption Dampen Outlook

Supply chain issues are increasing production costs across much of the developed world. High government spending and pent-up consumer demand from savings accrued throughout the pandemic have simultaneously led to high consumer inflation in many advanced economies. In response, central banks in these economies, most prominently the Federal Reserve, are tightening credit conditions, which will likely reduce demand for Taiwan's consumer electronics exports.²⁵⁷ Most significantly, however, the Mainland's lockdowns have undermined a key source of demand for Taiwan contract manufacturers and other exporters, exposing the extent to which Taiwan remains highly interconnected and dependent on the Mainland for both end demand and production.²⁵⁸ In April, during the height of the Shanghai lockdown, Taiwan's Economic Affairs Ministry reported that export orders for telecommunications products dropped 21.5 percent from the previous year.²⁵⁹

A rise in domestic COVID-19 cases is also dampening the island's domestic consumption.²⁶⁰ The government's decision to "coexist" with the virus has led to what the Executive Yuan describes as a "predicted and inevitable" rise in cases.²⁶¹ Though serious cases and deaths remain low due to high vaccination rates, consumers are wary of dining out and shopping, leading to contraction in business for the restaurant, recreation, tourist, and transportation industries.²⁶² Despite consumer wariness, real private consumption growth still grew in the second quarter by 2.89 percent year-over-year, improving on the first quarter's 0.46 per-

*In Europe and the United States, year-over-year consumer price inflation in August 2022 was an estimated 9.1 and 8.3 percent, respectively. European Central Bank, "Measuring Inflation—the Harmonised Index of Consumer Prices (HICP)," September 16, 2022; U.S. Bureau of Labor Statistics, *Consumer Price Index Summary*, September 13, 2022.

cent growth.²⁶³ To bolster the services sector, Taiwan's government has announced a continuation of its COVID-19 stimulus measures directed principally at supporting service industries via subsidies, tax exemptions, and loan programs throughout 2022 and into 2023.²⁶⁴

Pandemic Bolsters Taiwan's Role as Global Semiconductor Foundry, Challenging Energy Supply

Amid a massive global demand spike for electronics brought on by the COVID-19 pandemic and the increase in telework arrangements, Taiwan's economy has shown a remarkable ability to expand production of semiconductors. In 2021, exports of integrated circuits grew 20.9 percent year-on-year, accounting for 36.1 percent of all of Taiwan's exports.²⁶⁵ Alicia García-Herrero, chief economist for Asia Pacific at Natixis, notes that investment in new facilities by both mainland Chinese and Taiwan foundries could lead to a glut in lower-end chips by 2023.²⁶⁶ Through 2022, however, demand for semiconductors is likely to remain elevated as global consumers continue to require additional digital devices.²⁶⁷ Taiwan Semiconductor Manufacturing Company (TSMC), the world's largest semiconductor foundry, is drastically expanding production in Taiwan through 2022 and 2023 with a plan to establish 11 fabrication facilities through that period.²⁶⁸ It has increased production of 7-nanometer chips and other advanced processors by 70 percent per year since 2018 and is on track for a record \$40–44 billion capital expenditure in 2022.*²⁶⁹ TSMC and MediaTek, a fabless semiconductor design company in Taiwan, are at the same time planning to hire over 10,000 engineers throughout 2022.²⁷⁰

One consequence of the surge in demand for semiconductors is increasing energy use. Due to fallout from Russia's invasion of Ukraine, energy costs are soaring, offsetting some of Taiwan's trade surplus and causing difficulties for an economy highly reliant on imported fossil fuels. Taiwan Power Co., Taiwan's state-owned energy company, is increasing energy costs by 15 percent for large industrial users of electricity, the first such price hike in four years.²⁷¹ The price increase comes as Taiwan's energy use hits new records amid a large industrial rebound and strong external demand for energy-intensive technology products.²⁷² TSMC is expected to be impacted, which may cause the price of integrated circuits to rise.²⁷³ TSMC, which alone consumes 7.2 percent of Taiwan's power, more than all of Taipei, is utilizing vastly more energy to meet growing global semiconductor demand.²⁷⁴ The energy demands of semiconductor fabrication show Taiwan's domestic production is pushing the limits of the island's capacity, even as demand for chips continues to increase.²⁷⁵ Energy shortages and blackouts, which had already been occurring in 2021 due to increased demand and tight supply, have continued apace in 2022.²⁷⁶ Energy concerns are now top of mind for many in Taiwan as fears of an energy crisis loom.²⁷⁷

*Fabrication of cutting-edge 5 nanometer chips reached mass production in 2020. Tu Chih-hao, "TSMC Builds 11 Factories in Taimeng" (台積電在台猛蓋11座廠), *China Times*, July 4, 2022. Translation.

Taiwan's Troubling Energy Situation

In 2021, according to data from Taiwan's Bureau of Energy, Taiwan's energy supply consisted of 92.3 percent fossil fuels (30.8 percent coal, 43.4 percent crude oil and petroleum products, 18.1 percent natural gas), 5.6 percent nuclear, 1.2 percent biomass, and just under 1 percent for all other renewables. According to the bureau's statistics, Taiwan imported 97.7 percent of its energy supply in 2021.*²⁷⁸ Taiwan's energy import dependence is a growing concern in light of Russia's invasion of Ukraine, which has sent oil and gas prices skyrocketing as substantial amounts of supply have gone offline. The island's heavy reliance on energy imports could also make it vulnerable in the event of a blockade or war with China. Taiwan also faces domestic political constraints to increasing the share of nuclear in its energy mix. Following her victory in 2016, President Tsai committed to phasing out nuclear by 2025.†²⁷⁹ Increased demand met tightening supply in 2021, leading to energy shortages and major blackouts throughout that year.²⁸⁰ Shortages have continued apace in 2022, aggravated by Russia's invasion of Ukraine.²⁸¹

In addition to phasing out nuclear, Taiwan's government is also committed to transitioning away from coal and toward natural gas and renewable energy. This planned transition, however, is far behind schedule on both counts. In 2016, the Tsai administration set a goal of utilizing 50 percent natural gas and 20 percent renewables for Taiwan's electricity generation by 2025.²⁸² The proportions in 2021, however, at 37.2 percent and 5.7 percent, respectively, are on track to fall short of the plan.²⁸³ Taiwan lacks sufficient liquified natural gas (LNG) terminals to import the required gas, and environmental reviews and final decisions remain for proposed additions.²⁸⁴ Meanwhile, Taiwan's Legislative Yuan revised projections for renewable use down to 15 percent in 2021, with growth in Taiwan's electricity use outpacing projections from 2016 and the island facing challenges integrating power generated from renewable sources.²⁸⁵ To address Taiwan's delayed renewable development, meanwhile, Taiwan's National Development Council in March 2022 announced plans to spend roughly \$32 billion between 2022 and 2030 on renewable technologies, grid infrastructure, and energy storage to try and hasten the transition.²⁸⁶

Taiwan Remains Dependent on Cross-Strait Trade despite Diversification Initiatives

Taiwan companies remain firmly embedded in the Mainland despite a number of domestic development programs designed to bring production back from the Mainland. Indeed, China remains by far

*However, Taiwan includes nuclear under "Imported Energy," likely due to its importation of uranium. Subtracting nuclear, Taiwan's energy import dependence in 2021 was 92.1 percent, a slight increase from 2011, when Taiwan's nonnuclear energy import dependence stood at 89.2 percent.

†A referendum in 2018 repealed a legal commitment to phasing out all nuclear plants by 2025, but the phaseout remains on schedule for 2025 nonetheless. Similarly, in December 2021 voters rejected a referendum to restart construction on what would be Taiwan's fourth nuclear power plant. Lin Chia-nan, "Resumption of Fourth Nuclear Power Plant Rejected," *Taipei Times*, December 19, 2021.

Taiwan's largest and most consequential economic and trade partner. Taiwan's companies and its economy more broadly continue to be highly reliant on China for manufacturing and end consumption. Importantly, this means Taiwan remains highly exposed to potential economic coercion by China.

Cross-Strait Trade Ties Deepen, but Direct Investment Declines

Taiwan's trade ties with the Mainland and Hong Kong deepened in 2021 into 2022, led by tight integration of cross-Strait consumer electronics production networks. Goods trade between Taiwan and the Mainland and Hong Kong totaled \$273.1 billion in 2021, up 26.3 percent from \$216.2 billion in 2020.²⁸⁷ Taiwan's goods exports to China and Hong Kong totaled \$188.9 billion in 2021, up 24.8 percent from \$151.4 billion in 2020, accounting for 42.3 percent of Taiwan's total exports.²⁸⁸ Taiwan's imports from China and Hong Kong in 2021 totaled \$84.2 billion, up 29.9 percent from \$64.8 billion in 2020.²⁸⁹ The increase in Taiwan's exports to mainland China and Hong Kong during 2021 was matched or surpassed by increases in its exports to other major trading partners, including the EU, the United States, ASEAN, and Japan.²⁹⁰ Through August 2022, largely as a result of lockdowns in China and Hong Kong, Taiwan's growth in exports to China and Hong Kong (10.2 percent) lagged well behind overall export growth (16.2 percent) as well as exports to New Southbound countries* (27.1 percent).²⁹¹ China and Hong Kong, however, still accounted for an overwhelming combined 38.8 percent share of Taiwan's exports through the first eight months of 2022, and it is unclear to what degree trade will rebound once China fully emerges from lockdown.²⁹²

Foreign direct investment (FDI) between Taiwan and mainland China has not experienced the same upward trend as trade. At its peak in 2013, mainland direct investment into Taiwan totaled \$349.5 million, but it has declined steadily since then, dropping to \$116.2 million in 2021.²⁹³ Through the first eight months of 2022, China's approved investment into Taiwan collapsed to a mere \$18.9 million.²⁹⁴ In contrast, and excluding China, Taiwan's total inbound FDI has increased robustly from \$4.9 billion in 2013 to \$7.5 billion in 2021.²⁹⁵ Through August 2022, Taiwan received overall inbound direct investment of \$10.4 billion, representing a 178.6 percent increase in FDI value compared to the same period in 2021.²⁹⁶ Of that \$10.4 billion of inbound investment into Taiwan, 43.3 percent came from Europe‡, 22.3 percent from Asia, 17.4 percent from South and Central America, 13.2 percent from Oceania, and 3.0 percent from North America.‡²⁹⁷ Outbound direct investment from Taiwan to the

*There are 18 New Southbound countries, including Australia, Bangladesh, Bhutan, Brunei, Burma (Myanmar), Cambodia, India, Indonesia, Laos, Malaysia, Nepal, New Zealand, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, and Vietnam. *Taiwan Today*, "Promotion Plan Announced for New Southbound Policy," September 5, 2016.

†\$3.3 billion of Europe's \$4.4 billion of FDI through August 2022 is listed as coming from "others" under European origin investment into Taiwan, with most of the remainder (\$766 million) coming from the Netherlands. Taiwan Ministry of Economic Affairs Investment Commission, *Overseas Chinese & Foreign Investment Monthly Report (August 2022)*.

‡Taiwan's Ministry of Economic Affairs officially lists the flow of U.S. FDI into Taiwan from January through August 2022 as totaling \$294.7 million. However, out of Central and South America origin investment, \$1.7 billion of the \$1.8 billion in FDI into Taiwan through August 2022 came from "British Overseas Territories in the Caribbean." Comparing Taiwan's FDI data with U.S. data is difficult, as Taiwan's inward FDI data is available monthly and tabulated as a gross flow, whereas the closest comparable U.S. data from the Bureau of Economic Analysis is

Mainland has also slowed considerably, peaking in 2010 at \$14.6 billion, or 83.8 of Taiwan's outward direct investment that year, and declining to \$5.9 billion in 2021, or just 31.8 percent of Taiwan's total that year.²⁹⁸ From January to August 2022, Taiwan's direct investment into the Mainland stood at \$2.6 billion, a slight increase to 32.4 percent of outward direct investment in 2022.²⁹⁹ Excluding the Mainland, Taiwan's outward investment has increased sizably, growing from \$2.8 billion in 2010 to \$12.6 billion in 2021.³⁰⁰

Tsai Administration Continues Efforts to Draw Taiwan Firms Home and Diversify Trade Partners

Taiwan continues to encourage businesses with operations in the Mainland to return to the island, incentivize domestic investment, and build out domestic infrastructure. In December 2021, the government reauthorized its "Three Major Programs for Investing in Taiwan" for another three years.³⁰¹ These programs include the Action Plan for Welcoming Overseas Taiwanese Businesses to Return to Invest in Taiwan, Action Plan for Accelerated Investment by Domestic Corporations, and Action Plan for Accelerated Investment by Small and Medium-Sized Enterprises.³⁰² According to the Executive Yuan, by year's end 2021 these three programs had created 128,000 jobs and brought \$57.1 billion of investment from 1,144 companies.³⁰³ Meanwhile, Taiwan's Forward-Looking Infrastructure Program, which was unveiled in July 2017, has entered planning for its fourth phase.³⁰⁴ The program seeks to enhance the efficiency of resource allocation, spur innovation, and create a more competitive business environment.³⁰⁵ In February 2022, the National Development Council, Taiwan's top economic planning body, stated that \$6.47 billion is being allocated to the program for 2023–2024.³⁰⁶

Aside from reducing dependence on China, these policies aim to address a number of socioeconomic challenges Taiwan faces, including mitigating the impact of climate change, declining birth rates, and urban-rural inequality.³⁰⁷ The urban-rural divide is of particular importance as globalization accrues disproportionate benefit to Taiwan's metropolitan areas, leading to demographic concentration and rural decay. Taiwan's Regional Revitalization Policy draws inspiration from Japan's efforts to develop rural economies, reform agricultural practices, and encourage tourism and urban resettlement in rural areas.³⁰⁸ In 2018, the Executive Yuan established the Regional Revitalization Board, which comprised central and local governments as well as private stakeholders to work together to bridge Taiwan's growing urban-rural divide.³⁰⁹ The government published its national strategic plan for regional revitalization in 2019, the first stage of which is intended to be completed in 2022.³¹⁰

In addition to bringing Taiwan businesses back from the Mainland, the Tsai Administration is trying to encourage diversification away from China. The New Southbound Policy, first announced by President Tsai in 2016, serves as the principal initiative in this re-

calculated only on an annual basis as a stock. The Bureau of Economic Analysis' most recent data, for example, indicates that the stock of U.S. investment in Taiwan, on a historical cost basis, fell to \$16.8 billion in 2021, a decline of 5.6 percent from \$17.9 billion in 2020. Taiwan's Ministry of Economic Affairs, meanwhile, tabulated that the gross flow of U.S. FDI into Taiwan throughout 2021 totaled \$704.6 million. Taiwan Ministry of Economic Affairs Investment Commission, *Overseas Chinese & Foreign Investment Monthly Report (August 2022)*; U.S. Department of Commerce Bureau of Economic Analysis, "Direct Investment by Country and Industry, 2021," July 2022.

gard, seeking to expand economic, trade, tourism, and investment ties with 18 countries across South and Southeast Asia and Oceania. Taiwan's trade with these 18 countries increased from \$59.2 billion in 2016 to \$82.6 billion in 2021, though their share of Taiwan's exports has fallen slightly over the period from 21.3 percent to 18.5 percent.³¹¹ Taiwan's outbound investment to the 18 countries has seen notable progress, moving from a 10.5 percent share of all outward investment (including China) in 2016 to a 30.9 percent share in 2021.³¹² In 2021, \$5.7 billion flowed from Taiwan to the countries targeted by the policy versus \$5.9 billion into the Mainland.³¹³ During the first eight months of 2022, investment into the 18 South and Southeast Asian and Oceania countries reached \$2.4 billion (29.3 percent) compared to \$2.6 billion (32.4 percent) into China.³¹⁴

The New Southbound Policy efforts are not just limited to trade and investment flows. From 2016 to 2019, for example, students from New Southbound Policy countries increasingly came to Taiwan to study, growing in number from 32,000 to 60,000 in that period, or from roughly one-third of the total overseas students to nearly half.³¹⁵ Taiwan has also been increasing healthcare and medical cooperation with countries in the wake of the COVID-19 pandemic, with Vice Minister of Health and Welfare Chung-Liang Shih even calling for a "New Southbound policy 2.0" focused on these issues.³¹⁶ Overall, Taiwan has signed nearly 70 agreements with the 18 countries across trade, education, health, culture, agriculture, and other dimensions.³¹⁷

China's Economic Coercion of Taiwan

China is targeting democracies, with a particular emphasis on Taiwan, through its economically coercive threats and actions. The German Marshall Fund's Asia Program Director Bonnie Glaser notes that "the PRC has used economic coercion against over a dozen countries. In virtually every case, the targets have been companies and industries in democratic states."³¹⁸ Taiwan receives particular attention, with Beijing's coercion extending to those countries, such as Lithuania, that increase their ties to Taiwan (for more on the Lithuania case, see Chapter 2, Section 2, "Challenging China's Trade Practices"). Analysts at the German Marshall Fund's Alliance for Securing Democracy note that since China's Going Global Strategy initiated in 1999, "the Chinese government's economic leverage over its neighbors and further abroad has grown so significantly that economic coercion has become China's go-to geopolitical tool of influence."³¹⁹ Ms. Glaser explains that the objectives of China's economic coercion are fundamentally about conditioning targets and observers' future behavior in such a way as to induce them toward self-censorship, preemptive avoidance of certain actions, and greater reflexive compliance with Beijing's desires.³²⁰

China's economic coercion of Taiwan targets export industries that are both relatively small and highly dependent on China's consumer market, attempting to inflict pain on Taiwan while avoiding fallout on China's own economy. Beijing's imposition of economically coercive trade restrictions in reaction to Speaker Pelosi's visit to Taiwan in August of 2022 demonstrated this approach. Upon confirmation of Speaker Pelosi's visit, Beijing announced import bans on two types

of fish exports from Taiwan that have an export value of roughly \$22 million, which comes on top of a June 2022 ban on groupers valued at nearly twice as much.³²¹ Beijing also banned a variety of fruits, again following a pattern from previous bans on pineapples and apples, and in a novel move placed export restrictions on natural sand, which is the base material for the silicon wafers used to produce semiconductors.*³²² As with previous restrictions, these sanctions on relatively small industries were tailored to regions wherein President Tsai's DPP has strong support.³²³ It is noteworthy that China did not target Taiwan's information and communications technology exports to China, by far the largest export category and an area that would likely also exact a major toll on China's own economy if targeted. As former Taiwan government trade negotiator Chiao Chun stated, "[t]he political message" intended by Beijing's response "is greater than the economic hit."³²⁴

Some of Beijing's previous coercive efforts have backfired.† In March 2021, for example, China announced it would suspend imports of pineapples from Taiwan. This spurred massive publicity and popular movements—not just in Taiwan but also globally—to raise awareness of Taiwan's plight and buy Taiwan pineapples. As a result, Taiwan's Council of Agriculture recorded an increase in pineapple demand shortly after the ban.³²⁵ Over a year later, China's ban on imports of Taiwan's pineapples remains in place, yet Taiwan's pineapple sales were still up 12 percent year-on-year in the first quarter of 2022.³²⁶ In addition to pineapples, China also banned imports of Taiwan groupers in June 2022, depriving Taiwan fishers and farmers of a market that accounted for 91 percent of exports in 2021.³²⁷ Whether or not global consumers will rally again for Taiwan groupers and the more recently targeted fish and agricultural products remains an open question, highlighting the threat of China's economic coercion.

China's economic coercion is often also targeted at Taiwan companies with operations in the Mainland. In late 2021, it was reported that Taiwan-based Far Eastern Group was being fined \$74.2 million for alleged regulatory violations.³²⁸ A statement from China's Taiwan Affairs Office suggests the fine was a penalty for Far Eastern Group's political donations, with the Taiwan Affairs Office spokesperson saying that "Taiwanese companies that have investments in the Mainland... have a clear understanding of whether or not to donate to obstinate 'Taiwan independence' elements."³²⁹ Beijing may be increasingly targeting companies that make donations to Taiwan's DPP.³³⁰ Nonetheless, Kung Ming-hsin, Taiwan's National Development Council minister, expressed confidence during a June 2022 trip to Washington that Taiwan's strong position in technology

* Beijing's ban on natural sand exports is not likely to be particularly harmful, as data from Taiwan's Bureau of Mines indicates. Taiwan produces most of its natural sand domestically, with the 540,000 metric tons of natural sand imports in 2021 accounting for only 0.75 percent of Taiwan's domestic demand that year. China accounted for 170,000 metric tons of Taiwan's imports, or 31.5 percent, meaning China's natural sand exports only accounted for 0.25 percent of Taiwan's demand. Taiwan Bureau of Mines, *The Dredging Progress of the Water Resources Department Is Ahead of Schedule. The Bureau of Mines Keeps Track of the Stock and Can Respond to the Supply and Demand of the Domestic Sand and Gravel Market* (水利署疏濬進度超前 礦務局隨時掌握存量 可因應國內砂石市場供需), August 3, 2022. Translation.

† For more analysis on this theme, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "U.S.-China Global Competition," in *2021 Annual Report to Congress*, December 2021, 53–54.

supply chains would deter China from taking more aggressive steps, saying that China would pay a very high price if it intensifies its coercive activities.³³¹

Taiwan Responds to China's Exploitation of Its Technology Ecosystem

China is undertaking economic espionage as well as systematic poaching of Taiwan's tech talent, particularly in the semiconductor industry.* By 2019, 3,000 semiconductor engineers had left Taiwan for the Mainland.³³² Meng Chih-cheng, associate professor of political science at Taiwan's National Cheng Kung University, believes the Chinese government's "goal is to bring Taiwanese talent to the Mainland and hollow out Taiwan."³³³ Taiwan's government has launched multiple initiatives to combat Chinese attempts to steal top talent. In December 2020, Taiwan's Ministry of Justice set up a working group within its Bureau of Investigation specifically to address the issue of tech talent poaching.³³⁴ Taiwan's Legislative Yuan then amended the country's National Security Act in May 2022 to both prohibit Taiwan workers in key industries from traveling to the Mainland without prior permission as well as stiffen penalties for those who cooperate in technology theft, including the potential for up to 12 years in prison.³³⁵ Throughout 2022, the Taiwan Bureau of Investigation has launched a number of raids on Chinese companies operating in Taipei and Hsinchu, Taiwan's hub for semiconductors. The bureau told Reuters that as of April 2022, more than 100 Chinese firms were under investigation.³³⁶

U.S.-Taiwan Economic and Trade Relations

U.S.-Taiwan economic relations remain robust and are on an upward trajectory as the two democracies seek greater collaboration on trade and supply chain issues in the face of shared challenges from China's aggression and nonmarket practices. While Taiwan was the United States' 12th-largest trading partner in 2013, it now ranks as the United States' eighth-largest trading partner.³³⁷ The United States was Taiwan's second-largest export market after mainland China in 2021, receiving 14.7 percent of Taiwan's exports.³³⁸ The United States was the third-largest exporter to Taiwan, following China and Japan, as U.S. goods constituted 10.3 percent of all of Taiwan's imports.³³⁹ Through August 2022, the United States received 15.5 percent of Taiwan's goods exports, while U.S. goods constituted 10.4 percent of Taiwan's imports, growing at 18.4 percent relative to the previous period.³⁴⁰

A new trade initiative between the United States and Taiwan speaks to mutual interest in greater collaboration and economic ties. On June 1, 2022, the United States and Taiwan, through the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office, respectively, announced the U.S.-Taiwan Ini-

*For more analysis of China's exploitation of Taiwan's technology ecosystem, see U.S.-China Economic and Security Review Commission, *2019 Annual Report to Congress*, November 2019, 467–468.

tiative on 21st-Century Trade. The announcement stated that the initiative intends to “develop concrete ways to deepen the trade relationship between the United States and Taiwan” and will see both sides attempt to “develop a roadmap for negotiations for reaching agreements in several specified trade areas.”³⁴¹ Eleven trade areas were identified in the announcement, including work on standards, state-owned enterprises, nonmarket practices, climate, digital trade, agriculture, and support for small- and medium-sized enterprises, among others.³⁴² The first meeting occurred in late June 2022 between Deputy U.S. Trade Representative Sarah Bianchi and Taiwan Minister-without-Portfolio John Deng, who is responsible for trade.³⁴³ According to the readout, the two sides “reiterated their shared interest to develop concrete ways to deepen the U.S.-Taiwan economic and trade relationship, advance mutual trade priorities based on shared values, and promote innovation and inclusive economic growth for workers and businesses.”³⁴⁴ Given the nascency of the initiative, however, much remains to be clarified about the role this agreement will fill. Several Taiwan analysts are skeptical as to whether this new initiative offers additional substance relative to the three existing U.S.-Taiwan initiatives, the Trade and Investment Framework Agreement dialogue, the Economic Prosperity Partnership Dialogue, and the Technology Trade and Investment Collaboration.³⁴⁵

U.S.-Taiwan Initiative on 21st-Century Trade

The U.S.-Taiwan Initiative on 21st-Century Trade is in key aspects a bilateral version of the Indo-Pacific Economic Framework (IPEF), of which Taiwan is not a member as of October 2022.³⁴⁶ Similar to IPEF, the U.S.-Taiwan initiative contains no market access commitments and would not need to be approved by Congress (for more on IPEF, see Chapter 2, Section 2, “Challenging China’s Trade Practices”). Unlike IPEF, the U.S.-Taiwan initiative is more narrowly tailored to negotiations on trade. Additionally, some areas in the U.S.-Taiwan initiative that were not included in IPEF indicate U.S.-Taiwan alignment on a set of market-oriented reform issues that establish a notable contrast with China’s reinvigorated nonmarket practices, namely state-owned enterprise and nonmarket economy-related policies and practices.³⁴⁷ Riley Walters, a senior nonresident fellow at the Global Taiwan Institute, offers an optimistic assessment of the initiative, saying the “US-Taiwan trade initiative will likely move faster and have more meaningful outcomes than the IPEF.”³⁴⁸ Beijing was quick to announce its opposition to the initiative, with a spokesman from China’s Taiwan Affairs Office accusing the DPP of sacrificing the interests of Taiwan people to “collude with external forces” and seek “independent” self-interest.³⁴⁹

³⁴¹The 11 trade areas include: trade facilitation, regulatory practices, agriculture, anticorruption, supporting small- and medium-sized enterprises in trade, harnessing the benefits of digital trade, promoting worker-centric trade, supporting the environment and climate action, standards, state-owned enterprises, and nonmarket policies and practices. Office of the United States Trade Representative, *United States and Taiwan Hold Inaugural Meeting of the U.S.-Taiwan Initiative on 21st-Century Trade*, June 27, 2022.

United States and Taiwan Enhance Technology Supply Chain Partnership to Reduce Reliance on China

As cooperative initiatives on trade progress, greater concern over supply chain dependence on China is also driving increased partnership between the United States and Taiwan.³⁵⁰ On December 6, 2021, the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office, in conjunction with the U.S. Department of Commerce and the Taiwan Ministry of Economic Affairs, launched the U.S.-Taiwan Trade and Investment Collaboration (TTIC). This collaboration is specifically intended to boost joint work on enhancing security of crucial supply chains, with initial focus on semiconductors, 5G, electric vehicles, sustainable energy, and cybersecurity.³⁵¹ Partnership via the TTIC is in large part a testament to the important role Taiwan plays in several critical global supply chains as well as the utility the two sides stand to gain from jointly “strengthening supply-chain resilience.”³⁵² The TTIC held its first meeting in early October 2022.³⁵³ (For more on supply chain concerns, see Chapter 2, Section 4, “U.S. Supply Chain Vulnerabilities and Resilience.”)

Taiwan firms have also been key partners in advancing U.S. global security objectives, including U.S. reshoring efforts. Given Taiwan’s key role in electronics supply chains, its cooperation with U.S. trade restrictions on both Russia and certain Chinese entities has been key to successful enforcement. TSMC has been complying with the United States’ foreign direct product rule limiting sales of semiconductors to Chinese Military-Industrial Complex companies, including Huawei.* Taiwan companies have also been working with the United States to increase their manufacturing footprint on U.S. soil. TSMC is leading the way, with its \$12 billion fabrication facility under construction in Arizona slated for completion in 2024 and with ostensible plans for five additional facilities in the state.³⁵⁴ GlobalWafers, a Taiwan-based design and manufacturing company, announced plans to build a \$5 billion silicon wafer fabrication facility in the United States, the first of its kind to be built in the United States in more than two decades.³⁵⁵ Arun Venkataraman, assistant secretary for global markets at the Commerce Department, called GlobalWafers’ investment an “early harvest” of the TTIC framework.³⁵⁶

The Impact of the Crisis in Ukraine on Cross-Strait Relations

Russia’s war against Ukraine has galvanized the international community and heightened concerns over a potential Chinese invasion of Taiwan. “I myself have a strong sense of urgency that ‘Ukraine today may be East Asia tomorrow,’” Japanese Prime Minister Kishida told attendees at the Shangri-La Dialogue, voicing this collective anxiety as he affirmed the “extreme importance” of peace

*Taiwan-produced artificial intelligence chips with U.S. designs are still being sold to Chinese military companies via Chinese intermediaries, but this owes more to limitations of current export control regimes. Ryan Fedasiuk, Karson Elmgren, and Ellen Lu, “Silicon Twist: Managing the Chinese Military’s Access to AI Chips,” *Center for Security and Emerging Technology*, June 2022, 4–5, 16; Kathrine Hill and Kiran Stacey, “TSMC Falls into Line with US Export Controls on Huawei,” *Financial Times*, June 9, 2020.

in the Taiwan Strait.³⁵⁷ Meanwhile, in Washington, the ongoing war in Ukraine has sparked vigorous debate in policy and think tank circles over the extent to which parallels can be drawn with Taiwan.³⁵⁸

There are several compelling similarities between Ukraine and Taiwan. Both Ukraine and Taiwan have autonomous democratic governments that are threatened by much larger authoritarian neighbors wishing to annex them.³⁵⁹ Russian President Vladimir Putin and General Secretary Xi have each appealed to romanticized versions of their national histories and framed their contemporary territorial claims within the context of a quest for national rejuvenation.³⁶⁰ Both leaders have issued frequent threats and demands to Ukraine and Taiwan, respectively.³⁶¹ Some analysts have also described Ukraine and Taiwan as “critical test cases” of the United States’ willingness to uphold global norms against the use of force to seize territory.³⁶²

There are arguably more crucial differences than similarities. Ukraine’s extensive land borders enabled Russia’s ground forces to invade with ease but also allowed NATO countries to resupply Ukrainian forces with weapons with little interference.³⁶³ By contrast, the 100 miles of sea between mainland China and Taiwan, dearth of beaches suitable for landing operations, and rugged terrain will make a PLA invasion more complex and perilous but will also afford the PLA opportunities to prevent the resupply of war materials through a blockade of the island.³⁶⁴ U.S. security support for Ukraine is recent and limited, whereas the United States has been Taiwan’s main security partner and source of military aid, training, and arms sales since the 1950s.³⁶⁵ The Taiwan Relations Act defines “any effort to determine the future of Taiwan by other than peaceful means... a grave concern to the United States.”³⁶⁶ Taiwan also occupies a strategic position between major sea routes and key U.S. allies, is the United States’ eighth-largest trading partner, and is home to TSMC, which accounts for more than half of global foundry revenues.³⁶⁷ Ukraine is not a member of NATO and President Biden explicitly ruled out the possibility of sending U.S. troops to Ukraine, facts that undoubtedly influenced President Putin’s decision to invade.³⁶⁸ By contrast, Taiwan enjoys a close security relationship with the United States on the basis of U.S. law, and President Biden has said on multiple occasions that the United States would defend Taiwan from a Chinese attack.³⁶⁹ The PLA’s leaders have in fact assumed for decades that the U.S. military will respond decisively to an invasion of Taiwan and that China invests substantially in capabilities to counter such an intervention.³⁷⁰

The governments of both China and Taiwan have rejected explicit comparisons to Ukraine, highlighting different points that reinforce their positions. In a March 2022 op-ed in the *Washington Post*, Ambassador Qin insisted that the Ukraine crisis and the cross-strait dynamic “are totally different things.”³⁷¹ He and other Chinese officials emphasize that China regards Taiwan as an inalienable part of Chinese territory and that any contestation over Taiwan’s political status is strictly an internal affair, while the crisis in Ukraine arose from contention between two sovereign countries, Russia and Ukraine.³⁷² President Tsai and several of her top officials have also

repeatedly argued that the situations in Ukraine and Taiwan are fundamentally different, pointing to the natural geographic barrier provided by the Taiwan Strait, Taiwan's geostrategic importance, and the willingness of its global partners to uphold regional stability.³⁷³ Taiwan officials have tried to downplay the comparison out of concerns about fearmongering and the possibility that pro-China groups will exploit public alarm to push for better ties with Beijing, ostensibly to avoid Ukraine's fate.³⁷⁴

Beijing's Lessons

Without direct insight into Chinese leaders' decision-making processes, it is difficult to discern what lessons Beijing may be drawing from the Ukraine crisis and how these will inform its approach to Taiwan. U.S. government officials have stated that Beijing's interpretation of the crisis may remain unclear for some time, but they believe Chinese leaders are studying the war closely.³⁷⁵ "I don't think for a minute it's eroded [Xi's] determination over time to gain control over Taiwan," U.S. Central Intelligence Agency Director William Burns said in May 2022, "but I think it's something that's affecting their calculation about how and when they go about doing that."³⁷⁶ In fact, the PLA has a long tradition of studying "other people's wars" for insights to incorporate into its doctrine, and the CCP leadership reportedly discussed the Ukraine crisis at one Politburo Standing Committee meeting, according to the *Wall Street Journal*.³⁷⁷ Foreign observers speculate that Beijing may eventually reach several conclusions about geopolitics and warfighting that it could apply to a Taiwan scenario, summarized below.

Lesson 1: Shape the Information Environment to Your Advantage

Russia's invasion of Ukraine has likely reinforced Chinese leaders' view that they will need to shape the information environment in their favor before and during an attack on Taiwan. Ms. Glaser testified before the Commission in August 2022 that Chinese leaders may believe they can leverage certain advantages Russia did not have before or during a Taiwan conflict to dominate the information environment. "These include the PRC's significant control over Taiwan's media, its ability to spread disinformation on social media, and its ability to limit or even cut off internet access," she observed.³⁷⁸

More broadly, Chinese officials have emulated their Russian counterparts by refusing to describe the conflict in Ukraine as a "war" and blaming the United States as the "culprit of current tensions surrounding Ukraine."³⁷⁹ As long-time proponents of "discourse power,"* Chinese officials may be propagating Russian narratives about the origins and impact of the war in order to neutralize ef-

*"Discourse power" is the ability to actively shape the discourse of others so that international narratives both praise the CCP and refrain from threatening it, just as domestic Chinese narratives do. Crucially, Beijing is not advocating simply for its perspective to be more influential but rather for it to be effectively the only perspective that matters, as is the case within China. The CCP's discourse power depends on its ability to make international narratives converge with its own, drowning out or silencing dissenting narratives. For example, Chinese officials frequently urge other countries to refrain from criticizing China and to adopt the "correct" or "proper" view of China and their relationship with it. For more on discourse power, see the Chapter 1, Section 2: "The China Model: Return of the Middle Kingdom," in the Commission's 2020 *Annual Report*.

forts by the United States to marshal a coalition of states against Russia, much as it would likely attempt to do if the United States were to organize a coalition opposed to a PLA invasion of Taiwan.³⁸⁰ Responding to recent remarks by Secretary Blinken, a Chinese foreign ministry spokesperson said in April 2022 that China could not “invade” Taiwan because Taiwan is a part of China, offering an example of one way China could seek to distort reality with its own propaganda if it ultimately decides to attack the island.³⁸¹

Lesson 2: Decrease China’s Vulnerability to Sanctions

Beijing has been closely observing the array of export controls that have effectively blocked Russia off from core technologies, forcing it to cannibalize its own planes for needed technology inputs. Beijing is thus hastening an already frenzied move toward technological self-reliance.³⁸² Yet, even prior to Russia’s invasion of Ukraine, Beijing had been experimenting with methods to decrease its vulnerability to U.S. and allied economic and financial sanctions. In a 2018 speech published last year in *Qiushi*, the Party’s leading theory journal, Xi expressed particular concern about technological vulnerability, saying, “Only by mastering key core technologies in our own hands can we fundamentally guarantee national economic security, national defense security and other security.”³⁸³ In 2021, Xi referred to China’s ability to develop indigenous technology capacity, for example, as a “question of survival.”³⁸⁴ Russia’s invasion and the strong U.S. and allied response have merely steeled Beijing’s resolve for technological self-reliance.

More broadly, the drastic financial sanctions levied against Russia have hastened Beijing’s own preparations. Most shocking to Beijing, in addition to transaction restrictions via SWIFT, are the blocking sanctions the United States, Canada, the EU, and the UK jointly levied against the Central Bank of Russia in a move that effectively rendered a substantial portion of Russia’s \$630 billion reserves useless.³⁸⁵ China, according to the Atlantic Council, has about \$3.4 trillion in international assets vulnerable to similar blocking sanctions, including \$1.1 trillion worth of U.S. Treasuries, hundreds of billions in other U.S. dollar-denominated assets, and sizable reserves in major currencies, including the yen and the euro.³⁸⁶ Although such sanctions on China would have far greater repercussions on the U.S. economy than those on Russia, it is clear China remains highly vulnerable.

Policymakers in Beijing are attempting to reduce their vulnerabilities in the event of a full-on decoupling.³⁸⁷ Zongyuan Liu, a fellow for international political economy at the Council on Foreign Relations, highlights a number of ongoing plans, including China’s longstanding endeavor to diversify away from U.S. reserves and decrease its overall dependence on the U.S. financial system via renminbi (RMB) internationalization and development of an interbank payment platform, the Cross-Border Interbank Payment System. China has made limited progress toward reducing its dependence on the dollar and the U.S. financial system, given its continual investment of the Chinese trade surplus in U.S. dollar-denominated assets and its perennial refusal to fully open its capital account.³⁸⁸ Dr. Liu, however, identifies that Chi-

na may be considering offensive measures as well, which could include intentional supply chain disruptions via geopolitically tinged enforcement of the antisanctions regulatory framework as well as export controls on critical minerals and products.*³⁸⁹ (For more on China’s dependence on SWIFT, see Chapter 2, Section 1, “Year in Review: Economics and Trade.”)

Beijing is also seeking greater self-reliance across a variety of critical inputs, including most prominently food, raw materials, and energy.³⁹⁰ Beijing has been instituting policies to build self-sufficiency in agricultural products in which China is import dependent, particularly grains, corn, and soybeans.³⁹¹ China, however, has only become more reliant on imports to meet its food demand over time, with net imports of food products more than doubling from \$36.2 billion in 2017 to \$89 billion in 2020.† In raw materials, China’s 14th Five-Year Plan for the Development of the Raw Materials Industry, released in December 2021, is framed in large part around “urgently resolving the critical problem of weak capacity in key strategic resources” and specifically aims to increase self-reliance and “strengthen the exploration of iron ore, copper, potassium and other scarce mineral resources.”³⁹² Iron ore imports, China’s third-largest import category after oil and semiconductors, are a particular vulnerability, constituting roughly 80 percent of domestic iron ore demand and overwhelmingly sourced from just two countries (Australia and Brazil).³⁹³ Finally, China is heavily reliant on oil imports, which in 2020 stood at \$150 billion, represented 70 percent of China’s domestic oil consumption, and supplied roughly 14 percent of China’s overall energy.‡³⁹⁴ Four countries—Saudi Arabia, Russia, Iraq, and Angola—accounted for 51.7 percent of China’s oil imports in 2020.§ Although Beijing strives for self-reliance in food, raw materials, and energy, it remains exposed and vulnerable.

Lesson 3: Ensure the PLA Avoids the Russian Military’s Mistakes

Chinese leaders were reportedly surprised by the Russian military’s poor performance in Ukraine and will seek to ensure that

*As Dr. Liu identifies, “China has passed five major pieces of legislation aimed at blocking the impact of U.S. sanctions since 2018: the International Criminal Judicial Assistance Law, the Provisions of the Unreliable Entity List, the Extraterritorial Rules, the Anti-Foreign Sanctions Law, and the Export Control Law (ECL), the first Chinese law that establishes a comprehensive and integrated export control regulatory regime, as well as the State Council’s white paper on China’s export control.” Zongyuan Zoe Liu, “China Is Hardening Itself for Economic War,” *Foreign Policy*, June 16, 2022.

†Calculations based on Observatory of Economic Complexity food categories: “vegetable products,” “animal products,” “foodstuffs,” and “animal and vegetable byproducts.” Alex Simoes and Cesar A. Hidalgo, “The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development,” *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence*, 2011.

‡The figure of 14 percent derives from the fact that oil represents 20 percent of China’s energy mix, while 70 percent of China’s oil is imported. Alex Simoes and Cesar A. Hidalgo, “The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development,” *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence*, 2011; Michal Meidan, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S.-China Competition in Supply Chains*, May 31, 2022.

§The next five largest suppliers of oil to China are Brazil, Oman, the United Arab Emirates, Kuwait, and the United States. The top nine suppliers of oil to China represented 82.2 percent of China’s oil imports in 2020. Alex Simoes and Cesar A. Hidalgo, “The Economic Complexity Observatory: An Analytical Tool for Understanding the Dynamics of Economic Development,” *Workshops at the Twenty-Fifth AAAI Conference on Artificial Intelligence*, 2011.

the PLA does not repeat its blunders in a potential invasion of Taiwan.³⁹⁵ At the operational level, Chinese military analysts may conclude that Russia's underestimation of the Ukrainian forces, disjointed operations, problems with logistics, inability to assassinate Ukrainian President Volodymyr Zelenskyy, and failure to preserve the element of surprise all prevented it from achieving a decisive victory.*³⁹⁶ "For the PLA, this vindicates the difficult military reforms it began in 2015, which focused on joint operations and logistics and incorporate lessons learned from watching the United States conduct complex joint operations," Council on Foreign Relations fellow David Sacks observed.³⁹⁷ At the strategic level, Chinese military analysts may be studying how Russia's threat to use nuclear weapons apparently influenced the United States and NATO's early decision not to intervene in the Ukraine crisis.³⁹⁸ A collective judgment that nuclear coercion works may validate Chinese leaders' earlier decision to modernize and expand their nuclear arsenal, but it also raises complicated questions about how to engage in nuclear signaling and whether China should abandon its longstanding "no first use policy."³⁹⁹

Chinese military analysts will also likely study reporting about Russian troops' morale and protest activity by ordinary citizens in Russia to inform the PLA's political work. "At the same time, PLA political officers and others will likely marvel at how well Ukrainian President Volodymyr Zelensky has wielded information warfare and strategic communications as a force multiplier," CNA Vice President and Director of China and Indo-Pacific Security Affairs Division David Finkelstein observes.⁴⁰⁰ "Reading these stories will undoubtedly vindicate for the PLA their continuing emphasis on 'political work' among the troops and the local populace and will justify the PLA's new joint doctrine addressing both political work and national mobilization," he wrote.⁴⁰¹

Taiwan's Lessons

Taiwan's government is also closely observing the Ukraine crisis. In late January 2022, President Tsai created a task force to study the implications of the war in Ukraine for cross-Strait relations and Taiwan's defense against a Chinese invasion.⁴⁰² She told a gathering of her national security advisors at the time that Taiwan had faced threats from China in recent years and that "we empathize with Ukraine's situation."⁴⁰³ In the months since, several of Taiwan's officials have openly discussed the lessons they are learning about warfighting, civil defense, and resiliency.⁴⁰⁴

* Chinese military analysts have also taken notice of how SpaceX's provision of high-speed internet service to Ukraine through its Starlink satellite network frustrated the Russian military's efforts to cut off Ukraine's access to the world. An April 2022 paper authored by Ren Yuanzhen, a researcher with the Beijing Institute of Tracking and Telecommunications under the PLA's Strategic Support Force, called on his country to develop antisatellite capabilities sufficient to destroy the Starlink network because of the ubiquity of its satellites and the potential that the U.S. government could leverage them in a conflict with China. "This is a national security issue for the Chinese, they're looking at Taiwan, if something happens, this system could be important for the Defense Department," Space Law and Policy Solutions think tank founder Michael Listner told Bloomberg. Jamie Tarabay and Sarah Zheng, "Chinese Military Analyst Floats Idea to Hack Musk's Starlink," *Bloomberg*, June 22, 2022; Stephen Chen, "China Military Must Be Able to Destroy Elon Musk's Starlink Satellites if They Threaten National Security: Scientists," *South China Morning Post*, May 25, 2022.

Lesson 1: Take on the PLA with the Right Weapons and Strategies

Taiwan Foreign Minister Wu told CNN in May 2022 that the first lesson Taiwan learned from the Ukraine crisis is the importance of asymmetric capabilities. “Look at the Ukrainians, they use small personal weapons to go against a large enemy,” he said.⁴⁰⁵ “I think that is something we can learn from. In fact, we have been preparing for that, but we need to make more investment in this regard.”⁴⁰⁶ To combat the wartime threat, Taiwan’s military will need to stockpile or procure large numbers of asymmetric capabilities in peacetime.⁴⁰⁷ Priority capabilities for stockpiling and procurement include sea mines and anti-ship cruise missiles to degrade the invasion force arriving by sea; portable air defense systems and drones to prevent the PLA from establishing air superiority; and antitank missiles to destroy small landing craft near shore and the armored vehicles that do successfully land on the island.⁴⁰⁸ Taiwan’s military may also need to decentralize command and control and develop systems that allow smaller military units to adapt to rapidly evolving local circumstances.⁴⁰⁹

Lesson 2: Prepare for a Prolonged, Whole-of-Society Struggle

In the same interview, Foreign Minister Wu said the Ukraine crisis demonstrated the importance of robust civil defense. “Look at the Ukrainian people,” he said.⁴¹⁰ “They want to serve in the military. They want to go to the war zones to fight against Russia. That kind of spirit is enviable for the Taiwanese people.”⁴¹¹ To mount a civil resistance that would slow the PLA’s advances, U.S. analysts assess that Taiwan needs to improve the readiness of its reserve force, establish a territorial defense force, and develop plans for the total mobilization of Taiwan’s society.⁴¹² It may first need to surmount the public’s lack of experience with firearms and an absence of robust grassroots structures that would enable rapid mobilization.⁴¹³

Lesson 3: Mitigate Dependencies on Critical Imports

Taiwan is highly dependent on imports of energy, food, and military supplies that would be necessary to sustain resistance against a Chinese assault. Taiwan’s 2021 National Defense Report noted that the island is extremely vulnerable to a blockade by China.⁴¹⁴ Analysts at RAND Corporation assess that China may rather seek to establish a “quarantine” of Taiwan, selectively controlling deliveries rather than fully blockading the island, as a show of de facto sovereignty.⁴¹⁵ There are ten major ports that Taiwan relies on for the vast majority of its trade and commerce.⁴¹⁶ Four major ports among these ten, however, handle over half of Taiwan’s international maritime trade, while the island has only two LNG-receiving terminals. Optimistic projections indicate Taiwan’s LNG, oil, and food stockpiles could last one week, four months, and six months, respectively.⁴¹⁷ However, previous research by University of Notre Dame assistant professor of political science Rosemary Kelanic indicates that Taiwan’s current reserves may be used up even more quickly during a conflict scenario, based on estimates of average consumption during peacetime.⁴¹⁸ China could also seek to erode Taiwan’s defensive capacity by blocking the inflow of defense equipment such

as anti-air and antiship missiles.⁴¹⁹ Taiwan's island geography will also make potential resupply much more difficult than in the case of Ukraine.⁴²⁰ In brief, China would only need to enact a blockade on a select few areas to cause extreme disruptions to Taiwan's trade and energy supplies, while Taiwan's limited stockpiles of critical resources could incentivize it to capitulate quickly.

Implications for the United States

The ongoing war in Ukraine offers a contemporary case study of what a Chinese bid to annex Taiwan—and the international reaction to such aggression—could look like. Russia's invasion of Ukraine has proven that some countries are still able and willing to use force to seize territory from others in the 21st century. China, Taiwan, and the United States are all studying the Ukraine crisis for lessons to apply to their own operations if war over Taiwan breaks out, a fact that makes a potential conflict feel more real to each party and, therefore, potentially more viable. At the same time, the halting advances of the Russian military, widespread civilian casualties, international financial turmoil, and crippling sanctions that will set back the Russian economy for years all offer sobering testaments to the destructive nature of war.

For the United States, the war in Ukraine underscores the importance of cross-Strait deterrence and the urgency of doing everything possible to strengthen it in the near term. If the 20th Party Congress later this year unveils a new, more aggressive CCP policy toward Taiwan, U.S. and Taiwan leaders will be under greater pressure to manage the PLA's daily provocations in the ADIZ and vigilantly assess any indications of potential wartime mobilization. They will also need to more closely scrutinize how the activities of China's coast guard or maritime agencies could create a pretext for China to control access to the Taiwan Strait under the guise of "law enforcement." Taiwan's presidential election in 2024 may also serve as a flashpoint for conflict if a candidate Beijing dislikes is ultimately elected. More broadly, U.S. policymakers must constantly assess whether ongoing efforts to procure capabilities for a potential war over Taiwan are on track. This is crucial because over the next five years the United States' plans to retire older platforms in anticipation of a smaller, more modern force may appear to Chinese leaders as a "window of opportunity" during which the U.S. military's ability to intervene is at its weakest.*

Growing U.S.-Taiwan economic integration efforts highlight the importance both economies place on bolstering shared democratic and market principles, particularly in the face of Beijing's increasing economic coercion and predatory nonmarket practices. With both the United States and Taiwan sharing a set of overlapping concerns about Beijing's willingness to weaponize global supply chains, strong U.S.-Taiwan economic ties can amplify both countries' ongoing efforts to diversify economic dependence away from China. More broadly, in the wake of Russia's invasion of Ukraine, Taiwan can leverage its

*The United States has scheduled a mass retirement of 48 active-duty ships and 256 aircraft by 2026, including one aircraft carrier, 11 cruisers, and 13 submarines. Sam LaGrone, "\$715B FY22 Defense Budget Cuts \$2.8B in 'Legacy' Systems, Reduces Troop Strength," *USNI News*, June 1, 2021; Richard R. Burgess, "Navy Plans to Retire 48 Ships during 2022–2026," *Seapower*, December 11, 2020.

position as a transparent democracy to play an important role in a deepening global supply chain restructuring process. Continued cooperation with the United States can facilitate Taiwan's efforts to diversify away from overreliance on the Mainland, ensuring Taiwan retains strategic and economic autonomy. The United States is also poised to provide support to Taiwan in the face of Beijing's continued economic pressure.

Appendix: Comparison of China's White Papers on Taiwan from 1993, 2000, and 2022

Stance by Topic	1993 White Paper	2000 White Paper	2022 White Paper
Proposed unification framework	Peaceful "reunification"; "one country, two systems"	Peaceful "reunification"; "one country, two systems"	Peaceful "reunification"; "one country, two systems"
Use of force	Reserves China's right to "use any means it deems necessary, including military ones, to uphold its sovereignty and territorial integrity."	Asserts that China "will not commit itself to ruling out the use of force," but stresses that it "would only be the last choice made under compelling circumstances." These circumstances include "a grave turn of events [that] occurs leading to the separation of Taiwan from China in any name," "if Taiwan is invaded and occupied by foreign countries," or if "the Taiwan authorities refuse... the peaceful settlement of cross-Straits reunification through negotiations."	Asserts that the use of force "would be the last resort taken under compelling circumstances" in response to "the provocation of separatist elements or external forces should they ever cross our red lines." The document leaves Beijing's redlines unstated, however.
Preconditions for political dialogue	Calls for immediate and wide-ranging negotiations on unification, premised on Taiwan's recognition of the One China principle.*	Calls for immediate and wide-ranging negotiations on unification on the basis of equality and the One-China Principle, but warns that "if Taiwan denies the One-China Principle and tries to separate Taiwan from the territory of China, the premise and basis for peaceful reunification will cease to exist."	Calls for negotiations on the basis of the One China principle and the 1992 Consensus.† Asserts the two sides will engage in dialogue as "equals" but signals impatience with the pace of cross-Straits engagement by warning that Beijing "should not allow this problem to be passed down from one generation to the next."

*The "One China principle" refers to the Chinese government's position that Taiwan is an inalienable part of the state called "China" ruled by the PRC.

†The 1992 Consensus refers to a tacit understanding that the KMT under then President Ma Ying-jeou and Beijing said was reached between representatives of Taiwan and China in 1992 regarding the idea that there is only one state called "China" and that both mainland China and Taiwan belong to that state. The KMT defined the consensus as "one China, respective interpretations," interpreting "one China" as the Republic of China, the formal name of Taiwan's government. By contrast, Beijing accepts only the definition embodied in its "one China" principle: mainland China and Taiwan are part of one and the same China, the PRC, and Taiwan is a subnational region. Although in official documents and statements Beijing has never acknowledged that the consensus allows different interpretations of "one China," in practice it has at times officially ignored, but grudgingly tolerated, the KMT's definition of the consensus. Recently, the KMT has sought to dis-

Appendix: Comparison of China's White Papers on Taiwan from 1993, 2000, and 2022—Continued

Stance by Topic	1993 White Paper	2000 White Paper	2022 White Paper
View of Taiwan's elected leaders and opposition party	Acknowledges that the "Taiwan authorities" have taken positive steps to expand economic and cultural exchange with mainland China but faults Taiwan's government for allegedly reinforcing the "fallacy" of Taiwan independence through its own actions and abetting supporters of Taiwan independence.	Faults then Taiwan President Lee Teng-hui and the "Taiwan authorities" for threatening the stability of cross-Strait relations by pursuing expanded engagement with international institutions, buying arms from foreign countries, attempting to join the Theater Missile Defense system, and facilitating an independent sense of Taiwan identity.	Faults the DPP for casting aspersions on one country, two systems and asserts that "the DPP authorities have adopted a separatist stance, and colluded with external forces in successive provocative actions designed to divide the country." The white paper blames the DPP for cross-Strait tensions and lists the ways it has undermined exchange and cultural affinities between China and Taiwan.
Level of Taiwan's autonomy after unification	After reunification, Taiwan will enjoy a high degree of autonomy as a special administrative region. The white paper promises Taiwan will have "its own administrative and legislative powers, an independent judiciary and the right of adjudication on the island"; "run its own party, political, military, economic and financial affairs"; "conclude commercial and cultural agreements with foreign countries and enjoy certain rights in foreign affairs"; "keep its military forces"; and that the Mainland "will not dispatch troops or administrative	After reunification, Taiwan will enjoy a high degree of autonomy, including the ability to retain its capitalist system "for a long period of time to come," and China's central government "will not send troops or administrative personnel to be stationed in Taiwan." The white paper affirms that China's policies "fully respect Taiwan compatriots' wish to govern and administer Taiwan by themselves."	"Provided that China's sovereignty, security and development interests are guaranteed, after reunification Taiwan will enjoy a high degree of autonomy as a special administrative region." The white paper clarifies that Taiwan's social system and way of life "will be fully respected" and "the private property, religious beliefs, and lawful rights and interests of the people in Taiwan will be fully protected." Previous assurances that Taiwan will be able to keep its own military forces and that China "will not send troops or administrative personnel to be

tance itself from Beijing's calls to precondition talks on the 1992 Consensus, calling it a "non-consensus consensus." By contrast, the ruling DPP and current Tsai Administration have consistently refused to recognize the 1992 Consensus or the "one China" principle. For more, see U.S.-China Economic and Security Review Commission, Chapter 5, "Taiwan," in *2019 Annual Report to Congress*, November 2019, 459.

Appendix: Comparison of China's White Papers on Taiwan from 1993, 2000, and 2022—Continued

Stance by Topic	1993 White Paper	2000 White Paper	2022 White Paper
Level of Taiwan's autonomy after unification— <i>Continued</i>	<p>personnel to the island.” The white paper also allows for participation by a wide range of Taiwan officials and society in China’s national politics by stating these parties may be “appointed to senior posts in the central government and participate in the running of national affairs.” More generally, the white paper acknowledges that “that the desire of Taiwan compatriots to run the affairs of the island as masters of their own house is reasonable and justified.”</p>		<p>stationed in Taiwan” are conspicuously absent, however. The white paper also suggests that only those Beijing regards as patriots will have a role in governance by stating that “all Taiwan compatriots who support reunification of the country and rejuvenation of the nation will be the masters of the region.”</p>
Comparison to the practice of One Country, Two Systems in Hong Kong and Macau	<p>Taiwan “will be distinguished from the other provinces or regions of China by its high degree of autonomy.”</p>	<p>“The Chinese government acknowledges the differences between Taiwan on the one hand and Hong Kong and Macao on the other and, after peaceful reunification, is prepared to apply a looser form of the ‘one country, two systems’ policy in Taiwan than in Hong Kong and Macao.”</p>	<p>Claims that “Hong Kong faced a period of damaging social unrest caused by anti-China agitators both inside and outside the region” and that China “made some appropriate improvements” to the practice of one country, two systems in the territory that “addressed both the symptoms and root causes of the unrest.”</p>
Benefits of unification	<p>States that peaceful “reunification” will “facilitate Taiwan’s socioeconomic stability and development and promote the resurgence and prosperity of China as a whole.”</p>	<p>Citing previous instances in which China regained lost territory, the white paper suggests that achieving national unity through the absorption of Taiwan will lead to “rapid political, economic, cultural, scientific and technological development.”</p>	<p>Asserts that “the wellbeing of the people in Taiwan hinges on the rejuvenation of the Chinese nation,” and articulates a number of types of cross-strait economic and cultural exchange to advance peaceful “reunification.”</p>

Appendix: Comparison of China's White Papers on Taiwan from 1993, 2000, and 2022—Continued

Stance by Topic	1993 White Paper	2000 White Paper	2022 White Paper
Taiwan's foreign relations	<p>Rules out any official ties between Taiwan and foreign countries after unification but allows for bilateral economic and cultural exchanges. Rules out Taiwan's membership in any international organizations requiring sovereign statehood as a prerequisite for membership but allows for the possibility of Taiwan's participation in some types of international organizations that do not require statehood and some nongovernmental organizations.</p>	<p>Rules out any official political ties between Taiwan and foreign countries on the basis of the One China principle but says that China has “no objection” to economic and cultural exchanges. States Taiwan is ineligible for membership in the UN and other international organizations whose membership is confined to sovereign states but says China arranged for Taiwan's regional membership in certain intergovernmental organizations. Decries arms sales to Taiwan by countries that maintain diplomatic relations with China.</p>	<p>Rules out any official political ties between Taiwan and foreign countries after unification but allows for economic and cultural exchanges. “With the approval of the central government of China, [foreign countries] may set up consulates or other official and quasi-official institutions in Taiwan, international organizations and agencies may establish offices, relevant international conventions can be applied, and relevant international conferences can be held there,” the white paper says. Repeats false claims that UN resolutions adopted in the 1970s recognized Taiwan as a province of China and criticizes the United States for opposing these claims.</p>

Source: Taiwan Affairs Office of the State Council and the State Council Information Office, *The Taiwan Question and China's Reunification in the New Era*, August 2022; Taiwan Affairs Office of the State Council and the State Council Information Office, *White Paper—The One-China Principle and the Taiwan Issue*, February 2000; Taiwan Affairs Office of the State Council and the State Council Information Office, *White Paper—The Taiwan Question and Reunification of China*, August 1993.

ENDNOTES FOR CHAPTER 4

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CHAPTER 5

HONG KONG

Abstract

In 2022, Hong Kong became increasingly isolated and further subordinated under Beijing's control. Security authorities continued their assault on Hong Kong's freedoms while the economy suffered from restrictions guided by Chinese government direction. Stronger mainland influence over Hong Kong is driving key changes to all aspects of life in the territory and more emigration. Hong Kong remains an important offshore financial and business center for the Mainland due to the territory's unique connections to the global financial system. The territorial government is moving to a legal system that increasingly mimics that of the Mainland, threatening prospects for journalists and civil society as well as U.S. and other foreign businesses and expatriates in the territory.

Key Findings

- With Beijing's handpicked chief executive now at the helm, China firmly controls all branches of Hong Kong's government, ushering in a new era of total control by mainland authorities. Beijing has now successfully inserted loyalists into every branch of Hong Kong's government. By overhauling the election process, it created a rubber-stamp parliament full of so-called patriots, and it has also leveraged the new chief executive's authority to appoint judges.
- Hong Kong is actively working to implement "local" national security rules to reinforce the National Security Law passed in Beijing's legislature in 2020. These new local laws are slated for introduction by the end of 2022 and are expected to feature a comprehensive definition of national security in line with that of the Mainland.
- Freedoms of speech, expression, assembly, association, and religion in Hong Kong—once among the most progressive in the region—have all but vanished as the territory now ranks near the bottom of global freedom indices. Prominent religious figures, such as Hong Kong's senior-most cleric, Cardinal Joseph Zen Ze-kium, have been targeted and arrested; the education system has also come under intense scrutiny as Beijing seeks to shed Hong Kong's British legacy by rewriting textbooks and curricula to revise history and solidify a more unified national identity with the Mainland.

- Recent data suggest Hong Kong's increased departures of expatriates and locals will intensify as the territory introduces new laws to curb public criticism of the Beijing-aligned government and has imposed strict Zero-COVID controls for most of 2022. Brain drain and potential loss of talent could be an added damper to Hong Kong's economic outlook. More foreign companies may find Hong Kong less welcoming as they contend with challenges retaining staff, accessing real-time information, and navigating a higher degree of political suppression and control.
- Hong Kong's leadership, in concert with the Beijing government, is actively crafting policies to increase not only legal, political, and economic subordination of Hong Kong but also cultural and demographic transformation.
- Hong Kong has regressed from its history as a regional hub, shifting to serving primarily as a gateway to mainland China. Some U.S. companies are reorganizing operations in the Indo-Pacific to shift away from Hong Kong due to extensive restrictions and difficulties associated with doing business in the territory. U.S. companies are poised to take regional operations and headquarters out of Hong Kong gradually and in greater numbers.
- Hong Kong remains an important part of the Chinese government's growth agenda due to its centrality in renminbi (RMB) transactions as well as its role in supporting expansion of China's financial services. The Chinese Communist Party's (CCP) plans to rely on Hong Kong's stock exchange as an alternative to U.S. exchanges has been delayed in 2022, but Chinese companies and banks are set to dominate Hong Kong's business environment as U.S. and other foreign firms depart.

Recommendations

The Commission recommends:

- Congress should direct the Administration to extend the deferral of enforced departure of qualifying Hong Kong citizens in the United States, which would otherwise end on February 2023. The U.S. Departments of State and Homeland Security shall submit a plan to Congress within 180 days addressing the long-term status and treatment of Hong Kong citizens in the United States.
- Congress consider legislation requiring U.S. entities with data operations in Hong Kong to submit an annual report on any requests or attempts to access such data from the Hong Kong government or Chinese authorities. This report will also detail the nature of any request or attempt to access, and the U.S. entity's compliance.
- Congress direct the Secretary of State to include a detailed list of all websites blocked in Hong Kong pursuant to its requirements under the annual report required under the Hong Kong Policy Act to cover limitations to freedom of information.

- Congress, pursuant to the Hong Kong Human Rights and Democracy Act, amend the International Organization Immunities Act to remove Hong Kong Economic and Trade Offices as a covered organization, thereby eliminating diplomatic privileges enjoyed by such offices and their employees in the United States. This amendment could be reversed under one of the following conditions:
 - The People’s Republic of China negotiates an agreement with the United States to have Hong Kong Economic and Trade Offices considered an official part of the People’s Republic of China’s mission to the United States, and subject to the same requirements.
 - China alters its treatment of Hong Kong to allow for sufficient autonomy and abides by One Country, Two Systems as enumerated by the Hong Kong Policy Act.

Introduction

Beijing’s manipulation of elections for Hong Kong’s chief executive and Legislative Council (LegCo) members has locked in Hong Kong’s future and fully subordinated it to the CCP’s interests. Chief Executive John Lee Ka-chiu, endorsed by General Secretary of the CCP Xi Jinping as a “firm patriot,” faced no opposition in his election, and all candidates for LegCo positions were preapproved loyalists to Beijing. The CCP completed its transformation of Hong Kong’s formerly competitive elections into a political anointment and a Mainland-style rubber-stamp parliament. The Lee Administration is expected to introduce a legislative package to complement the National Security Law, which the National People’s Congress in Beijing passed without review or comment from Hong Kong’s then semiautonomous LegCo. Foreign nationals are expected to be prosecutable under the forthcoming legislation, which will reportedly seek to address “fake news” and espionage-related threats to national security.* Equally concerning is the chief executive’s unilateral authority to appoint judges to the judiciary. This mandate leaves the door open for Beijing to fully control the court system.

Hong Kong’s economic downturn has dulled the appeal of a territory once regarded as a hub for international business and culture. Hong Kongers and expatriates have continued to leave at high rates between 2021 to 2022 to escape the territory’s new policies. Extensive restrictions on movement in response to the novel coronavirus (COVID-19) have accelerated plans for many foreign firms to relocate or reduce Hong Kong operations. Foreign firms remaining in Hong Kong increasingly regard the territory solely as a gateway to China rather than its previous role as an autonomous regional center, as the reliability of Hong Kong’s courts and media are threatened by the territory’s transformation into a police state.

*Academics and scholars around the world agree it is difficult to define fake news. In the view of many Hong Kong government officials, spreading fake news would likely constitute “publish[ing] any malicious information to incite hatred or violence,” as Hong Kong barrister Priscilla Leung stated. Carrie Lam similarly described fake news as an “increasingly worrying trend of spreading inaccurate information, misinformation, hatred and lies on the social media.” Lilian Cheng, “Who Defines ‘Fake News’ in Hong Kong, and Is a Law Needed? Calls for Legislation Spark Fears of Curbs on Media, Critics,” *South China Morning Post*, April 24, 2021; *Reuters*, “Hong Kong Leader Flags ‘Fake News’ Laws as Worries over Media Freedom Grow,” May 3, 2021.

This section begins by examining changes to Hong Kong's leadership under the direction of the CCP. It then outlines how Beijing's so-called "patriots" governing Hong Kong and the Chinese central government are moving in lockstep and provides an overview of Hong Kong's forthcoming additional national security measures.* The chapter continues by illustrating the Hong Kong government's use of such measures to imprison political opposition and persecute civil society organizations, including journalists, organized labor, student unions, and religious figures. This chapter also examines Hong Kong's close alignment with Beijing's policies to combat COVID-19 and the subsequent economic consequences of these responses, including Hong Kong's future as it transitions into a predominantly Chinese financial hub. It then evaluates challenges to U.S. business interests in Hong Kong and assesses the depth of mainland influence and integration in the territory. Finally, it considers the implications for the United States as these changes make Hong Kong look more and more like a Shenzhen or Shanghai with increased security risks. This chapter is based on consultations with nongovernmental experts and U.S. government officials as well as open source research and analysis.

Hong Kong's Security Apparatus Reinforced by New Personnel and Policies

Hong Kong's leadership changed hands as Beijing's handpicked loyalist, ex-security chief John Lee, was installed on July 1, 2022.¹ The new Administration retained national security hardliners and veteran officials with strong ties to the Mainland, underscoring the Chinese government's desire to squelch dissent. This came as Hong Kong emerged from a tumultuous five-year period marred by political crises and civil unrest under the watch of outgoing Chief Executive Carrie Lam much to Beijing's disapproval.² With its approved leaders firmly installed in Hong Kong's government, Beijing now has more channels to enact policies and practices that circumscribe any remaining autonomy, align Hong Kong with Beijing's core interests, and further the mission to establish a singular national identity with mainland China.

On May 8, 2022, Hong Kong selected a chief executive, the highest office of the Hong Kong Special Administrative Region (HKSAR). Lee, a Beijing loyalist and the only candidate for Hong Kong's top post, became the territory's sixth chief executive.³ In his campaign, Lee stated that he was committed to resolving Hong Kong's "deep-rooted issues" from a "results-oriented approach," signaling tighter security controls.⁴ The former security chief has a long reputation as a hard-liner, first in the police force and then as the secretary for security of Hong Kong.⁵ He was the key figure in proposing the highly controversial extradition bill that plunged the territory into a politi-

*The Chinese and Hong Kong governments frequently use the term "patriot" to refer to citizens and public servants who demonstrate loyalty to Beijing. Hong Kong's secretary for constitutional and mainland affairs, Erick Tsang, elaborated on the term when commenting on the introduction of controversial legislation in February 2021 designed to "ensure patriots govern Hong Kong." He asserted, "If you claim to be patriotic and you don't respect, or you try to sabotage, the basic characteristics of our system—a system led by the [People's Republic of China]—that would not be acceptable. You can't say: I'm patriotic but I don't respect that it's the Chinese Communist Party which leads the country." Helen Davidson, "Hong Kong Plans to Make Politicians Swear Oath of Loyalty to Beijing," *Guardian*, February 23, 2021.

cal crisis in 2019.*⁶ Lee led the brutal crackdown on prodemocracy protesters, which resulted in the arrest of over 180 individuals.⁷ Additionally, he oversaw the implementation of Beijing's National Security Law, which forced the closure of four independent news outlets—*Stand News*, *Apple Daily*, *FactWire*, and *Citizen News*—all of which had a large readership (see “Status of Political Prisoners” below).†⁸

Despite Lee's tenure as Hong Kong's security secretary, many experts were quick to point out his lack of experience in other areas of public governance and business and that he was, as one analyst put it, “by and large untested and unknown.”⁹ Others argued that his narrow experience could be beneficial and give him a degree of flexibility.¹⁰ While Lee was unopposed in his bid for the job, a handful of other likely contenders emerged in the months preceding the elections, including Paul Chan, Hong Kong's financial secretary under the Lam Administration, and Leung Chun-ying (known as CY Leung), the former chief executive prior to Carrie Lam.‡¹¹ Despite rumors surrounding their potential candidacies, neither Chan nor Leung ever announced a bid to run. According to Ivan Choy, a senior lecturer at the Chinese University of Hong Kong's Department

*In February 2019, the Hong Kong government proposed the Fugitive Offenders and Mutual Legal Assistance in Criminal Matters Legislation (Amendment) Bill 2019 in response to the 2018 murder of Poon Hiu-wing by her boyfriend Chan Tong-kai in Taiwan. Both were Hong Kong citizens, but the territory's government did not have a mechanism for transferring fugitives between Taiwan, mainland China, and Macau. In June 2019, protests erupted across Hong Kong in response to the proposed legislation fueled by fears that China would be able to use it to transfer political dissidents in Hong Kong to the Mainland. Domestic and foreign critics also expressed concerns that the law could potentially erode the territory's legal system and adversely affect the global financial hub's business climate. As violent clashes between police and demonstrators persisted, the protest movement had five demands: removal of the bill, independent inquiry into police brutality, cessations of the government designation of the protests as “riots,” release of arrested protesters, and universal suffrage. After nearly 32 weeks of civil unrest, Hong Kong's government formally withdrew the bill on October 13, 2019. Protests continued until early 2020 for the other four demands, finally ending with restrictions related to the outbreak of COVID-19. Michael F. Martin, “Hong Kong's Proposed Extradition Law Amendments,” *Congressional Research Service*, October 23, 2019; *Reuters*, “Timeline: Key Dates for Hong Kong Extradition Bill and Protests,” June 30, 2019; Business and Human Rights Resource Center, “Hong Kong: Business Actions and Statements over Controversial Extradition Bill,” July 28, 2019; Alvin Lum, Kimmy Chung, and Jeffie Lam, “Hong Kong's ‘Dead’ Extradition Bill Finally Buried as Government Formally Withdraws It,” *South China Morning Post*, October 23, 2019.

†As Hong Kong's secretary for security under then Chief Executive Lam, Lee oversaw police crackdowns that at times involved violence and questionable tactics against the largely peaceful mass protests over the controversial extradition law that was pending in 2019. Lee was harshly criticized domestically and internationally for his use of force to quell dissent, such as firing rubber bullets, water cannons, and tear gas at protesters and jailing thousands for alleged violations under the National Security Law. Amid the backdrop of increasing government suppression of independent journalism and news outlets under the law, the Hong Kong police force raided *Stand News* on December 29, 2021, freezing the company's assets and arresting seven senior staff, including: (1) Chung Pui-ken, former chief editor; (2) Patrick Lam, acting chief editor; (3) Denise Ho, a former board member and democracy icon; and current board members (4) Margaret Ng; (5) Christine Fang; and (6) Chow Tat-chi (the seventh arrested staff member's identity has not yet been released). In a similar fashion to *Apple Daily's* closure several months prior in June, *Stand News* dissolved with immediate effect following the raid. The week following the raid, *Citizen News*, a smaller but prominent online publication that reported on legal and political issues, announced it would cease operations, citing unclear “legal boundaries” and concerns for the safety of its employees. *BBC*, “John Lee: Who Is Hong Kong's New Hardline Pro-Beijing Leader?” July 1, 2022; *Hong Kong Free Press*, “Stand News Closes, Content Deleted Following Arrests and Police Raid; Chief Sec. Slams ‘Evil Elements,’” December 29, 2021; *Independent Media*, “Citizen News Announced that Operations Will Be Suspended in the Future: In the Eye of the Wind, You Must Ensure the Safety of the People on Board,” January 2, 2022. Translation.

‡Leung Chun-ying served as the third chief executive of Hong Kong between 2012 and 2017. The former chief executive has praised Hong Kong's improved “patriots only” electoral system and has lauded the “one country, two systems” principle for bringing Hong Kong more autonomy following its handover. Charles Mok, “China's Choice for Hong Kong's Chief Executive Reveals Its Own Insecurity,” *Diplomat*, April 9, 2022; *Xinhua*, “Former HKSAR Chief Executive Hails ‘One Country, Two Systems’ as Viable, Vibrant,” June 23, 2022.

of Government and Public Administration, Beijing's overwhelming support of Lee's candidacy illustrates the CCP's strong desire to prioritize loyalty and fealty and enforce its will on Hong Kong.¹²

Beijing's Five Demands for Its New Administration in Hong Kong

In five key directives issued by the Chinese central government's local administrative office on June 19, the incoming Lee Administration was charged with:

1. *Correctly implement[ing] one country, two systems*;^{*}
2. *Address[ing] issues of immediate concern for Hong Kong residents, such as housing*;
3. *Promot[ing] social development*;
4. *Integrat[ing] Hong Kong with the nation's development*; and
5. *Consolidat[ing] and improv[ing] Hong Kong's international competitiveness*.¹³

Beijing's goals also signal the central government's intent to take a more hands-on role in Hong Kong's governance than it did under the Lam Administration.¹⁴ For instance, Bloomberg reported that Beijing did not hand down any type of public instructions to then Chief Executive Lam when she assumed office in 2017 (see "Signs of Stronger Synchronization between the HKSAR and Chinese Central Governments" below).¹⁵

Rollout of "Local" National Security Laws in 2022

Hong Kong is set to roll out localized security legislation to address a range of activities, specifically targeting what authorities consider sedition, foreign espionage, and "fake news." While delivering the announcement in December 2021, then Chief Executive Lam touted that the new local legislation would fulfill the Hong Kong government's obligations under article 23 of the Basic Law—the territory's mini constitution that came into effect in 1997 following the handover from British colonial rule—which requires Hong Kong to enact its own national security laws.[†]¹⁶ This extension of National Security Law provisions is rumored to more explicitly cover foreign nationals, such as journalists; international media outlets; and other perceived threats to Beijing's control.¹⁷ As of October 2022, the exact details of the legislative package remain undisclosed, but analysts anticipate more restrictive measures based on reports from Hong Kong officials.¹⁸

Foreign Organizations under Threat of Sedition Charges

Legislation pursuant to article 23 will likely strengthen Beijing's oversight of foreign nongovernmental organizations (NGOs) in Hong Kong and purport to extend jurisdiction to those based outside of

^{*}Senior defense analyst Derek Grossman with RAND Corporation aptly describes Beijing's interpretation of the "one country, two systems" principle: "Through 'one country, two systems,' Beijing grants semiautonomous status to formerly colonized territories in exchange for recognition of the existence of only "one China." Derek Grossman, "Where Does China's 'One Country, Two Systems' Stand in 2020?" *RAND Corporation*, February 13, 2020.

[†]Article 23 of the Basic Law stipulates that legislation stemming from the law must be designed "to prohibit any act of treason, secession, sedition, subversion against the central government, or theft of state secrets, as well as to ban foreign political organizations or bodies from conducting political activities in the territory and local political organizations or bodies from establishing ties with foreign political organizations or bodies." The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China art. 23, §1 (H.K.).

Hong Kong's borders.* Human rights and democratic advocacy groups based outside of Hong Kong are particular targets of Hong Kong authorities, as in the case of London-based advocacy organization Hong Kong Watch.¹⁹ Along with monitoring the status of human rights, freedoms, and rule of law in the territory, Hong Kong Watch publishes research reports and runs advocacy campaigns that include promoting protections for Hong Kong political asylees and imposing sanctions on the Hong Kong national security apparatus.²⁰ In March 2022, the Hong Kong police told Hong Kong Watch founder Benedict Rogers in a letter that the advocacy group's website content and publications endangered national security, and they later accused the group of violating the National Security Law.²¹ The organization was ordered to disband and remove its website or face massive fines and the imprisonment of Mr. Rogers, who resides in the United Kingdom.²² In a statement of refusal, Mr. Rogers underscored that such accusations and threats "exemplif[y] why Hong Kong's National Security Law is so dangerous."²³

Under increased pressure and uncertainty with the evolving national security environment, Hong Kong's Foreign Correspondents' Club (FCC) announced on April 23 that it would cancel its annual Human Rights Press Awards, citing legal concerns.²⁴ The decision to cancel the awards was made after now defunct online outlet *Stand News*, slated to win nine titles at this year's event, was forced to lay off all staff and shut down following a police raid. In explaining the cancelation of the awards, FCC president Keith Richburg stressed that Hong Kong's journalists have been operating under "new 'red lines' on what is permissible" and that the FCC did not wish to violate the law unintentionally given the new and uncertain security environment in Hong Kong.[†]²⁵ The FCC's announcement came a week after Hong Kong's national security police arrested Allan Au Ka-lun, a veteran journalist and former columnist for outlets including *Stand News* and *Ming Pao*, who was accused of "conspiring to print and reproduce seditious materials."²⁶ Mr. Au was subsequently sentenced with a fine of \$637 (Hong Kong dollars [HKD] 5,000)‡ and two years in prison.²⁷

Foreign Espionage Law

Another law under discussion for the article 23 legislative package would likely extend the power of Hong Kong security

*On April 28, 2016, the National People's Congress Standing Committee adopted the Law of the People's Republic of China on Administration of Activities of Overseas Nongovernmental Organizations in the Mainland of China, which requires foreign NGOs to register with the Ministry of Public Security or its provincial counterparts before opening an office in mainland China. Foreign NGO operations in China were severely affected by the law due to its extensive and deeply invasive regulatory framework as well as the damage it caused to relationships with Chinese activist groups and their foreign counterparts on a wide range of issues, particularly those focused on human rights and legal reform. National People's Congress Standing Committee, *Law of the People's Republic of China on Administration of Activities of Overseas Nongovernmental Organizations in the Mainland of China*, April 28, 2016; Thomas Kellogg and Alison Sile Chen, "Is Hong Kong About to Get Its Own Foreign NGO Law in the Name of 'National Security'?" *China NGO Project*, June 13, 2020.

†On May 2, 2022, the Walter Cronkite School of Journalism and Mass Communication at Arizona State University announced that it would take over the administration of the Human Rights Press Awards starting in 2023. Walter Cronkite School of Journalism and Mass Communication, "Cronkite School to Administer Human Rights Press Awards Starting in 2023," *Arizona State University*, May 2, 2022.

‡This section uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 7.85 HKD.

authorities to conduct intensified surveillance measures against any local or foreign entities that are suspected of espionage activities.²⁸ While ostensibly justified to counter espionage and theft of state secrets, in practice the law will likely limit freedom of information and make internet access less secure and more tightly monitored in a manner similar to the Mainland.²⁹ Hong Kong Secretary for Security Chris Tang Ping-keung claimed the territory's current security laws were drafted in the "old, peaceful days, when not much was happening" and lack specific measures for addressing alleged threats from foreign governments, whom he accused of using Hong Kong as a "base to harm China through their agents in the city."³⁰ During an address to the LegCo on January 26, 2022, Secretary Tang announced a collaboration with Hong Kong's Department of Justice to restore the colonial-era Official Secrets Ordinance to the territory's legislature by the end of 2022 in order to adapt to current times and be better positioned to combat espionage.³¹ While the text of the law itself is pending, the expressed intent of government officials behind the law targets not only Hong Kong citizens but also NGOs, expatriates, and other foreign nationals in the territory.

Law on Disinformation

Hong Kong authorities are currently exploring legislation to counter disinformation, which they have not defined but which could broadly affect journalists, government critics, and foreigners in Hong Kong. Officials have made several allusions to the need for a Hong Kong law addressing disinformation, but they have not disclosed a timeline or details, raising concerns over transparency and public consultation. Such measures would likely require online platforms to assume responsibility for their content, and violations would be met with criminal penalties.³² One expert at the NATO Association of Canada's Center for Disinformation Studies, Julian Snelling, forecasts that the law "would inherently criminalize free speech" and grant Hong Kong authorities "unfettered power to censor dissent."³³ According to Ronson Chan Ron-sing, chairman of the Hong Kong Journalists' Association, the draft legislation appears to target a much broader range of media outlets than simply mainstream media.³⁴ In his view, the law "may also be targeting online news site[s], or even Telegram group chats or online discussion forums."³⁵ Hong Kong and foreign journalists have expressed widespread concern that they, as primary targets under the law, risk severe penalties if accused and convicted in the National Security Court.³⁶ Mr. Chan himself was arrested on September 7, released on bail, and ultimately charged two weeks later for allegedly "fail[ing]

*The Official Secrets Ordinance was introduced in 1997 to replace the colonial-era Official Secrets Act. The ordinance consists of three categories of offenses: "spying and espionage, unlawful disclosure of intelligence by members of the relevant services, and unauthorized disclosure of information by a public servant or government contractor." Hillary Leung, "Hong Kong to 'Enhance' Spy Law to Prevent Acts of Espionage and Theft of State Secrets," *Security Chief Says*, *Hong Kong Free Press*, January 26, 2022.

† Hong Kong prosecutors tried a similar case in February 2020 when police arrested a part-time shopping mall security guard for allegedly spreading false information about multiple employees throughout the mall falling ill and taking sick leave. His case became the first known prosecution of crimes categorized as "transmission of false message[s] by telecommunication." Kris Cheng, "Hong Kong Police Arrest Mall Security Guard for Allegedly Spreading Virus Rumors," *Hong Kong Free Press*, February 5, 2020.

to comply with police” in a highly politicized circumstance.* Secretary Tang has repeatedly alleged that journalists and foreign agents are spreading misinformation to criticize the government’s imposition of national security.³⁷

New Cybercrime Law under Consultation

A proposed cybercrime law at the early stages of its development raises concerns for journalists, researchers, programmers, and tech companies operating in Hong Kong. In July 2022, Hong Kong’s Law Reform Commission (LRC)† Cybercrime Subcommittee published a consultation paper with research and proposals for preliminary legislation on “cyber-dependent” crimes designed to address Hong Kong’s dated legal framework for prosecuting cybercrime.³⁸ The paper contemplates definitions and legislative recommendations around five cyber-dependent crimes that “can only be committed through the use of information and communications technology devices, where such devices are the tool and target of such crimes.”³⁹ These crimes include: (1) illegal access to programs or data, (2) illegal interception of computer data, (3) illegal interference of computer data, (4) illegal interference of a computer system, and (5) making available or possessing a device or data for committing a crime. The consultation paper also considers potential criteria for the Hong Kong court to assume jurisdiction and sentencing proposals for legislation. The LRC proposals are likely to form the basis for a draft law itself. The LRC subcommittee, in forming its proposals, referred to several definitions and applications of cybercrime law in eight other jurisdictions, including the United States and mainland China.‡⁴⁰ The LRC also referenced the 2004 Budapest Convention on Cybercrime, a comprehensive multilateral treaty on cybercrime developed by the Council on Europe, as well as the UN ad hoc committee established by Russia’s controversial UN resolution to develop an updated con-

*On September 7, 2022, Ronson Chan was arrested while reporting on a meeting about the livelihood of local residents in Mong Kok. According to a statement by the Hong Kong Journalists’ Association, “Chan was asked to show his ID card and was ready to cooperate with the officers, but he was interrupted when one of them began shouting and demanded immediate compliance from him. Chan then exercised his right in accordance with the Police General Orders by asking the officer to identify himself, but the officer responded by warning Chan that he would face arrest.” In spite of Chan’s purported willingness to cooperate, he was arrested, taken to the Mong Kok Police Station, and subjected to physical and verbal abuse. He was released on a \$64 (HKD 500) cash bail over 11 hours later; however, he was charged with “obstructing a police officer” on September 19, which is punishable by up to two years in prison if convicted. The charges came ten days before Chan was scheduled to leave Hong Kong for a six-month Oxford University fellowship program sponsored by the Reuters Institute. Chan’s case was heard at the West Kowloon Magistrates’ Court on September 22, and he was permitted to post bail and leave Hong Kong for his fellowship program on condition that he inform police about his contact information in the UK. (For more on police retaliation against voices critical of the regime, see “Status of Political Prisoners” below). Hong Kong Journalists Association, “Hong Kong Journalists Association Expresses Deep Regret over the Arrest of HKJA Chairman Chan Ron Sing,” September 8, 2022; Amelia Loi, “Hong Kong Police Arrest Head of Local Journalists’ Union on Public Order Charges,” *Radio Free Asia*, September 9, 2022; Cheryl Tung, “Hong Kong police charge outspoken head of journalists’ union with ‘obstruction,’” *Radio Free Asia*, September 19, 2022; “Hong Kong Journalist Charged Days before Leaving for Oxford Fellowship,” *Guardian*, September 20, 2022; Associated Press, “Hong Kong Journalist Granted Bail, Trip for Fellowship,” *VOA News*, September 22, 2022.

†Established in 1980, the Law Reform Commission is composed of academics, lawyers, and non-lawyers and is chaired by the secretary for justice. Along with the secretary for justice, the Commission’s ex officio members include the chief justice and the law draftsman. The chief executive appoints the remaining ten members, one of whom is generally a judge on the Court of Final Appeal. Law Reform Commission of Hong Kong, “Commission Members & Staff,” July 20, 2022.

‡Other jurisdictions include Australia, Canada, England and Wales, New Zealand, and Singapore.

vention on cybercrime.*⁴¹ (For more on cyber norms, see Chapter 3, Section 2, “China’s Cyber Capabilities: Warfare, Espionage, and Implications for the United States.”)

Despite this survey of international practices, the LRC’s proposals hew more closely to practices in the Mainland and, if enacted, could increase digital repression and censorship. The potential law could have a broad scope in focusing on cyber-dependent offenses and could also assert the right of extraterritorial jurisdiction, extending a practice already observed in the implementation of the National Security Law. Charles Mok, former prodemocracy member of the LegCo and a visiting scholar at the Stanford University Cyber Policy Center, noted that potential new rules could “weaken the tech sector and make Hong Kong’s internet less secure.”⁴² The consultation also recommends that unauthorized access should be criminalized without requiring prosecutors to demonstrate criminal intent, which Mr. Mok notes “may result in higher uncertainty and risk for programmers or companies uncertain of how to comply.”⁴³ A future cybercrime law that does not require the prosecution to show proof of intent before pressing charges of unauthorized access also could leave journalists, whistleblowers, and cybersecurity professionals vulnerable to arbitrary punishment. The LRC subcommittee proposes that one could be accused of a crime regardless of whether the device or data could be used to commit a cyber-dependent offense.⁴⁴ The consultation’s recommended sentencing for most offenses is a maximum of 14 years of imprisonment, but violators could face life imprisonment in some cases of vaguely defined physical harm.⁴⁵

Signs of Stronger Synchronization between the HKSAR and Chinese Central Government

John Lee’s ascendance to chief executive portends stronger policy coordination and governance between his Administration and authorities in Beijing. On his first day in office, Lee visited the heads of Beijing’s Liaison Office along with heads of the offices for National Security, the Ministry of Foreign Affairs, and the People’s Liberation Army (PLA) Garrison in Hong Kong.⁴⁶ General Secretary Xi extolled Chief Executive Lee as a “firm patriot” and conveyed the central government’s full endorsement of his leadership.⁴⁷ In his July 1 speech delivered for the 25th anniversary of the handover

*Human rights groups contend that vague language in Russia’s resolution, Countering the Use of Information and Communications Technologies for Criminal Purposes, could enable criminalizing any online behavior authoritarian regimes dislike, including ordinary exercise of free speech. The resolution was adopted in December 2019, and the ad hoc group held its first meeting in February–March 2022 following a May 2021 agreement among UN members to negotiate on details of the proposed new convention. During the May 2021 meeting, many member states—including the United States, the UK, Brazil, and various members of the EU—had considerable reservations about the text. The UK proposed an amendment for the inclusion of other nongovernmental stakeholders in shaping the text, and Brazil proposed another advocating for a two-thirds majority approval for any substantive decision of the ad hoc committee. China opposed both amendments, though both were ultimately accepted. The Law Reform Commission Cybercrime Subcommittee noted that the ad hoc group’s “categorization and terminology [regarding cybercrime] may conceivably become authoritative in time.” Law Reform Commission of Hong Kong, *Consultation Paper on Cyber-Dependent Crimes and Jurisdictional Issues Published (July 2022)*, July 20, 2022, 15; Association for Progressive Communications, “Open Letter to UN General Assembly: Proposed International Convention on Cybercrime Poses a Threat to Human Rights Online,” December 17, 2021; UN Office on Drugs and Crime, “Ad Hoc Committee to Elaborate a Comprehensive International Convention on Countering the Use of Information and Communications Technologies for Criminal Purposes”; United Nations, “General Assembly Adopts Resolution Outlining Terms for Negotiating Cybercrime Treaty amid Concerns over ‘Rushed’ Vote at Expense of Further Consultations,” May 26, 2021.

of Hong Kong, Xi declared that Hong Kong was transitioning “from chaos to governance” and placed great emphasis on how the territory would “share together with fellow compatriots of the motherland the glory of greater rejuvenation of the Chinese nation.”⁴⁸ Xi’s remarks signal the CCP’s faith in Chief Executive Lee’s ability to fully (and to some degree, forcefully) comply with Beijing’s goals under the “one country, two systems” framework and bring Hong Kong closer to the Mainland through Chinese-style rule by law.^{*49}

Chief Executive Lee’s Executive Council: Key Leaders in Beijing’s Crackdown

On June 19, Chief Executive Lee revealed the 21 members of his Executive Council (ExCo), the advisory body of top-tier team government officials and the “organ for assisting the Chief Executive in policy-making.”⁵⁰ Including Chief Executive Lee, four senior officials in the Beijing-approved cabinet are currently under U.S. sanctions for their role in curbing Hong Kong’s freedoms under the National Security Law.^{†51} Many members of Chief Executive Lee’s cabinet also formerly served as security or disciplinary service officials.⁵² As political commentator Sonny Lo explains, “Overall, the security personnel play a crucial role in this cabinet which is unprecedented in Hong Kong’s political history.... It shows the priority assigned by the central government to national security in Hong Kong.”⁵³ China’s State Council unanimously approved Chief Executive Lee’s cabinet selections on June 19, with Xi swearing the new Administration into office on July 1.⁵⁴

As expected, the newly appointed officials are some of the staunchest national security hardliners, and many have strong connections to the Mainland, signaling tighter coordination with Beijing in the near future. Notable individuals include:

- **Eric Chan Kwok-ki, Chief Secretary:** Then Chief Executive Lam’s head of office and immigration chief between 2011 and 2016, Mr. Chan would frequently accompany Lam to meetings with CCP officials in Beijing. Due to his experience liaising with Beijing as chief secretary and similarly throughout his 35-year tenure in Hong Kong’s Immigration Department, Mr. Chan is widely considered “a trusted intermediary to Beijing” among observers.⁵⁵ Analysts point out the former immigration chief and top aide’s close relationships with mainland officials as key assets to the Lee Administration’s ambitions to bring Hong Kong more solidly into Beijing’s orbit.⁵⁶

*The Chinese term *fazhi* (法治) can be translated into English as “rule of law,” a political philosophy that lifts law above politics and controls the unlimited exercise of power by a supreme lawmaking authority of the land. Experts have debated, however, whether Chinese leaders intended for *fazhi* to mean “rule by law,” which suggests the governing authority is itself above the law and can create and implement laws at will, though it interferes with the people’s freedom. Linda Chelan Li et al., “The ‘Rule of Law’ Policy in Guangdong: Continuity or Departure? Meaning, Significance and Processes,” *China Quarterly* (March 2000): 199–220.

†These include: (1) John Lee, Chief Executive; (2) Chris Tang, Secretary for Security; (3) Eric Tsang, Mainland Affairs Minister; and (4) Eric Chan, newly appointed Chief Secretary for Administration.

Chief Executive Lee's Executive Council: Key Leaders in Beijing's Crackdown—*Continued*

- **Paul Lam Ting-kwok, Secretary for Justice:** The former head of Hong Kong's Bar Association and a “veteran commercial barrister,” Mr. Lam was a member of the Independent Police Complaints Council and a watchdog for the police force, and he played an active role in cracking down on the 2019 prodemocracy protests.⁵⁷ He has also served as a deputy judge of the High Court of Hong Kong since 2015.⁵⁸ Experts predict he will continue to prosecute opposition activists and protesters with the same intensity as his predecessor, Teresa Cheng, who was sanctioned in August 2020 for her role in the 2019 crackdown.⁵⁹

Nonofficial Members

The ExCo also features 16 nonofficial members, who toe the party line just as fervently. Notable examples include:*

- **Regina Ip Lau Suk-ye (Convenor):** A veteran Hong Kong lawmaker, Ms. Ip was appointed as the convenor of Chief Executive Lee's de facto cabinet.⁶⁰ At 71, Ms. Ip's appointment makes her the first-ever woman convenor of Hong Kong's ExCo.⁶¹ From 1998 to 2003, she served as Hong Kong's secretary for security before stepping down after 500,000 protesters took to the streets in opposition to a then proposed Hong Kong national security bill introduced under article 23 of the Basic Law.⁶² She was recently quoted in an interview with the *Guardian* as saying that former opposition members of parliament “have themselves to blame,” and she feels authorities in Beijing were too lenient over the years in allowing them to cause havoc.”⁶³
- **Arthur Li Kwok-cheung:** A doctor and “confrontational” politician, Dr. Li is known for his dictatorial and ruthless leadership style, which earned him the moniker “King Arthur” and “the Tsar.”⁶⁴ Among other things, while he was chairman of the University of Hong Kong's governing council, Dr. Li was responsible for overseeing the removal of the Pillar of Shame—a monument commemorating those who died in the Tiananmen Square massacre on June 4, 1989—as part of a wider effort to erase memory of the tragedy throughout Hong Kong.[†]⁶⁵ He was also cited as calling the statue a “lie”

*A nonofficial member of Hong Kong's ExCo or LegCo does not hold government office but is appointed to advise and assist the chief executive or president of the LegCo, respectively. Both designations hold full membership in their respective councils. Steve Tsang, *A Documentary History of Hong Kong Government and Politics*, University of Hong Kong: Libraries, Hong Kong University Press, 1995.

†The Pillar of Shame was first erected in Hong Kong's Victoria Park in 1997 to commemorate the eighth anniversary of the 1989 Tiananmen Square protests. The sculptor, Danish artist Jens Galschiøt, stated that the Pillar of Shame “marks grave abuses against humanity” and serves as a symbol to “remind people of a shameful event which must never recur.” Given its symbolism, the sculpture remained a polarizing image over the years and was the site of scuffles between local students and police shortly after it was erected in Victoria Park. Hong Kong University's student unions held a referendum in 1998 to keep the statue housed at the university, where it remained until its dismantlement in the dead of night on December 22, 2021. The removal of the sculpture signals the dramatic series of political changes in Hong Kong and illustrates the extensive efforts of local authorities to curb freedom of expression.

Chief Executive Lee's Executive Council: Key Leaders in Beijing's Crackdown—*Continued*

and a “sham,” denying it was created to commemorate the 1989 massacre.⁶⁶

- **Martin Liao:** Mr. Liao is a barrister and LegCo member who serves as one of Hong Kong's delegates to China's National People's Congress. Quoted by Reuters as calling Hongkongers “politically immature,” Mr. Liao was an avid supporter of Beijing's overhaul of Hong Kong's electoral system in March 2021. By imposing restrictions on candidates the CCP deems disloyal, the revamped system ultimately eliminated prodemocracy opposition from parliamentary elections.⁶⁷

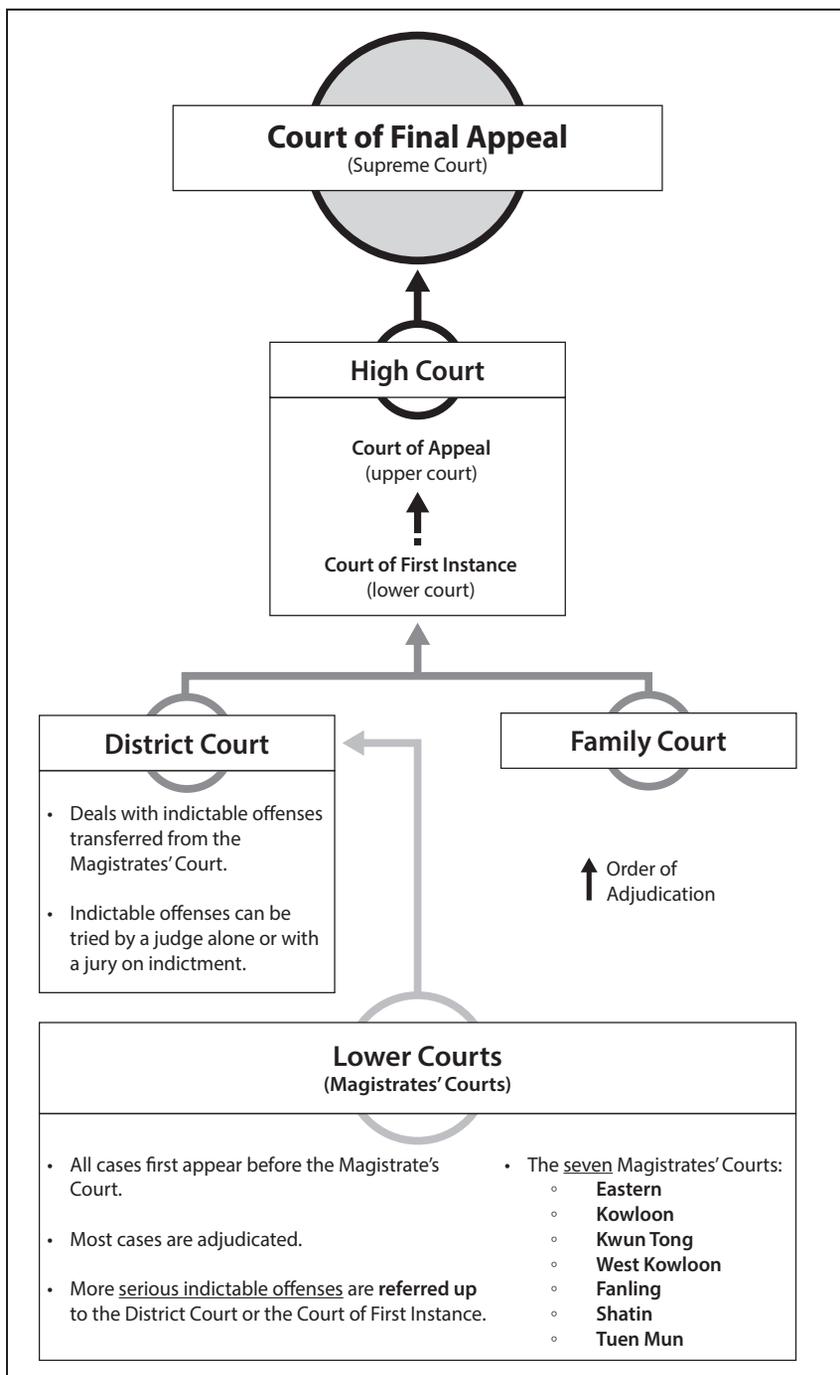
Remaining Judicial Independence and Rule of Law Hang in the Balance

Hong Kong's once highly respected judiciary continues to crumble as more foreign judges resign from serving on the territory's top judicial body, the Court of Final Appeal. The current Court of Appeal consists of 18 members: the Honorable Chief Justice Andrew Cheung Kui-nung, three permanent judges, and 14 non-permanent judges, ten of whom hail from other common law jurisdictions (see Figure 1).⁶⁸ On March 30, then British Foreign Secretary Liz Truss announced the recall of two of the court's senior British judges with immediate effect, stating that the situation in Hong Kong had “reached a tipping point where it [was] no longer tenable for British judges to sit on Hong Kong's leading court.”⁶⁹ She cited further concerns that their continued presence would “risk legitimizing oppression.”⁷⁰ One of the departing judges, UK Supreme Court President Lord Robert Reed, stated in his resignation that the National Security Law generated an environment where judges of the Supreme Court could no longer “continue to sit in Hong Kong without appearing to endorse an administration which has departed from values of political freedom, and freedom of expression, to which the Justices of the Supreme Court are deeply committed.”⁷¹

Kris Cheng, “The Pillar of Shame: The History of Hong Kong's Harrowing Tribute to the Tiananmen Massacre Victims,” *Hong Kong Free Press*, May 5, 2018; Shibani Mahtani, “Hong Kong's ‘Pillar of Shame’ Sculpture for Tiananmen Victims Faces Removal,” *Washington Post*, October 13, 2021; Galleri Galschiøt, “Pillar of Shame,” July 19, 2022; Shibani Mahtani, David Crawshaw, and Theodora Yu, “Hong Kong Tears Down ‘Pillar of Shame’ Sculpture Honoring Tiananmen Victims,” *Washington Post*, December 22, 2021.

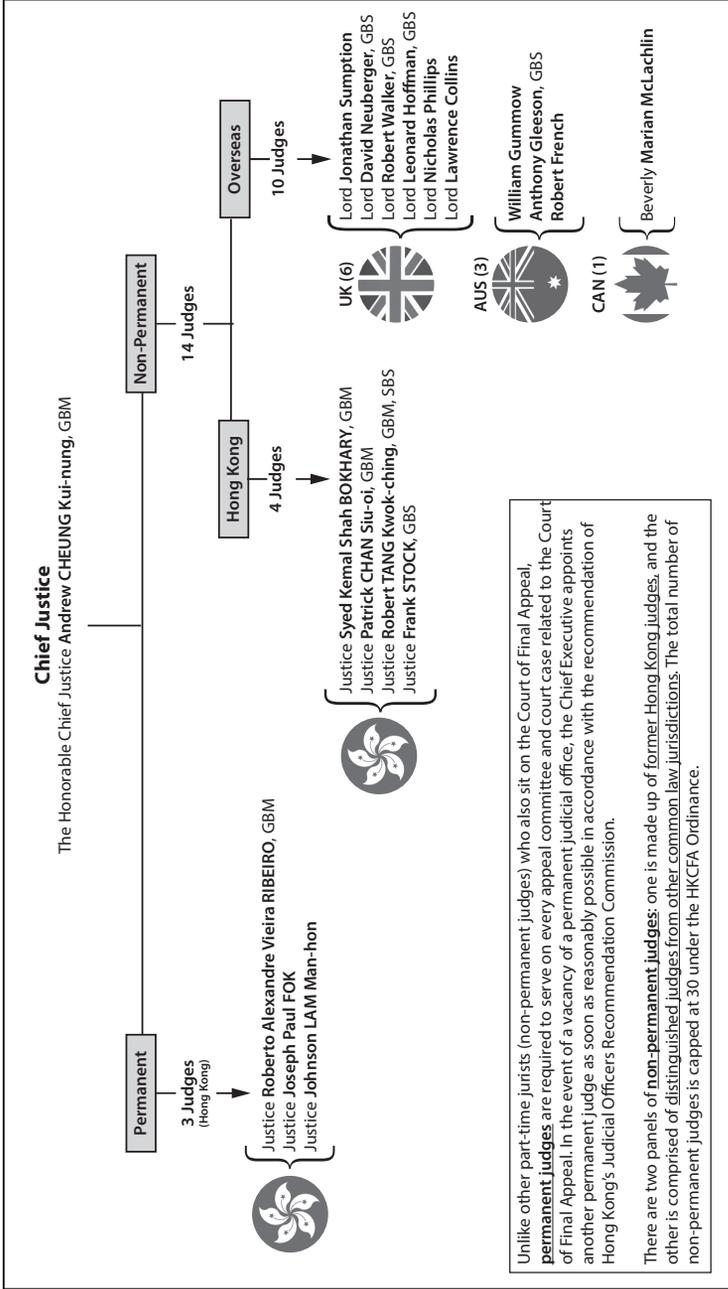
*These foreign judges include: six British justices (Lord Hoffmann, Lord Neuberger of Abbotsbury, Lord Walker of Gestingthorpe, Lord Collins of Mapesbury, Lord Phillips of Worth Matravers, Lord Sumption); three Australian justices (Justice Murray Gleeson, Justice William Gummow, Justice Robert French); and one Canadian, Madam Justice Beverley McLachlin.

Figure 1: Organizational Structure of Hong Kong's Judiciary



Source: The Hong Kong Court of Final Appeal.

Figure 2: Organization of the Hong Kong Court of Final Appeal



Sources: The Hong Kong Court of Final Appeal.
Note: There are presently 18 justices serving on the Cheung Court: the Chief Justice, three permanent judges, and 14 non-permanent judges (ten of whom come from other common law jurisdictions).

Pro-Beijing legal officials in Hong Kong condemned the move as political interference and prioritizing politics over the law, stating that the departure of these two judges would “not in any way affect [Hong Kong’s] judicial independence.”⁷² On March 30, Hong Kong authorities issued a statement alleging that the resignations showed “clear evidence of external political pressure on judges of an otherwise independent judiciary,” adding that such actions would “not be tolerated and will not happen in Hong Kong.”⁷³ Then Chief Executive Lam also slammed the UK government’s decision to recall the judges, stating that Hong Kong must “vehemently refute any unfounded allegations” that the resignations were associated with the expansion of the National Security Law.⁷⁴ The Hong Kong government’s response to the departing judges reveals its heightened sensitivity to any cracks in the veneer of its judicial independence.

Potential Shifts in Arbitration Trends

Hong Kong has long been viewed as a top commercial arbitration seat, often competing directly with Singapore to attract the global companies and professional services that accompany this designation. With the impact of the national security apparatus growing wider, some companies have been looking to Singapore as an alternative seat of arbitration. A 2021 Queen Mary University of London survey reported that of the more than 90 seats for international arbitration worldwide, Hong Kong ranked third around the globe for most preferred arbitration seat, while Singapore ranked first in a tie with London.⁷⁵ In 2021, the Hong Kong International Arbitration Center handled 277 arbitration cases across 41 jurisdictions, while the Singapore International Arbitration Center saw 469 case filings from 64 jurisdictions.⁷⁶ Hong Kong continues to be a popular destination for disputes related to mainland China, which has been motivated by Hong Kong’s historically strong rule of law, though that rule of law is less certain given recent systemic changes to Hong Kong’s laws, legislature, and courts.⁷⁷

Trends in the future of arbitration are slow to emerge and difficult to predict, as knowledge of arbitration agreements or changes to relevant contracts are not made public. Hong Kong in particular may continue to have a direct appeal due to its relationship with the mainland Chinese arbitration system. Since 2000, both governments have observed the Arrangement Concerning Mutual Enforcement of Arbitral Awards between the Mainland and the HKSAR. Under the arrangement, mainland and Hong Kong courts agreed to recognize and enforce arbitral awards made in the other’s jurisdiction. The arbitration claimant may turn to the other court if the arbitration respondent is registered or retains property in its jurisdiction.⁷⁸ In May 2021, Hong Kong and mainland China began implementing clarifying changes to the arrangement to allow parties to pursue enforcement in both a mainland and territorial court at the same time, limited to the award amount.⁷⁹ Hong Kong courts are still demonstrating some decision-making capacity that is independent of mainland Chinese courts. For example, in February 2022 a Hong Kong court

Potential Shifts in Arbitration Trends—*Continued*

refused to enforce a mainland Chinese arbitration award, reasoning that the arbitration agreement was not valid under Hong Kong's law, the arbitration itself was not noticed properly, and any enforcement of the arbitral award "would be contrary to the policy of Hong Kong."*⁸⁰

Balancing political sensitivities with commercial interests will be increasingly difficult for firms, particularly those that provide professional services. More legal professionals, particularly those that might serve nonbusiness clients, are also departing Hong Kong in the face of an eroding rule of law.⁸¹ Even foreign law firms primarily covering business and commercial clients have found the compromise between political pressures increasingly difficult, as the example of global law firm Mayer Brown demonstrates. In October 2021, the firm became a subject of controversy after it represented the University of Hong Kong in its bid to remove the Pillar of Shame, a famed sculpture commemorating the 1989 Tiananmen Massacre.⁸² Mayer Brown later declared it would no longer represent the university on the case following calls from democracy activists, but it immediately faced criticism from the Chinese and Hong Kong governments, with former Chief Executive CY Leung calling for a "China-wide boycott" of the firm.⁸³ In November 2021, the Chicago-founded firm nonetheless expanded its Hong Kong operations to capitalize on growth of the investing environment.⁸⁴

The influx of mainland law firms as well as demand for mainland expertise is also narrowing the space for foreign law firms and legal professionals as Hong Kong shifts more toward a focus on the Mainland.⁸⁵ As some lawyers have left in uncertainty over the National Security Law or the knowledge that they will struggle to continue their practice, some firms are also building out their brand and focusing on hiring professionals trained in China. Norton Rose Fulbright, a British-American firm, is focused on this kind of "localization" and coordination between its Hong Kong and Shanghai branches.⁸⁶ U.S. law firms have either been reorienting their Asia practice toward Southeast Asia or reducing their physical presence in the region as a whole. Texas-founded Baker Botts closed its Hong Kong office at the end of 2021 and will continue to serve Asian clients without a physical presence in the region.⁸⁷

Fusing So-Called Patriotism with Education

Chinese policy has targeted Hong Kong's education system as part of Beijing's ambitious plan to discipline "rebellious youth" in the wake of the intense demonstrations in 2019. Inculcating the

*The case centered around a Hong Kong timber company that allegedly failed to deliver the sale of marble to a mainland company. A mainland arbitration proceeding ordered the Hong Kong company to pay an amount less than a third of the total debt owed. The mainland company then petitioned to recover the remainder of the debt owed with the Hong Kong court, but the court found both that the original arbitration proceedings were not a full trial of merits and that the original contract had several inadequacies. Glenn Haley and Horace Pang, "Recent Case Where a Hong Kong Court Set Aside an Arbitral Award—Guangdong Shunde Zhanwei Trading Company Ltd. (廣東順德展燁商貿有限公司) v Sun Fung Timber Company Limited [2021] HKCF1 2407," *Bryan, Cave, Leighton, and Paisner*, February 15, 2022. Translation.

CCP's distorted views of history and truth under the guise of patriotism and national pride through a combination of educational reforms and scare tactics (e.g., firing "bad apple" educators without merit) is a keystone of the Hong Kong government's long-term approach to curbing opposition.*⁸⁸ Educators from all levels continue to resign, citing concerns regarding self-censorship and the constant threat of incarceration created by a lack of clear guidelines on what ideas or teaching materials may violate the National Security Law. Librarians have removed books of prodemocracy figures from circulation, while recent changes to the national curriculum take a more revisionist approach to rewrite fact and history in a way that inculcates China's distorted views on national development, patriotism, and good citizenship under the National Security Law.⁸⁹ The requirement for government employees, including teachers, to swear allegiance to Hong Kong and the People's Republic of China has also reportedly extended to foreign teachers of English at some local schools, who face dismissal if they refuse to comply.†⁹⁰

China Attempts to Rewrite Hong Kong's History

Among the most striking developments to the territorial curriculum is the local government's plan to introduce middle school textbooks that erase Hong Kong's former status as a British colony. On June 6, Hong Kong's Education Bureau unveiled the first batch of textbooks for the CCP-backed curriculum on citizenship to be implemented in September 2022.⁹¹ At least four versions of the new textbooks reportedly state: "While Hong Kong was occupied by the British following the Opium War, it remained Chinese territory."⁹² The books are part of Hong Kong's new "Citizenship and Social Development" course, which replaced a liberal studies program that was meant to teach critical thinking but which pro-Beijing authorities heavily condemned for allegedly radicalizing youth and inciting protests against the government in 2019.⁹³

Teaching "Citizen Values" to Foster a Collective Chinese Identity

The newly approved syllabus divides the citizenship curriculum into three sections: Hong Kong under "One Country, Two Systems"; China since Reform and Opening Up; and the Interconnected Contemporary World.⁹⁴ An additional component of the curriculum will also require students to participate in a study tour to the Chinese Mainland.⁹⁵ Key learning points relate to the history of Hong Kong's return to China, the legal basis of the "one country, two systems" constitutional principle and the Basic Law, and the importance of safeguarding national security.⁹⁶ The Chinese nationalist tabloid

*At a press conference in October 2020, then Chief Executive Lam vowed to "weed out the bad apples" from the teaching profession after the first (of many) teachers was terminated and struck off the territory's professional register for allegedly "promoting Hong Kong independence" in a classroom. Chan Ho-him and Chris Lau, "Hong Kong Leader Carrie Lam Pledges to Remove 'Bad Apples' from Profession after Teacher Struck Off for 'Promoting Independence,'" *South China Morning Post*, October 6, 2020.

†Several requirements were gradually rolled out following the passage of the National Security Law in 2020, including that government employees take an oath or declare allegiance to Hong Kong and be accountable to it and that they "be responsible to the government of Hong Kong." Observers have expressed concerns over the requirement for foreigners to make promissory oaths of allegiance, with some noting that such a requirement holds "potential for conflicting legal and moral obligations to arise." Philip Dykes, "Making Foreigners Pledge Allegiance to Hong Kong May Be Problematic, but Probably Won't Cost Their Citizenship," *Hong Kong Free Press*, June 19, 2022.

Global Times lauded the forthcoming curriculum, proclaiming that teachers would no longer be able to “convey poisonous political views detrimental to national security in teaching” under the newly formulated textbooks and detailed syllabus.⁹⁷

Further shifts in Hong Kong’s education system also include de-prioritizing the use of Cantonese in schools and promoting the use of Mandarin. A June 2021 report from China’s Ministry of Education recommended that Hong Kong’s government “clarify within the law” the status of Mandarin and simplified Chinese script.⁹⁸ The report also recommended that Mandarin education be integrated into the Hong Kong testing system at all levels.⁹⁹ Former Hong Kong Public Opinion Research Institute (PORI) Deputy Director and Chief Executive Officer Chung Kim-Wah questioned whether the Ministry of Education’s report was a sign that traditional characters might eventually lose their legal status, a particularly significant prospect given that all of Hong Kong’s laws are currently written in traditional characters.¹⁰⁰ Hong Kong’s Secretary for Education, Christine Choi Yuk-lin, has publicly advocated for more Mandarin education in schools and called the inability to speak the language a disadvantage.¹⁰¹ Hong Kong’s primary and secondary schools already have Mandarin options for Chinese instruction, but Mandarin is not a required component for university-level education.¹⁰² Campaigns to impose or require more Mandarin in Hong Kong have met resistance in the past, given that the majority of the territory’s population speaks Cantonese as their native tongue.¹⁰³ According to Hong Kong’s 2021 population census, 88.2 percent of the population spoke Cantonese at home and 93.7 percent of people were able to speak Cantonese.¹⁰⁴ Only 2.3 percent of the territory spoke Mandarin at home.¹⁰⁵ Ability to speak Mandarin in Hong Kong has grown gradually over the last ten years, with 54.2 percent of Hong Kongers able to speak Mandarin in 2021, a 7.4 percent increase since 2011.¹⁰⁶ This trend is clearly driven by increased migration and some conviction that professionals will need both languages to operate across borders.

More Educators Exit as Strain of Uncertainty Takes Its Toll

Faced with growing pressure to self-censor political opinions both inside and outside the classroom, many educators in Hong Kong are leaving the profession.¹⁰⁷ The Hong Kong Association of the Heads of Secondary Schools raised alarms in July 2021 and again in May 2022 when it published survey results revealing that teacher departures for 2020–2021 were double the number from the previous year.*¹⁰⁸ Teacher departures had been at a stable rate as far back as the 2017–2018 academic year.¹⁰⁹ The association described the massive departure of teachers as a “ferocious tide,” and unlike in the past, this exodus could compromise Hong Kong’s education system.†¹¹⁰ The Hong Kong Education Bureau has denied these con-

*The average school lost 7.1 teachers in 2020–2021 compared to 3.9 in 2019–2020 and 4.2 in 2018–2019, respectively. Ezra Cheung, “‘Ferocious Tide’ of Educators Leaving Hong Kong, Association of Secondary School Heads Warns,” *South China Morning Post*, May 30, 2022.

†The Hong Kong Association of the Heads of Secondary Schools pointed to several signs that educators were signaling a determination to leave Hong Kong for good, including the fact that teachers were “taking their whole family with them” and also closing their retirement accounts. One headmaster told Reuters that the territory’s education environment and atmosphere “have changed quite drastically in the past two years,” adding that he “expects the ‘big burden’ of emi-

cerns and offered assurance that the National Security Law has not impacted the territory's education sector or the quality of teaching.¹¹¹ The bureau has also claimed that "teachers might have quit the profession to pursue other jobs or studies, or for other personal reasons."¹¹² A reported 4,050 teachers (roughly 7.6 percent of the educator workforce) left Hong Kong's local school system during the 2021–2022 academic year, with many expressing that they felt "disillusioned and threatened" under the territory's increasingly authoritarian turn.¹¹³ The number of departures, according to data cited in the *South China Morning Post*, amounts to a 70 percent increase over the previous academic year.¹¹⁴ One teacher, who emigrated to Britain in January 2021, captured this sentiment in an interview with Reuters: "I do not want to teach my students values I do not believe in," she said, "I do not want to be in danger."¹¹⁵ In the words of another teacher lamenting censorship policing in the classroom, "This kind of Cultural Revolution-like snitching culture is toxic, and deters us teachers from talking to our students heart-to-heart.... All this dodging and hiding is but for a slight likelihood of survival."¹¹⁶

As schools struggle to cope with disappearing educational capacity under the shadow of the National Security Law, educators have found it increasingly difficult to implement Beijing's sweeping changes to the curriculum, with many citing "unclear" guidelines.¹¹⁷ Although Hong Kong's Education Bureau released guidelines to incorporate national security education in at least 15 subjects, a survey cited in the *Washington Post* reveals that roughly "80 percent of schools found [the guidelines] 'hard to implement' with 'a lack of understanding' of the matter."¹¹⁸ Adding to the challenges, Hong Kong authorities have refused to make the guidelines public (which includes a list of banned books and other library material) out of national security considerations.¹¹⁹ For instance, the Hong Kong government asserts that making the list of banned books public "may lead to wide circulation of such library materials with malicious intent by other parties or organizations, and is thus unfavorable to safeguarding of national security."¹²⁰ Consequently, many of Hong Kong's libraries and bookstores are self-censoring by removing additional books out of an overabundance of caution.¹²¹

Status of Political Prisoners

The number of political arrests and convictions in Hong Kong has continued to rise at an exponential rate. In the past three years alone, Hong Kong has arrested over 10,000 people for allegedly participating in protests, criticizing the government, and advocating for democracy. A May 2022 report released by the Hong Kong Democracy Council, a Washington-based advocacy group, revealed that these arrests include 1,014 political prisoners, of whom approximately 12 percent were sentenced on National Security Law or sedition-related charges.¹²² According to Kong Tsung-gan, an activist and author of several books on what he describes as the "Hong Kong freedom struggle," political prisoners in Hong Kong are defined as "those imprisoned for their involvement in the massive protests of 2019–2020,

gration to last another two or three years." Ezra Cheung, "'Ferocious Tide' of Educators Leaving Hong Kong, Association of Secondary School Heads Warns," *South China Morning Post*, May 30, 2022; Sara Cheng, "Hong Kong Teachers Exit under Shadow of Security Law, Schools Scramble to Fill Gaps," *Reuters*, September 16, 2021.

opposition political figures, and those charged under the so-called national security law imposed by the Communist Party in June 2020.”*¹²³ Mr. Kong further explains that the number of political prisoners in Hong Kong also “include[s] both those convicted and sentenced and those on remand awaiting completion of trial.”¹²⁴

According to Brian Leung, executive director of the Hong Kong Democracy Council, Hong Kong’s political prisoner population is one of the fastest growing in the world, rivaling Belarus, Burma (Myanmar), and Cuba.¹²⁵ The current total of political prisoners marks a “grim milestone,” according to the Hong Kong Democracy Council. In comparison to June 2019 data, which recorded only 26 political prisoners, the sharp increase raises concerns about the extent to which Hong Kong authorities will prosecute opposition. Among Hong Kong’s political prisoners are civil society leaders, journalists, and former opposition members. Eric Yan-Ho Lai, Hong Kong law fellow at Georgetown Center for Asian Law, adds that individuals involved in “almost all non-violent pro-democracy activities in Hong Kong” are at risk for harsher prosecutions under the national security regime.¹²⁶

Prosecution of Prominent Critics Sends a Stark Warning from Regime

Recent and ongoing prosecutions of high-profile opposition figures demonstrate the Hong Kong government’s desire to send a clear message to stymie any form of potential dissent. For instance, some political prisoners face continued legal challenges behind bars. In one such case, a Hong Kong judge issued a warrant for national security police to search the phones of prodemocracy media tycoon Jimmy Lai Chee-ying, who was most recently sentenced to 14 months in December 2021 for “incitement to host an unauthorized assembly” in 2020. An open critic of the Chinese regime, Mr. Lai was initially arrested on August 10, 2020, shortly after the imposition of the National Security Law; however, he posted bail on August 12, 2020. His bail was later revoked on December 3, 2020, and he has remained in prison since. The principal magistrate who issued the warrant, Peter Law, stated that there was reasonable suspicion that Mr. Lai’s phones contained “evidence of an offense endangering national security.”¹²⁷ Mr. Lai’s legal team filed a petition to halt the execution of the warrant, which is still pending.

Another high-profile case in 2022 was that of former Hong Kong law professor and activist Benny Tai, who was sentenced on May 24 to ten months in prison on four counts of alleged illegal election spending.¹²⁸ Mr. Tai was accused of spending \$32,241 (HKD

*In its May 2022 report, the Hong Kong Democracy Council provides a more detailed definition, stating that a political prisoner is anyone who is incarcerated, whether they are remanded, placed in juvenile detention, or otherwise committed, for: (1) “speech or action related to their expression of political belief or opinion, including taking part in demonstrations, uttering political slogans, publishing articles and videos, and using social media”; (2) “being a member of the organized political opposition, including pro-democracy political parties, protest groups and other non-governmental organizations espousing explicitly pro-democracy views”; (3) “on explicitly political charges such as those under the ‘national security law’ (secession, subversion, collusion with foreign forces, and terrorism) as well as sedition”; and (3) “engaging in activities protected as basic human rights under international law and regarded as lawful in democratic, rights-respecting societies but perceived as a political threat by the regime, such as publishing a newspaper or running a non-governmental organization.” Hong Kong Democracy Council, “Hong Kong Reaches a Grim Milestone: 1,000 Political Prisoners,” May 2022, 9–10.

253,000) on newspaper advertisements that endorsed candidates for a legislative election in 2016; prosecutors alleged the ads violated election laws, as Mr. Tai was not an electoral candidate, and that the endorsements could improperly influence the election by intentionally increasing the number of prodemocracy legislators.¹²⁹

National Security Cases Tried under New Proceedings

National security defendants are tried under new criminal procedures that stray from Hong Kong's common law tradition. Prior to the enactment of the National Security Law, cases of civil disobedience were traditionally referred to the magistrate's court, the lowest rung of Hong Kong's criminal justice system, where magistrates are restricted to imposing sentences of no more than two years. Under the new law, however, such cases are now regularly sent up to the district court or High Court, which can impose terms of as long as seven years and life imprisonment, respectively. William Nee, research and advocacy coordinator of Chinese Human Rights Defenders, explained in an interview with Al Jazeera that defendants who are tried under the National Security Law are heard before a panel of three judges selected as a jury by Hong Kong's chief executive.¹³⁰ Al Jazeera further reports that "unlike other criminal cases... [these] defendants are almost exclusively denied bail while legal proceedings continue—often for months."¹³¹

Disproportionate Sentences for Minor Offenses

Under the national security regime, common charges protesters face are for rioting and participation in illegal assemblies, whereas the more serious charges of incitement and organizing unlawful assemblies are handed down to those accused of leading any form of what Hong Kong authorities deem civil unrest.¹³² More concerning under the current legal environment, however, is that sentences have been harsher irrespective of age and past criminal record. Steven Vines, a longtime Hong Kong journalist now residing in the UK, stated in an interview with Al Jazeera that "people with no criminal convictions whatsoever are being given custodial sentences for things like unlawful assembly, which in the past would've incurred a fine, nothing more. People who are being convicted of more serious offenses are getting sentences which are akin to armed robbers with a criminal record."¹³³

Convictions Not Limited to the National Security Law

While many defendants have been prosecuted under National Security Law-specific charges, which target crimes of subversion, sedition, terrorism, and "collusion with foreign forces," some are being sentenced under recently revived colonial-era ordinances for "seditious" or "secessionist" speech. In one such case, Tam Tak-chi, a prodemocracy activist and former vice chairperson of Hong Kong's People Power democratic political party, was convicted in March 2022 under the colonial-era anti-sedition law by one of the national security judges handpicked by Beijing.¹³⁴ The first defendant to stand trial for alleged sedition charges since Hong Kong's handover from Britain to China in 1997, Mr. Tam was found guilty of 11 such charges: seven counts of uttering seditious words and one count

each of inciting others to knowingly take part in an unauthorized assembly, disorderly conduct, holding or convening an unauthorized assembly, and refusing or willfully neglecting to obey an order given by an authorized officer.*¹³⁵

In his verdict, Judge Stanley Chan Kwong-chi sentenced Mr. Tam to 40 months of prison and a fine of \$638 (HKD 5,000), accusing Tam of “bringing the government, police, and people friendly to Beijing into disrepute” during the 2019–2020 protests as part of a “selfish scheme to further his political career.”¹³⁶ Maya Wang, a senior China researcher at Human Rights Watch, stated that Mr. Tam’s case “exemplifies the dizzying speed at which Hong Kong’s freedoms are being eroded,” adding that Hong Kong, “once known as Asia’s protest capital... is now sentencing people to years in prison simply for shouting slogans.”¹³⁷ Similarly, on August 9 Hong Kong police arrested two Facebook page administrators whom authorities accused of “repeatedly posting seditious posts with the intent to arouse or deepen hatred and hostility among residents of different classes in Hong Kong on the social media page.”¹³⁸

Government Imposes Patriotism before Faith

Religious leaders in Hong Kong are increasingly directed toward a CCP-preferred model of leadership that prioritizes patriotism over faith.¹³⁹ Reverend Peter Koon, an Anglican priest in Hong Kong’s pro-Beijing legislature, argued for more government oversight of churches in Hong Kong.¹⁴⁰ According to the nationalist newspaper *Ta Kung Pao*, Reverend Koon emphasized extending a Chinese Temple Ordinance (which governs Buddhist and Taoist monasteries) to churches to increase supervision of church activities and recommended designating an appointed official to oversee all religious activity in the territory.† Religious organizations have already endured greater suspicion as the government has targeted charities and nonprofits that may be opposed to the National Security Law, launching investigations and in some cases removing their tax-exempt status.¹⁴¹ Religious organizations have also looked to legally and financially separate different parts of their operations—such as schools or local company registrations—from the headquarters. These moves may help reduce risks if the government were to introduce prohibitions on religious organizations or freeze assets.¹⁴²

Ties to opposition and prodemocracy movements in Hong Kong have placed many Christian religious groups under intense gov-

*Several differences exist between the Sedition Law, which was last amended in the 1970s when Hong Kong was still under British colonial rule, and the Beijing-imposed National Security Law of 2020. Falling under the Crimes Ordinance, the Sedition Law criminalizes incitement to violence, disaffection, and other offenses against the government, whereas the National Security Law addresses subversion, succession, conspiring with foreign forces, and acts of terrorism (which *Hong Kong Free Press* explains can be “broadly defined to include disruption to transport and other infrastructure”). Candice Chau, “Hong Kong Democrat and DJ Tam Tak-chi Jailed for 40 Months over 11 Charges, Including ‘Uttering Seditious Words,’” *Hong Kong Free Press*, April 20, 2022.

†Dating back to 1928, the Chinese Temple Ordinance mandates a heavy burden of inspection, audit, registration, and other state-imposed controls over Buddhist and Taoist monasteries. *Chinese Temples Ordinance* (Chapter 153); *Ta Kung Pao*, “Keeping Pace with the Times: Reverend Peter Koon Supports Reform: The ‘Chinese Temples Ordinance’ Is Not Equal,” January 27, 2022. Translation.

ernment scrutiny, making religious leaders susceptible to either extensive self-censorship or arrest.*¹⁴³ In early 2022, *Ta Kung Pao* accused religious leaders, teachers, and schools of inciting rioting and participation in the 2019 demonstrations against the extradition law.¹⁴⁴ In March 2022, the Vatican's unofficial representative in Hong Kong, Monsignor Javier Herrera-Corona, reportedly delivered a stark warning to the territory's 50 Catholic religious orders before he closed his six-year posting, saying that "the freedoms they enjoyed for decades were over" and that they should "be prepared."¹⁴⁵ As political topics and social issues have become more sensitive, pastors have chosen to stop addressing any such subjects in sermons, and churches are coming up with new processes to screen for outspoken or potentially problematic pastors.¹⁴⁶

Prominent Cleric's Arrest Signals Intensified Efforts to Stifle Opposition

In May 2022, Hong Kong's national security police arrested 90-year-old Cardinal Joseph Zen Ze-kui and four others on charges of "collusion with foreign forces"; they were later released on bail.¹⁴⁷ They were arrested due to their roles as trustees of the 612 Humanitarian Relief Fund, which provided legal, medical, psychological, and emergency financial support to prodemocracy protesters and jailed activists during the 2019 antigovernment demonstrations.†¹⁴⁸ A former bishop of Hong Kong and one of the most senior Catholic clerics in Asia, Cardinal Zen has been outspoken on issues relating to human rights, political freedom, and religious liberty. His staunch support of Hong Kong's prodemocracy movement and open criticism of the CCP for allegedly persecuting religious communities in China has drawn the ire of both pro-Beijing figures in Hong Kong and the Chinese government.¹⁴⁹

In response to public criticism over the arrest, Chief Executive Lee, who claims to be Catholic himself, dismissed the idea that religious freedom in Hong Kong is threatened. He emphasized that anyone of any background who "has breached the law" must answer "in accordance with the law."¹⁵⁰ Cardinal Charles Maung Bo, a Burmese Catholic prelate and president of the Federation of Asian Bishops Conference, rebutted the argument in a statement published on his online advocacy forum Global Prayer for China, stating, "In any system where the rule of law exists, providing assistance to help people facing prosecution meet their legal fees is a proper and accepted right.... How can it be a crime to help accused persons have legal defense and representation?"¹⁵¹

With the arrest of Cardinal Zen and other trustees of the 612 Humanitarian Relief Fund, Beijing further demonstrates its repressive strategy to squelch any form of dissent by eliminating the freedom

*Of Hong Kong citizens, 6.7 percent identify as Protestant, while 5.3 percent identify as Roman Catholic. CIA World Factbook, *Hong Kong—Religions*, 2022.

†The other arrests included: (1) Margaret Ng, senior barrister; (2) Denise Ho, activist and pop singer; (3) Cyd Ho, former lawmaker; and (4) Hui Po-keung, former academic. In August 2021, the 612 Fund announced its closure following a request by the national security police to provide operational records, including the names of donors and beneficiaries. 612fund.hk, "612 Humanitarian Relief Fund," accessed June 22, 2022; *Catholic News Agency*, "Former Hong Kong Bishop Cardinal Zen Arrested," May 11, 2022.

of association once protected under the Basic Law.*¹⁵² In his online statement condemning Zen's arrest, Cardinal Bo expressed despair over the impending elimination of religious freedom and deteriorating human rights situation in Hong Kong, saying, "Hong Kong used to be one of Asia's freest and most open cities. Today, it has been transformed into a police state. Freedom of expression, freedom of the press, freedom of assembly and association, and academic freedom have all been dismantled."¹⁵³

Cardinal Zen's arrest also signals Hong Kong authorities' continued abuse of the law as a means to justify their alleged national security needs. As evidence of this trend, Gina Goh, regional manager for Southeast Asia at Washington-based NGO International Christian Concern, points to the increasing number of freedom fighters being arrested and imprisoned on fabricated charges.¹⁵⁴ She states, "If a 90-year-old revered cardinal could not even be spared [prosecution], it indicates the legal system will continue to be abused by the HKSAR government to nab anyone in Hong Kong they find to be a threat to the city."¹⁵⁵

Guilty by Association: Former Trade Union Leaders Targeted

Other civil society leaders continue to be intimidated and harassed over their past affiliations, lending credence to the notion that the Hong Kong government is trying to discourage seeds of dissent through sustained pressure on influential opposition figures. For instance, Hong Kong's national security police investigated four former officials of the Hong Kong Confederation of Trade Unions, a now-defunct prodemocracy trade union.†¹⁵⁶

UN Report on International Covenant on Civil and Political Rights

Combined with the Hong Kong Bill of Rights Ordinance, article 39 of the Basic Law makes Hong Kong a party to the International Covenant on Civil and Political Rights (ICCPR), a major human rights treaty adopted by the UN in 1966 that protects civil and political rights.‡ The Human Rights Committee,§ which monitors the implementation of the treaty, expressed concern in July 2022 over the growing number of National Security Law and sedition-related actions against civil society groups.¹⁵⁷ The report details 24 alleged abuses and includes a section on the

*Article 27 of Hong Kong's Basic Law states: "Hong Kong residents shall have freedom of speech, of the press and of publication; freedom of association, of assembly, of procession and of demonstration; and the right and freedom to form and join trade unions, and to strike." The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China. Hong Kong: Joint Pub. (H.K.), 1991.

†These include: (1) Joe Wong Nai-yuen, former Hong Kong Confederation of Trade chair; (2) Leo Tang Kin-wah, former vice-chair; (3) Chung Chung-fai, ex-treasurer; and (4) Lee Cheuk-yan, former general secretary who is currently serving time in prison. Peter Lee, "Hong Kong National Security Police Quiz Ex-Leaders of Disbanded Pro-Democracy Union—Reports," *Hong Kong Free Press*, March 31, 2022.

‡Enacted in 1991, the Hong Kong Bill of Rights Ordinance enshrines the International Covenant on Civil and Political Rights into Hong Kong law; additionally, it served as the basis for Hong Kong's constitutional rights and freedoms prior to the handover in 1997. The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China. Hong Kong: Joint Pub. (H.K.), 1991.

§The Human Rights Committee, often referred to as the CCPR (Committee on Civil and Political Rights) to avoid confusion with the UN Human Rights Council (HRC), is an independent body of experts established by the International Covenant on Civil and Political Rights (ICCPR) to monitor the treaty's implementation. The Human Rights Council is composed of states and was established by a resolution of the UN General Assembly and the UN Charter with the mandate to discuss global human rights concerns at all levels.

restrictions on freedom of association imposed by the Hong Kong government, including:

- “the excessive number of civil society organizations, including trade unions and student unions, which have relocated or ceased to operate since the enactment of the National Security Law and invocation of sedition legislation in 2020”¹⁵⁸ and
- “the filing of criminal charges against the leadership of trade unions and their increased vulnerability due to their relations with international trade-union organizations.”¹⁵⁹

The UN Human Rights Committee also criticized Hong Kong’s vagueness in defining what constitutes “normal” activities for civil society organizations under the National Security Law.¹⁶⁰ A further concern expressed by the committee was that such vagueness could allow Hong Kong authorities to prosecute civil society representatives who participated in the UN’s investigations for conspiring with foreign countries “or external elements to endanger national security” as per the National Security Law (see “International Responses to the Continued Repression in Hong Kong” for more actions by global organizations).¹⁶¹

Disappearing Space for Freedom of Expression

As Beijing’s crackdown on opposition intensifies, few spaces remain for Hong Kong citizens to openly express dissent. Anonymized surveys, such as those conducted by polling organizations like PORI, present one of the few remaining channels for freedom of expression. Chinese and Hong Kong authorities, however, continue to condemn published findings, with many researchers coming under increasing threat of reprisal from the national security regime. Some small-scale forms of expression have taken place, albeit rare in occurrence. In one such instance, three prodemocracy protesters tried to “keep dissent alive,” holding a banner calling for universal suffrage outside the polling site on the day of the chief executive general elections.¹⁶² Although police did not make arrests around this incident, they brought serious charges against others in the spring of 2022 for other minor infractions and assembly deemed more sensitive. For instance, police arrested six individuals conducting a Tiananmen vigil on June 4, 2022; all six potentially face the maximum penalty of five years’ imprisonment.¹⁶³

The death of Her Majesty Queen Elizabeth II of England in September 2022 also evoked nostalgia among many Hongkongers for the freedoms they once widely enjoyed when the territory was a British colony. The queen’s memorial in front of the British consulate provided a place for Hong Kongers to pay their respects, and in some cases, it also served as a quiet opportunity to publicly express small signs of quiet protest against the current regime. One mourner told the *New York Times*, “When mourning the queen, we are mourning the lost Hong Kong.”¹⁶⁴ Some mourners reportedly wore yellow masks and black t-shirts, the colors respectively associated with the 2014 Umbrella Movement and 2019 prodemocracy demonstrations.¹⁶⁵ A 43-year-old man was arrested on September 19 near the British consulate while playing the harmonica at a vigil honoring the late monarch of the former colony.¹⁶⁶ The man, whom police

arrested on suspicion of “committing an act with seditious intent,” played songs including the British national anthem “God Save the Queen” and “Glory to Hong Kong,” the anthem of the Hong Kong protests in 2019.*

Increased Pressure on Research Forces Poll Chief to Flee Hong Kong

With Beijing’s increasingly aggressive efforts to control the narrative surrounding Hong Kong, leading researchers have joined educators, journalists, and other at-risk individuals in fleeing the territory. In April 2022, a senior member of Hong Kong’s leading independent polling firm fled to the UK amid mounting pressure from the territorial government. PORI Deputy Director Chung announced in a Facebook post on April 24 that he would live abroad for “a period of time,” calling Hong Kong a place where one may “no longer live normally and without intimidation.”¹⁶⁷

In recent months, state media outlets have increasingly attacked research institutions such as PORI over aspects of their research that are political in nature. In one instance, PORI came under heavy fire from the state-run *People’s Daily* newspaper for its “anti-China” opinion surveys on Hong Kong’s 2021 legislative elections.¹⁶⁸ In a December editorial, the *People’s Daily* accused PORI of manipulating survey samples and imposing arbitrary statistical standards, claiming the results were intended to “smear the new electoral system,” “undermine the LegCo’s selection authority and credibility,” and “use so-called ‘public opinion’ to hijack society.”¹⁶⁹ Dr. Chung’s departure to the UK underscores a larger trend of researchers and scholars who have left Hong Kong due to political pressures and threats to their institutions under the National Security Law.

United States Continues to Oppose Repression in Hong Kong

Since 2020 across both the Trump and Biden Administrations, the United States has penalized government and private entities and individuals responsible for undermining Hong Kong’s autonomy. These actions are consistent with the 2020 implementation of the Hong Kong Autonomy Act and Executive Order (EO) 13936, which prompt the president to declare a national emergency with respect to Hong Kong.¹⁷⁰ Under EO 13936 and the International Emer-

*“Glory to Hong Kong,” which is sometimes known as the “unofficial” anthem of Hong Kong, has been characterized by police and the pro-Beijing regime as an antigovernment song. The lyrics of the song include the line “Liberate Hong Kong, revolution of our times,” which became a popular slogan of the protesters throughout the 2019–2020 prodemocracy movement and was declared illegal under the 2020 National Security Law. A Twitter post of the incident shows several dozen gathered mourners “enthusiastically singing along to the lyrics” when “Glory to Hong Kong” was being played. A subsequent video tweeted from the same user showed “an audience-led encore continu[e] briefly,” with the crowd waving their lit up mobile phones in the darkness as they continued to sing after the playing concluded. “Mobile light vigils” were another common form of solidarity among prodemocracy protesters throughout the course of the demonstrations. *ABC News Australia*, “Hong Kong Man Arrested after Paying Tribute to Queen Elizabeth outside British Consulate,” September 20, 2022; Razvan (@RazvanHK), “A harmonica player plays a familiar tune, with the crowd enthusiastically singing along to the lyrics,” Twitter, September 19, 2022, 8:22 a.m.; Razvan (@RazvanHK), “An audience-led encore continued briefly,” Twitter, September 19, 2022, 8:35 a.m.; *Guardian*, “‘Glory to Hong Kong’: Pro-Democracy Anthem Embraced by Protesters,” September 12, 2019.

agency Economic Powers Act in 2020, then President Donald Trump identified China's actions to undermine Hong Kong's autonomy as "an unusual and extraordinary threat ... to the national security, foreign policy, and economy of the United States."¹⁷¹ U.S. President Joe Biden has renewed this declaration twice, currently extending it to July 2023.¹⁷² Several agencies are responsible for a range of mostly punitive actions comprising the U.S. government's response to the situation in Hong Kong:

U.S. Department of Commerce

- As of December 2020, the Department of Commerce's Bureau of Industry and Security treats Hong Kong as part of mainland China under the Export Administration Regulations. In practice, this means that for export control purposes, the U.S. government classifies all exports, reexports, and in-country transfers to Hong Kong the same as the rest of China.¹⁷³ The rule change imposes greater restrictions on exports to Hong Kong than before and effectively removed all export control privileges, following on from a July 2020 elimination of licensing exceptions specific to the SAR.¹⁷⁴

U.S. Department of Homeland Security

- In August 2020, U.S. Customs and Border Protection required that products shipped from Hong Kong be labeled with a "Made in China" designation.¹⁷⁵ In October 2020, the Hong Kong government brought a case to the WTO to oppose the U.S. government's "Made in China" labeling requirement, and a final report by the dispute settlement panel is expected in late 2022.*¹⁷⁶
- Through February 2023, the United States will defer the enforced departure of Hong Kong citizens currently in the United States, which may number approximately 30,000, according to Samuel Chu, founder and president of The Campaign for Hong Kong, a nonprofit advocacy organization.[†]¹⁷⁷ The August 2021 memorandum introducing this measure was the first U.S. action granting extended stays to Hong Kong residents in light of the National Security Law.

U.S. Department of State

- In its March 2022 annual report pursuant to the United States-Hong Kong Policy Act of 1992, the Department of State sustained its determination that Hong Kong was no longer sufficiently autonomous to warrant special treatment.¹⁷⁸

*The WTO formed a panel in April 2021 and initially expected to issue a report in Q2 2022 but was delayed due to the "complexity of the issues presented in the dispute." Brazil, Canada, China, the EU, India, Japan, Korea, Norway, the Russian Federation, Singapore, Switzerland, Turkey, and Ukraine have reserved third-party rights in the case, meaning they have some substantial interest in the proceedings and have the right to comment on arguments of the complainant and respondent. World Trade Organization, *DS597 United States—Origin Marking Requirement*, April 29, 2021; World Trade Organization, *DS597 United States—Origin Market Requirement*, WT/DS597/8, June 23, 2022.

[†]Information concerning how many of these 30,000 Hong Kong residents will actually benefit from deferred enforced departure is not publicly available.

- In July 2022, the Department of State also changed its Hong Kong Travel Advisory to “Level 4: Do Not Travel,” citing the potential for “arbitrary enforcement of local laws.”¹⁷⁹

U.S. Department of the Treasury

- The Treasury’s Office of Foreign Assets Control has maintained sanctions on 42 persons via its Specially Designated Nationals and Blocked Persons List in accordance with EO 13936.¹⁸⁰ The United States sanctioned now Chief Executive Lee in its first set of Hong Kong-related sanctions in 2020 (see “How Are U.S. Sanctions Affecting John Lee?” later in this section).¹⁸¹
- In its 2020 *Annual Report for the Committee on Foreign Investment in the United States (CFIUS)*, the Treasury clarified that in accordance with EO 13696, all CFIUS transactions originating from Hong Kong after July 14, 2020, would be grouped with those originating from mainland China.¹⁸²
- Under the Hong Kong Autonomy Act of 2020, the Treasury is required to submit a report identifying any foreign financial firms that transacted with foreign persons materially contributing to the erosion of Hong Kong’s autonomy. As of February 2022, the Treasury has not identified any institution that “knowingly conducted a significant transaction” with any of the foreign persons identified through EO 13936.¹⁸³

Joint Efforts

- In July 2021, the Departments of State, Treasury, Commerce, and Homeland Security issued a joint business advisory, *Risks and Considerations for Businesses Operating in Hong Kong*. The advisory highlighted risks of the National Security Law, data privacy, transparency and access to information, and exposure to conflicting sanctions regimes between the United States and China.¹⁸⁴

How Are U.S. Sanctions Affecting John Lee?

Listed as a Specially Designated National by the Treasury in 2020, John Lee was already subject to U.S. sanctions at the start of his chief executive campaign. These sanctions affect any U.S. assets Lee might have previously held, and they restrict any of Lee’s transactions outside of the United States. This restriction on transactions outside of U.S. borders has likely had a significant impact on Lee. Non-U.S. entities or persons outside of U.S. borders can face secondary sanctions, such as for financial transactions that rely on the U.S. financial system. In practice, this meant campaign donations for the former security tsar were made out entirely in cash. In complying with sanctions, U.S. tech companies Alphabet (parent of Google and YouTube) and Meta (parent of Facebook and Instagram) could not offer Lee social media services. This resulted in a reduced online presence for him in the latter half of April shortly after he launched his campaign for chief executive. Video streaming service YouTube suspended Lee’s campaign channel, while Facebook and Instagram blocked

How Are U.S. Sanctions Affecting John Lee?—Continued

his campaign's payment services on April 20.¹⁸⁵ It is possible that John Lee's use of other digital services, such as cloud computing and data storage, as well as email and other content hosting could be captured by sanctions if these services are conducted through an online payment system or unwittingly provided by a U.S. technology company.

As per a separate source familiar with Lee's campaign, Alphabet's decision to terminate the campaign's YouTube channel raised concerns among business and political donors who worried about possible legal consequences from contributing to the campaign of an individual under U.S. sanctions.¹⁸⁶ In an effort to alleviate donor concerns, John Lee's campaign reportedly made the decision to comply with U.S. sanctions by receiving donations from various locally registered organizations and business chambers, according to a source within Lee's circle cited in the *South China Morning Post*.¹⁸⁷ Altogether, John Lee's campaign reportedly received almost \$1.4 million (HKD 11.3 million) in donations during his election bid, much of it from prominent business associations, including the Chinese General Chamber of Commerce, the Friends of Hong Kong Association, the Hong Kong Chinese People's Political Consultative Conference (Provincial) Members Association, the Federation of Hong Kong Guangdong Community Organizations, and the Hong Kong Federation of Fujian Associations.¹⁸⁸

International Responses to the Continued Repression in Hong Kong

In 2022, some governments have condemned the CCP's interference in Hong Kong's politics, and they maintain some restrictions on cooperation with Hong Kong introduced between 2020 and 2021. Governments such as Japan and the UK have made statements denouncing the Hong Kong government's attacks on free press and its manipulation of both the LegCo and chief executive elections. In May 2022, G7 leaders representing the United States, Canada, the EU, France, Germany, Italy, and Japan collectively expressed serious concerns over the chief executive election process and Hong Kong's "continued assault on political pluralism and fundamental freedoms."¹⁸⁹ The leaders' statement also "call[ed] on China to act in accordance with the Sino-British Joint Declaration and its other legal obligations."¹⁹⁰ Besides the United States, no other government has moved to place individual sanctions on Hong Kong's leadership. Hong Kong activists and British lawmakers in Parliament pushed the Johnson government to follow U.S. individual sanctions, particularly in light of extensive coordinated sanctions on Russia and the UK's role as treaty holder in the Sino-British Joint Declaration.¹⁹¹

Hong Kong's Oppression Reflected in Global Fora

As the global community works to understand the true scope of Hong Kong's declining freedoms, data published by international watch groups paint an increasingly bleak picture as the territory con-

tinues to fall in various freedom rankings. The New Zealand-based nonprofit Human Rights Measurement Initiative (HRMI), for example, published an annual study in June 2022 that revealed Hong Kong's freedom ranking placed it below Venezuela and just ahead of Saudi Arabia and China, which are both at the bottom of the list.¹⁹² Hong Kong's Empowerment Score (which HRMI's methodology defines as "freedom of speech, assembly and association, and democratic rights") was a mere 2.5 out of 10, which, according to HRMI, "suggests that many people are not enjoying their civil liberties and political freedoms."¹⁹³ As HRMI spokesperson Anne-Marie Brook explains, "Watching events in Hong Kong over the past couple of years has been quite harrowing, and so I doubt that Hong Kong's scores will come as a surprise to any Hong Kong watchers."¹⁹⁴ As of 2021, the Heritage Foundation dropped Hong Kong from its Global Economic Freedom Index, counting the territory as part of China to reflect its loss of autonomy.¹⁹⁵ In its 2022 report, the Heritage Foundation ranked China as the 158th-freest economy.¹⁹⁶

Beijing's Economic Influence in Hong Kong Increasing

Hong Kong's government is pursuing close policy alignment with the Mainland across a number of areas, with increasing effects on economic policy. The tight grip on Hong Kong's security has been accompanied by rigid measures to combat COVID-19, further isolating Hong Kong from the international community. While the territory remains an important hub for regional finance, foreign companies are beginning to reconsider the role of Hong Kong in their global and regional operations.

Hong Kong's Economic Prospects Dim with Extended Restrictions and Uncertainty

The Hong Kong government's Zero-COVID measures have depressed economic growth and exacerbated unemployment. Maintaining China's Zero-COVID policy has been important for the Hong Kong government to demonstrate its alignment with Beijing's policies. The Chinese government views Hong Kong's mimicry as a priority to demonstrate control over the territory and to ensure the safety of the Hong Kong-Mainland border.¹⁹⁷ In the first half of 2022, Hong Kong faced its fifth COVID-19 outbreak, spurring extensive lockdowns and social distancing restrictions that shut down businesses.¹⁹⁸ As Hong Kong faced the Omicron variant in January, the government imposed a quarantine period of as long as 21 days and strict social distancing measures that severely curbed consumption by keeping residents at home, imposing strict business hours, and curtailing many services.¹⁹⁹ Hong Kong's death rate soared in March 2022, surpassing 25 per 100,000 residents in the second week alone during the peak of the outbreak.²⁰⁰ Among developed nations, Hong Kong reportedly had the highest prevalence of COVID-19 deaths per capita, with health officials attributing the high mortality rate to low vaccination coverage among the elderly

*According to HRMI's database, Hong Kong's Empowerment Score dropped from 4.4 in 2019 to 3.1 in 2020. HRMI Rights Tracker, "Country Profiles | Human Rights in Hong Kong, 2022," June 2022.

population of the territory.²⁰¹ Retail sales, a proxy for consumer demand, dropped in volume by 16.8 percent in March 2022 compared to the prior year.²⁰²

Confidence in the business environment has been inconsistent quarter to quarter as COVID-19 restrictions have created volatility. In H1 2022, real gross domestic product (GDP) in Hong Kong shrank 2.6 percent year-on-year, from \$178.4 billion (HKD 1.4 trillion) to \$165.7 billion (HKD 1.3 trillion) when adjusted for inflation.²⁰³ As of August 2022, the territorial government estimates that 2022 GDP growth will be between 0.5 percent or a contraction of 0.5 percent, lowered from the initial goal of between 2 percent to 3.5 percent growth.²⁰⁴ Other financial analysts published similar predictions of negative growth. In August 2022, U.S. credit agency Fitch Ratings estimated a 0.5 percent contraction of the territory's economy in 2022.²⁰⁵ A government survey of Hong Kong businesses found that 17 percent of the transportation, storage, and courier services sector respondents described their Q2 2022 profit situation as poor.²⁰⁶ Companies in this sector listed the top challenge as "uncertain economic outlook caused by change in the external economic environment."²⁰⁷ Similarly, the retail industry listed the economic outlook as their top challenge, and 20 percent of respondents in the sector described Q2 2022 profits as being poor.²⁰⁸

Mistrust in Government Drives Vaccine Hesitancy and Deaths

Hong Kong's vaccination rate was suboptimal over the course of the past year despite vaccines being readily available to the population since February 2021.²⁰⁹ One study published in April 2022 confirmed that "risks from vaccination and vaccine efficacy were positive correlates of vaccine hesitancy [in Hong Kong]."^{*210} Research on the correlation between public trust with vaccine hesitancy published in the *Hong Kong Medical Journal* explains: "Confidence is influenced by the trust in vaccines (necessity, effectiveness, and safety), the health system in which a vaccine is delivered, and the policymakers with decision-making power for resource allocation."^{†211} Many of the territory's vulnerable elderly population reportedly believed vaccines were ineffective and linked to serious health risks, and only 15 percent of this high-risk population in care centers was fully vaccinated at the height of the Omicron variant in early March 2022.²¹² In July 2022 that the vaccination rate for those aged 80 and over was 69 percent.²¹³

Hong Kong's vaccine program suffered a major setback early in its rollout as many senior residents were reportedly misled by misinformation spread online and in local media concerning

*There is no single cause for vaccination hesitancy, which is affected by many factors such as the perceived benefits, the barriers to vaccination, and sociodemographic factors. Numerous studies show, however, that fake news and misunderstanding spread rapidly online via social media can also cause hesitancy. Melinda Mills et al., "Covid-19 Vaccine Deployment: Behavior, Ethics, Misinformation and Policy Strategies," *Royal Society and British Academy*, October 21, 2020; Bobby Duffy et al., "Coronavirus: Vaccine Misinformation and the Role of Social Media," *Policy Institute*, December 14, 2020.

†In a January 2021 survey conducted by the University of Hong Kong, fewer than 30 percent of those surveyed found China's Sinovac vaccine acceptable, a sign that Hong Kong people are less trusting of Chinese vaccines than Western vaccines. *Reuters*, "Polls Shows Hong Kong Residents Distrust of Chinese Vaccines," January 28, 2021.

Mistrust in Government Drives Vaccine Hesitancy and Deaths—*Continued*

alleged adverse side effects from the vaccine.²¹⁴ For instance, government data show that 10,300 appointments for the Sinovac vaccine were canceled on March 3, 2021, the day after news broke that a man reportedly died after taking the Sinovac shot.* Terry Lum, a professor of social work at the University of Hong Kong, blamed the government for not quickly correcting misconceptions about vaccine efficacy and side effects, saying, “When... misinformation is circulating and no one comes out to clarify the information, and we have such low cases, the people wonder, ‘Why would I take the risk?’”²¹⁵

Concerns about the potential risks of vaccination were likely also exacerbated to some degree by the government’s cautious approach to the initial vaccine rollout. In March 2021, the government issued guidance that the Sinovac vaccine should not be administered to individuals with uncontrolled severe chronic illnesses.²¹⁶ Authorities also urged residents who had concerns about the vaccine’s side effects to seek a medical consultation prior to getting vaccinated.²¹⁷ Health systems experts argue that this guidance perpetuated the mistaken belief that vaccines were dangerous for older people or those with chronic illnesses and that an individual needed a clean bill of health to get vaccinated.²¹⁸ Karen Grépin, associate professor at the University of Hong Kong’s School of Public Health, explained the misperception: “You’ve basically created this idea that, if there’s something wrong with you, then you should not get vaccinated.”²¹⁹

Departure of Professionals and Workers Weighs on Future of Labor Force

Between the territory’s strict approach to COVID-19 and the chilling effect of the security apparatus, Hong Kong has become a less desirable destination for working and studying.²²⁰ In 2021 alone, Hong Kong saw the departure of 90,000 residents and is likely to see more by the end of 2022.²²¹ Mid-year 2022, Hong Kong recorded a 1.6 percent contraction of the population year-on-year, with the outflow of approximately 113,200 people.²²² According to a March public opinion survey conducted by PORI, almost a quarter of the territory’s residents—including both locals and expatriates—have plans to leave.²²⁴ The survey results meant that a potential 1.87 million people could leave Hong Kong permanently.²²⁵ According to PORI Deputy Director Chung, “The most important factor is politics, more so than the pandemic.”²²⁶ The survey also reported nearly one-third of those planning to emigrate cited “diminishing personal freedoms in recent years” as the motivating driver, with 16 percent citing “fears for their family’s future.”²²⁷ Additionally, Dr. Chung points out, “more than half of respondents said they had ‘no confi-

*On February 28, 2021, a chronically ill man who had received the Sinovac vaccination died. *Hong Kong Free Press*, “Covid-19: Authorities Investigate Death of Patient Two Days after He Received Sinovac Vaccine,” March 3, 2021; Timothy McLaughlin, “The Place with Surprisingly High Vaccine Hesitancy,” *Atlantic*, March 31, 2021.

dence' in Hong Kong's political environment or in their future level of personal freedom."²²⁸

The territory's quality of life is threatened by the departure of many Hong Kong residents and migrant workers, many of whom have been disproportionately impacted by the lockdowns. Migrant workers, largely originating from the Philippines and other South-east Asian countries, constitute the backbone of the territory's domestic workforce and make up 10 percent of the entire labor force.²²⁹ In the face of travel restrictions, longstanding wage discrimination, and low support from the government, the costs to remain in Hong Kong have grown untenable for many migrant workers and are leading to a labor shortage in an essential industry.²³⁰ At the other end of the income spectrum, foreign firms find it increasingly difficult to attract overseas candidates for executive positions and foreign professional talent in key sectors such as finance and business services.²³¹ Stuart Bailer, chairman of the Hong Kong Exhibition & Convention Industry Association, said, "Hong Kong, once one of the most sought-after postings for executives, has become a hardship posting due to the lack of international connectivity."²³² At the same time, as of 2022 Hong Kong was the most expensive place for expatriate employees to live and work.²³³ Travel and freedom of speech restrictions in the education system also make Hong Kong universities far less attractive for foreign students and teachers.²³⁴ In the finance industry, hiring has become so difficult that employees are getting wage increases of 25 to 35 percent to start new positions.²³⁵

The business community in Hong Kong has spoken out strongly against the government's COVID-19 strategy. Pro-Beijing businessman and Hong Kong government adviser Allan Zeman wrote in March 2022 to then Chief Executive Lam that Hong Kong's reputation had been damaged by inconsistencies in and challenges to the government's approach to combating the virus.²³⁶ Recent business surveys echoed Mr. Zeman's views. In a survey of 262 corporate representatives and individual members, the American Chamber of Commerce in Hong Kong (AmCham HK) reported that 59 percent of respondents found the Hong Kong government's approach in addressing COVID-19 issues dismissive or unconcerned.²³⁷ The European Chamber of Commerce in Hong Kong surveyed 260 representatives across 15 national chambers of commerce in the territory. Its survey found that since 2020, 51 percent of respondents had seen high or unusually high turnover in employees.²³⁸ Furthermore, AmCham HK found that 33 percent of respondents were "somewhat or more likely to leave" as a result of COVID-19 restrictions, while 49 percent of the European Chamber of Commerce in Hong Kong respondents plan to undertake full or partial relocation.²³⁹

Beijing is clearly aware of the cost of the COVID-19 approach in Hong Kong and concerned for the future of its territory, making mild attempts to reassure the business community without reversing course on its restrictive strategy. In June 2022, Bloomberg reported that the Liaison Office, the Mainland's primary office in Hong Kong, had sent invitations to various chambers of commerce in the territory soliciting views on current challenges to operating in China and Hong Kong.²⁴⁰ In July 2022, Ministry of Foreign Affairs for the HKSAR Commissioner Liu Guangyuan also gave an exten-

sive speech to over 100 foreign diplomats and business representatives in the territory, urging them to present Hong Kong “in a more objective way.”²⁴¹ Chief Executive Lee previously committed in late June to a review and potential revision of the quarantine policies, noting that it could be done only “without bringing extra risk to the Mainland.”²⁴² In July 2022, the quarantine was adjusted to allow for a shorter period in quarantine hotels followed by isolation at home and Chief Executive Lee ended the controversial flight ban that severely disrupted travel into and out of Hong Kong.²⁴³ In September 2022, the territorial government removed the extensive hotel quarantine requirement to open up travel to Hong Kong at the end of that month.²⁴⁴ In October 2022, the Hong Kong Tourism Board announced that the government would give away 500,000 pre-purchased tickets worth approximately \$253 million (HKD 2 billion) in 2023 to travel in and out of Hong Kong once all COVID-related restrictions have been lifted.²⁴⁵

Emigration Destinations for Hong Kongers

Until recently, Taiwan was one of the most popular destinations for Hong Kong residents. According to Taiwan’s National Immigration Agency, some 11,173 residency permits were issued to Hong Kong citizens in 2021, a 3.3 percent increase over the previous year and the highest number recorded in official data dating back to 1991.²⁴⁶ In May 2022, however, Taipei announced it would indefinitely postpone a scheme that would have eased the process for professionals from Hong Kong and Macau to become permanent residents or citizens, citing concerns over possible infiltration of Chinese agents.²⁴⁷

In light of the recent setbacks, many Hong Kongers in Taiwan are expected to emigrate to the UK, which continues to receive the highest number of applicants and arrivals from Hong Kong.²⁴⁸ On February 24, 2022, the UK expanded eligibility for Hong Kong citizens under its British National (Overseas) visa program to allow those aged 18 to 24 to apply independently from their parents.*²⁴⁹ Similar “lifeboat” schemes have also recently been introduced in Australia and Canada. Australia continues to offer permanent residency to students and highly skilled Hong Kongers with a history of three years’ residence in designated regions of Australia as well as to any Hong Kongers who have continually resided in Australia for four years.²⁵¹ According to the most recently published data in June 2021, Hong Kongers were the eighth-largest source of Australian migrants in the 2020–2021 period with 4,312 visas issued, over three times the number of Australian visas issued to Hong Kongers the prior year.²⁵² Canada’s permanent residency program for Hong Kongers is similar and in 2021 allowed for 2,295 Hong Kongers to become permanent residents, more than double the amount the prior year.²⁵³ Based on inflows from the first two months of 2022, estimates indicate the number of Hong Kong permanent residents in Canada by the end of 2022 will reach 3,330 people.²⁵⁴

*Current estimates indicate that the British National (Overseas) scheme is open to some 5.4 million of Hong Kong’s 7.5 million citizens. The revisions grant successful applicants and their families rights to live, work, and study in the UK for five years, after which they may apply for citizenship. Tommy Walker, “Britain to Allow More Hong Kongers to Settle under Lifeboat Plan,” *VOA News*, February 25, 2022.

Vague Restrictions on Freedom of Movement for Some

While freedom of movement is unrestricted for most Hong Kongers, some residents, particularly those formerly associated with the pro-democracy movement in any way, risk arrest if they attempt to exit the territory. Risk still remains from Hong Kong's 2021 Immigration Law, which could bar the entry of foreigners while also increasing the potential for exit bans of territorial residents. According to the *South China Morning Post*, Hong Kong's national security police have a secret watch list of residents under investigation "to be intercepted and arrested if they attempt to flee the city."²⁵⁵ The number of targets on the list is not publicly known, and those placed on the list have no way of knowing if they are included, a detail that has sparked widespread concerns among citizens. The existence of the list came to light after senior editorial writer Fung Wai-kong of the now defunct *Apple Daily* tabloid was intercepted and arrested at the Hong Kong International Airport in June 2021 as he attempted to board a flight to the UK.²⁵⁶

U.S.-Hong Kong Bilateral Economic Relations

Within the Greater Bay Area, Beijing envisions Hong Kong as both a finance and a logistics hub, building on its long history as a key port and its proximity to Southeast Asia. The United States is Hong Kong's second-largest goods export market after mainland China, while the United States is Hong Kong's sixth-largest import source for goods.²⁵⁷ Hong Kong is an important hub for U.S.-China trade, responsible for routing 4.9 percent of the Mainland's exports to the United States and 7.6 percent of U.S. imports to China.²⁵⁸ In the first eight months of 2022, Hong Kong exported \$3.3 billion in goods to the United States, while U.S. exports to Hong Kong in the same period totaled \$17.5 billion.²⁵⁹ The value of total trade between Hong Kong and the United States has decreased by 6 percent from January to August 2022 compared to the same period the preceding year, reflecting the decline in Hong Kong's volume of total goods exports by 20.5 percent and total goods imports by 22.1 percent.²⁶⁰

U.S. Business Adaptation in Hong Kong

Increasing uncertainty, a harsh Zero-COVID response, and the overall economic slowdown in Hong Kong have made the territory a more difficult environment for U.S. businesses and expatriate employees in 2022. The most recent available data from 2021 indicate that 28 U.S. firms in Hong Kong relocated or closed their regional headquarters—in total a 10 percent drop, the largest decline in U.S. regional headquarters located in Hong Kong since the 1997 handover.²⁶¹ The territory is seeing a gradual shift away from hosting regional headquarters of international companies as Chinese firms make up a larger proportion of all firms based outside the territory. The year 2021 saw more mainland Chinese offices in all three office categories (regional headquarters, regional offices, and local offices), with a 6 percent increase in regional headquarters.*²⁶² In 2021,

*Each type of office (local, regional, and regional headquarters) has a parent company located outside of Hong Kong. A local office handles business only in Hong Kong. A regional office may have coordinating functions in the region, while regional headquarters have managerial control

mainland Chinese firms accounted for 28.4 percent of all local offices in Hong Kong, while U.S. firms accounted for 11.8 percent.²⁶³

Behavior of firms has varied widely, sometimes by sector but often with inconsistencies in the calculation of political risk and economic opportunity even within the same sector. Many financial firms continue to see post-recovery benefits from maintaining or expanding presence in Hong Kong, particularly as China's financial sector opens up. Many retail firms interested in capturing more mainland Chinese consumers have shifted their presence to cities like Shanghai, a movement that has accelerated even with numerous lockdowns on China's east coast.²⁶⁴ In 2022, JPMorgan has been slowly relocating senior staff from Hong Kong to Shanghai, though some have already left for Singapore. The bank nonetheless views Hong Kong as its regional headquarters.²⁶⁵ As more and more banks look to expand their capacity in Southeast Asia, Singapore has attracted expansion of more firms like Bank of America and Goldman Sachs.²⁶⁶ Prudential PLC, a UK-based insurance and asset management firm, committed to placing its new CEO in Asia but initially did not commit to doing so in Hong Kong, another sign that confidence in the territory's connectivity with the rest of the world is flagging.²⁶⁷ A 2022 survey by the Hong Kong Investment Funds Association documented that over a third of global fund management companies have relocated regional and global offices from Hong Kong, noting difficulties in maintaining operations due to Zero-COVID.²⁶⁸ According to the survey, 20 percent of investment management firms offered special allowances to attract hires in Hong Kong, considering it a hardship post.²⁶⁹ At the same time, approximately 13 percent of global investment firms surveyed reported reducing staff size in Hong Kong.²⁷⁰

Hong Kong Competes with Other Regional Business Centers

An intensifying sense of political risk in Hong Kong has had some immediate effect on staffing in 2022 and may have some long-term effects on the provision of contracts and other legal services in Hong Kong. Defenders of the Beijing and Hong Kong government's approach have insisted that the security apparatus should not affect the openness of the business environment, but increased central government influence over the territory raises the possibility that more state direction could be imminent. Businesses are increasingly questioning not only the viability of operating in Hong Kong under prolonged Zero-COVID approaches but also what impact the National Security Law might have on rule of law for commercial cases.²⁷¹

The longer-term prospect of a gradual bias in favor of Chinese companies in the territory's systems is another growing concern among foreign companies. Singapore stands to be the primary beneficiary of Hong Kong's losses in personnel and companies, particularly for regional headquarters that have greater connectivity to the Asia Pacific or Southeast Asia.²⁷² Cathay Pacific, Hong Kong's premier airline, is an example of how Hong Kong's Zero-COVID measures have given Singapore an edge. In October 2020, Cathay Pacific let

over other offices or operations in the region. Hong Kong Census and Statistics Department, *Report on 2021 Annual Survey of Companies in Hong Kong with Parent Companies Located Outside Hong Kong*, October 28, 2021, 5.

go of 5,900 employees, and at the beginning of 2022 it had reduced the number of flight destinations from 108 to 29.²⁷³ According to Cathay Pacific's interim financial statement, the airline's revenue for the first half of 2022 was \$2.4 billion (HKD 18.6 billion), 65 percent lower than its revenue of \$6.8 billion (HKD 53.5 billion) over the same period in 2019.²⁷⁴ The cuts to Hong Kong's travel services have likely set the territory back as a travel hub for years to come as regulations to open up and restaff for any increase in flights have been slow. As of January 2022, Singapore serviced twice the number of flights as Hong Kong since the pandemic.²⁷⁵ In October 2022, UK-based Virgin Atlantic Airlines announced that it would close its offices in Hong Kong and no longer service flights into and out of the territory.²⁷⁶ Meanwhile, Seoul, South Korea, has become the alternative for foreign journalists and media organizations, largely on account of easily available, well-developed digital infrastructure, lower real estate costs, and relatively stronger protections for free press compared to other business hubs like Singapore and Tokyo, Japan.*²⁷⁷ Taipei, Taiwan, has also emerged as an alternative for journalists unable to operate in mainland China and Hong Kong.²⁷⁸

Media and Information Censorship Adds to Business Uncertainty

Forced closure of more media outlets, government vilification of overseas news publications, and increased potential for self-censorship within Hong Kong paint a troubling picture of the territory's future information environment. The persecution and charges against public polling figures raises concerns over the future of public surveys and the integrity of real-time reporting going forward. These attacks on media pose additional challenges to international businesses in Hong Kong that have long prized access to real-time, uncensored information, including faithful economic reporting. After the noted closure of prodemocracy paper *Apple Daily*, three other independent outlets—*Stand News*, *FactWire*, and *Citizen News*—closed between December 2021 and June 2022.²⁷⁹ The Hong Kong government has sent threatening letters to the *Economist* and the *Wall Street Journal* to denounce the characterization of Hong Kong's thinning civil society.²⁸⁰ In his letter to the *Wall Street Journal*, Secretary for Constitutional and Mainland Affairs Erick Tsang insinuated that the original *Journal* article from December 2021 was “inciting another person not to vote, or to cast an invalid vote” and could count as an offense under Hong Kong's Election Ordinance.²⁸¹ Over the course of 2021, the Hong Kong government sent 20 letters to seven different U.S. news organizations located in the United States to refute characterizations of the territory's waning freedoms and restrictive policies.²⁸²

Internet freedoms also hang in the balance as the government prepares new security measures. Hong Kong's Domain Name Registration Company has said it will reject new applications for.hk websites that could incite crime, infringe on privacy, or spread misinformation.²⁸³ According to survey results from AmCham HK,

*According to the Press Freedom Index published by Reporters Without Borders, South Korea ranks 43rd, while Japan ranks 71st and Singapore ranks 139th. Reporters Without Borders, “Index,” 2022.

businesses are aware and conscious of the possibility that a more active regime of internet censorship may be in store for Hong Kong. Among AmCham HK survey respondents, 42 percent did not have confidence that the territory would continue to have free access to the internet and information platforms between 2022 and 2025.²⁸⁴ Of the respondents, 83 percent answered that it was “very important” to maintain such access.²⁸⁵ Hong Kong’s Companies Registry has also grown less accessible given changes to publicly available information, continuing to raise concerns about transparency in corporate governance.²⁸⁶ Recent changes to Hong Kong’s privacy rules continue to provide traditionally robust protection of personal data, but the introduction of new domestic security laws, such as the proposed bill on disinformation and even perhaps pending cybersecurity legislation, could continue to narrow the space for internet freedom. Implementation of 2021 amendments to Hong Kong’s Personal Data Protection Ordinance that targeted doxing have been shown to unfairly target government critics.²⁸⁷ Between October 2021 and May 2022, implementation of the revised ordinance resulted in six arrests, one criminal case, and the removal of nearly 90 percent of the approximately 3,900 social media messages or posts flagged for doxing.²⁸⁸ Hong Kong’s Privacy Commissioner said these removals took place across 14 different social media platforms, but he did not name them. The Hong Kong government has publicly contemplated blocking messaging app Telegram, which enables some encrypted messaging and grew in popularity during the 2019 prodemocracy protests.²⁸⁹ Rather than employing a “Great Firewall” mechanism to block the app, Hong Kong government officials have indicated they would request app stores such as those of Apple and Google to remove the app’s availability for Hong Kong users.²⁹⁰

Hong Kong’s Role in China’s Growth

Hong Kong is increasingly positioned as an exclusively Chinese financial hub rather than an international one, serving as a gateway into China for investment as well as an attractive destination for Chinese companies and professionals. The importance of its financial system is evidenced by the fact that Hong Kong’s banking-asset-to-GDP ratio was 921 percent in 2021.²⁹¹ The financial interdependence of the Mainland and its territory are running steadily deeper, with 29 percent of Hong Kong’s banking assets exposed to mainland China at the end of 2021, compared to 13 percent in early 2013.²⁹² The territory also remains a hub for logistics and international trade, a fact that Chinese and Hong Kong officials have repeatedly highlighted with the Regional Comprehensive Economic Partnership coming into effect.²⁹³

Chinese policymakers have been clear about Hong Kong’s role in overall national development and its advantages. In General Secretary Xi’s July 1 speech on the 25th anniversary of the handover in Hong Kong, he said that “the central government supports Hong Kong’s long-term maintenance of its unique position and advantages: to strengthen its international finance, shipping, and trading center status; to protect its free and open business environment, maintain its common law system, and expand easy, convenient international connections.”²⁹⁴ Accordingly, Chinese policymakers en-

vision Hong Kong leading in information technology and regional intellectual property while serving as a hub for China's artistic and cultural outreach to the world and a center for international cargo, logistics, and passenger travel.*²⁹⁵ Nicholas Aguzin, chief executive of the Hong Kong Stock Exchange, echoed these objectives while at Davos for the World Economic Forum in May 2022. Mr. Aguzin said, "The core objective of everything [the Hong Kong Stock Exchange is] trying to do is to make sure that we continue connecting China and the world."²⁹⁶

Currency Clearing and Settlement

Hong Kong is key to China's economy, as it affords access to international financial markets and provides mainland institutions with a number of preferential arrangements. These arrangements allow the Chinese government to retain restrictive domestic policies and capital controls while using Hong Kong as its so-called offshore financial center. The Hong Kong government has maintained the HKD's peg to the U.S. dollar since 1983, another feature of the territory's financial system that enables its central role in RMB payments and foreign exchange.²⁹⁷ The U.S. dollar peg helps to ensure financial stability while also maintaining easy convertibility of the HKD.²⁹⁸

Due to its role in facilitating so many transactions in RMB, Beijing relies on Hong Kong for easy access to the international financial system. Hong Kong remains the world's largest offshore RMB center with a pool of \$119.4 billion (RMB 800 billion).[†]²⁹⁹ The territory is a hub for trade settlement in RMB, processing \$940 billion (RMB 6.3 trillion)[‡] in 2020, an 18 percent increase from the previous year and more than triple the amount in 2011.³⁰⁰ For the Chinese government, Hong Kong is crucial to increasing internationalization of the RMB given the territory's centrality to currency clearing and international payments. Hong Kong is the center of RMB SWIFT payments, accounting for over 70 percent of global payments in RMB in 2020.³⁰¹ Because of Hong Kong's historic legal and financial advantages, many foreign banks prefer to settle payments with Hong Kong-based banking partners and pay a fee for these banks to forward their transfers to mainland accounts rather than make the transfers directly.³⁰² While the Chinese government has been

*In her 2021 Policy Address, then Chief Executive Lam noted the importance of Hong Kong as an international aviation hub, underscoring the expansion of the Hong Kong International Airport. The Hong Kong government is also invested in creating an aviation industrial cluster with other cities in the Greater Bay Area to attract talent and focus on "aircraft maintenance engineering, manufacturing and distribution of aircraft parts and components, and research on aircraft engineering." In 2019, Hong Kong was rated the world's tenth-most-connected airport in the world and second in the region. Despite the COVID-19 pandemic, Hong Kong was still the busiest cargo airport in the world in 2021. Rebecca Jeffrey, "Hong Kong International Airport Returns to the Cargo Top Spot in 2021," *AirCargo News*, March 13, 2022; Carrie Lam, *The Chief Executive's 2021 Policy Address*, December 2021, 36–37; *Businesswire*, "Singapore Changi and Hong Kong International Lead Asia Pacific Region in International Connectivity," September 2019.

†Until 2009, China's government did not allow RMB settlement internationally. To facilitate the RMB's internationalization, in 2009 it launched the offshore RMB. Unlike the onshore RMB, the offshore RMB is in principle freely traded on global markets, and its value is allowed to fluctuate. In practice, China's government hopes to keep the offshore RMB exchange rate close to that of the onshore RMB, as a sharp divergence would indicate that the government had manipulated the onshore RMB exchange rate. Muneeb Jan, "The Rise of the Renminbi: Hong Kong's Role as an Offshore RMB Hub," *China Guys*, April 29, 2021.

‡Unless noted otherwise, this section uses the following exchange rate from June 30, 2022 throughout: 1 U.S. dollar = 6.70 RMB.

steadily introducing policies to strengthen its own domestic financial system out of cities like Shanghai, Hong Kong retains inherent convenience and value with its preexisting banking infrastructure and open financial system. Even with some liberalization of China's domestic financial markets, a large-scale shift in assets from Hong Kong remains unlikely.

Furthering internationalization of the RMB has been a growing priority for the Chinese government, especially as the United States and other governments are frequently considering more financial sanctions to guard against global threats. Beijing has been particularly concerned about vulnerability of the RMB since extensive sanctions effectively shut Russian financial institutions out of the international financial system. Shortly after Xi's visit to Hong Kong, the central and territorial governments announced a plan to launch an interest rate "Swap Connect" to be ready by early 2023. Both governments see the Swap Connect as a means of facilitating greater use of the RMB.³⁰³ The People's Bank of China also announced a permanent swap agreement with Hong Kong for the first time, expanding by 60 percent from \$74.6 billion (RMB 500 billion) to \$119.4 billion (RMB 800 billion).³⁰⁴ (For more on the Swap Connect, see Table 1.)

Dependence on Mainland Professionals

Along with the territory's increasingly Chinese portfolio, Hong Kong's economy is growing more reliant on Chinese companies and mainland Chinese professionals. The territorial government is counting on mainland workers and firms to fill the gap following the departure of 90,000 residents in 2021 alone.³⁰⁵ Mainland employees, who speak fluent Mandarin, are particularly prized in the workforce as companies in Hong Kong focus their operations more exclusively on accessing mainland China. Experts anticipate that while English will remain important in Hong Kong, use of Mandarin will become increasingly common and perhaps more important for the territory's future in driving forward regional integration plans with the Mainland.³⁰⁶ As Chinese companies make up a larger portion of all foreign offices in Hong Kong, the prevalence of Mandarin and importance of understanding Chinese policies and business management are likely to increase. Financial firms in particular are starting to favor those fluent in Mandarin who can serve clients from both the Mainland and Hong Kong.³⁰⁷ For the accounting field, more mainland professionals may also be in demand beginning in 2023 as U.S.-certified professional accountants may no longer be admitted to practice in Hong Kong. In May 2022, Hong Kong and the United States were unable to agree on qualifications for public accountants, ending a mutual recognition agreement that will expire at the end of 2022.³⁰⁸ Accountants with U.S. certificates at the start of 2023 will need to pass Hong Kong's qualification tests to practice in the territory, a requirement that is likely to create more vacancies.*³⁰⁹

* China retains a mutual recognition agreement with Hong Kong under the Closer Economic Partnership Agreement that allows mainland China-certified accountants to practice in Hong Kong as long as they have one year of audit experience in the territory. This requirement for local experience is similar to Hong Kong's other mutual recognition agreements on accounting certi-

Building Out the Greater Bay Area

Plans for advancing Hong Kong's transportation networks and development projects will help the flow of mainland Chinese into Hong Kong and deepen integration in the Greater Bay Area, a megaregional development plan linking Hong Kong, Macau, and nine other cities in southern China.* In early 2022, MTR Corps announced the initiation of seven projects to expand railway connectivity between central and remote areas of Hong Kong.³¹⁰ MTR Corps is the dominant railway company operating Hong Kong's public transportation system and is majority-owned by the Hong Kong government. Its lines already connect Hong Kong to Shenzhen, and the proposals are part of a broader strategy to build a "second metropolis" in Hong Kong's hinterland and allow for more housing construction.³¹¹ Hong Kong's housing shortage has been a persistent obstacle in the territory's growth.³¹² Under Lam's Administration, construction was complete on 96,500 homes and she committed to plans for a total of 480,000 units over the next ten years.³¹³ These construction plans are poised to be prime projects for mainland developers, and the proposed transportation networks are an attractive feature for professionals in the Mainland.

Along with transportation and construction, the mainland provincial governments across the Greater Bay Area are working to align various new policies and funding mechanisms with Hong Kong. Some foreign businesses remain circumspect about the development of the Greater Bay Area, unsure of how quickly the concept can become reality. At the same time, companies have clearly been encouraged by other policy measures prioritizing the development of information technology, digital infrastructure, and green technology. The Hong Kong government is focused on a digital economy strategy, consistent with Beijing's innovation goals under the 14th Five-Year Plan.³¹⁴ In 2022, Hong Kong joined the list of top ten global locations for data centers.³¹⁵ After the National Security Law's imposition in July 2020, initial fears over changes to data privacy led multiple companies to pledge moving data centers out of Hong Kong.³¹⁶ Data centers are a key component in boosting digital services like e-government, cloud computing, and fintech. Foreign firms see potential benefits to these policies despite potential new laws that may restrict data, as Hong Kong's government is clearly invested in upgrading digital infrastructure and attracting local talent.³¹⁷ With greater demand for network connectivity during the COVID-19 pandemic, the territorial government has many former industrial spaces available for redevelopment into data centers.³¹⁸ Increased restrictions on data in mainland China may also be fueling increased interest in relocating "offshore" data centers to Hong

fication and the previous U.S.-Hong Kong agreement. Hong Kong Institute for Certified Public Accountants, "Non-Renewal of MRA with US IQAB," June 2022; Hong Kong Institute for Certified Public Accountants, "Body: Chinese Institute of Certified Public Accountants (CICPA)," August 30, 2019.

*The Chinese government introduced the Greater Bay Area initiative through its 13th Five-Year Plan in 2015 and announced formal policies to support the initiative in 2017 along with a development plan in 2019. The Greater Bay Area is one of five Chinese megaregional development plans. Ling Xin, "What's Bigger than a Megacity? China's Planned City Clusters," *Technology Review*, April 28, 2021; Hong Kong's Constitutional and Mainland Affairs Bureau, *Overview*, 2020; *Xinhua*, "Xinhua Insight: Greater Bay Area Highlight in China's Economy," March 26, 2017.

Kong. As Chinese digital companies go global, Hong Kong has become an attractive springboard for companies reaching out to nearby markets like Southeast Asia.³¹⁹

Hong Kong is fast emerging as a center for green finance, but it is also a valuable partner for carbon trading with its neighboring cities in the Greater Bay Area. The provincial government of Guangdong, the mainland province directly adjacent to Hong Kong, also announced it was looking into launching a study on a carbon trading scheme for the Greater Bay Area to further integration.³²⁰ In March 2022, the Hong Kong Exchanges and Clearing Limited signed a memorandum of understanding with the China Emissions Exchange to cooperate on climate change mitigation and “sustainability through carbon finance.”³²¹ In 2019, Guangdong Province’s capital city and central manufacturing hub Guangzhou produced around 26 percent of the Greater Bay Area’s carbon emissions compared with Hong Kong’s 11 percent share.³²² According to the latest available data, Hong Kong’s total greenhouse gas emissions in 2020 were 33.8 million tons, shrinking 16 percent from the prior year.³²³

Cross-Border Fintech Collaboration

Hong Kong’s pull in the Asian financial system has made it a great platform for Chinese fintech companies to jumpstart business through both listing in Hong Kong and reaching other markets in the region. Along with being an early adopter of various electronic payments systems, Hong Kong’s electronic payments market is particularly competitive and prized due to high usage of remittance services by Southeast Asian residents of Hong Kong.³²⁴ Mainland Chinese services such as WeChat Pay and Alipay have become dominant market players among Chinese and Hong Kong consumers, and they also use Hong Kong to reach Southeast Asia.³²⁵ In June 2021, the Hong Kong Monetary Authority announced its “Fintech 2025” initiative, which aims to completely digitize the financial sector by 2025 and increase on-line supervision of financial systems.³²⁶ The effort will also support “future proofing” Hong Kong’s rollout of Central Bank Digital Currencies.³²⁷ In October 2021, the People’s Bank of China and the Hong Kong Monetary Authority agreed to create a platform that would make fintech accessible cross-border from Hong Kong to the other Greater Bay Area cities.³²⁸

Enhanced Financial Integration Exposes Hong Kong to China’s Economic Risk

Outside of Greater Bay Area initiatives, in 2022 Hong Kong saw increased financial connectivity with the Mainland in an effort to strengthen investment flows into China and target emerging sectors. Even with the rollout of new mechanisms, overall economic uncertainty from the Mainland to the bay has dimmed Hong Kong’s growth in 2022.

Connecting the Stock Exchanges

Despite flagging economic growth, new offerings for cross-border asset management that became available in late 2021 have now shown considerable success in 2022. The Greater Bay Area Wealth

Management Connect launched in October 2021 to make 100 funds in Hong Kong available to mainland investors through participating banks. As of March 2022, the number of participating Hong Kong banks had increased from 19 to 24, 27 mainland banks had joined, and the number of funds had increased to 125.³²⁹ According to the Hong Kong Securities and Futures Commission, 16,726 investors from Hong Kong and 9,110 investors from the Mainland had invested \$130 million (RMB 829 million) in the Connect at the end of the first quarter of 2022.³³⁰ Other Connect schemes are poised for strong growth in 2022 based on the prior year's expansion (see Table 1).

Table 1: Hong Kong's Financial Connect Schemes

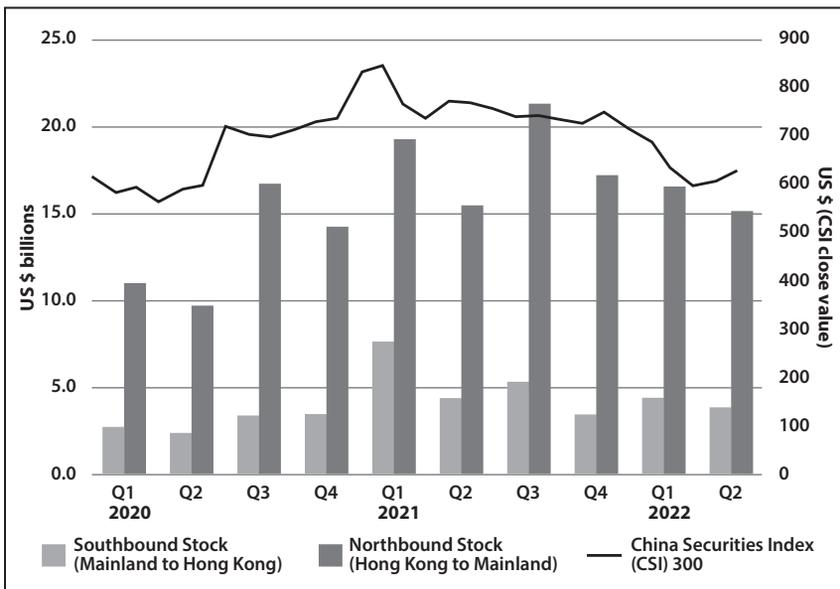
Name	Description	Launch Year
Shanghai-Hong Kong Stock Connect	The northbound daily quota is \$7.8 billion (RMB 52 billion) and the southbound daily quota is \$6.3 billion (RMB 42 billion). In 1H 2022, the value of average daily turnover for the northbound leg was \$15.2 billion (RMB 101.8 billion) while southbound it was \$4.4 billion (RMB 29.5 billion).	2014
Shenzhen-Hong Kong Stock Connect	Quotas are identical to the Shanghai-Hong Kong Stock Connect. In 1H 2022, the value of average daily turnover for the northbound leg was \$17.3 billion (RMB 115.2 billion), while southbound it was \$4.2 billion (RMB 28.1 billion).	2016
Bond Connect	While the northbound connect has no quota, the southbound connect has an annual quota of \$74.6 (RMB 500 billion). ³³¹	2017 (Northbound), 2021 (Southbound)
Greater Bay Area Wealth Management Connect	Annual quotas of \$22.4 billion (RMB 150 billion) both northbound and southbound.	2021
Greater Bay Area Insurance Connect	The scheme will primarily open up insurance products from Hong Kong and Macau to the more than 80 million people in the Greater Bay Area.	Expected 2022
Exchange-Traded Funds (ETF) Connect	Daily quota operates according to thresholds under the Stock Connect.	2022
Swap Connect	Allows Hong Kong and international investors to participate in the interbank interest rate swap market in the Mainland, with no changes to prior trading and settlement processes for currency swaps.	Expected 2023

Source: Various.³³²

The Stock Connect refers broadly to links between Hong Kong and the mainland stock markets of Shanghai and Shenzhen. The first link was launched in November 2014. Each of Hong Kong's links with these cities has southbound (Mainland to Hong Kong) and northbound (Hong Kong to Mainland) trading, allowing

mainland investors to invest in Hong Kong and vice versa.³³³ From 2020 to 2021, the Stock Connect's southbound trading volume increased by 41 percent, while northbound trading volume increased by 23 percent (Figure 3).³³⁴ The Bond Connect also continued to grow in the first eight months of 2022 as trading volume rose to \$117 billion (RMB 783 billion).³³⁵ In June 2022, China's Ministry of Finance released record-setting numbers of sovereign RMB-denominated bonds, auctioning off \$1.1 billion in central government bonds with maturities of two, three, and five years.³³⁶ This was the largest central government bond sale since 2016.³³⁷ The Insurance Connect is also set to expand in 2022 as China began a pilot in January to allow the direct settlement of health claims for patients at Shenzhen public hospitals insured by Hong Kong and Macau providers.³³⁸ Hong Kong insurers hope the pilot program will help to boost insurance policy numbers, as mainland customers only purchased \$60 million (HKD 470 million) in plans for the first nine months of 2021, a 93 percent decline from 2020 year-to-date.³³⁹

Figure 3: Average Daily Turnover for Stock Connect and Monthly Close Value of China Securities Index (CSI) 300, Q1 2020–Q2 2022



Source: Hong Kong Exchanges and Clearing, “2022 Q2 Results Announcement Presentation,” August 17, 2022, 25; Seeking Alpha.

Note: The CSI 300 is a capitalization-weighted index that reflects the top 300 stocks traded on the stock exchanges of Shanghai and Shenzhen. For more background on the Stock Connect, see Chapter 3, Section 4, “China and Hong Kong,” in *2017 Annual Report to Congress*, November 2017, 437–438.

In May 2022, the China Securities Regulatory Commission and Hong Kong's Securities and Futures Commission (SFC) agreed to include exchange-traded funds (ETFs) under the Stock Connect, launched in July 2022.³⁴⁰ Dubbed the “ETF Connect,” this newest channel is distinct from the Greater Bay Area Wealth Manage-

ment Connect, which offers closed-loop products such as bonds and mutual funds. The agreement has been touted confidently by both governments as a milestone in connecting China to global financial markets.³⁴¹ This expansion of the Stock Connect will allow foreign investors to buy select Chinese ETFs under specific thresholds.*³⁴² Some of the initial investment limitations may not provide a significant amount of access to new products for either Hong Kong or Chinese investors. The SFC's chief executive said the initial rollout of the program would be a "pilot," likely to be followed by more open eligibility requirements later on.³⁴³

Environmental, Social, and Governance Funds

Environmental, social, and governance (ESG) funds have been a popular channel for investment between Hong Kong and the Mainland, particularly as China emphasizes new approaches to clean technology and green investment. (For more on China's energy strategy, see Chapter 2, Section 3, "China's Energy Plans and Practices.") As of March 2022, the SFC authorized 121 ESG funds with a total of \$142.7 billion in assets under management.³⁴⁴ In June 2021, the SFC released clarifying guidance to avoid "greenwashing" ESG funds, though the guidance contains no mention of standards or disclosures around corporate governance or other social issues that might fall under an ESG designation.³⁴⁵ Human rights and democracy activists have criticized the growth of these ESG schemes, noting the lack of standard definitions for ESG components. In particular, critics note that investors have focused solely on the environmental aspect to the exclusion of social and corporate governance issues. This allows them to capitalize on green technology and ignore when the underlying assets may be related to human rights abuses or corruption.³⁴⁶ Dutch investment firm Van Lanschot Kempen NV created a screening tool that takes human rights, corruption, and freedom of speech into account and ultimately blacklisted numerous mainland Chinese assets.³⁴⁷

Hong Kong's Stock Exchange Falls from the Top

The Hong Kong Stock Exchange is increasingly dominated by mainland companies and financial firms, with Chinese firms making up nearly 80 percent of Hong Kong's stock market.³⁴⁸ The development of the Shanghai Stock Exchange's Sci-Tech Innovation Board (STAR Market) and relatively high valuation of Chinese companies on mainland exchanges has pushed the Hong Kong Stock Exchange down to the third largest by market capitalization among Chinese exchanges.³⁴⁹ The territory's exchange nonetheless has a unique role to fulfill as new rules emerge for "overseas" listings of Chinese companies and greater scrutiny is applied to Chinese companies seeking capital abroad. With the territory considered an "offshore" market, mainland Chinese companies hoping to list in Hong Kong may be subject to the same rules but encounter an easier regulatory path less beset by the CCP's national security concerns.³⁵⁰

*Funds must have underlying assets of at least 90 percent equities and meet thresholds of average daily asset value over the prior six months to be eligible. Chief China Economist's Office, "The Inclusion of ETFs in Stock Connect – Implications And Opportunities," *Hong Kong Exchange and Clearing*, July 13, 2022, 15.

Following anticipation that more Chinese companies would pursue initial public offerings (IPOs) in Hong Kong rather than listing farther afield, the Hong Kong Stock Exchange has struggled to mirror its performance in the first half of 2021. Shrinking valuation of IPOs has affected exchanges around the world, but activity on Hong Kong's Stock Exchange has trailed behind exchanges in Shanghai and Shenzhen. In the first half of 2022, funds raised on the Hong Kong Stock Exchange fell by approximately 90 percent year-on-year, the most remarkable decline since the global financial crisis.³⁵¹ While global IPOs were also meager over the same period, total funding only declined by 58 percent year-on-year.³⁵² Implementation of the Holding Foreign Companies Accountable Act in the United States has both disincentivized Chinese companies to list in the United States and fed anticipation that Chinese companies will look to Hong Kong as an alternative. At the same time, the Hong Kong Stock Exchange has suffered, dropping to 19 IPOs in the first half of 2022 versus 98 for the year in 2021 and over 100 every year between 2013 and 2020.³⁵³ Chinese regulatory pressure on its domestic tech companies, which have generally made up a large portion of Hong Kong's IPOs, contributed to the slump. In the first half of 2022, only two IPOs were in the technology sector.*³⁵⁴ Chinese regulators have attempted to inject confidence and signal greater stability and predictability in tech regulation and enforcement, but China's domestic tech companies are still cautious about new listings.³⁵⁵

Hong Kong is still poised to take on new Chinese listings despite decreased activity in 2022. In December 2021, the Hong Kong Stock Exchange released new rules to make it easier to convert secondary listings into primary ones or to dual list in Hong Kong and another exchange.†³⁵⁶ The Hong Kong Stock Exchange considers companies with secondary listings principally subject to rules and authorities of wherever the company is primarily listed.³⁵⁷ The new rules allow a broader set of companies—particularly those listed with variable interest entity structures—to apply for dual listing in Hong Kong.³⁵⁸ These companies must demonstrate regulatory compliance on another qualifying exchange for at least two full financial years and fall under the category of innovative company, such as an internet or high-tech firm.³⁵⁹ This move builds on earlier changes to Hong Kong Stock Exchange rules in 2018, which opened listings to more companies and had a specific focus on welcoming more biotechnology firms.³⁶⁰ In the summer of 2022, anticipation of U.S. regulatory action motivated some Chinese companies listed on both U.S. and Hong Kong exchanges to change their primary listing from the United States to Hong Kong or dual-list in both markets.³⁶¹ Dual-listing would allow a company listed on a U.S. exchange to delist in the United States without privatizing.³⁶² As of September 2022, 29 Chinese companies were listed on both exchanges, 16 of which

*There were four additional direct listings—a listing in which the issuer does not sell new shares—by companies in the sector during the first half of 2022, but the total value of all new listings for the sector comprised a much smaller proportion of funding raised compared to the first half of 2021. Deloitte, “2022 1H Review & Outlook for Mainland & HK IPO Markets” (中国内地及香港IPO市场2022年上半年回顾及前景展望), June 22, 2022, 39–40. Translation.

†Dual listing is advantageous for firms to attract a wider pool of capital, but it can also be onerous as a company will need to meet requirements of both exchanges to list and incur additional costs for any new listing.

were still “secondary” in Hong Kong.³⁶³ *Bloomberg* also reported that the Hong Kong Stock Exchange was considering changes to further open up listings and would seek to propose rule changes in late 2022.³⁶⁴

Implications for the United States

Appointment of a new, Beijing-approved LegCo and chief executive cements the direction of Hong Kong’s future as entirely subsidiary to Beijing’s interests. Beijing’s control over the executive and legislative branches also increases the potential for political interference within Hong Kong’s judiciary. Inherent politicization of these bodies and the clear direction from Beijing on how to conduct security affairs threatens Hong Kong’s rule of law, as Beijing can effectively shape courts and choose judges. An expansive definition of security and growing paranoia around foreign threats has created an increasingly expansive security apparatus that will continue to restrict freedoms of speech, assembly, press, and religion.

U.S. companies cannot count on a clear separation between matters of security and commerce or ensure protection against discriminatory treatment or disproportionate punishments. Hong Kong’s adoption of mainland Chinese policies, along with the gradual reshaping of its commercial environment to accommodate Chinese companies, establishes a concerning trend for foreign companies conducting business in Hong Kong. The 1,267 U.S. companies remaining in Hong Kong may face a business environment that is set to grow more preferential toward Chinese companies. Forthcoming legislative changes in Hong Kong are anticipated to make it harder for some U.S. companies, NGOs, and employees to remain in the territory. Widespread attacks on the press and independent research jeopardize continued access to real-time, uncensored information as outlets are either shut down or choose to self-censor in the face of potential criminal charges.

The Hong Kong government’s attacks on and coercion of the media have focused on coverage of political issues such as the territory’s elections and application of the National Security Law, though it remains possible that this pressure could extend to outlets focused on economic information. With multiple news outlets forcibly shuttered and their assets seized, along with seemingly arbitrary censorship of books and films, foreign companies and investors will be disincentivized from participating in Hong Kong’s media environment, automatically leaving the sector to be managed by pro-Beijing interests. The Hong Kong government’s letters to the editor demonstrate greater willingness to bully news outlets around the world. These combined factors lead to extensive self-censorship that is not easily separated from the kind of economic data censorship exhibited by the Mainland.

Foreign companies may be willing to endure adverse conditions in Hong Kong to gain access to the Chinese market, but a presence in Hong Kong has now become far more vulnerable to policies set by Beijing. Although U.S. companies and investors have long prized Hong Kong’s common law system, free press and information, and talented pool of professionals, these elements are no longer guaranteed in a post-National Security Law Hong Kong. Contracts

formed under Hong Kong's legal system may become less reliable, as the territory's court system is now politicized and new rules can be introduced swiftly and without regard for public consultation. New laws to be introduced under the Lee Administration may make foreign companies and individuals in Hong Kong more susceptible to punishment and suspicion. Foreign companies operating in Hong Kong are likely to struggle with hiring or even seconding foreign staff to the territory due to the increasingly repressive security and COVID-19 measures.

Rather than live up to its commitments under the Sino-British Joint Declaration, China's government has destroyed "one country, two systems." Hong Kong's complete subordination under Beijing demonstrates the destruction of this framework to a single system that serves only the CCP's interests. Today's Hong Kong also demonstrates the CCP's vision for Taiwan, which would include not only deference to mainland authorities and Beijing's rule by law but also an eventual cultural and linguistic conversion. If the international community believed in 1997 that Hong Kong would change China, that dream has been thoroughly dashed.

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COMPREHENSIVE LIST OF THE COMMISSION'S RECOMMENDATIONS

Chapter 1: CCP Decision-Making and Xi Jinping's Centralization of Authority

The Commission recommends:

1. Congress pass legislation creating a new Federally Funded Research and Development Center (FFRDC) (to replace the Open Source Center closed in 2015) that will translate and maintain a publicly available collection of important open source material from the People's Republic of China (PRC) and other countries of strategic interest. This legislation should require existing FFRDCs to provide to this new entity a copy of all open source Chinese-language materials collected or used in any government-sponsored analytical or related projects on an ongoing basis.
2. Congress direct the Office of the U.S. Director of National Intelligence to produce an unclassified directory of Chinese Communist Party (CCP) senior members and organizations, similar to the "Directory of PRC Military Personalities" produced and updated by the U.S. Department of Defense.
 - The directory should be updated on an annual basis and consist of an unclassified public report on the CCP, including the Party's organizational structure (including organizations affiliated with the United Front Work Department) and profiles of leaders and organizations at least to the level that the CCP defines as "senior cadre."
 - The contents of each year's directory should be retained in the form of an unclassified, publicly available, searchable database of CCP members and organizations.

Chapter 2: U.S.-China Economic and Trade Relations

Section 2: Challenging China's Trade Practices

The Commission recommends:

3. Congress consider legislation providing the authority to impose retaliatory trade measures against China in support of an ally or partner subject to Chinese economic coercion. Such legislation shall authorize coordinated trade action with U.S. allies and partners.
4. Congress direct the Administration to produce within 90 days an interagency report coordinated by the Office of the U.S.

Trade Representative to assess China's compliance with the terms and conditions of the 1999 Agreement on Market Access between the People's Republic of China and the United States of America. The assessment should be presented as a summary list of comply/noncomply status of the provisions under the agreement. If the report concludes that China has failed to comply with the provisions agreed to for its accession to the WTO, Congress should consider legislation to immediately suspend China's Permanent Normal Trade Relations (PNTR) treatment. Following the suspension of PNTR, Congress should assess new conditions for renewal of normal trade relations with China.

5. Congress direct that any entity subject to national security restrictions or sanctions by a U.S. department or agency, including but not limited to the Entity List, should be denied access to the Clearing House Interbank Payments System (CHIPS), the Automated Clearing House (ACH), and the Federal Reserve's funds transfer system (Fedwire).
6. Congress direct the U.S. Department of Commerce to provide regular (semiannual) reports on its enforcement of the foreign direct product rules and its approval of export license applications for entities seeking to export to China items produced from technology or software controlled for national security reasons. Such a report shall not identify U.S. exporters, but it shall include:
 - The number of licenses granted;
 - The number of licenses granted per export destination;
 - Item classifications for such licenses;
 - The value of such exports; and
 - The rationale for granting the licenses.
7. Congress direct the U.S. Patent and Trademark Office to mandate that any applicant for a U.S. patent that has received support under a program administered directly or indirectly by the Chinese government provide the same disclosures that recipients of U.S. federal support must provide.
8. Congress direct the U.S. Department of Commerce to develop a process to identify and self-initiate antidumping and countervailing duty petitions covering products from China. In developing the methodology to support such a process, the department shall utilize existing government data and develop new data collection efforts prioritizing the identification of products injuring or threatening to injure small- and medium-sized enterprises or industries facing long-term harm from Chinese industrial overcapacity. The department shall also develop the capabilities for the U.S. government to identify and pursue self-initiation of circumvention, evasion, and transshipment enforcement cases to address products originating from China.
9. Congress direct the U.S. Department of Commerce to update its methodology in determining antidumping duty rates for products from China to net out the subsidy or dumping impact of Chinese-sourced inputs utilized in identifying relevant

third-country proxy rates to determine dumping margins. This approach should allow for the adjustment of rates used to identify an appropriate proxy for market-based producers where China's impact on such rates may skew the true market equivalent value of such products to determine dumping margins.

10. Congress consider legislation that would address the Chinese Communist Party's efforts to undermine U.S. intellectual property protections through its use of antisuit injunctions. In considering such legislation, Congress should seek to ensure the integrity of U.S. patent laws and the strength of our nation's patent system and its support for U.S. innovation by protecting patent rights and the sovereignty of U.S. courts and the U.S. adjudicatory system.
11. In enacting legislation subsidizing research or production, Congress should evaluate whether China can legally gain access to that research or to the knowledge and equipment needed to produce that good to prevent the United States from indirectly subsidizing or supporting Chinese competitors.
12. Congress direct the Office of the U.S. Trade Representative to monitor and publicly identify in an annual report the industries wherein China's subsidies, including state monopolization and evergreen loans, pose the greatest risk to U.S. production and employment. A rebuttable presumption of guilt in antidumping and countervailing duty processes shall result from the findings of this report.
13. Congress create an authority under which the president can require specific U.S. entities or U.S. entities operating in specific sectors to divest in a timely manner from their operations, assets, and investments in China, to be invoked in any instance where China uses or threatens imminent military force against the United States or one of its allies and partners.

Section 3: China's Energy Plans and Practices

The Commission recommends:

14. Congress direct the U.S. Department of Defense to produce a classified report on the feasibility of and the military requirements for an effective blockade of energy shipments bound for China in the event of military conflict involving China. The report should place particular attention on the Strait of Malacca and the feasibility of operationalizing a blockade of shipping bound for China intending to transit that waterway. The report should also consider the extent to which China may be able to satisfy its energy needs during a crisis or conflict through stockpiles, by rationing supplies, and by relying on overland shipments through current and planned cross-border oil and gas pipelines.
15. Congress direct the U.S. Department of Energy to produce an annual report detailing the extent to which U.S. supply chains for key energy technologies, components, and materials are subject to Chinese control or manipulation.

Section 4: U.S. Supply Chain Vulnerabilities and Resilience

The Commission recommends:

16. Congress direct the Administration to create an Economic and Security Preparedness and Resilience Office within the executive branch to oversee, coordinate, and set priorities for cross-agency efforts to ensure resilient U.S. supply chains and robust domestic capabilities, in the context of the ongoing geopolitical rivalry and possible conflict with China. This Office would be tasked with:
 - Establishing a dedicated Supply Chain Mapping Unit to determine requirements, set priorities, and coordinate efforts to continuously map, monitor, and analyze the most critical supply chains, including but not limited to semiconductors, rare earths, life-saving and life-sustaining medications and their active pharmaceutical ingredients, and castings and forgings.
 - The unit would be tasked with developing interoperable performance measures to monitor and assess current U.S. supply chain resiliency and risk mitigation efforts, including data collection on U.S. supply chain dependencies on direct and indirect Chinese suppliers, prioritizing defense-critical supply chains.
 - Establishing a Defense Mobilization Unit responsible for coordinating and setting priorities for:
 - Assessment of the requirements for weapons, munitions, supplies, and other equipment necessary to equip and support U.S. forces and to assist friends and partners in the Indo-Pacific region in a potential conflict with the People's Republic of China, including conflicts of varying duration;
 - Determination of the adequacy of existing stocks and available productive capacity to meet those needs;
 - Identification of potential shortfalls or bottlenecks that might impede production and resupply in some scenarios; and
 - Recommendation of corrective measures to address these problems.
 - Including in its assessments the effects of potential disruptions in U.S.-China trade on defense mobilization and domestic availability of critical materials, products, and supplies. Where it identifies likely requirements for additional capacity, the unit shall determine funding and support mechanisms to ensure the timely development of such capabilities and capacity.
 - Consulting with other departments and agencies to identify shortfalls in current defense industrial base and supporting industrial capabilities and what additional measures might be needed to address them.
17. In enacting legislation subsidizing reshoring or existing production in the United States, Congress should evaluate whether the

subsidies may lead to additional dependence on supply chains running through or relying on China to serve that production.

18. Congress enact legislation requiring suppliers to the U.S. government in “critical” sectors, as defined by Congress, to confidentially disclose all tiers of their contractors for the purpose of identifying U.S. supply chain dependencies on China. If suppliers are unable to do this within three years and each year thereafter, they are ineligible to receive government contracts.
19. Congress direct the Administration as part of the Indo-Pacific Economic Framework (IPEF) to negotiate a prohibition on the utilization of China’s National Transportation and Logistics Public Information Platform (LOGINK) or similar systems provided by Chinese state-affiliated entities within IPEF member ports. A two-year transition period shall be provided for existing users of LOGINK or similar Chinese-controlled or -affiliated systems to terminate use of such systems and transition to secure logistics systems with no Chinese control or affiliation.
20. Congress direct each federal agency administering Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) programs to develop a due diligence program to ensure the supply chain integrity of participating U.S. small businesses and decrease their dependencies on Chinese suppliers. The program should also include resources for participating businesses to prevent investments from Chinese firms, particularly those involved in China’s Military-Civil Fusion program, that target emerging technologies and innovations valuable to the U.S. Department of Defense and other SBIR or STTR sponsoring agencies.
 - The due diligence program of each SBIR or STTR administering agency should provide financial and technical assistance to U.S. small businesses for up to three years for the purposes of supporting sustained procurement opportunities for the government and improving small businesses’ internal capacity for federal engagement. Technical assistance may include establishing procedures for identifying foreign entities of concern within small businesses supply chains.
21. Congress direct the U.S. Food and Drug Administration in cooperation with other federal agencies, within one year and on an ongoing basis thereafter, to identify pharmaceutical products that utilize active pharmaceutical ingredients (APIs) and other ingredients and inputs that are sourced directly or indirectly from the People’s Republic of China and develop alternative sourcing arrangements through available tools and resources, including Defense Production Act authorities. The United States should maximize the production of such goods domestically or, as appropriate, from trusted countries.
22. Congress direct the U.S. Department of the Treasury to require U.S. corporations and U.S.-registered subsidiaries of foreign corporations to publicly disclose, on an annual basis, all holdings in firms linked to China’s military, including those that maintain any production permit, qualification, or certification issued by

the People's Liberation Army or China's State Administration for Science, Technology, and Industry for National Defense.

23. Congress direct the Administration to release a comprehensive public report on the utilization of commercial-off-the-shelf (COTS) procurement of inputs, components, and products from China:
- By the U.S. Department of Defense and contractors in major weapons systems; in Munitions List items; and in Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) items;
 - In critical infrastructure as identified by the U.S. Department of Homeland Security; and
 - In critical supply chains and sectors as identified in U.S. government agency reports submitted per section 4 of Executive Order 14017 on "America's Supply Chains."

Such a report shall identify the specific items that were purchased, overall quantities, and, where applicable, the value of the contracts in aggregate by item.

24. Congress direct the Administration to provide a public semi-annual report on the volume of products detained, excluded, or seized for violations of the Uyghur Forced Labor Prevention Act and related enforcement activities. This report should detail product sector, product quantity, and whether the shipment was stopped directly or indirectly containing any production linked to Uyghur forced labor. This report shall also detail any and all existing loopholes in U.S. trade law and trade enforcement mechanisms that inhibit the ability of relevant U.S. government agencies to trace mined, manufactured, or procured goods made using Uyghur forced labor.
25. To ensure the U.S. government is able to assess its reliance on foreign sources, Congress direct the U.S. Department of Commerce to calculate U.S. import dependence at the product level across all industries, combining domestic production data (North American Industry Classification System [NAICS] codes) with U.S. export and import data (HTS [Harmonized Tariff Schedule] codes) in order to obtain a clearer picture of the United States' import dependence and provide the results in a publicly accessible database. This database should be consistently updated and should for each industry and product category tabulate dependence on China or any major source location that is known to use components and materials from China.

Chapter 3: U.S.-China Security and Foreign Affairs

Section 2: China's Cyber Capabilities: Warfare, Espionage, and Implications for the United States

The Commission recommends:

26. Congress direct the Office of the U.S. Trade Representative to create an updateable list of Chinese firms operating in critical

sectors and found to have benefited from coercive intellectual property transfer, including theft. Such a list would enable the U.S. Department of the Treasury to ban investment in and the U.S. Department of Commerce to deny export licenses to these firms and related parties for a rolling period of five years to prevent Chinese beneficiaries from further gaining from U.S. intellectual property loss. If additional authorities are needed, such requests should be made to Congress on an expedited basis.

27. Congress direct the U.S. Department of Homeland Security to catalog Chinese-sourced surveillance equipment, first responder communication systems, and smart cities systems used by state and local governments. The Department of Homeland Security shall further identify:
 - Levels of risk from these systems as a result of foreign interference or malicious cyber activity;
 - Plans to remove and replace such equipment to protect U.S. interests; and
 - The necessary resources to implement these plans.
28. Congress pass legislation codifying the concept of “systemically important critical infrastructure” (SICI) and requiring SICI-designated entities, defense contractors, and recipients of federal funding for research and development of sensitive and emerging technologies to undertake enhanced hardening and mitigation efforts against cyberattacks. These efforts shall follow cybersecurity standards and guidance as determined by the U.S. Department of Defense and Cybersecurity and Infrastructure Security Agency. Congress should provide appropriate legal liability “safe harbor” provisions to compliant SICI operators and appropriate support as necessary for SICI-designated small- and medium-sized companies to address the cost of compliance. Such legislation would also require that cybersecurity risk mitigation plans be a condition for the Small Business Administration (SBA) to award grants such as those under the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. As part of the regular audit process, SBA and any relevant agencies should ensure implementation of these plans and require certification of compliance.
29. Congress direct the U.S. Secretary of the Treasury to prohibit investment in and other financial transactions with any Chinese entities that have been involved in cyber-enabled intelligence collection or theft of intellectual property sponsored by the People’s Republic of China against U.S.-based persons or organizations under authorities pursuant to Executive Order 13694 on “Blocking the Property of Certain Persons Engaging in Significant Malicious Cyber-Enabled Activities” (amended as EO 13757), including any individuals, research institutes, universities, and companies that have been affiliated with Chinese state-sponsored advanced persistent threat (APT) groups or served as contractors for China’s Ministry of State Security or People’s Liberation Army.

Section 3: China's Activities and Influence in South and Central Asia

The Commission recommends:

30. Congress direct the U.S. Secretary of State, U.S. Secretary of Defense, and Administrator of the U.S. Agency for International Development (USAID) to submit a strategy on U.S. interests in the Indian Ocean region with considerations for competition with China in the region, including:
 - Enhancing development and U.S. economic activity in the region;
 - Defending freedom of navigation;
 - Supporting and facilitating regional allies and partners in addressing security challenges in the region; and
 - Promoting cooperation with U.S. allies in the Indo-Pacific, including Japan and Australia, and major defense partners, including India, and NATO allies, including the United Kingdom and France, to support a rules-based order in the region.
31. Congress direct the Administration to submit a strategy on U.S. interests in Central Asia with considerations for significant changing circumstances in the region, including:
 - Russia's diminishing presence as a result of its unprovoked invasion of Ukraine;
 - The Taliban's rise to power in Afghanistan; and
 - China's growing influence on members of the Shanghai Cooperation Organization through promoting Chinese governance concepts, including antiterrorism and law enforcement norms aimed at suppressing political opposition and cyber sovereignty and information security standards that empower authoritarian regimes to restrict the free flow of information.
32. Congress direct the U.S. Agency for International Development (USAID), the Development Finance Corporation, and other relevant agencies to make available training to relevant officials in South and Central Asia in assessing and mitigating the risks of China's investment and lending in the regions.

Chapter 4: Taiwan

The Commission recommends:

33. Congress enact legislation creating a permanent interagency committee in the executive branch charged with developing options and creating plans for the imposition of sanctions or other economic measures in a range of possible scenarios, including (but not limited to) a Chinese attack, blockade, or other hostile action against Taiwan. This committee would evaluate the potential economic and political consequences of various options, coordinate their implementation, and advise Congress of any amendments to statutory authorities or mandates required to enhance their effectiveness. The committee should coordinate and seek to devise joint plans with the relevant agencies of oth-

er governments that may be contemplating similar measures. The committee should include participants from the U.S. Departments of State, Treasury, Commerce, Defense, and Homeland Security.

34. Congress direct the U.S. Department of Defense to produce a classified report on current and future military posture, logistics, maintenance, and sustainment requirements to bolster the United States' "capacity to resist force" in the event of a Chinese attack and attempted invasion of Taiwan. The report shall assess the requirements for all scenarios, including protracted combat in a contested environment (e.g., anti-access, area denial), and evaluate how to best enable a dispersed, distributed force in the Indo-Pacific.
35. Congress should make available significant additional multiyear defense funds in conjunction with: (i) a joint planning mechanism made up of Taiwan and U.S. defense officials identifying sets of interoperable and complementary capabilities required for the defense of Taiwan; and (ii) Taiwan legislatively committing significant additional funds to procure its share of those capabilities for its military.

Chapter 5: Hong Kong

The Commission recommends:

36. Congress direct the Administration to extend the deferral of enforced departure of qualifying Hong Kong citizens in the United States, which would otherwise end in February of 2023. The U.S. Departments of State and Homeland Security shall submit a plan to Congress within 180 days addressing the long-term status and treatment of Hong Kong citizens in the United States.
37. Congress consider legislation requiring U.S. entities with data operations in Hong Kong to submit an annual report on any requests or attempts to access such data from the Hong Kong government or Chinese authorities. This report will also detail the nature of any request or attempt to access and the U.S. entity's compliance.
38. Congress direct the U.S. Secretary of State to include a detailed list of all websites blocked in Hong Kong pursuant to its annual report requirements under the Hong Kong Policy Act to document limitations to freedom of information.
39. Congress, pursuant to the Hong Kong Human Rights and Democracy Act, amend the International Organization Immunities Act to remove Hong Kong Economic and Trade Offices as a covered organization, thereby eliminating diplomatic privileges enjoyed by such offices and their employees in the United States. This amendment could be reversed under one of the following conditions:
 - The People's Republic of China negotiates an agreement with the United States to have Hong Kong Economic and Trade Offices considered an official part of the People's Republic of

China's mission to the United States and subject to the same requirements.

- China alters its treatment of Hong Kong to allow for sufficient autonomy and abides by One Country, Two Systems, as enumerated by the Hong Kong Policy Act.

ADDITIONAL VIEWS OF COMMISSIONER DEREK SCISSORS

In 2022, the Biden Administration, Congress, and the Commission have made welcome changes in light of growing awareness that running supply chains through China potentially threatens the security, prosperity, and even health of Americans. Nonetheless, there is a strong case that changes are not occurring quickly enough, putting the United States at higher-than-necessary risk for at least several more years.

The Administration's February supply chain review was a necessary step but inadequate on its own, as indicated clearly by the participating agencies themselves. In many instances, agencies were unable even to make recommendations, much less implement them, due to lack of needed information. The Administration cannot reasonably be blamed for initially inadequate information, but it can be held responsible for ensuing lack of urgency. When will critical supply chains, as selected by the Administration itself, be made minimally vulnerable to Chinese manipulation? 2025? 2030? Will the current situation continue indefinitely?

Congress, while recognizing the supply chain challenge, may unwittingly perpetuate American vulnerability. It is easy for legislation aimed at producing more in the United States to become too focused on greater output of final goods, which then increases demand for inputs from unreliable trading partners. For example, the goal of the CHIPS and Science Act—to increase domestic supply and reduce reliance on foreign-made semiconductors—had broad bipartisan support. But the act does not require that subsidies be provided along the supply chain, so new plants may depend on Chinese materials and packaging services. In 2023, if a well-intentioned bill seeks to raise U.S. pharmaceutical production, this may lead to increased imports of chemical inputs, which are presently dominated by China.

The Commission's 2022 Annual Report makes helpful recommendations addressing supply chains both explicitly and implicitly. But urgency does not come through clearly. Thoughtful and potentially vital actions, such as creating an economic and security resilience office, have long implementation times. The implementing arms need time to be stood up, whereupon difficult interagency coordination problems must be solved, and only then will the (next) Administration be able to take decisive actions. Other valuable steps, such as greater disclosure of U.S. investment ties to China's military complex, address important issues but ones with less acute risk to vital American interests.

U.S. dependence on China opens the door to blackmail or outright economic attacks. Indeed, increased leverage over China's partners is a stated objective of Xi Jinping's. Supply chain vulnerability is a complex problem to try to address; there is no single, sweeping solution to propose; and both the Commission report and American policy are headed in the right direction. What is presently lacking is a set of quick, directed steps to start to make progress immediately. Such steps might be costly or otherwise difficult, but they can reduce the chance of much greater harm arising out of a U.S.-China confrontation occurring as early as 2023.

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

Alex N. Wong, Chairman

Chairman Alex Wong is a senior fellow at The Hudson Institute. His research spans U.S. national security policy and foreign affairs, with a particular focus on U.S. strategy in the Indo-Pacific region and the future of the Korean Peninsula.

Mr. Wong most recently served as the Deputy Special Representative for North Korea and the Deputy Assistant Secretary for North Korea at the U.S. Department of State. In that position, he was the No. 2 negotiator in denuclearization talks with North Korea and guided the U.S.-led international pressure campaign.

Previously, Mr. Wong led the State Department's efforts to implement the Free and Open Indo-Pacific Strategy as the Deputy Assistant Secretary for Regional and Security Affairs in the State Department's East Asia bureau. In 2020, Mr. Wong was unanimously approved by the Senate Foreign Relations Committee to be the U.S. Ambassador for Special Political Affairs at the United Nations, a position in which he would have represented the United States on all matters before the UN Security Council.

Prior to his most recent stint at the State Department, Mr. Wong was the Foreign Policy Advisor and General Counsel to Senator Tom Cotton (R-AR) and the Foreign and Legal Policy Director for the Romney-Ryan 2012 presidential campaign.

Mr. Wong is a licensed attorney, spent years counseling Fortune 100 clients on international trade and governmental investigations matters, and began his legal career as a clerk for the honorable Janice Rogers Brown of the United States District Court of Appeals for the District of Columbia Circuit.

Mr. Wong graduated summa cum laude from the University of Pennsylvania and received his J.D. with high honors from Harvard Law School where he was the Managing Editor of the Harvard Law Review and an editor of the Harvard International Law Journal.

Chairman Wong was appointed by House Republican Leader Kevin McCarthy for a term expiring December 31, 2023.

Kimberly T. Glas, Vice Chair

Vice Chair Kimberly Glas was appointed by Senate Majority Leader Charles Schumer for a two-year term expiring December 31, 2022. Vice Chair Glas joined the National Council of Textile Organizations (NCTO) in May 2019 as President and CEO representing domestic manufacturers of textiles and apparel.

She has over two decades experience in government and policy advocacy focused on economics, trade, and manufacturing.

She served as Executive Director of the BlueGreen Alliance, a non-profit partnership of labor unions and environmental organizations. In that capacity, she led an organization that works to advance policies to help achieve a stronger economy and a more sustainable future at the intersection of energy, the environment, and trade.

Before leading the BlueGreen Alliance, Commissioner Glas served as the Deputy Assistant Secretary for Textiles, Consumer Goods, and Materials at the U.S. Department of Commerce. In that role, she worked to improve the domestic and international competitiveness of the broad product range of U.S. industries.

Vice Chair Glas served for a decade on Capitol Hill working extensively on manufacturing, trade, and economic policy issues for Congressman Michael H. Michaud from Maine and Congressman John J. LaFalce from New York. As Deputy Chief of Staff and Legislative Director for Congressman Michaud, she led efforts to establish the House Trade Working Group, a key coalition of Members of Congress that works extensively on trade policy and domestic competitiveness issues to this day.

Ms. Glas earned a Bachelor of Arts in History and graduated *summa cum laude* from the State University of New York at Geneseo.

Carolyn Bartholomew

Commissioner Carolyn Bartholomew was reappointed to the Commission by House Speaker Nancy Pelosi for a two-year term expiring on December 31, 2023. She previously served as the Commission's Chairman for five report cycles and served as Vice Chairman for six report cycles.

Commissioner Bartholomew has worked at senior levels in the U.S. Congress, serving as a long-time counsel, legislative director, and chief of staff to now House Speaker 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, Commissioner 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. Commissioner Bartholomew 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, human rights, U.S. foreign assistance programs, appropriations, and international environmental issues. She has been a consultant to non-profit organizations and served on the board of directors of the Kaiser Aluminum Corporation from 2007 to 2020. She is the Chairman of the board of Radio Free Asia (RFA) and serves on the board of the Committee for Freedom in Hong Kong.

Commissioner 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.

Bob Borochoff

Commissioner Bob Borochoff is a successful businessman and community leader with over four decades of creating, operating, and consulting with small businesses. As Chairman and CEO of The Borochoff Group, Inc., he has owned and managed restaurants, special events, and catering ventures providing outstanding food, entertainment, and logistical arrangements for major events. Borochoff provides a myriad of services for the restaurant industry, including real estate consulting, marketing, strategy development, concept design, management, and operational services. Borochoff serves as a Commissioner on the Texas Finance Commission, which oversees and coordinates the three government departments responsible for the state's financial services industry, including banking, savings and loans, and consumer credit. He is a member of the Board of Directors of the Greater Houston Partnership, currently serves on the Public Policy Steering Committee, and for ten years was a member of the Executive Committee for one of the nation's largest Chambers of Commerce. He is an emeritus member of the board of the National Restaurant Association, and his volunteer community service also includes serving as a past Vice-Chairman of the Mental Health Mental Retardation Authority of Harris County. He and his wife, Jane, have three children and reside in Houston, Texas. Commissioner Borochoff was appointed by House Republican Leader Kevin McCarthy for a term expiring December 31, 2023.

Robin Cleveland, PhD

Commissioner Robin Cleveland was reappointed by Senate Republican Leader Mitch McConnell for a two-year term expiring December 31, 2022.

Commissioner Cleveland served in a number of positions with U.S. Senator Mitch McConnell including in his personal office, on the Senate Select Committee on Intelligence, the Senate Foreign Relations Committee, and as Clerk of the Foreign Operations Subcommittee of the Senate Appropriations Committee. In 2002, Dr. Cleveland was appointed as the Associate Director for National Security and International Affairs in the Office of Management and Budget, Executive Office of the President. During her tenure in the White House, Dr. Cleveland worked to improve Department of Defense programs and processes to ensure weapons systems successfully met battlefield requirements. Dr. Cleveland also co-led the inter-agency effort to develop and implement two Presidential initiatives: the Millennium Challenge Corporation (MCC) and the President's Emergency Plan for AIDS Relief (PEPFAR). MCC and PEPFAR reflect her commitment to advance humanitarian and development goals while strengthening policy, performance, and resource management. In 2005, Dr. Cleveland was appointed as Counselor to the President of the World Bank where she had a broad policy, budget, and fund-raising portfolio including debt relief programs in Africa.

After three decades of government service, Cleveland received her PhD in Counseling and is now in private practice. While pursuing

her degree, Dr. Cleveland was the Executive Director of the Office of Student Life at the Graduate School of Education and Human Development at George Washington University.

Commissioner Cleveland graduated from Wesleyan University with honors and received her Masters and PhD in Counseling from The George Washington University.

Jeffrey Fiedler

Commissioner Jeffrey Fiedler was reappointed to the Commission by House Democratic Leader Nancy Pelosi for a term expiring December 31, 2022. He is the retired National Strategic Retail Director for United Food and Commercial Workers International Union. Before that he was Assistant to the General President, and Director, Special Projects and Initiatives, for the International Union of Operating Engineers. Previously, he was President of Research Associates of America (RAA) and the elected president of the Food and Allied Service Trades Department, AFL-CIO (“FAST”). This constitutional department of the AFL-CIO represented ten unions with a membership of 3.5 million in the United States and Canada. The focus of RAA, like FAST before it, was organizing and bargaining research for workers and their unions.

He served as a member of the AFL-CIO Executive Council committees on International Affairs, Immigration, Organizing, and Strategic Approaches. He also served on the board of directors of the Consumer Federation of America and is a member of the Council on Foreign Relations. In 1992, Mr. Fiedler co-founded the Laogai Research Foundation (LRF), an organization devoted to studying the forced labor camp system in China. When the foundation’s Executive Director, Harry Wu, was detained in China in 1995, Mr. Fiedler coordinated the campaign to win his release. He no longer serves as director of the LRF.

Mr. Fiedler has testified on behalf of the AFL-CIO before the Senate Foreign Relations Committee and the House International Affairs Committee and its various subcommittees, as well as the Trade Subcommittee of the House Ways and Means Committee concerning China policy. He attended three of the American Assembly conferences on China sponsored by Columbia University and has participated in a Council on Foreign Relations task force and study group on China. He has been interviewed on CBS, NBC, ABC, CNN, and CNBC on China policy, international trade issues, human rights, and child labor.

A Vietnam veteran, he served with the U.S. Army in Hue in 1967–1968. He received his BA in Political Science from Southern Illinois University. He is married with two adult children and resides in California.

Aaron Friedberg

Aaron Friedberg is Professor of Politics and International Affairs at Princeton University, where he has been a member of the faculty since 1987, and co-director of Princeton’s Center for International Security Studies. He is also a non-resident senior fellow at the American Enterprise Institute and a counselor to the National Bureau of Asian Research. From 2003 to 2005 he served as a Dep-

uty Assistant for National Security Affairs in the office of the Vice President and he was subsequently appointed to the Defense Policy Board. In 2000–2001 he was a member of a panel tasked by Congress with reviewing the CIA’s analysis of China. He has conducted studies for a number of government agencies, including the Office of Net Assessment in the Office of the Secretary of Defense and the National Security Council.

In 2001–2002 Friedberg was selected as the first occupant of the Henry A. Kissinger Chair at the Library of Congress. He has been a research fellow at the Australian Strategic Policy Institute, the Norwegian Nobel Institute, the Smithsonian Institution’s Woodrow Wilson International Center for Scholars in Washington, D.C., and Harvard University’s Center for International Affairs. He is a member of the Council on Foreign Relations and the International Institute for Strategic Studies in London.

Friedberg is the author of several books, including *A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia* (2011), *Beyond Air-Sea Battle: The Debate Over U.S. Military Strategy in Asia* (2014), and *Getting China Wrong* (2022).

Dr. Friedberg received his A.B., M.A. and Ph.D. degrees from Harvard University.

Commissioner Friedberg was appointed by Senate Republican Leader Mitch McConnell for a term expiring December 31, 2023.

The Honorable Carte P. Goodwin

Senator Carte P. Goodwin was reappointed to the Commission by Senate Democratic Leader Chuck Schumer for a two-year term expiring on December 31, 2023.

He is an attorney with the law firm of 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 CivicPoint, the firm’s government affairs subsidiary. Goodwin’s practice includes litigation and appellate advocacy, and advising clients on government relations, regulatory 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.

James Mann

James Mann is a Washington-based author who has written a series of award-winning books about American foreign policy and about America's relations with China. He is a former newspaper reporter, foreign correspondent, and columnist who worked for more than twenty years for the Los Angeles Times. He is now a fellow-in-residence at Johns Hopkins School of Advanced International Studies.

A former Beijing correspondent for the Los Angeles Times, Mann has written three books about America and China. The first, *Beijing Jeep*, is the story of a single American company and its frustrations starting to do business in China. *Fortune* magazine placed the book on its list of the 75 all-time greatest books for American business executives to read. The second book, *About Face: A History of America's Curious Relationship with China*, narrates the history U.S. diplomacy with China, starting in the late 1960s. The book won the New York Public Library's Helen Bernstein award for best book of the year. The third book, *The China Fantasy*, is a critique of the notion that trade and foreign investment will lead to democracy or political liberalization in China.

His best-known work is *Rise of the Vulcans: A History of Bush's War Cabinet*, which became a New York Times best seller. The *Wall Street Journal* called it "a work of serious intellectual history," and New York Times reviewer Michiko Kakutani called it "compelling, lucid, shrewd, and blessedly level-headed."

Mann has also been a contributor to National Public Radio and to several magazines, including *The Atlantic*, *The New Republic*, the *New York Review of Books*, and *The American Prospect*. His work was included in the book *The American Idea: The Best of the Atlantic Monthly: 150 Years of Writers and Thinkers Who Shaped Our History*.

Mann was born in Albany, New York, and graduated from Harvard College. He lives in Washington with his wife Caroline Dexter, formerly a classics professor at Howard University. They have two children and five grandchildren.

James Mann was appointed to the Commission by Senate Democratic Leader Chuck Schumer for a two-year term expiring on December 31, 2023.

The Honorable Randall Schriver

Mr. Randall Schriver is the Chairman of the Board of the Project 2049 Institute and a partner at Pacific Solutions LLC. He is also a lecturer for Stanford University's "Stanford-in-Washington" program, is on the Board of Advisors to the Sasakawa Peace Foundation USA, and Board of Directors of the US-Taiwan Business Council.

Just prior, he served for two years as the Assistant Secretary of Defense for Indo-Pacific Security Affairs where he led a team of

nearly one hundred professionals and was the principal advisor to the Secretary of Defense on matters related to the Indo-Pacific region.

Prior to his Senate confirmation, Mr. Schriver was one of five founding partners of Armitage International LLC, a consulting firm that specializes in international business development and strategies. He was also CEO and President of the Project 2049 Institute, a non-profit research organization dedicated to the study of security trend lines in Asia. He was also an adjunct lecturer for Stanford University's "Stanford-in-Washington" program where he taught a quarter long course on U.S. foreign policy every fall and spring for fourteen years.

Previously, Mr. Schriver served as Deputy Assistant Secretary of State for East Asian and Pacific Affairs. He was responsible for China, Taiwan, Mongolia, Hong Kong, Australia, New Zealand, and the Pacific Islands. From 2001 to 2003, he served as Chief of Staff and Senior Advisor to the Deputy Secretary of State. From 1994 to 1998, he worked in the Office of the Secretary of Defense, including as the senior official responsible for U.S. bilateral relations with the People's Liberation Army and the bilateral security and military relationships with Taiwan.

Prior to his civilian service, he served as an active duty Navy Intelligence Officer from 1989 to 1991, including a deployment in support of Operation Desert Shield/Desert Storm. After active duty, he served in the Navy Reserves for nine years, including as Special Assistant to the Chairman of the Joint Chiefs of Staff and an attaché at U.S. Embassies Beijing and Ulaanbaatar.

Mr. Schriver hails from Oregon, received a Bachelor of Arts degree in history from Williams College and a Master of Arts degree from Harvard University. He has won numerous military and civilian awards from the U.S. government and was recently presented with the Department of Defense Medal for Distinguished Public Service (highest civilian award). While at the State Department he was presented with the Order of the Propitious Clouds by the President of Taiwan for service promoting U.S.-Taiwan relations. He is married to Jordan Schriver, and is father to Lucas, Rory, Brody, and Mae.

Commissioner Schriver was appointed by Senate Republican Leader Mitch McConnell for a term expiring December 31, 2023.

Derek Scissors

Derek Scissors is a resident scholar at the American Enterprise Institute (AEI), where he focuses on the Chinese and Indian economies and on U.S. economic relations with Asia. He is concurrently chief economist of the China Beige Book. Dr. Scissors is the author of the China Global Investment Tracker. Starting in late 2008, he authored a series of papers that chronicled the end of pro-market Chinese reform and predicted economic stagnation in China as a result. He has also written multiple papers on the best course for Indian economic development. Before joining AEI, Dr. Scissors was a senior research fellow in the Asian Studies Center at the Heritage Foundation and an adjunct professor of economics at George Washington University. He has worked for London-based Intelligence Research Ltd., taught economics at Lingnan University in Hong Kong,

and briefly served as an action officer in international economics and energy for the U.S. Department of Defense. Dr. Scissors has a bachelor's degree from the University of Michigan, a master's degree from the University of Chicago, and a doctorate from Stanford University.

Commissioner Scissors was appointed by House Republican Leader Kevin McCarthy for a term expiring December 31, 2022.

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, 2022.

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 chair of the Labor Advisory Committee for Trade Negotiations and Trade Policy 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 and Biden campaign in 2020.

He 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 commis-

sion 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 Wessel 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.

Daniel W. Peck, Executive Director

Dan Peck is the Executive Director of the Commission, where he leads the Commission's full-time professional staff and provides support to the 12 Commissioners. In this role, 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. During his 22 years as an Armor and Cavalry officer in the U.S. Army, including 12 years as a Foreign Area Officer (FAO) focused on China and the Asia-Pacific, Mr. Peck served as a military attaché at the U.S. Embassy in Beijing, as an advisor and trainer to the Afghan National Army, and as a senior military analyst at the Defense Intelligence Agency. His military service includes two combat tours in Afghanistan, operational deployments to Kuwait and Bosnia, and overseas service in Korea and China.

Mr. Peck has earned a master of arts in national security affairs and Asian studies from the Naval Postgraduate School and a bachelor of arts in international finance and marketing from the University of Miami, Florida, where he entered the U.S. Army as a distinguished military graduate from ROTC.

Mr. Peck is fluent in Chinese Mandarin and has been traveling to China since 1998, including living in China for more than four years. He has conducted extensive research travel to China and the region, including Taiwan, Tibet, Xinjiang, Hong Kong, every province of China, and a dozen neighboring and regional countries, while conducting field research or carrying out U.S. government programs with or related to China. He has formally studied Chinese language at the Defense Language Institute (DLI) in Monterey, Capital Normal University (CNU) in Beijing, the International Youth University in Beijing, and the Monterey Institute of International Studies (MIIS).

Dan is a native of Oregon, has two children, JD and Josie, and lives in Northern Virginia.

APPENDIX III

PUBLIC HEARINGS OF THE COMMISSION

Full transcripts and written testimonies are available online at the Commission's website: *www.USCC.gov*.

January 27, 2022: Public Hearing on “CCP Decision-Making and the 20th Party Congress” Washington, DC

Commissioners present: Carolyn Bartholomew; Bob Borochoff; Robin Cleveland; Jeffrey Fiedler (Hearing Co-Chair); Aaron Friedberg; Kimberly T. Glas, Vice Chair; Randall Schriver; Derek Scissors (Hearing Co-Chair); Michael R. Wessel; Alex N. Wong, Chairman.

Witnesses: Joseph Fewsmith, Boston University; Jessica Teets, Middlebury College; Neil Thomas, Eurasia Group; Victor Shih, University of California San Diego; Nis Grünberg, Mercator Institute for China Studies; Yuen Yuen Ang, University of Michigan; Yun Sun, Stimson Center; James Mulvenon, SOS International LLC; Joel Wuthnow, National Defense University; Roderick Lee, China Aerospace Studies Institute; Alex He,* Centre for International Governance Innovation; Jean-Pierre Cabestan,* French Center for Scientific Research and Hong Kong Baptist University.

February 17, 2022: Public Hearing on “China’s Cyber Capabilities: Warfare, Espionage, and Implications for the United States” Washington, DC

Commissioners present: Carolyn Bartholomew (Hearing Co-Chair); Bob Borochoff; Robin Cleveland; Jeffrey Fiedler; Aaron Friedberg; Kimberly T. Glas, Vice Chair; Randall Schriver; Derek Scissors; Michael R. Wessel; Alex N. Wong, Chairman (Hearing Co-Chair).

Witnesses: Winnona DeSombre, Atlantic Council and Harvard University; Dean Cheng, Heritage Foundation; John Chen, Exovera and Atlantic Council; Adam Kozy, SinaCyber; Kelli Vanderlee, Mandiant Threat Intelligence; Dakota Cary, Center for Security and Emerging Technology; Adam Segal, Council on Foreign Relations; Jacquelyn Schneider, Stanford University; Neil Jenkins, Cyber Threat Alliance.

* Did not appear in person but submitted material for the record.

**March 17, 2022: Public Hearing on
“China’s Energy Plans and Practices”
Washington, DC**

Hearing Co-Chairs: Kimberly T. Glas and Aaron Friedberg. Commissioners present: Bob Borochoff; Robin Cleveland; Jeffrey Fiedler; Kimberly T. Glas, Vice Chair; Hon. Carte P. Goodwin; James Mann; Randall Schriver; Derek Scissors; Michael R. Wessel; Alex N. Wong, Chairman.

Witnesses: Henry Lee, Harvard University; Michal Meidan, Oxford Institute for Energy Studies; Michael Davidson, University of California San Diego; Emily Meierding, Naval Postgraduate School; Edward Chow, Center for Strategic and International Studies; Gabriel Collins, Rice University; Lauri Myllyvirta, Centre for Research on Energy and Clean Air; Cecilia Han Springer, Boston University; Jonas Nahm, Johns Hopkins School of Advanced International Studies; Nikos Tsafos, Center for Strategic and International Studies.

**April 14, 2022: Public Hearing on
“Challenging China’s Trade Practices: Promoting Interests
of U.S. Workers, Farmers, Producers, and Innovators”
Washington, DC**

Commissioners present: Carolyn Bartholomew; Bob Borochoff; Robin Cleveland (Hearing Co-Chair); Jeffrey Fiedler; Aaron Friedberg; Kimberly T. Glas, Vice Chair; Hon. Carte P. Goodwin; James Mann; Randall Schriver; Derek Scissors; Michael R. Wessel (Hearing Co-Chair); Alex N. Wong, Chairman.

Witnesses: Clyde Prestowitz, Economic Strategy Institute; Nazak Nikakhtar, Wiley Rein LLP; Alicia García-Herrero, Bruegel; Emily Kilcrease, Center for a New American Security; Stephen Ezell, Information Technology Innovation Foundation; Mark Cohen, University of California, Berkeley; Deborah Elms, Asian Trade Centre; Wendy Cutler, Asia Society Policy Institute; Timothy Meyer, Vanderbilt University; Lori Wallach, American Economic Liberties Project; Robert Staiger, Dartmouth College; Terence Stewart, Stewart & Stewart LLP.

**May 12, 2022: Public Hearing on
“China’s Activities and Influence in South and
Central Asia”
Washington, DC**

Commissioners present: Carolyn Bartholomew (Hearing Co-Chair); Bob Borochoff; Robin Cleveland; Jeffrey Fiedler; Aaron Friedberg; Kimberly T. Glas, Vice Chair; Hon. Carte P. Goodwin; James Mann; Randall Schriver (Hearing Co-Chair); Derek Scissors; Michael R. Wessel; Alex N. Wong, Chairman.

Witnesses: Jennifer Brick Murtazashvili, University of Pittsburgh; M. Tayyab Safdar, University of Virginia; Raffaello Pantucci, S. Rajaratnam School of International Studies; Nargis Kassenova, Harvard University; Niva Yau, OSCE Academy; Tanvi Madan, Brookings Institution; Jagannath Panda, Institute for Security and Development Policy; Akhil Bery, Asia Society Policy Institute; Darshana Baruah, Carnegie Endowment for International Peace; Christopher Colley, National Defense College of the United Arab Emirates; Samantha Custer, William & Mary.

**June 9, 2022: Public Hearing on
“U.S.-China Competition in Global Supply Chains”
Washington, DC**

Commissioners present: Carolyn Bartholomew; Bob Borochoff (Hearing Co-Chair); Robin Cleveland; Jeffrey Fiedler; Aaron Friedberg; Kimberly T. Glas, Vice Chair; Hon. Carte P. Goodwin (Hearing Co-Chair); James Mann; Randall Schriver; Derek Scissors; Michael R. Wessel; Alex N. Wong, Chairman.

Witnesses: David Bulman, Johns Hopkins School of Advanced International Studies; Willy Shih, Harvard Business School; Mark Dallas, Union College and Council on Foreign Relations; John VerWey, Pacific Northwest National Laboratory; Jan-Peter Kleinhans, Stiftung Neue Verantwortung; Kristin Vekasi, University of Maine; Harry Moser, Reshoring Initiative; Deborah Rosenblum, U.S. Department of Defense; James Brown, BCI Solutions; Jeff Stoff, Redcliff Enterprises; Jennifer Bisceglie, Interos Inc.

**August 3, 2022: Public Hearing on
“Challenges from Chinese Policy in 2022: Zero-COVID,
Ukraine, and Pacific Diplomacy”
Washington, DC**

Commissioners present: Carolyn Bartholomew; Bob Borochoff; Robin Cleveland; Jeffrey Fiedler; Aaron Friedberg; Kimberly T. Glas, Vice Chair; James Mann (Hearing Co-Chair); Randall Schriver (Hearing Co-Chair); Derek Scissors; Michael R. Wessel; Alex N. Wong, Chairman.

Witnesses: Shehzad Qazi, China Beige Book International; Manoj Kewalramani, The Takshashila Institution; Yanzhong Huang, Seton Hall University and Council on Foreign Relations; Bonnie Glaser, German Marshall Fund of the United States; Edward Fishman, Columbia University; Emily Weinstein, Center for Strategic and Emerging Technology; Sheena Chestnut Greitens, University of Texas at Austin; Derek Grossman, RAND Corporation; Alan Tidwell, Georgetown University.

APPENDIX IIIA

**LIST OF WITNESSES TESTIFYING BEFORE
THE COMMISSION**

2022 Hearings

Full transcripts and written testimonies are available online at the Commission's website: <i>www.USCC.gov</i> .
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**Alphabetical Listing of Witnesses Testifying before the
Commission**

Witness Name	Witness Affiliation	Hearing Date
Ang, Yuen Yuen	University of Michigan	January 27, 2022
Baruah, Darshana	Carnegie Endowment for International Peace	May 12, 2022
Bery, Akhil	Asia Society Policy Institute	May 12, 2022
Bisceglie, Jennifer	Interos Inc.	June 9, 2022
Brown, James	BCI Solutions	June 9, 2022
Bulman, David	Johns Hopkins School of Advanced International Studies	June 9, 2022
Cabestan, Jean-Pierre*	French Center for Scientific Research and Hong Kong Baptist University	January 27, 2022
Cary, Dakota	Center for Security and Emerging Technology	February 17, 2022
Chen, John	Exovera and Atlantic Council	February 17, 2022
Cheng, Dean	Heritage Foundation	February 17, 2022
Chow, Edward	Center for Strategic and International Studies	March 17, 2022
Cohen, Mark	University of California, Berkeley	April 14, 2022
Colley, Christopher	National Defense College of the United Arab Emirates	May 12, 2022
Collins, Gabriel	Rice University	March 17, 2022

* Did not attend in person but submitted material for the record.

**Alphabetical Listing of Witnesses Testifying before the
Commission—Continued**

Witness Name	Witness Affiliation	Hearing Date
Custer, Samantha	William & Mary	May 12, 2022
Cutler, Wendy	Asia Society Policy Institute	April 14, 2022
Dallas, Mark	Union College and Council on Foreign Relations	June 9, 2022
Davidson, Michael	University of California San Diego	March 17, 2022
DeSombre, Winnona	Atlantic Council and Harvard University	February 17, 2022
Elms, Deborah	Asian Trade Centre	April 14, 2022
Ezell, Stephen	Information Technology Innovation Foundation	April 14, 2022
Fewsmith, Joseph	Boston University	January 27, 2022
Fishman, Edward	Columbia University	August 3, 2022
García-Herrero, Alicia	Bruegel	April 14, 2022
Glaser, Bonnie	German Marshall Fund of the United States	August 3, 2022
Greitens, Sheena Chestnut	University of Texas at Austin	August 3, 2022
Grossman, Derek	RAND Corporation	August 3, 2022
Grünberg, Nis	Mercator Institute for China Studies	January 27, 2022
He, Alex*	Centre for International Governance Innovation	January 27, 2022
Huang, Yanzhong	Seton Hall University and Council on Foreign Relations	August 3, 2022
Jenkins, Neil	Cyber Threat Alliance	February 17, 2022
Kassenova, Nargis	Harvard University	May 12, 2022
Kewalramani, Manoj	The Takshashila Institution	August 3, 2022
Kilcrease, Emily	Center for a New American Security	April 14, 2022
Kleinhans, Jan-Peter	Stiftung Neue Verantwortung	June 9, 2022
Kozy, Adam	SinaCyber	February 17, 2022
Lee, Henry	Harvard University	March 17, 2022
Lee, Roderick	China Aerospace Studies Institute	January 27, 2022
Madan, Tanvi	Brookings Institution	May 12, 2022

* Did not attend in person but submitted material for the record.

**Alphabetical Listing of Witnesses Testifying before the
Commission—Continued**

Witness Name	Witness Affiliation	Hearing Date
Meidan, Michal	Oxford Institute for Energy Studies	March 17, 2022
Meierding, Emily	Naval Postgraduate School	March 17, 2022
Meyer, Timothy	Vanderbilt University	April 14, 2022
Moser, Harry	Reshoring Initiative	June 9, 2022
Mulvenon, James	SOS International LLC	January 27, 2022
Murtazashvili, Jennifer Brick	University of Pittsburgh	May 12, 2022
Myllyvirta, Lauri	Centre for Research on Energy and Clean Air	March 17, 2022
Nahm, Jonas	Johns Hopkins School of Ad- vanced International Studies	March 17, 2022
Nikakhtar, Nazak	Wiley Rein LLP	April 14, 2022
Panda, Jagannath	Institute for Security and De- velopment Policy	May 12, 2022
Pantucci, Raffaello	S. Rajaratnam School of Inter- national Studies	May 12, 2022
Prestowitz, Clyde	Economic Strategy Institute	April 14, 2022
Qazi, Shehzad	China Beige Book International	August 3, 2022
Rosenblum, Deborah	U.S. Department of Defense	June 9, 2022
Safdar, M. Tayyab	University of Virginia	May 12, 2022
Schneider, Jacquelyn	Stanford University	February 17, 2022
Segal, Adam	Council on Foreign Relations	February 17, 2022
Shih, Victor	University of California San Diego	January 27, 2022
Shih, Willy	Harvard Business School	June 9, 2022
Springer, Cecilia Han	Boston University	March 17, 2022
Staiger, Robert	Dartmouth College	April 14, 2022
Stewart, Terence	Stewart & Stewart LLP	April 14, 2022
Stoff, Jeff	Redcliff Enterprises	June 9, 2022
Sun, Yun	Stimson Center	January 27, 2022
Teets, Jessica	Middlebury College	January 27, 2022
Thomas, Neil	Eurasia Group	January 27, 2022
Tidwell, Alan	Georgetown University	August 3, 2022

**Alphabetical Listing of Witnesses Testifying before the
Commission—*Continued***

Witness Name	Witness Affiliation	Hearing Date
Tsafos, Nikos	Center for Strategic and International Studies	March 17, 2022
Vanderlee, Kelli	Mandiant Threat Intelligence	February 17, 2022
Vekasi, Kristin	University of Maine	June 9, 2022
VerWey, John	Pacific Northwest National Laboratory	June 9, 2022
Wallach, Lori	American Economic Liberties Project	April 14, 2022
Weinstein, Emily	Center for Security and Emerging Technology	August 3, 2022
Wuthnow, Joel	National Defense University	January 27, 2022
Yau, Niva	OSCE Academy	May 12, 2022

APPENDIX IV LIST OF RESEARCH MATERIAL

Contracted and Staff Research Reports Released in Support of the 2022 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. national 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

Personnel of the People's Liberation Army

Prepared for the Commission by Kenneth W. Allen, Thomas Corbett,

Taylor A. Lee, and Ma Xiu

BluePath Labs

November 2022

<https://www.uscc.gov/research?type=research>

Staff Research Reports, Issue Briefs, and Backgrounders

China's Position on Russia's Invasion of Ukraine

April to October 2022 (Periodically updated)

<https://www.uscc.gov/research/chinas-position-russias-invasion-ukraine>

Chinese Companies Listed on Major U.S. Stock Exchanges

April and September 2022 (Periodically updated)

<https://www.uscc.gov/research/chinese-companies-listed-major-us-stock-exchanges>

LOGINK: Risks from China's Promotion of a Global Logistics Management Platform

Written by USCC Staff

September 2022

<https://www.uscc.gov/research/logink-risks-chinas-promotion-global-logistics-management-platform>

China's Evolving Data Governance Regime

July 2022

<https://www.uscc.gov/research/chinas-evolving-data-governance-regime>

PRC in International Organizations

July 2022 (Periodically updated)

<https://www.uscc.gov/research/prc-international-organizations>

China's Interests in U.S. Agriculture: Augmenting Food Security through Investment Abroad

Written by Policy Analyst Lauren Greenwood

May 2022

<https://www.uscc.gov/research/chinas-interests-us-agriculture-augmenting-food-security-through-investment-abroad>

China-Russia Interactions Leading up to the Invasion of Ukraine

April 2022

<https://www.uscc.gov/research/china-russia-interactions-leading-invasion-ukraine>

Women in China's Leadership

Written by Policy Analyst Sierra Janik, Research Assistant Daniel Blaugher, and Director Jonathan Ray

March 2022

<https://www.uscc.gov/research/women-chinas-leadership>

The China-North Korea Strategic Rift: Background and Implications for the United States

Written by Policy Analyst Emma Rafaelof, former Director Ben Frohman, and former Research Assistant Alexis Dale-Huang.

January 2022

<https://www.uscc.gov/research/china-north-korea-strategic-rift-background-and-implications-united-states>

Economics and Trade Bulletins

The Commission periodically publishes a China Economics and Trade Bulletin written by the Economics and Trade staff.

<https://www.uscc.gov/trade-bulletins>

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. There were no recusals by Commissioners from any portions of the 2022 Report cycle.

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 (<https://lobbyingdisclosure.house.gov/>) and Senate (<https://lda.senate.gov/system/public/>).

APPENDIX VI

ACRONYMS AND ABBREVIATIONS

ACH	Automated Clearing House
AD/CVD	antidumping and countervailing duties
ADIZ	air defense identification zone
AIS	Automatic Identification System
AIT	American Institute in Taiwan
AOR	area of responsibility
API	active pharmaceutical ingredient
APT	advanced persistent threat
BIS	assembly, packaging, and testing
BIS	Bureau of Industry and Security (U.S. Department of Commerce)
BRI	Belt and Road Initiative, also known as One Belt, One Road (OBOR)
BRICS	Brazil, Russia, India, China, and South Africa
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CAC	Cyberspace Administration of China
CAS	Chinese Academy of Sciences
CBIRC	China Banking and Insurance Regulatory Commission
CCCI	Central Commission for Cybersecurity and Informationization
CCDI	Central Commission for Discipline Inspection
CCP	Chinese Communist Party
CCUS	carbon capture, utilization, and sequestration
CFAC	Central Foreign Affairs Commission
CFIUS	Committee on Foreign Investment in the United States
CGN	China General Nuclear Power Group
CHIPS	Clearing House Interbank Payments System
CHIPS Act	Creating Helpful Incentives to Produce Semiconductors Act
CICIR	China Institutes of Contemporary International Relations
CMC	Central Military Commission
CNITSEC	China Information Technology Security Evaluation Center
CNNC	China National Nuclear Corporation
CNNVD	China's National Vulnerability Database of Information Security
CNSC	Central National Security Commission
COTS	commercial off-the-shelf

COVID-19	novel coronavirus
CPEC	China-Pakistan Economic Corridor
CPLAC	Central Political-Legal Affairs Commission
CPSU	Communist Party of the Soviet Union
CPTPP	Comprehensive Progressive Trans-Pacific Partnership
CSRC	China Securities Regulatory Commission
DPA	Defense Production Act
DPP	Democratic Progressive Party
EAR	Export Administration Regulations
ECRA	Export Control Reform Act
EEZ	exclusive economic zone
EO	executive order
ESG	environmental, social, and governance
ETF	exchange-traded funds
EU	European Union
EV	electric vehicle
FDI	foreign direct investment
FFRDC	Federally Funded Research and Development Center
FIRMA	Foreign Investment Risk Review Modernization Act
FTA	free trade agreement
FYP	five-year plan
GDP	gross domestic product
HFCAA	Holding Foreign Companies Accountable Act
HKD	Hong Kong dollars
HKSAR	Hong Kong Special Administrative Region
ICT	information communications technology
IDM	integrated device manufacturer
IEEPA	International Emergency Economic Powers Act
IISS	International Institute for Strategic Studies
IMF	International Monetary Fund
INEW	integrated network-electronic warfare
IP	intellectual property
IPEF	Indo-Pacific Economic Framework for Prosperity
IPO	initial public offering
ISAF	International Security Assistance Force
ISR	intelligence, surveillance, and reconnaissance
IT	information technology
ITA	International Trade Administration (U.S. Department of Commerce)
KMT	Kuomintang
LAC	Line of Actual Control
LegCo	Legislative Council (Hong Kong)
LNG	liquified natural gas
LOGINK	National Transportation and Logistics Public Information Platform
LRC	Law Reform Commission
MIIT	Ministry of Industry and Information Technology
MPS	Ministry of Public Security
MSS	Ministry of State Security
NATO	North Atlantic Treaty Organization
NCC	National Cybersecurity Center

NCO	noncommissioned officer
NDRC	National Development and Reform Commission
NEV	new electric vehicle
NGO	nongovernmental organization
NOC	national oil company
NPC	National People's Congress
OECD	Organization for Economic Cooperation and Development
PAP	People's Armed Police
PBOC	People's Bank of China
PCAOB	Public Company Accounting Oversight Board
PLA	People's Liberation Army
PNTR	Permanent Normal Trade Relations
PORI	Public Opinion Research Institute
PRC	People's Republic of China
R&D	research and design research and development
RCEP	Regional Comprehensive Economic Partnership
RMB	renminbi
SBA	Small Business Administration
SBIR	Small Business Innovation Research
SCO	Shanghai Cooperation Organization
SFC	Securities and Futures Commission
SICI	systemically important critical infrastructure
SJTU	Shanghai Jiao Tong University
SME	small- and medium-sized enterprise
SOE	state-owned enterprise
SSF	Strategic Support Force
STTR	Small Business Technology Transfer
THAAD	Terminal High-Altitude Air Defense
TPP	Trans-Pacific Partnership
TRA	Taiwan Relations Act
TTC	U.S.-EU Trade and Technology Council
UAE	United Arab Emirates
UAV	unmanned aerial vehicle
USGS	U.S. Geological Survey
USITC	U.S. International Trade Commission
USTR	Office of the U.S. Trade Representative
VC	venture capital
VLCC	Very Large Crude Carrier
VPN	virtual personal network
WHA	World Health Assembly
WIC	World Internet Conference
WTO	World Trade Organization

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 JONATHAN ROBERTS, *Congressional Fellow*
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ACKNOWLEDGEMENTS

The Commission would like to express its deep appreciation to those who testified as expert witnesses, the researchers and analysts who prepared papers under contract, and the representatives from the executive branch and others who briefed the Commissioners on a wide array of economic and security issues. All of these efforts informed the Commission and the public debates on issues vital to ongoing U.S.-China relations.

The Commission offers its special thanks to Admiral Charles “Chas” A. Richard, Commander, U.S. Strategic Command, Admiral John C. Aquilino, Commander, U.S. Indo-Pacific Command, and their staff for their outstanding support of the Commission’s fact-finding trip to U.S. Strategic Command and U.S. Indo-Pacific Command in May 2022.

The Commissioners are deeply grateful to the service and expertise of the staff who develop materials for our hearings, research papers, and annual report. Each person brings a unique perspective, expertise, and dedication to the Commission and country, which every Commissioner has benefited from as we seek to understand U.S. relations with China. We are also grateful to the congressional and administrative teams, which offer experienced and capable support ensuring the Commission’s hearings, congressional engagement, and daily operations run smoothly.

Finally, the Commissioners express their thanks to Erin Mulligan, who served as copyeditor of the Report, and to former staff members Benjamin B. Frohman, Kaj Malden, Taylore Roth, and Howard Wang who contributed to the 2022 Report cycle.