2015 Report to Congress



of the

U.S.-China Economic and Security Review Commission



Executive Summary and Recommendations

One Hundred Fourteenth Congress First Session November 2015

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The Commission was created on October 30, 2000, by the Floyd D. Spence National Defense Authorization Act for 2001 § 1238, Pub. L. No. 106–398, (Oct. 30, 2000) (codified at 22 U.S.C. § 7002 (2001)); as amended by the Treasury and General Government Appropriations Act for 2002 § 645 (regarding employment status of staff) & § 648 (regarding changing annual report due date from March to June), Pub. L. No. 107–67, (Nov. 12, 2001); as amended by Division P of the "Consolidated Appropriations Resolution, 2003," Pub. L. No. 108–7 (Feb. 20, 2003) (regarding Commission name change, terms of Commissioners, and responsibilities of Commission); as amended by the Science, State, Justice, Commerce, and related agencies Appropriations Act of 2006, Pub. L. No. 109–108 (Nov. 22, 2005) (regarding responsibilities of Commission and applicability of FACA); as amended by Pub. L. No. 110–161 (Dec. 26, 2007) (regarding changes in annual report due date, submission of financial reports, printing and binding of Congressional reports, employee compensation and performance reviews, and applicability of House rules for travel by members and staff); as amended by the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 § 1259b, Pub. L. No. 113–291 (Dec. 19, 2014) (regarding changes to matters for discussion in the annual reports of the Commission).

The Commission's full charter http://www.uscc.gov/about/uscc-charter and Statutory Mandate http://www.uscc.gov/about/fact_sheet are available via the World Wide Web.

U.S.-China Economic and Security Review Commission

November 18, 2015

The Honorable Orrin Hatch President Pro Tempore of the U.S. Senate, Washington, DC 20510

The Honorable Paul D. Ryan Speaker of the U.S. House of Representatives, Washington, DC 20510

Dear Senator Hatch and Speaker Ryan:

On behalf of the U.S.-China Economic and Security Review Commission, we are pleased to transmit the Commission's 2015 Annual Report to the Congress—the thirteenth major Report presented to Congress by the Commission—pursuant to Public Law 106–398 (October 30, 2000), as amended by Public Law No. 109–108 (November 22, 2005), as amended by Public Law No. 110–161 (December 26, 2007), as amended by Public Law No. 113–291 (December 19, 2014). This Report responds to the mandate for the Commission "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, approving the Report by a vote of 11 ayes to 1 nay.

In accordance with our mandate, this Report, which is current as of October 27, includes a detailed treatment of many of the areas identified by Congress for our examination and recommendation. These areas are:

- 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;
- 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;
- 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;
- 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;
- The strategic economic and security implications of the cyber capabilities and operations of the People's Republic of China;

- 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;
- The drivers, nature, and implications of the growing economic, technological, political, cultural, peopleto-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;
- 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; and
- 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.

The Commission conducted seven public hearings, taking testimony from 62 witnesses from the executive branch, industry, academia, think tanks and research institutions, and other organizations. For each of these hearings, the Commission produced a transcript (posted on its website at <u>www.uscc.gov</u>). The Commission received a number of briefs by executive branch agencies, the Intelligence Community, and the Department of Defense, including classified briefings on China's naval modernization, China's offensive missile forces, China's activities in the South China Sea and Indian Ocean, and cyber counterintelligence issues related to China. The Commission is preparing a classified report to Congress on these and other topics. The Commission also received briefs by foreign diplomatic and military officials as well as U.S. and foreign nongovernmental experts.

Commissioners made official delegation visits to China, Kazakhstan, Uzbekistan, Vietnam, and Hong Kong to hear and discuss perspectives on China and its global and regional activities. In these visits, the Commission delegation met with U.S. diplomats, host government officials, business representatives, academics, journalists, and other experts.

The Commission also relied substantially on the work of our excellent professional staff and supported outside research in accordance with our mandate.

The Report includes 37 recommendations for Congressional action, which appear on page 26 at the conclusion of the Executive Summary.

We offer this Report to Congress in the hope that it will be useful as an updated baseline 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 you in the upcoming year to address issues of concern in the U.S.-China relationship.

Yours truly,

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William A. Reinsch Chairman

Dennis Chen

Dennis C. Shea Vice Chairman

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2015 REPORT TO CONGRESS OF THE U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

Introduction

Chinese Communist Party (CCP) General Secretary and President Xi Jinping's first state visit to the United States in September 2015 was lauded as a success by Obama Administration officials and Beijing. The pomp and circumstance and diplomatic niceties, however, were overshadowed by a long and growing list of grievances the United States has against China's behavior, and resulted in a very limited set of deliverables. The grievances include the alleged theft by Chinese hackers of personal records of 22 million people, including U.S. government employees, their families, and friends; state-sponsored cyber espionage against U.S. companies to steal trade secrets and pass them to Chinese competitors; an unprecedented island-building campaign in disputed waters of the South China Sea; and a series of new laws restricting access by foreign companies to China's market or demanding technology transfers in return for such access.

In November 2013 the CCP in its Third Plenum appeared to accept the reality of slower growth, professing a commitment to allow the market to play a greater role in the economy and to rebalance its economy away from reliance on fixed investment and exports to one based on greater domestic consumption.

However, since gross domestic product (GDP) growth slipped to, at most, 7 percent in the first half of 2015 according to Chinese official statistics and even lower according to unofficial estimates, the government appears to be putting on hold or even reversing reforms in order to chase higher GDP growth. The Chinese government's heavy intervention to prop up the stock market after its bubble burst this summer undermined confidence in China's commitment to reform and the Chinese public's faith in the government's ability to manage the economy.

The Chinese government's emphasis on boosting performance in response to the slowdown this year reinforces the idea that for the CCP, legitimacy and popular support stem from its ability to deliver high economic growth. It also serves as a reminder that for China, economic reform does not mean a free market economy; rather, it means that while certain sectors of the economy will be subject to some market discipline, the government intends to retain a dominant role.

Meanwhile, the U.S. trade deficit with China continues to increase, and the enthusiasm among some in the West that marked China's admission to the World Trade Organization in 2001 is waning.

This is partly explained by China's economic slowdown, but is also caused by China's efforts to substitute domestic production for that of its trade partners. China is a less welcoming place for foreign companies. A series of newly adopted or proposed Chinese laws favors domestic companies and could seriously undermine the ability of U.S. and other foreign companies to do business there.

The most problematic of these is the National Security Law, whose scope is vague and so broad it covers the economy, environment, Internet, and space exploration. Other areas of concern are the draft cybersecurity law, which authorizes even broader discretion by the government to control the flow of information online; a draft counterterrorism law, which could require foreign companies to turn over encryption keys; and a draft law threatening the operations of foreign nongovernmental organizations in China.

Economic struggles at home mean external trade and investment are again becoming a more important part of the Chinese government's plan to prop up growth. China's "Silk Road" initiatives in Central and Southeast Asia, the Asian Infrastructure Investment Bank, and the New Development Bank, among other institutions, reflect China's strategy of extending its diplomatic reach while boosting Chinese exports by creating demand for Chinese-built infrastructure across Asia. Chinese government officials see these initiatives as outlets for massive overcapacity at home, especially in such industries as steel and cement.

The economic slowdown may weaken public support for the government, which could encourage nationalist displays and adventurism abroad. Indications of such a trend are already manifesting, most notably in the South China Sea. Although China has pursued its maritime claims there with increasing assertiveness since 2009, its island-building campaign begun in late 2013 and continuing in 2015 represents an unprecedented level of expansion. With 2,900 acres reclaimed so far, China is rapidly pursuing an unrelenting strategy of incremental steps which have not thus far been effectively counteracted and which, taken together, present the smaller, weaker claimants in the region with a fait accompli.

The man-made islands are all the more provocative because they are being outfitted with a range of military infrastructurefrom airstrips to artillery-which will enable China's increasingly powerful navy and air force to project power deep into the South China Sea and beyond. This is just the latest indication, contrary to reassurances from Beijing, that China's military modernization is challenging decades of U.S.-led peace and stability in the Asia-Pacific region. Other elements of China's military modernization are cause for concern as well. China's conventional missile forces, having undergone both quantitative and qualitative growth in recent decades, are capable of targeting U.S. ships and bases in the Pacific. Some nuclear missiles are capable of targeting the continental United States. Meanwhile, China is pursuing offensive capabilities in space and cyberspace, which it refers to as "the new commanding heights in strategic competition." Deployed in a conflict, China's counterspace and offensive cyber capabilities could enable China to neutralize an otherwise militarily superior adversary. In short, China's military modernization is designed to counter key aspects of U.S. military power.

These developments would be of lesser concern if China were demonstrating itself to be a force for democracy, rule of law, and responsible governance on the world stage. China has taken some action to contribute to global peace and security through antipiracy patrols, peacekeeping operations, and humanitarian assistance and disaster relief efforts. At the same time, though, China's willingness to empower corrupt elites in other countries often undermines good governance and human rights. Meanwhile, Beijing continues to undermine the autonomy of Hong Kong, and use incentives and intimidation to draw Taiwan closer to the Mainland.

The expectation in the United States of economic reforms when Xi Jinping came into power has not yet been borne out by his government's performance. Instead, President Xi has not been able to resist the temptation of resorting to old economic tools—including government subsidies for favored industries, currency manipulation, overinvestment in fixed assets, and excessive intervention in the financial system—in order to avoid short term dislocation and retain popular support. At the same time, the government's military buildup, expansion in the South China Sea, and crackdown on dissidents and journalists have created significant concern elsewhere in Asia and increased doubts about China's intentions as it asserts itself on the world stage.

Executive Summary

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

SECTION 1: YEAR IN REVIEW: ECONOMICS AND TRADE

Although China's gross domestic product (GDP) reportedly grew at 7 percent in the first half of 2015, the year was marked by recordsetting downturns and mismanaged government interventions in the workings of China's economy. China has acknowledged that its economy, which over the past three decades has been driven by high levels of investment in export-oriented manufacturing capacity and infrastructure, needs to shift to a consumption-driven growth model. To address this structural imbalance, newly installed Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping laid out a sweeping economic reform agenda in the 2013 Third Plenary Session of the 18th CCP Central Committee (hereafter "Third Plenum").* However, responding to signs of economic weakness in 2015, including falling global exports, China's government resorted to stimulus measures to chase growth targets by rolling back some reforms, intervening in an effort to control the faltering stock market, and devaluing its currency, the renminbi (RMB).

FIGURE 1: U.S.-CHINA GOODS TRADE, 2006-2014



Source: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, North American Industry Classification System (NAICS) database, May 2015.

Following a rapid climb in the first half of 2015, Chinese stocks began falling in mid-June, wiping out about \$4 trillion in value. Given the importance of the stock market in propping up sluggish economic growth, the Chinese government responded to the collapse with a heavy hand: ordering brokerages to buy shares, forbidding large shareholders from selling, sending police to root out "malicious" sellers, ordering state-owned companies and pension funds to invest in equities, and halting trading in many companies. The government also censored information, punished journalists for focusing on the bad news, and warned people against spreading "rumors" about the stock market rout.

China's unfair treatment of U.S. companies exporting to or investing in China and Beijing's failure to uphold its World Trade Organization commitments continue to trouble the bilateral relationship. Despite China's manufacturing slowdown, a substantial Chinese trade surplus continues to sour the U.S. trade relationship with China. In 2014, the U.S. goods trade deficit with China increased by 7.5 percent year-on-year to \$342.6 billion, a record. In the first eight months of 2015, the U.S.-China trade deficit in goods was \$237.3 billion, 9.7 percent increase over the same period in 2014. China's surprise devaluation of the RMB in August also raised concerns among some observers and policymakers that China was once again trying to boost its exports by manipulating the RMB to make exports cheaper. The devaluation came amid China's efforts to promote a greater international role for the RMB, including making it one of the reserve currencies used by the International Monetary Fund. China's aspirations for the RMB as an international currency conflict with its practice of limiting the currency's convertibility and exposure to international currency markets.

FIGURE 2: SHANGHAI COMPOSITE INDEX, APRIL–SEPTEMBER 2015



^{*} Although President Xi said at the Third Plenum that the market will play a "decisive" role in all aspects of the economy, the Chinese government's view of economic reform emphasizes continued dominance of the state in the economy.

Source: Bloomberg. http://www.bloomberg.com/quote/SHCOMP:IND.

FIGURE 3: RMB TO U.S. DOLLAR EXCHANGE RATE, MAY-SEPTEMBER 2015



Source: Oanda, "Historical Exchange Rates." http://www.oanda.com/currency/historicalrates/.

Conclusions:

- ► In 2014, the U.S. goods trade deficit with China increased by 7.5 percent year-on-year to \$342.6 billion, a new record. In the first eight months of 2015, the U.S. trade deficit in goods with China totaled \$237.3 billion, a 9.7 percent increase year-on-year. Over the same period, U.S. deficit with China in advanced technology products reached \$72.7 billion. China stalled on liberalizing key sectors in which the United States is competitive globally, such as services.
- As a consequence of domestic economic weakness, China's stated rebalancing policies appear to have been put on hold. Instead, fearful of a protracted slowdown, the Chinese government has been intervening in various sectors of the economy, including the stock market. However, the government's intervention, which failed to arrest the stock market's fall and stabilize the economy, undermined public confidence in the ability of China's policymakers to successfully manage the economy.
- Although it has been ten years since China moved the renminbi (RMB) to a managed float, the government continues to intervene in foreign exchange markets. For the first half of 2015 the government has prevented the RMB from depreciating, seeking its inclusion in the International Monetary Fund's Special Drawing Rights basket of reserve currencies. However, on August 11, the People's Bank of China unexpectedly devalued the RMB, giving rise to fears among observers and policymakers that the economic slowdown was becoming entrenched.

- The U.S. government's efforts to address tensions in the U.S.-China relationship through bilateral dialogue continue to yield limited results. The latest Strategic and Economic Dialogue concluded with some progress on environmental and financial issues, but reached an impasse in addressing fundamental strategic and economic issues such as cybersecurity, anticorruption cooperation, and investment barriers to foreign firms in many industries.
- President Xi came to the United States in September on a state visit, and although Presidents Obama and Xi discussed several issues of concern, including commercial cyber espionage by Chinese actors, there were few significant breakthroughs. Among outcomes were the statements by the two presidents that neither country will engage in cyber espionage (though China continued to deny any involvement in commercial cyber theft) and commitments to enhance cooperation on combatting climate change.
- China's adherence to the World Trade Organization principles and its Protocol of Accession remains spotty. Most recently, the Office of the U.S. Trade Representative has engaged China over a program that provides export subsidies considered illegal by the World Trade Organization to businesses in seven critical industries.
- China launched two new development institutions: the Asian Infrastructure Investment Bank and the New Development Bank. In addition to boosting China's economy by creating export opportunities for its companies, the new banks aim to extend China's role in the international economic order, potentially challenging established multilateral development institutions.

SECTION 2: FOREIGN INVESTMENT CLIMATE IN CHINA

Although China has been a major destination for global foreign direct investment (FDI) over the past decade, it maintains the most restrictive FDI regime among all Organization for Economic Co-Operation and Development (OECD) and G20 countries, according to the OECD. The U.S. Department of State estimates that in addition to over 1,000 rules and regulatory documents related to FDI in China issued by central government ministries, local legislatures and governments also enact their own restrictive rules and regulations on foreign investments in their jurisdictions. Further, Chinese government administrators seek to ensure inbound FDI supports industrial policy goals-designed to bolster the development of domestic industries and the creation of national champions-by identifying different industries as desirable for or restricted from foreign investment. Taken together, these laws and policies-and uncertain application thereof-create a complicated, opaque, and unfavorable environment for foreign investment.

FIGURE 4: U.S. FDI STOCK IN CHINA, 2001–2014

(CUMULATIVE, HISTORICAL-COST BASIS)



Note: Latest data available (as of August 2015).

Source: U.S. Department of Commerce, Bureau of Economic Analysis; China's Ministry of Commerce via UNCTADstat database.

As a result of this restrictive legal and regulatory environment, the foreign investment climate in China is deteriorating. Though the majority of U.S. firms still consider China a profitable market, optimism about future operations and profitability there is waning. Foreign companies felt the least welcome in sectors where China's industrial policies favor domestic companies and authorities impose localization requirements. Some of the problems highlighted by foreign companies are the lack of market access in certain sectors and the conditioning of market access on the transfer of technology, intellectual property (IP), or know-how to local competitors. China primarily maintains national-level market access restrictions through a Foreign Investment Catalogue, though local governments frequently employ region- or industry-specific Catalogues, further restricting access. Though Chinese authorities released an updated version of the Foreign Investment Catalogue in 2015 that reduced the number of sectors where foreign investment is restricted and prohibited, industries the Chinese government has long sought to nurture as national champions—such as automobiles and healthcare—saw heightened restrictions.

In line with China's industrial policies, foreign investment into some sectors has shifted from encouraged to restricted or even prohibited. These fluctuations in China's foreign investment restrictions reflect a pattern whereby the government welcomes FDI into sectors designated as strategic for China's national economic development in order to extract technology and other advantages from foreign firms. However, after domestic industry is deemed sufficiently developed, policies welcoming investment are gradually withdrawn and new policies restricting investment are put in place to free up market space for domestic firms and push out foreign firms. Within a legal framework subject to convoluted rule-making procedures and designed to serve the interests of the CCP, U.S. investors seemingly have little or no recourse to protect their rights or effectively resolve disputes. Moreover, because "there are no accepted techniques for

estimating the impact of [investment barriers] on U.S. investment flows," according to the Office of the U.S. Trade Representative, it is difficult to quantify the effect of China's restrictive investment policies.

In addition to market access limitations, foreign companies also cite discretionary, unclear legal and regulatory interpretation and weak or inconsistent enforcement as top business challenges in China. In recent years, a broad range of Chinese regulatory activities seem to have focused disproportionately on foreign investors across various industries of strategic importance to China's national economy. In 2013 and 2014, China's increased enforcement of its Anti-Monopoly Law (AML) in particular against high-profile foreign companies contributed to this perception. According to the U.S. Chamber of Commerce, Chinese enforcement agencies have used the law to pursue industrial policy objectives, and appear to use the threat of investigations against foreign firms to control price and supply of goods, to the benefit of Chinese market participants.

U.S. companies report that China's competition policy enforcement activities consider nonmarket factors, including industrial policy; are lacking in due process and regulatory transparency; and rely on legal language that is ambiguous and therefore open to a wide range of discretionary interpretation. For example, as of September 2015, all of the 26 transactions that were either rejected or conditionally approved by China's Ministry of Commerce (MOFCOM)-which reviews mergers and acquisitions for anticompetitive effectsinvolved foreign firms. Similarly, China's price-related AML enforcement agency, the National Development and Reform Commission (NDRC), appears to disproportionately enforce the law against foreign companies to achieve industrial policy goals unrelated to the protection of competition. The administrative decisions of the NDRC and local commissions are short on evaluation of the effect of a certain behavior on competition, and lacking in evidence of why an actor should be exempted from punishment or receive a heavier or reduced fine. The lack of an effective mechanism for controlling the overly broad discretion granted to enforcement agencies appears to result in inconsistent decisions and unequal treatment, to the benefit of domestic firms and industries.

U.S. companies are also concerned about the application of the law to holders of IP rights. Chinese authorities appear to use the threat of AML investigations to attempt to lower the licensing fees charged to would-be Chinese licensees of certain technologies, effectively giving these Chinese firms a competitive advantage in domestic and global markets. Under a 2015 law addressing anticompetitive use of IP, China's State Administration for Industry and Commerce can effectively compel foreign holders of certain patents to license under unfavorable or unfair terms, to the benefit of domestic licensees. Moreover, the law's dearth of specific and objective criteria surrounding IP licensing leaves companies unable to predict reliably whether refusing to grant a license in particular circumstances or on particular terms or conditions would constitute a violation of the AML.

In an attempt to test incremental reform of its foreign investment framework. China has lowered restrictions in four free trade zones by streamlining the approval process and adopting a negative list approach, which restricts or prohibits investment only in those sectors listed, and permits investment in all others. Although the adoption of a negative list will likely be a positive development for foreign firms, foreign investment in restricted sectors will face a new national security review process. The scope of the new review has been expanded to include any foreign investment that may damage the national security of China. In effect, Chinese authorities will have broader discretion to review incoming foreign investments for perceived national security threats. U.S. business groups—the U.S. Chamber of Commerce, AmCham China, and AmCham in Shanghai—expressed concern about the review's broad definition of national security, which they believe is "heavily skewed in favor of protecting national interests that fall outside the widely accepted scope of essential national security concerns" and "likely to have a significant adverse impact on the flow of foreign investment into China."

Chinese foreign investment authorities have also circulated a draft of a new foreign investment law, which will abolish the three existing laws governing foreign investment in China when it goes into effect no earlier than January 2016. In its current form, the draft law would significantly improve the legal and regulatory regime for a majority of foreign investment in China by eliminating approval requirements in nonrestricted sectors. Other aspects of the draft law, however, threaten to expand the scope of foreign investments subject to the increased discretionary power of approval authorities. For example, the draft law expands the definition of "foreign investor" to include instances where the person or entity with ultimate "control" over the company making the investment is foreign. In effect, this practice will allow Chinese authorities to treat variable-interest entities, a prevalent investment structure used by foreign investors to access restricted sectors of China's economy, with increased scrutiny and administrative discretion.

To rectify the low levels of bilateral investment, the United States is negotiating a Bilateral Investment Treaty with China. Proponents argue a high-standard agreement would present the opportunity to address and ban Chinese investment practices that are out of line with international business and legal standards, including unclear regulatory and legal enforcement, forced technology transfer, preferential policies for state-owned enterprises (SOEs), and longstanding market access barriers. Critics of the agreement worry even a high-standard agreement will not be meaningfully enforceable as it conflicts with Beijing's stated development path. They also argue that the benefits of the agreement would be potentially limited because of China's continued efforts to restrict the number of sectors that will be covered.

Conclusions

- U.S. companies continue to invest in China despite an increasing number of challenges on the ground and declining profitability. Chinese government measures, policies, and practices contributing to the deteriorating foreign investment climate include inconsistent and unclear legal and regulatory enforcement, increasing Chinese protectionism, and other preferential policies benefitting domestic companies.
- Across industries, market access barriers continue to top the list of Chinese government measures that limit the ability and willingness of U.S. companies to invest in China. As a means to protect its domestic companies and industries, China restricts foreign investment in sectors in which the United States maintains competitive advantage, including research and developmentintensive and value-added information services sectors.
- Fluctuations in China's foreign investment restrictions reflect a pattern whereby the government welcomes foreign direct investment into sectors deemed strategic for China's national economic development in order to extract technology, intellectual property, and know-how from foreign firms. However, after domestic industry is deemed sufficiently developed, policies welcoming investment are gradually withdrawn and new policies restricting investment are put in place to free up market space for domestic firms and push out foreign firms.
- China's Anti-Monopoly Law enforcement agencies—the Ministry of Commerce, the National Development and Reform Commission, and the State Administration of Industry and Commerce—have failed to treat identical or similar violations of the law equally, resulting in more leniency toward state-owned enterprises, more rigorous enforcement against foreign companies, and substantially varied penalties imposed on companies in similar circumstances, regardless of nationality of the controlling shareholder. The enforcement practices of the National Development and Reform Commission in particular are lacking in transparency, consistency, and fairness.
- The imbalance in expectations between domestic and foreign firms for reporting mergers and acquisitions to China's Ministry of Commerce in accordance with the Anti-Monopoly Law puts foreign-invested enterprises at a disadvantage by unfairly and disproportionately exposing them to increased scrutiny, regulatory uncertainty, approval delays, and associated costs.
- Chinese Anti-Monopoly Law enforcers' legal interpretations of monopolistic abuse of intellectual property by "dominant" firms could have a significant impact on the licensing of intellectual property in China, particularly by firms that account for a large share of sales in the technology market or hold patents that are essential to an industry standard—as several prominent U.S. tech firms do.

- China's commitments to seriously and significantly open up to foreign investment are overshadowed by new measures that reinforce longstanding market access barriers and discriminatory treatment toward foreign investors.
- Some aspects of China's proposed foreign investment law such as streamlined approval processes and the negative list approach—are encouraging, and signal a move toward fulfilling economic reform goals set forth in the Third Plenum and converging with international investment practices. Yet, some troubling provisions remain, including a broadly discretionary and expanded national security review mechanism and targeting of foreign companies using particular investment structures to access the market.

SECTION 3: CHINA'S STATE-LED MARKET REFORM AND COMPETITIVENESS AGENDA

Smaller returns from fixed asset investment, lower labor productivity gains, slower export growth, and severe environmental degradation are eroding the traditional drivers of China's economic growth. China's senior leadership has recognized the seriousness of these challenges and the threat they pose to the CCP's ability to deliver prosperity-the basis of its legitimacy since Tiananmen. Reform attempts under President Hu Jintao (2002–2012) to shift away from large-scale infrastructure and export-led growth toward an economy driven by consumption and high-technology failed to overcome entrenched interests and were largely put aside to spur economic growth following the global financial crisis. Newly installed President Xi outlined an ambitious economic reform agenda at the Third Plenum in November 2013 to more aggressively address these challenges and ensure the CCP's long-term hold on power. While this agenda claims it will allow the "market to play a decisive role in allocating resources," the Chinese government intends to retain a central role in the economy.

Announced reforms are seeking to reorient the drivers of China's economic growth toward domestic consumption, improve capital allocation and industry efficiency through state-set market incentives, and provide a higher quality of life for its citizens. But senior leadership's commitment to reforms is once again wavering in the face of China's slowest economic growth in 24 years, rising unemployment, and increased market volatility this year.

To boost domestic consumption as a new driver of economic growth, the Chinese government is expanding the social safety net, increasing urbanization through major infrastructure investments and the addition of 100 million rural migrants to cities, reforming "hukou," China's household registration system, and opening the service sector to competition from private domestic and foreign firms. The Chinese government has been more successful in retooling its infrastructure investments toward urbanization needs, but has faced slow progress in opening the service sectors and reforming the hukou system due to strong resistance to reform from vested interests.

FIGURE 5: OUTSTANDING BALANCE OF CHINA'S GOVERNMENT DEBT BY SOURCE

(US\$ TRILLIONS; CONSTANT EXCHANGE RATE, 2013)



Source: McKinsey Global Institute, "Debt and (Not Much) Deleveraging," February 2015, 81.

The Chinese government is also instituting fiscal and financial reforms aimed at improving allocation of capital and resources. Fiscal reforms are restructuring local government debt and sources of funding to address the rapid buildup of costly local government debt since the rollout of China's \$596 billion (RMB 4 trillion) stimulus program in 2009 and local governments' increasing difficulty in servicing these debts as economic growth slows. While these reforms have significantly reduced local government financing costs, the Chinese government backtracked on its efforts to rein in local government borrowing as it struggled to maintain employment and growth. In the financial sector, the Chinese government is attempting to move away from politically driven capital allocation by taking small steps to loosen state controls on interest rates, increase competition in the banking sector, introduce risk, and enhance capital convertibility. The Chinese government has reduced interest rate controls and permitted several Chinese Internet companies to enter the state-controlled banking sector, but it has struggled with the market volatility that defaults and capital flows create. The Chinese government reasserted state control over the stock market following major losses and stalled further efforts to introduce risk to the market. Furthermore, the Chinese government reaffirmed its intention to maintain control over capital flows, directly undermining its promises to loosen capital controls.

TABLE 1: CHINA'S PRIORITIES AND MAJOR REFORMS

Priorities	Major Reforms	
Domestic Consumption	Expanding social safety net, urbanization, and hukou reform	
	Building a strong service sector	
Capital Allocation	Restructuring local government debt Calculate the magnitude of local government debt Attempt to rein in local government borrowing Issue a debt-for-bonds swap Reinstitute the provincial bond issuance system Introduce new value-added, resource, and property taxes	
	 Opening China's bank-driven financial sector Loosen interest rate controls Allow greater market access for Chinese private firms in banking Introduce risk through the establishment of a deposit insurance scheme and the allowance of limited defaults in the domestic bond market 	
	Loosening capital controls while maintaining strong state control	
Industry Competitiveness	Reforming state-owned enterprises (SOEs) Maintain anticorruption campaign Release Guiding Opinion on Deepening Reform of SOEs - Reinforce the CCP and state control over SOEs - Separate SOEs into commercial and public interest enterprises - Increase private capital while preserving state control - Create global players through megamergers	
	Increasing higher-value-added manufacturing Announce Made in China 2025 and Internet Plus initiatives 	
	Enhancing indigenous innovation	
	Reducing industrial overcapacity	
Quality of Life	Increasing energy conservation and environmental preservation Allocate government spending toward energy conservation and environmental protection Establish emissions and water quality targets Enact stronger regulations and harsher penalties Incorporate stronger environmental targets within CCP and Chinese government promotion structure Permit limited public interest lawsuits Support the development of the clean technology industry	

Source: Compiled by Commission staff.

The Chinese government is seeking to enhance China's industrial competitiveness by pursuing SOE reform, higher-value-added manufacturing, and indigenous innovation. The government is attempting to improve productivity and global competitiveness of SOEs by increasing mixed ownership (partial privatization), and consolidating large SOEs in megamergers, while paradoxically reinforcing the role of the CCP and state over SOEs. The Chinese government is also accelerating its efforts to move up the valueadded chain through the establishment of the Made in China 2025 and Internet Plus initiatives this year, and the continuation of its indigenous innovation policy. But continued state subsidies have created pervasive overcapacity in sectors such as steel, leading producers to flood world markets with outputs from these sectors. The Chinese government also seeks new demand for this excess production through urbanization and creation of infrastructurefocused projects via the "One Belt, One Road" initiative, Asian Infrastructure Investment Bank (AIIB), and New Development Bank. The Chinese government is attempting to improve the quality of life for its citizens by meeting public demands for greater prosperity and a safe, healthy environment. Urbanization, hukou reform, higher-value-added manufacturing, and innovation initiatives are increasing wages and employment opportunities for the country's citizens. China is also pursuing a multipronged approach to address severe environmental degradation through government spending, emissions and water quality targets, stronger regulations and harsher penalties, environmental targets within the CCP and Chinese government promotion structure, public interest lawsuits, and support for the development of the clean technology sector. Despite robust public spending and success in meeting most of its environmental targets, the Chinese government's efforts overall have fallen short in addressing the severity and fundamental causes of existing environmental degradation. China's status as the world's most populous nation, second-largest economy, top trading nation, and largest manufacturer means its economic reform agenda—even if only partially implemented—has significant implications for the United States. China's focus on services and technology may create one of the world's largest consumer markets, generating up to \$6 trillion of new market opportunities for the service- and technology-centric U.S. economy. However, the enduring high market access barriers for U.S. investors are preventing fair market access. Furthermore, preferential government policies for domestic Chinese firms, megamergers of China's SOEs, and the recently announced Made in China 2025 and Internet Plus initiatives are seeking to dislodge established industry leaders and replace them with Chinese brands. Since many U.S. multinationals are global leaders in targeted sectors such as biotechnology, e-commerce, and energy, these policies could have negative implications for the future competitiveness of the United States.

Conclusions

- President Xi Jinping and Premier Li Keqiang announced an ambitious reform agenda at the Third Plenary Session of the Chinese Communist Party's (CCP) 18th Central Committee (the Third Plenum) in November 2013 to transition China's economy toward consumption-led growth and allow the market to play a "decisive role." However, these reforms still reserve a dominant role for the Chinese government in the economy. As the economy slows and markets have shown volatility, the Chinese government is once again stalling or rolling back reforms while resuscitating old levers of economic growth—fixed asset investments and export-led growth—in order to boost economic growth and maintain employment.
- The Chinese government is calling for greater CCP leadership within state-owned enterprises, while simultaneously subjecting them to market forces such as competition, mixed ownership, and consolidation. These policies merely reinforce state-owned enterprises' special status and do little to level the playing field for private sector and foreign competitors.
- China's efforts to upgrade its industries and enhance innovation are largely state driven and target sectors in which the United States currently enjoys technological advantage. Recent policies clearly favor domestic Chinese firms, placing pressures on U.S. firms to transfer technology and shift production to China, to the detriment of U.S. businesses and workers.
- China's growing level of consumption, increasing rate of urbanization, opening of the service sector, and massive spending on the environment and clean technology are creating one of the world's largest markets. However, strict market entry criteria, opaque regulations, China-specific technical standards, state-set pricing, and preferential support for domestic firms are increasing the costs to compete in this market.

- While fiscal reforms have made progress in providing new sources of local government revenue such as bonds and new forms of taxes, the Chinese government abandoned its attempt to rein in local government debt after sluggish first and second quarter data in 2015. Instead, the Chinese government restarted local government lending and required financial institutions to continue supporting insolvent infrastructure projects. Central intervention to prop up the debt-for-bonds swap for local governments ensured the costs of local governments' borrowing were negligible.
- China's financial sector reforms have made the most headway with progress in the liberalization of interest rates, opening of the banking sector, and loosening of capital controls. However, Chinese policymakers are uncomfortable with the market volatility these reforms create. This year, the Chinese government reaffirmed its role in managing capital accounts and reasserted state control over the stock market after it faced volatility beginning in June 2015.
- Public alarm over environmental degradation within China continues to rise. Robust public spending has contributed to enormous demand for technologies focused on energy efficiency, emissions reduction and monitoring, and environmental remediation, creating potential opportunities for U.S. environmental technology firms. China's environmental reforms could also benefit the U.S. environment through reduced emissions and pollution.
- China has achieved its enormous economic growth through investment and export-led policies that now must be coupled with greater domestic consumption to ensure a more balanced economy. CCP leaders could persevere in structural reforms, which—assuming the short-term dislocation is not too destabilizing—could confirm China as one of the world's great markets. If, however, the CCP draws back from such reforms as it has in the past, there is a possibility China could enter a period of low or stagnant growth, which affects its potential as a market and a producer. In either case, economic pressure on CCP leaders could lead to greater discrimination against foreign firms and investors or an enhancement of other practices, like technology theft, which will make China less attractive as a market for investment.

SECTION 4: COMMERCIAL CYBER ESPIONAGE AND BARRIERS TO DIGITAL TRADE IN CHINA

China causes increasing harm to the U.S. economy and security through two deliberate policies targeting the United States: coordinated, government-backed theft of information from a wide variety of U.S.-based commercial enterprises and widespread restrictions on content, standards, and commercial opportunities for U.S. businesses. Hackers working for the Chinese government—or with the government's support and encouragement—have infiltrated the computer networks of U.S. government agencies, contractors, and private companies, and stolen personal information and trade secrets. The targets of the Chinese hackers include patented material, manufacturing processes, business and negotiating strategies, and other proprietary information. The Chinese government has in turn provided that purloined information to Chinese companies, including SOEs.

The United States is ill prepared to defend itself from cyber espionage when its adversary is determined, centrally coordinated, and technically sophisticated, as is the CCP and China's government. The design of the Internet—developed in the United States to facilitate open communication between academia and government, and eventually expanded to include commercial opportunities—leaves it particularly vulnerable to spies and thieves. As the largest and most web-dependent economy in the world, the United States is also the largest target for cyber espionage of commercial IP.

The Chinese government also imposes heavy-handed censorship on Internet content and social media. These restrictions on free expression and access to information and news have driven from the Chinese market those U.S. companies unwilling to follow the authoritarian dictates of Beijing. The Chinese government has also begun to censor material originating outside its borders by directly attacking U.S.-based information providers.

The Chinese government has infiltrated a wide swath of U.S. government computer networks; the U.S. government response to the challenge has been inadequate. Federal agencies are not governed by a uniform system for defense against cyber intrusions. Other than to acknowledge an unrelenting series of assaults on its networks, the Federal Government has yet to devise adequate defenses, while top U.S. intelligence officials have grudgingly praised Chinese hackers for their bold ingenuity.

Recent Cyber Intrusions from China	Date Identified	Target	Source of Attack	
PLA Espionage	May 2014	Six U.S. entities involved in nuclear power, metals, and solar power	Five PLA officers indicted in May 2014	
USPS Espionage	November 2014	Personal data of 800,000 employees of the U.S. Postal Service, including Social Security numbers and addresses.	China	
Anthem Hack	February 2015	Social Security numbers and health information of 80 million Anthem users	"Deep Panda" (according to CrowdStrike's analysis)	
The Great Cannon Attack	April 2015	Chinese cyber weapon executed distributed denial of service (DDoS) attacks against U.S. websites GitHub and GreatFire	Chinese government (according to University of Toronto's Citizen Lab)	
Mysterious Eagle Attack	April 2015	Journalists, dissidents, economic data, and military organizations that have a relation to China	Chinese government (according to FireEye report)	
OPM Hack	April 2015	Millions of sensitive and classified documents, as well as personally identifiable information of over 22 million Americans	China is officially the "leading suspect"	
Engineering Universities Hacks	May 2015	Penn State University's engineering school, along with the school's 500 research partners. Other U.S. engineering schools hacked include Johns Hopkins University, Carnegie Mellon University, the University of California-Berkeley, and the Massachusetts Institute of Technology.	Chinese hackers (according to FireEye's analysis)	
United Airlines Hack	July 2015	Personal and flight information of United Airlines passengers	Same group as the OPM hack	

TABLE 2: RECENT EXAMPLES OF CYBER INTRUSIONS ORIGINATING IN CHINA

Source: News reports and official U.S. documents; compiled by Commission staff.

China's authoritarian government maintains tight control over the flow of information across and within its borders with a system termed the "Great Firewall." As part of this effort to control dissent by restricting speech, news, and social media, the Chinese government has implemented a policy of replacing foreign information technology and Internet providers with Chinese companies. This not only affects human rights in China and skews the thinking of Chinese citizens about the United States and their own country, but it also has a profound impact on a large segment of the U.S. economy. The Chinese government is in the process of passing and implementing comprehensive new laws and regulations that have the potential to limit or exclude U.S. technology companies from key tech-intensive sectors of the Chinese market. New proposals would impose localization requirements, limit market access, codify IP rights infringement, and create uncertain legal liability rules. Among the digitally intensive industries affected are: newspapers, periodicals, books, directories and mailing lists, motion pictures, sound recordings, video and music production and distribution, broadcasting, news syndicates, banking and insurance, credit card transactions, online retail trade, and wholesale trade in business-tobusiness transactions.

Conclusions

- China's government conducts and sponsors a massive cyber espionage operation aimed at stealing personally identifiable information and trade secrets from U.S. corporations and the U.S. government. Some of the stolen information is provided to Chinese state-owned businesses that compete with U.S. firms in China and abroad. Other recipients of U.S. trade secrets include sectors of the Chinese economy that the central government designated as Strategic Emerging Industries, which China intends to nurture into global competitors.
- The cost to the U.S. economy and to U.S. companies of government-sponsored cyber theft has been on the rise as network intrusions have become more sophisticated and harder to detect. The financial damage results from the loss of trade secrets such as copyrights and patents, manufacturing processes, foregone royalties, the costs of cyber defense, the loss of business and jobs, and the expense of remediating and repairing the damage to computer networks.
- U.S. cybersecurity companies and the Federal Government have become more adept at attributing computer network attacks to specific countries and to groups of hackers within those countries. Their willingness to release details on the culprits has also increased. U.S. companies have also become more willing to reveal details of the attacks on their computer networks.

- The U.S. reaction to the increasing number and sophistication of foreign cyber espionage and malicious network attacks has been mostly defensive. U.S. law does not allow retaliatory cyber attacks by private citizens and corporations, nor does it appear to allow counterintrusions (or "hack backs") for the purpose of recovering, erasing, or altering stolen data in offending computer networks. International law has not kept up with developments in cyber warfare, and no international consensus exists on how to attribute or appropriately respond to cyber attacks. However, a policy discussion on the issue of offensive and retaliatory cyber operations has begun.
- The Chinese government appears to believe that it has more to gain than to lose from its cyber espionage and attack campaign. So far, it has acquired valuable technology, trade secrets, and intelligence. The costs imposed have been minimal compared to the perceived benefit. The campaign is likely to continue and may well escalate as the Chinese Communist Party leadership continues to seek further advantage while testing the limits of any deterrent response.
- The Chinese government maintains strict censorship controls over the flow of information across and within its borders, and holds Internet providers, websites, search engines, and online news media responsible for censoring their content on the basis of vague guidelines and arbitrary rulings. The Chinese government's obsession with limiting citizen access to information harms U.S. companies attempting to compete in China. Some U.S. companies have faced retaliation, including the filtering or outright blocking of their websites, and all foreign companies risk loss of business licenses for violating the Chinese government's unpredictable sensitivities.
- The Chinese government is in the process of passing comprehensive new laws and regulations on cybersecurity that would affect trade in digital goods and services in a wide range of industries, including the news media, banking, credit card transactions, online retail trade, entertainment media, and telecommunications. Some of the new rules would have the effect of excluding U.S. companies from participating in the world's fastest-growing digital market by requiring, for example, that servers containing information about Chinese citizens and companies be located exclusively in China, and that companies doing business in China provide encryption keys to allow government entry into their databases.

Chapter 2: Security and Foreign Policy Issues Involving China

SECTION 1: YEAR IN REVIEW: SECURITY AND FOREIGN AFFAIRS

In his third year in office, President Xi continued to consolidate control over China's security decision-making processes and gradually increase China's global diplomatic engagement and military activities. Domestically, the Xi Administration has advanced the expansion and centralization of China's security state with the enactment of a National Security Law and the introduction of draft counterterrorism and cybersecurity laws. Abroad, China is pursuing focused and vigorous diplomacy, particularly with neighboring countries. President Xi's One Belt, One Road initiative is at the center of this effort.

China's military, the People's Liberation Army (PLA), is extending its global reach, particularly through the increased international activities of the PLA Navy. In 2015, the PLA Navy evacuated hundreds of Chinese and foreign citizens from Yemen in what was China's firstever PLA-led noncombatant evacuation operation. In addition, the PLA Navy has maintained its antipiracy presence in the Gulf of Aden, and has expanded its naval presence in the Indian Ocean with submarine patrols. Since it first sent a submarine to the Indian Ocean in late 2013, the PLA Navy has conducted at least three more Indian Ocean submarine patrols. In September 2015, the PLA Navy sailed through Alaska's Aleutian Islands, the closest it has ever sailed to U.S. territory during a far seas deployment without a port call. The PLA Navy's increasing activities far from China's shores reflect China's growing capability and willingness to use its military to protect its overseas economic assets and expatriate population. To support these activities, China appears to be seeking to establish its first overseas military facility in Djibouti.

These developments are enabled by China's continued military modernization program, which seeks to transform the PLA into a technologically advanced military capable of projecting power throughout the Asia Pacific region and beyond. In 2015, China acquired or produced an array of advanced naval and air platforms, many of which would be useful in contingencies in the East and South China seas and those involving islands held by Taiwan. Some of China's military modernization developments, such as its continued development and production of advanced submarines and surface ships, could increase the PLA Navy's expeditionary capabilities. The PLA's training missions and exercises are increasingly sophisticated and reflect China's goal to build a modern, integrated fighting force. To support its military modernization campaign, China's official annual defense budget rose 10.1 percent to \$141.9 billion (RMB 886.9 billion) in 2015, though its actual aggregate defense spending is much higher, as Beijing omits major defense-related expenditures from its official budget. After nominally increasing its defense budget by double digits almost every year since 1989, China's defense spending appears sustainable in the short term. Although China's slowing economic growth will generate opportunity costs as government spending strains to meet other national priorities, there is no sign this has affected military spending.

U.S.-China security relations suffered from rising tensions and growing distrust in 2015, largely due to China's cyberespionage activities against a range of U.S. government, defense, and commercial entities and its massive island-building campaign in the South China Sea. In May, as more details of China's land reclamation in the South China Sea emerged, the U.S. Navy began to publicize its air surveillance patrols near China's reclaimed land features; in October, a U.S. Navy guided missile destroyer conducted a freedom of navigation patrol within 12 nautical miles of one of the reclaimed features for the first time. Though China's maritime dispute with Japan over the Senkaku Islands in the East China Sea was less newsworthy in 2015, China continued to quietly increase its military and civilian presence in contested waters by conducting regular air and naval patrols near the islands and erecting 16 energy exploitation structures near disputed waters.

Conclusions

- Three years after coming to power, Chinese President Xi Jinping has made significant progress consolidating control over China's national security and foreign policy apparatus. Two areas of particular focus for the Xi Administration are strengthening the state's power over national security matters (as exemplified in three new and proposed laws governing national security) and emphasizing "peripheral diplomacy" with China's neighbors (as exemplified in the One Belt, One Road initiative).
- ► U.S.-China security relations continued to deteriorate in 2015. China's aggressive behavior in the South China Sea and its unremitting cyber espionage against the United States were the key drivers of growing distrust. Further, the Chinese military's continued emphasis on developing antiaccess/area denial capabilities makes clear that China seeks the capability to limit the U.S. military's freedom of movement in the Western Pacific.

- China's military modernization program continues to bear fruit, particularly as new naval and air force platforms and capabilities come online. In particular, new developments in China's naval modernization increase its ability to deploy troops and equipment in contingencies in the East and South China seas and those involving islands held by Taiwan. Moreover, the continued production of surface combatants, along with advances in submarine and aircraft carrier programs, supports China's ability to project force in its near seas.
- China in 2015 continued to take steps to bolster its position in its dispute with Japan over islands and adjacent waters in the East China Sea by constructing 16 structures to facilitate natural gas exploitation near disputed waters; conducting near-daily patrols of contested waters and airspace; and enhancing the PLA Air Force's presence in the East China Sea with the establishment of regular oversea training flights far from China's coast and a first-ever transit flight through Japan's Miyako Strait.
- The rapid growth of China's arms exports during the last ten years reflects the maturation of China's domestic defense industry. In the coming years, Chinese arms, including advanced systems such as jet fighters, will increasingly compete with U.S. and Russian arms on the global market.
- China's noncombatant evacuation operations, far seas submarine deployments, and interest in establishing an overseas military facility reflect its willingness to use military resources to defend its growing overseas assets. China's global security activities likely will increase as the population of Chinese nationals overseas grows along with Chinese overseas economic activity.
- As a result of China's comprehensive and rapid military modernization, the regional balance of power between China, on the one hand, and the United States and its allies and associates on the other, continues to shift in China's direction.

SECTION 2: CHINA'S SPACE AND COUNTERSPACE PROGRAMS

Based on decades of high prioritization and sustained investment from its leadership, China has become one of the world's preeminent space powers, producing numerous achievements and capabilities that further its national security, economic, and political objectives. China's space program involves a wide network of entities spanning its political, military, defense industry, and commercial sectors, but unlike the United States it does not have distinctly separate military and civilian space programs. Rather, top CCP leaders set long-term strategic plans for science and technology development, coordinate specific space projects, and authorize resource allocations, while organizations within China's military execute policies and oversee the research, development, and acquisition process for space technologies. China's military also exercises control over the majority of China's space assets and space operations.

China's space activities are driven by military, economic, and political objectives. First, China's military strategists and analysts recognize that space forces are crucial to China's military modernization, enhancing functions such as intelligence, surveillance, and reconnaissance (ISR); environmental monitoring; communications; and position, navigation, and timing (PNT). These are particularly relevant to China's antiaccess/area denial strategy[†] for preventing or impeding U.S. intervention in a potential conflict in the Western Pacific. Second, China's space programs are expected to yield economic and commercial benefits, and China has specifically aimed to capture 15 percent of the global launch services market and 10 percent of the global commercial satellite market by 2015, although these efforts have produced mixed results. Finally, space achievements provide CCP leadership with significant domestic political legitimacy and international prestige and influence, and enable China to collaborate on a range of bilateral and multilateral space activities. China has notably engaged in cooperative efforts with Brazil, Russia, Ukraine, Venezuela, and the EU, and initiated the Asia-Pacific Space Cooperation Organization.

TABLE 3: SUMMARY OF DIRECT-ASCENT ANTISATELLITE TESTS

Date	Orbital Debris	Missile	Notes
July 2005	No	SC-19	Rocket test
February 2006	No	SC-19	Failed intercept and destruction of an orbital target
January 2007	Yes	SC-19	Successful intercept and destruction of an orbital target
January 2010	No	SC-19	Successful intercept and destruction of a suborbital target
January 2013	No	SC-19	Successful intercept and destruction of a suborbital target
May 2013	No	DN-2	Rocket test
July 2014	No	SC-19	Successful intercept and destruction of a suborbital target

Source: Various sources. See full Annual Report.

[†] According to the U.S. Department of Defense, "antiaccess" actions are intended to slow deployment of an adversary's forces into a theater, or cause them to operate at distances farther from the conflict than they would prefer. "Area denial" actions affect maneuvers within a theater, and are intended to impede an adversary's operations within areas where friendly forces cannot or will not prevent access. China, however, uses the term "counterintervention," reflecting its perception that such operations are reactive.

China is pursuing a broad array of counterspace capabilities and will be able to hold at risk U.S. national security satellites in every orbital regime if these capabilities become operational. China's 2007 test of the SC-19 direct-ascent antisatellite (ASAT) missile destroyed an aging Chinese satellite and sparked worldwide criticism for creating dangerous orbital debris. The test demonstrated China's ability to strike satellites in low Earth orbit where the majority of U.S. satellites reside. China's 2013 DN-2 rocket test reached the altitude of geosynchronous Earth orbit satellites, marking China's highest known suborbital launch to date and the highest worldwide since 1976; this indicated China is developing the capability to target higher orbits which contain U.S. Global Positioning System (GPS) satellites and most U.S. ISR satellites. Since 2008, China has also conducted increasingly complex tests involving spacecraft in close proximity to one another; these tests have legitimate applications for China's manned space program, but are likely also used for the development of co-orbital counterspace technologies. Computer network operations against U.S. space assets attributed to China have likely been used to demonstrate and test China's ability to conduct future computer network attacks and perform network surveillance. Finally, China has acquired ground-based satellite jammers and invested heavily in research and development for directed energy technologies such as lasers and radio frequency weapons.

TABLE 4: CHINA'S HUMAN SPACEFLIGHT MISSIONS

Spacecraft	Launch Date	Flight Time	Purpose
Shenzhou-1	November 20, 1999	21 hours	Test
Shenzhou-2	January 10, 2001	7 days	Test
Shenzhou-3	March 25, 2002	7 days	Test
Shenzhou-4	December 30, 2002	7 days	Test
Shenzhou-5	October 15, 2003	21 hours	Manned (1 crew)
Shenzhou-6	October 12, 2005	4+ days	Manned (2 crew)
Shenzhou-7	September 25, 2008	2+ days	Manned (3 crew); Extravehicular activity
Tiangong-1	September 29, 2011	36 months (ongoing)	Prototype space lab
Shenzhou-8	November 1, 2011	13 days	Unmanned docking
Shenzhou-9	June 16, 2012	13 days	Manned (3 crew) docking
Shenzhou-10	June 11, 2013	15 days	Manned (3 crew) docking

Source: Kevin Pollpeter, *China Dream, Space Dream: China's Progress in Space Technologies and Implications for the United States* (Prepared for the U.S.-China Economic and Security Review Commission by the University of California Institute on Global Conflict and Cooperation, March 2, 2015), 46.

China's space program has also progressed in the areas of spacebased command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), space-based PNT, space-based communications, and space launch functions. China now has approximately 142 operational satellites in orbit, with approximately 95 of these owned and operated by military or defense industry organizations. China's current system of C4ISR satellites likely enables its military to detect and monitor U.S. air and naval activity out to the second island chain[‡] with sufficient accuracy and timeliness to assess U.S. military force posture and cue other collection assets for more precise tracking and targeting. China's regional PNT satellite system, known as Beidou, became operational in 2012, with global coverage expected by 2020. When completed, this system will provide PNT functions, essential to the performance of virtually every modern Chinese weapons system, independent from U.S.-run GPS.

Although it lacks a designated civilian space program, China since the mid-1990s has incrementally developed a series of ambitious space exploration programs, categorized as civilian projects. China is one of three countries, along with the United States and Russia, to have independently launched a human into space, and has launched ten Shenzhou spacecraft and the Tiangong space lab in recent years as part of its human spaceflight program. In the program's next phase, scheduled for completion by 2022, China plans to launch a permanent manned space station into orbit. China's lunar exploration program has featured several lunar orbiting missions with multiple Chang'e spacecraft and the landing of a lunar rover, Jade Rabbit, in 2014. China plans to land and return a lunar rover in 2017 and become the first nation to land a spacecraft on the Moon's "dark side" in 2020. Beijing is likely also conducting research for a manned mission to the moon and a mission to Mars, although neither project has yet received official approval.

[‡] The first island chain refers to a line of islands running through the Kurile Islands, Japan and the Ryukyu Islands, Taiwan, the Philippines, Borneo, and Natuna Besar. The second island chain is farther east, running through the Kurile Islands, Japan, the Bonin Islands, the Mariana Islands, and the Caroline Islands. PLA strategists and academics have long asserted the United States relies primarily on the first island chain and the second island chain to strategically "encircle" or "contain" China and prevent the PLA Navy from operating freely in the Western Pacific. Open Source Center, "PRC Article Surveys China's Naval Rivals, Challenges," January 6, 2012. ID: CPP20120109671003; Bernard D. Cole, *The Great Wall at Sea* (Second Edition), Naval Institute Press, 2010, 174-176.

China's space activities present important implications and policy questions for the United States. Space capabilities have been integrated into U.S. military operations to such an extent that U.S. national security is now dependent on the space domain, and China's 2007 antisatellite missile test in particular has been described by General John Hyten, commander of U.S. Air Force Space Command, as a "wakeup call" to the U.S. military regarding the vulnerability of its space assets. In the economic realm, U.S. providers of commercial satellites, space launch services, and GPS-based services may face increased competition as China seeks to expand its foothold in these markets, benefited by the blending of its civilian and military infrastructures and by government funding and policy support. U.S. export controls have also prompted many European countries and their industries to pursue space systems that are free of U.S. technologies-and therefore restrictions-in order to reach the Chinese market. Finally, China's achievements in space will provide Beijing with greater prestige in the international system and expand its growing space presence, concurrent with declining U.S. influence in space; the United States currently depends on Russian launch vehicles to send humans into space, and the International Space Station is scheduled for deorbiting around 2024. Moreover, given current Congressional restrictions on U.S.-China space cooperation, the United States would not participate in any space program involving China, which raises concerns that reduced U.S. investment in its manned space program could result in the continued erosion of its technological edge and a shift of influence within the international space community.

Conclusions

- China has become one of the top space powers in the world after decades of high prioritization and steady investment from China's leaders, indigenous research and development, and a significant effort to buy or otherwise appropriate technologies from foreign sources, especially the United States. Although China's space capabilities still generally lag behind those of the United States and Russia, its space program is expanding and accelerating rapidly as many other nations' programs proceed with dwindling resources and limited goals.
- China's aspirations in space are driven by its judgment that space power enables the country's military modernization, drives its economic and technological advancements, allows it to challenge U.S. information superiority during a conflict, and provides the Chinese Communist Party with significant domestic legitimacy and international prestige.
- China's space program involves a wide network of entities spanning its political, military, defense industry, and commercial sectors. Unlike the United States, China does not have distinctly separate military and civilian space programs. Under this nebulous framework, even ostensibly civilian projects, such as China's

human spaceflight missions, directly support the development of People's Liberation Army (PLA) space, counterspace, and conventional capabilities. Moreover, Chinese civilian and commercial satellites likely contribute to the PLA's command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) efforts whenever it is technically and logistically feasible for them to be so utilized, and they would probably be directly subordinate to the PLA during a crisis or conflict. Given the PLA's central role in all of China's space activities, U.S. cooperation with China on space issues could mean supporting the PLA's space and counterspace capabilities.

- China likely has capitalized on international cooperation to acquire the bulk of the technology and expertise needed for most of its space programs. China probably will continue to pursue close cooperation with international partners to overcome specific technical challenges and to meet its research and development objectives and launch timelines.
- Chinese analysts perceive that China's advances in space technology have become an important driver for the country's economic growth. Satellite and launch service sales provide China's defense industry with a growing source of revenue. Technology spin-offs offer competitive advantages in certain sectors, such as satellite navigation products. Exports of space technology-based products pose challenges to the United States not only due to the non-market-based nature of China's economy, but also due to military and security concerns.
- As China's developmental counterspace capabilities become operational, China will be able to hold at risk U.S. national security satellites in every orbital regime.
- China is testing increasingly complex co-orbital proximity capabilities. Although it may not develop or operationally deploy all of these co-orbital technologies for counterspace missions, China is setting a strong foundation for future co-orbital antisatellite systems that could include jammers, robotic arms, kinetic kill vehicles, and lasers.
- China is in the midst of an extensive space-based C4ISR modernization program that is improving the PLA's ability to command and control its forces; monitor global events and track regional military activities; and strike U.S. ships, aircraft, and bases operating as far away as Guam. As China continues to field additional intelligence, surveillance, and reconnaissance (ISR) satellites, its space-based ISR coverage almost certainly will become more accurate, responsive, and timely and could ultimately extend beyond the second island chain into the eastern Pacific Ocean and the Indian Ocean.
- China's rise as a major space power challenges decades of U.S. dominance in space—an arena in which the United States has substantial military, civilian, and commercial interests.

SECTION 3: CHINA'S OFFENSIVE MISSILE FORCES

China's offensive missile forces are integral to its military modernization objectives and its efforts to become a worldclass military capable of projecting power and denying access by adversaries to China's periphery. The PLA's Second Artillery Forceresponsible for China's missile forces initially as a solely nuclear force and since the 1990s as a conventional force as well-has taken on new missions and seen its bureaucratic status within the PLA elevated. The Second Artillery provides China with a decisive operational advantage over other regional militaries competing to defend maritime claims, and its long-range precision-strike capabilities improve its ability to engage the U.S. military at farther distances in the event of a conflict. These capabilities provide an increasingly robust deterrent against other military powers andin the case of China's nuclear arsenal—serve as a guarantor of state survival, ultimately bolstering the CCP leadership in its quest for legitimacy.

China is making significant gualitative improvements to its nuclear deterrent along with moderate quantitative increases in the course of its efforts to build a more modern nuclear force. China's nuclear doctrine is premised on the concept of a "lean and effective" force guided by a doctrine of "no-first-use" of nuclear weapons (although the exact circumstances under which China would use nuclear weapons, what China would consider "first use," and whether the policy may be reconsidered have been subjects of debate). China has approximately 250 nuclear warheads, according to unofficial sources. It has specifically invested in enhancing its theater nuclear force and diversifying its nuclear strike capabilities away from liquid-fueled, silo-based systems. China's DF-5 missiles have been equipped with multiple independently-targetable reentry vehicles, confirmed by the U.S. Department of Defense (DOD) for the first time in 2015; newer intercontinental ballistic missiles (ICBMs) in development could also have this capability, increasing China's ability to penetrate adversary missile defenses and enhancing the credibility of its nuclear forces as a deterrent. China is expected to conduct its first nuclear deterrence submarine patrols using the JIN-class nuclear-powered ballistic missile submarine by the end of 2015, marking China's first credible at-sea second-strike nuclear capability and presumably requiring changes to its "de-alerting" policy of keeping nuclear warheads stored separately from missiles. China may also be developing a nuclear-capable air-launched cruise missile, the CJ-20, potentially



FIGURE 6: CHINA'S MEDIUM AND INTERCONTINENTAL RANGE BALLISTIC MISSILES

Note: DOD uses a mix of both Chinese and NATO designators in the above graphic. Source: U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015, April 2015, 88.

FIGURE 7: SELECT CONVENTIONAL STRIKE CAPABILITIES



Note: DDD uses a mix of both Chinese/Russian and NATO designators in the above graphic. CSS-6 and CSS-7 are the NATO designators for the DF-15 and DF-11, respectively. CSS-5 refers to the DF-21 ballistic missile. FB-7 is the NATO designator for the PLA's JH-7 fighter bomber, and B-6 is the designator for the PLA's H-6 bomber. *Source:* U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015*, April 2015, 87.

introducing an air-delivered theater nuclear strike capability into its arsenal for the first time. Importantly, as stated by Dr. Christopher Yeaw, founder and director of the Center for Assurance, Deterrence, Escalation, and Nonproliferation Science & Education, in his testimony to the Commission, China may also perceive its nuclear arsenal to be useful in the political management of an unsustainable conventional conflict, in which it would punctuate non-nuclear operations with tactical- or theater-level nuclear strikes to seek deescalation on terms favorable to China. A key implication of this approach for the United States is that China "may escalate across the nuclear threshold at a time and manner, and for a purpose, that we do not expect."

China has achieved extraordinarily rapid growth in its conventional missile capability, according to DOD, developing a wide range of conventional ballistic and cruise missiles to hold targets at risk throughout the region, even as far as the second island chain. China's short-range ballistic missile (SRBM) force has grown from 30 to 50 missiles in the mid-1990s to at least 1,200 in 2015, mostly deployed along the Taiwan Strait. China's development of medium-range ballistic missiles (MRBMs) and intermediate-range ballistic missiles (IRBMs) provide the ability to conduct precision strikes against land

and naval targets within the first island chain. China in 2010 fielded the world's first antiship ballistic missile, an MRBM variant known as the DF-21D, and revealed at a September 2015 military parade that the DF-26 IRBM-with a stated range reaching out to the second island chain, including Guam-also has an antiship variant. China has also continued to modernize its cruise missiles, most notably by developing two supersonic antiship cruise missiles: the surface ship- or submarine-launched YJ-18 and the air-launched YJ-12, both of which will provide a significant range extension over previous capabilities. China has a hypersonic weapons program in developmental stages, and reportedly conducted its fourth and fifth hypersonic glide vehicle tests in 2015, after conducting three in 2014. Mark Stokes, executive director of the Project 2049 Institute, testified to the Commission that China may be able to field a regional hypersonic glide vehicle by 2020 and a supersonic combustion ramjet-propelled cruise vehicle with global range before 2025. Whether China arms its hypersonic weapons with nuclear or conventional payloads-or both-will provide more information regarding how it intends to incorporate hypersonic weapons into PLA planning and operations.

The increasing survivability, lethality, and penetrability of China's missile forces present several implications for the United States. First, these forces can threaten increasingly greater portions of the Western Pacific, and a spending competition between additional Chinese missiles and U.S. missile defense systems would likely be highly unfavorable to the United States based on relative cost. In response, the United States is working to develop lower-cost-per-shot missile defense systems, while other options include disrupting networks that would support Chinese missile forces or using long-range stealth bombers to operate beyond the reach of advanced Chinese missiles. Second, China's increasing ability to threaten U.S. partners and allies with its missile arsenal supports its regional ambitions, improves its coercive ability, weakens the value of deterrence efforts targeted against it, and widens the range of possibilities that might draw the United States into a conflict. Third, China's missile buildup has contributed to a U.S. policy debate regarding the modern-day relevance of U.S. treaty obligations to forgo developing ground-launched ballistic and cruise missiles with ranges of between 500 and 5,500 kilometers (311 and 3,418 miles); some experts suggest modifications could allow the United States to strengthen its regional deterrence capabilities. Finally, these developments present new challenges for the United States and China as they consider how to successfully manage and deescalate potential crises in an environment with new factors of instability.

Conclusions

The chief roles of China's nuclear arsenal are to deter an adversary from undertaking a nuclear first strike and to reduce the pressure on China to yield to an adversary's demands, or desist from aggression, under threat of nuclear attack. China's belief that its nuclear arsenal would deter an adversary from taking a conventional fight into the nuclear realm could encourage it to be more adventurous in its risk-taking during a crisis because it may not sufficiently fear the prospect of nuclear escalation.

- China is secretive about the details of its official nuclear policy, leading to uncertainty regarding key principles of its nuclear weapons doctrine. Key elements of China's nuclear policy, such as its "no-first-use" pledge and presumptive de-alerting policy, may be under reconsideration but are unlikely to change officially.
- China appears to be pursuing a theater nuclear capability in addition to the strategic nuclear capability it has maintained since it became a nuclear state in the 1960s. In a conflict, China's maturing theater nuclear capability could provide it with the means to flexibly employ nuclear weapons to deescalate or otherwise shape the direction of conflict.
- China is pursuing a credible second-strike capability with an emphasis on survivability against an adversary's first strike. By diversifying its nuclear strike capabilities away from solely land-based systems in silos, China seeks to ensure its ability to absorb a nuclear strike and retaliate in kind. Examples of this diversification include road-mobile intercontinental ballistic missiles, submarine-launched ballistic missiles, and potentially airlaunched land-attack cruise missiles.
- China's initial development of its conventional missile forces focused heavily on expanding its short-range ballistic missile force for Taiwan contingencies. In the past decade, China's development of longer-range missiles, pursuit of advanced missile technologies, and diversification of launch platforms have enabled it to hold at risk a wider range of targets farther from its shores.
- China is developing cruise missiles that are increasingly difficult for the U.S. military to detect and defend against. The People's Liberation Army (PLA) has fielded its first ground-launched landattack cruise missile, and also appears to be developing air-, ship-, and submarine-launched cruise missiles with land-attack and antiship missions. China is in the midst of improving the qualitative aspects of its cruise missile technologies; in the meantime, the quantitative strength of its cruise missiles poses a formidable challenge to existing U.S. Navy defenses.
- China recognizes that adversary missile defenses—particularly the U.S. ballistic missile defense architecture—pose a major challenge to the success of its missile operations. As a result, China is developing measures to improve its forces' ability to penetrate opposing missile defenses, such as multiple independentlytargetable reentry vehicles, maneuverable reentry vehicles, and hypersonic weapons.
- To realize the full potential of its long-range precision strike capabilities, China requires detailed awareness of a potential battlespace as well as the ability to obtain targeting data at increasingly farther distances from the Chinese mainland. Effective and timely target selection and information coordination is an area the PLA continues to seek to improve.

Chapter 3: China and the World

SECTION 1: CHINA AND CENTRAL ASIA

One of the most visible manifestations of China's expanding global engagement has been its cultivation of close economic, political, and security ties with countries in Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). Beijing sees Central Asia as a potential land bridge to markets in the Middle East and Europe, a source of much-needed oil and natural gas resources, and a dependable bastion of diplomatic support. But Central Asia is also a source of anxiety for Beijing, which fears Islamist groups in its economically and politically restive western province of Xinjiang will find common cause with extremist or terrorist groups operating in the region. As the United States reshapes its own Central Asia policy in the wake of the drawdown in Afghanistan, it will have to take China's growing presence there into careful consideration.

The centerpiece of China's engagement with Central Asia, the "Silk Road Economic Belt" initiative, was announced by President Xi in 2013, but it is not new. Rather, it is a culmination and a rebranding of several previous policies and projects aimed at linking China with its trading partners. The land-based Silk Road Economic Belt has a maritime counterpart, the "21st Century Maritime Silk Road," which will run from China's coast through Southeast Asia and the Indian Ocean to Africa and the Mediterranean Sea. Together, they form the One Belt, One Road initiative. To facilitate its engagement with countries that fall within One Belt, One Road, China's State Council created the \$40 billion Silk Road Fund, which began operating in February 2015.





Source: Charles Clover and Lucy Hornby, "China's Great Game: Road to a New Empire," Financial Times, October 12, 2015.

FIGURE 9: OIL AND NATURAL GAS PIPELINES FROM CENTRAL ASIA TO CHINA



Source: Tom Miller, "Travels along the New Silk Road: The Economics of Power," Gavekal Dragonomics, October 24, 2014.

Although the primary objective of China's economic engagement with Central Asia is to promote the security and development of Xinjiang, this policy has significant benefits for China's overall economic growth. First, China intends to diversify its energy portfolio by gaining access to Central Asian resources. Second, Beijing seeks to develop new markets for its companies through construction of roads and railways, with the ultimate goal of reaching Russia, Iran, and Europe. This has an added corollary of creating outlets for Chinese industries such as iron, steel, and cement, which are experiencing overcapacity and slackening domestic demand due to China's economic slowdown. Finally, China seeks to engender political goodwill and influence by fostering economically based "good neighborly relations." For landlocked Central Asia, China's economic largesse is an opportunity to upgrade its outdated infrastructure and connect to the global economy. Central Asian states also welcome China as a counterbalance to Russia, which until recently tended to economically dominate the former Soviet republics.

While China's economic engagement with Central Asia appears most often in imports of natural resources or investment in energy companies and energy-related infrastructure, China has also become an important source of exports of manufactured goods and loans to non-energy-related projects. The structure of the trade shows a lack of diversity, with China exporting finished goods and importing natural resources. Despite the strength of its energy exports, Central Asia as a whole tends to run trade deficits with China. China's security relations with Central Asia focus largely on counterterrorism and are designed to bolster China's stability and security objectives in Xinjiang. Most of China's security cooperation with the region occurs via the Shanghai Cooperation Organization, which currently includes four Central Asian countries, Russia, and China, but which China dominates. The organization has yet to take on some of Central Asia's biggest security challenges, but Beijing finds it useful because it is a resource for regional intelligence on terrorist threats and because it provides China with an opportunity to demonstrate regional leadership. The sources of instability that concern China in Central Asia are even more prevalent in Afghanistan, and China is positioning itself to take on greater responsibility for its neighbor's security in anticipation of the withdrawal of U.S. and international forces. China's growing interest in the region's security provides opportunities for cooperation with the United States on shared goals. However, the Chinese and Central Asian governments' heavy-handed approaches to security threats can come into conflict with the U.S. values of transparency, openness, and rule of law.

Conclusions

- Although engagement with Central Asia has been a longstanding endeavor for the Chinese government, Chinese President Xi Jinping has recently elevated the region in China's foreign policy in the form of the Silk Road Economic Belt initiative, which envisions a massive network of trade and infrastructure connecting China with Europe by way of Central Asia.
- China's overarching objective for engagement with Central Asia is to encourage economic development and stability in its westernmost province, Xinjiang, which shares an extensive border with Kazakhstan, Kyrgyzstan, and Tajikistan. Chinese leaders perceive ethnic tensions, separatist movements, and related violent activity in Xinjiang to be among the greatest security threats facing China today, and fear patterns of religious extremism and terrorism in Central Asia enable this unstable environment. Therefore, Beijing uses its relations with Central Asian governments to seek to neutralize and eradicate these perceived threats.
- China's security cooperation with Central Asia is designed to augment domestic security policies in Xinjiang, and therefore focuses on counterterrorism and information sharing about extremist and terrorist groups and individuals. China's security engagement with the region occurs primarily via the Shanghai Cooperation Organization, which China uses as a tool to influence and demonstrate leadership in the region, but which has yet to play a significant security-providing role.

- Although the primary objective of China's economic engagement with Central Asia is to promote the security and development of Xinjiang, this domestic-oriented policy also promotes China's overall economic growth by (1) allowing China to diversify its energy portfolio by gaining access to Central Asian resources, (2) developing new markets for its companies in industries experiencing overcapacity at home, and (3) engendering goodwill toward its policies in the region.
- China's trade with the region is growing rapidly, but it is very unbalanced, with China exporting finished goods and importing natural resources. Despite the strength of its energy exports, Central Asia as a whole tends to run trade deficits with China. For most countries in the region, China is the biggest trade partner. Kazakhstan, the region's largest economy, is the biggest recipient of Chinese trade, investment, and loans. Through its massive investments in Central Asia's infrastructure—including roads, railways, hydroelectricity, and telecommunications—China has also become a de facto provider of development assistance.
- Chinese leaders look to oil- and natural gas-rich Central Asian countries to diversify China's energy sources, though the volumes involved will not be sufficient to overcome China's dependence on traditional sources of hydrocarbon imports, particularly Middle Eastern oil. One notable exception is Turkmenistan, which in recent years has emerged as China's largest supplier of natural gas, accounting for 44 percent of China's imports in 2014.
- As China's influence in Central Asia grows, it increasingly is competing with Russia, which has long dominated the region in the economic, security, and cultural realms. China now dominates in the economic realm, though Russia is still the primary military and cultural power in the region. Beijing, which seeks stable ties with Moscow, avoids creating the perception of overt competition between the two countries.
- After several years of relative disinterest, China has been increasing engagement with Afghanistan since 2012. As with Central Asia, China fears extremist and terrorist elements in Afghanistan contribute to instability in Xinjiang. Anticipating the U.S. withdrawal from Afghanistan, China is starting to realize it will have to involve itself in the country's reconstruction and stabilization to preserve stability and security in Xinjiang.
- China and the United States appear to share similar priorities in Central Asia, such as promoting economic growth and connectivity and preventing the spread of extremism and terrorism. Yet Beijing and Washington pursue these goals in very different ways, which could make meaningful cooperation in the region challenging. In particular, while the United States seeks to encourage democratization and discourage corruption in government and business, China supports the region's authoritarian governments and is more tolerant of the region's widespread corruption.

SECTION 2: CHINA AND SOUTHEAST ASIA

China's relationships with Southeast Asian countries are complex. Although economic ties between China and Southeast Asia have expanded in recent years, China has become more assertive in advancing its territorial claims in the South China Sea at the expense of its Southeast Asian neighbors.

China's land reclamation and construction on disputed land features in the South China Sea have cast a shadow over China-Southeast Asia relations since 2014. Over the last two years, China has expanded seven land features it controls in the Spratly Islands by more than 2,900 acres—the equivalent size of more than 2,000 football fields. China is also building, expanding, and upgrading military and civilian infrastructure, including at least one, and up to three, airstrips, on these artificial islands. The scale and speed of China's land reclamation has far outpaced those of other claimants. China will be able to use these land features to bolster its ability to sustain its military and maritime law enforcement presence in the South China Sea.

FIGURE 10: CHINA'S LAND RECLAMATION AND CONSTRUCTION ON FIERY CROSS REEF, AUGUST 2014 TO SEPTEMBER 2015





Source: Figure adapted from Center for Strategic and International Studies, Asia Maritime Transparency Initiative, "Fiery Cross Reef Tracker." *http://amti.csis.org/fiery-cross-reef-tracker/*; Center for Strategic and International Studies, Asia Maritime Transparency Initiative, "Spratly Islands Update: Is Mischief Reef Next?" *http://amti.csis.org/new-imagery-release/*.

FIGURE 11: ASEAN-CHINA TRADE BALANCE



2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

Source: China General Administration of Customs, via CEIC database; Tradingeconomics.com.

Rival claimants Vietnam and the Philippines (a U.S. treaty ally) are impacted the most, but even neutral parties like Singapore and Indonesia have expressed concern about China's activities. In 2015, the Association of Southeast Asian Nations (ASEAN) issued its strongest statements about the South China Sea yet, including assertions that China's land reclamation activities "eroded trust and confidence and may undermine peace, security and stability in the South China Sea," and that these activities have "increased tensions." Moreover, China's assertive approach to the South China Sea disputes in recent years has prompted Southeast Asian countries to enhance their maritime security capabilities and strengthen security cooperation with the United States and other countries in the Asia Pacific, particularly Japan.

Even as China's activities in the South China Sea create security challenges in Southeast Asia, China has enhanced security cooperation with some countries in the region through military aid, exercises, and cooperation on nontraditional security challenges.

Amid its increasingly strained relations with Southeast Asia, China has employed economic cooperation as a means to diffuse tensions and garner diplomatic goodwill. China has done so through both increased economic assistance and deeper economic integration with Southeast Asia. Two key initiatives by China to expand economic assistance to the region include the 21st Century Maritime Silk Road and the AIIB. Under the banner of the Maritime Silk Road, China has pledged to extend more loans and investments to ASEAN members, with assistance targeting infrastructure development and poverty alleviation. The AIIB, which is led by China and includes all ten ASEAN nations as members, will likely serve as another important vehicle for China to channel its development aid to Southeast Asia in hopes of gaining diplomatic leverage.

However, whatever goodwill China may gain from these initiatives may be tempered by strains in other areas of China-Southeast Asia economic relations. As a whole, Southeast Asia has grown more economically integrated with China, with two-way trade and investment and use of the RMB in international transactions rising significantly in recent years. China's growing economic influence in Southeast Asia has raised concerns that ASEAN countries may become overly dependent on China and are at risk of economic coercion. For example, since the implementation of an ASEAN-China Free Trade Area in 2010, ASEAN failed to maintain a long-standing trade surplus with China, and instead has experienced a large and rapidly increasingly trade deficit, which reached nearly \$90 billion in 2014. In addition, China's construction of hydropower dams along the Mekong River and plans for large-scale water diversion projects are creating friction with downstream Southeast Asian countries. These lower Mekong countries, especially Cambodia and Vietnam, are vulnerable to the river's altered water levels and ecological damage caused by these projects.

FIGURE 12: SOUTH CHINA SEA MAP



Source: Economist, "The South China Sea: Making Waves," May 2, 2015.

Conclusions

- China's approach to Southeast Asia involves both consolidating its territorial claims in the South China Sea and seeking to improve economic ties with countries in Southeast Asia. China's leaders seem to believe that striking a balance between these two endeavors enables China to protect its perceived sovereignty in the South China Sea and benefit from economic engagement with the region, while ensuring tensions along its periphery do not become intolerably high for Beijing.
- Since late 2013, China has conducted dramatic land reclamation and construction activities on the land features it controls in the Spratly Islands. These rapid activities appear to be driven by several factors: China's desire to unilaterally impose its claims and avoid arbitration or negotiation with other parties over the disputes; China's ambition to enhance its ability to project power into the South China Sea; and, potentially, China's intention to establish an air defense identification zone over part of the South China Sea.
- Southeast Asian countries have reacted with increasing alarm to China's activities in the South China Sea. They continue to enhance their military and civilian maritime patrol capabilities and to strengthen security relations with the United States and other countries in the Asia Pacific. However, despite growing worry among Southeast Asian countries about China, and rising assertiveness in expressing these concerns, they still seek to preserve positive relations with China and appear to still be balancing their relationships with China and the United States.
- Although historical animosities and China's actions in the South China Sea continue to hamper trust of China in Southeast Asian capitals, defense and security cooperation between China and countries in Southeast Asia has grown over the last 15 years. China's most prominent defense ties in Southeast Asia are with countries in mainland Southeast Asia: Burma (Myanmar), Cambodia, Laos, and Thailand, all of which are among its nearest neighbors. China has also increasingly engaged with Southeast Asian countries in the areas of nontraditional security and humanitarian assistance and disaster relief.
- China is vastly expanding its foreign assistance and investment programs in Southeast Asia as a means of achieving its foreign policy goals in the region, including efforts to defuse tensions surrounding contentious disputes such as those in the South China Sea. Chinese foreign assistance to Southeast Asia comes primarily in the form of infrastructure investment, and projects are frequently implemented by Chinese firms using Chinese labor, limiting the benefits for local communities.
- The Association of Southeast Asian Nations' (ASEAN) trade liberalization with China from 2004 to 2010 has led to a large and growing bilateral trade deficit. Economic integration has also increased the association's vulnerability to fluctuations in China's economy, with China's recent economic slowdown exacerbating ASEAN's trade deficit with China.

- Use of the renminbi (RMB) in international transactions is expanding rapidly in Southeast Asia and paving the way toward more extensive use of the currency regionally. Limited progress in advancing multilateral monetary cooperation in Southeast Asia, such as through the Chiang Mai Initiative Multilateralization, may allow for the RMB's increased circulation in the region.
- China continues to unilaterally construct dams along the Mekong River without any obligation to share information about water management with downstream Mekong countries. China's actions on the Mekong are causing major fluctuations in water levels in the Mekong Basin, but China has expressed little interest in cooperating with its southern neighbors by joining the Mekong River Commission. Dam construction and resource mismanagement by downstream nations also pose a significant problem.

SECTION 3: TAIWAN

Cross-Strait relations in 2015 were essentially stable, but could be facing a major shift with Taiwan's national elections approaching in January 2016 and the Democratic Progressive Party (DPP)— Taiwan's opposition and traditionally pro-independence party leading in presidential polls. Taiwan citizens' wariness of China, spurred by the Mainland's increasing economic interconnectedness with Taiwan, appears to be partially responsible for flagging public confidence in Taiwan's Kuomintang (KMT)-led government. Some observers assess Beijing is worried that if DPP Chairperson Tsai Ing-wen is elected, she may seek to steer Taiwan toward de jure independence, even though Chairperson Tsai's comments on cross-Strait matters have seemed pragmatic and favorable of the status quo. Still, should the DPP win, it is unclear how Beijing would approach relations with Taipei.

FIGURE 13: TAIWAN'S TRADE WITH CHINA, 2008–2014



Source: Bureau of Foreign Trade (Taiwan).

FIGURE 14: GAP BETWEEN ANNOUNCED DEFENSE BUDGETS OF CHINA AND TAIWAN, 2005–2015



Note: These numbers represent both China's and Taiwan's announced official defense budgets, not actual aggregate defense spending. China's figures are converted from RMB into U.S. dollars based on China's year-end nominal exchange rate. *Source:* Various sources. See full Annual Report.

Cross-Strait economic ties continued to grow even as progress on major cross-Strait negotiations slowed and the ratification of signed cross-Strait agreements stalled since the 2014 Sunflower Movement, during which protestors occupied Taiwan's legislature in opposition to the Cross-Strait Services Trade Agreement. As of August 2015, China remains Taiwan's largest trading partner, top source of imports, and biggest export market. Annual cross-Strait trade in 2014 reached \$130.2 billion, a 32 percent increase from 2008. Growth in Taiwan exports to China slowed, in part due to the rise of Chinese competitors, while Chinese exports to Taiwan reached an all-time high, exceeding \$48 billion. According to official Taiwan data, Taiwan FDI into China reached \$10.3 billion in 2014, increasing for the first time since 2010 (and far outpacing mainland FDI in Taiwan), but analysts believe this number is significantly undervalued.

Although China pressures other countries through the UN and other international organizations to restrict Taiwan's full participation in the international community, Taiwan is actively pursuing greater international space in a number of areas. Taipei has expressed interest in joining regional trade and investment regimes, such as the U.S.-led Trans Pacific Partnership, to encourage economic growth and new market opportunities. While China has been increasingly assertive in the East and South China seas, Taiwan has proposed diplomatic frameworks and signed fisheries agreements with other claimants to encourage the shelving of territorial disputes and promotion of joint resource development, and has taken steps to clarify its own claims in the East and South China seas according to international law. U.S.-Taiwan relations in 2015 remained strong, despite the lack of substantive progress on bilateral trade and investment negotiations and the absence of major U.S. arms sales to Taiwan since 2011. In 2014, annual bilateral trade reached a record high, increasing by 6 percent to \$67.4 billion, while Taiwan became the tenth-largest trading partner of the United States, passing both India and Saudi Arabia. U.S.-Taiwan military-to-military contacts also increased in 2014. That year, over 3,000 DOD personnel conducted visits to Taiwan, a 50 percent increase over visits in 2013.

Seven years of cross-Strait rapprochement have been beneficial to the United States by reducing cross-Strait tensions and allowing U.S. policymakers to address other priorities in the U.S.-China and U.S.-Taiwan relationships. Nonetheless, China's military exercises and military modernization are still largely directed toward its mission to eventually reunify Taiwan with the Mainland. Taiwan's focus on indigenous weapons platforms and asymmetric capabilities, along with its expanded defense engagement with the United States, has served to improve its ability to inflict costs on China should it decide to use force against Taiwan, but the cross-Strait military balance continues to shift in Beijing's favor. With Taipei's stagnating defense budget and capabilities and China's improving antiaccess/area denial capabilities threatening to keep U.S. forces farther from China's shores, Beijing has increasing advantages in a Taiwan contingency, raising the cost for the United States to take action in a crisis or conflict.

Conclusions

- Taiwan and China have enjoyed seven years of increased economic and trade ties, but fears among Taiwan citizens about economic coercion and China's political encroachment over Taiwan are more widespread than in the past.
- The younger generation of Taiwan citizens appears to view itself increasingly as Taiwanese rather than Chinese, and to be willing to take visible and substantial steps to assert their national identity. This has the potential to disrupt the diplomatic narrative that has allowed China and Taiwan to coexist without armed conflict. At the same time, Taiwan may not have the will or ability to counterbalance the growing Chinese military advantage. In view of China's growing power in the region as a whole, these trends have the potential to create stress on the ability of the United States to meet its obligations to Taiwan under the Taiwan Relations Act.
- Although China restricts Taiwan's ability to join multilateral institutions, Taiwan continues to make some progress on issues affecting its international space. Were Taiwan to succeed in its efforts to participate in emerging regional economic mechanisms like the Asian Infrastructure Investment Bank, Regional Comprehensive Economic Partnership, and Trans-Pacific Partnership, its integration in the region and ability to make a positive contribution to the international community would increase further.

- In response to China's increasingly assertive actions in the East and South China seas, Taiwan has initiated diplomatic frameworks and signed agreements with claimants to encourage the shelving of territorial disputes and promotion of joint resource development. Through an updated fisheries agreement with Japan and steps taken to clarify its claims in the South China Sea over the past year, Taiwan continues to play a role in helping preserve regional stability.
- The United States and Taiwan share a close relationship based on common democratic values, strong commercial ties, and a U.S. commitment to aid in Taiwan's defense. U.S.-Taiwan trade is at a record high, underlying Taiwan's increasing importance as a close economic partner. Furthermore, the United States continues to support Taiwan's defense through increasing military-to-military contact and other discreet defense cooperation.
- China's military modernization continues to focus on its ability to conduct military operations against Taiwan and deter the United States from defending Taiwan in a potential conflict. Although Taiwan has improved its defense capabilities through a combination of domestic production and acquisition of arms from the United States, the cross-Strait military balance of power continues to shift strongly in China's favor.

SECTION 4: HONG KONG

Extended periods of public debate and protests in Hong Kong surrounding how to elect the region's next top leader, the chief executive, continued into early 2015. In August 2014, the Politburo Standing Committee of the CCP offered an electoral reform framework featuring a restrictive nomination mechanism that effectively precluded the nomination of prodemocracy candidates. In response, prodemocracy activists rejected Beijing's framework and sought universal suffrage with a genuine choice of candidates.

On June 18, 2015, several months after the protests dispersed, electoral reform legislation based on the Standing Committee's framework was voted down in Hong Kong's Legislative Council (LegCo) by all 27 pan-democrat legislators and one proestablishment lawmaker. Only eight pro-establishment lawmakers voted in favor of the plan, allegedly due to a miscommunication when 31 LegCo members walked out in a botched attempt to delay the vote. As a result of LegCo's defeat of the electoral reform plan, the current election framework-whereby the chief executive is chosen by a 1,200-member election committee representing only 0.02 percent of eligible voters-will be used for the 2017 chief executive election. While Hong Kong's government could expand the voting base by implementing local legislation to bypass the constitutional amendment process, political divisions in LegCo make it unlikely that the method for electing the chief executive in 2017 will differ from the current method.

FIGURE 15: MARKET CAPITALIZATION OF MAINLAND FIRMS LISTED IN HONG KONG



Note: "Mainland firms" refers to the following: (1) H-share companies, which are incorporated on the Mainland and controlled by either mainland government entities or individuals; (2) red chip companies, which are incorporated outside of the Mainland and controlled by mainland government entities; and (3) mainland private enterprises, which are incorporated outside of the Mainland and controlled by mainland government entities; and (3) mainland private enterprises, which are incorporated outside of the Mainland and controlled by mainland individuals. Hong Kong Exchanges and Clearing, "Market Statistics 2014," January 8, 2015, 14. *https://www.hkex.com.hk/eng/newsconsul/hkexnews/2015/Documents/150108news.pdf. Source:* Hong Kong Exchanges and Clearing, "Market Statistics 2014," Jan. 8, 2015, 16. *https://www.hkex.com.hk/eng/newsconsul/hkexnews/2015/Documents/150108news.pdf.*

Hong Kong's press freedom ranking continued an overall downward trend in 2015, with watchdog organizations noting the enormous economic and political influence Beijing wields to exert indirect pressure on media, resulting in growing self-censorship. Some media organizations, including television, radio, and print news outlets, faced accusations of self-censorship over coverage of the prodemocracy movement, raising concerns about credibility. This trend is highlighted by the shuffling of senior management and editors and controversial editorial practices at several of Hong Kong's most prominent news outlets. Academic freedom also came under scrutiny in 2015 at one of Hong Kong's top universities. The prolonged delay and ultimate rejection of the appointment of a University of Hong Kong administrator involved in the prodemocracy movement led many in the academic community to criticize the university governance structure.

In its capacity as an international financial center and offshore RMB hub, Hong Kong is being used by the Mainland to push through reforms, including development of its domestic financial market, improvement of the international competitiveness of its firms, and managed liberalization of its capital account. As of December 2014, a total of 149 authorized banking institutions in Hong Kong engaged in RMB business, with RMB deposits worth more than \$161 billion (RMB 1 trillion), accounting for approximately 24 percent of foreign currency deposits among authorized institutions there.

FIGURE 16: HONG KONG'S GLOBAL PRESS FREEDOM RANKING, 2005–2015

(GLOBAL RANKING OUT OF APPROXIMATELY 190)



Note: Due to a change in methodology, Reporters Without Borders (RWB) published one set of global scores for 2011–2012 rather than two separate sets of scores. RWB published its first world press freedom index report in 2002, while Freedom House did not consistently report the status of press freedom in Hong Kong until 2005.

Source: Freedom House, "2015 Freedom of the Press Data." https://freedomhouse.org/ report-types/freedompress#.VaQzQvIVifJ; Reporters Without Borders, "Details about Hong Kong," in 2015 World Press Freedom Index. https://index.rsf.org/#!/index-details/HKG.

The Hong Kong and Chinese stock markets are also bringing the two economies closer together. In line with China's "going global" strategy, which encourages Chinese firms to both invest abroad and expand overseas operations, mainland firms are increasingly participating in Hong Kong's equity market—among the \$30 billion in initial public offering funds raised last year on the Hong Kong Stock Exchange, Chinese firms contributed approximately 86 percent. As of December 31, 2014, 876 mainland enterprises were listed on the Hong Kong exchange—50 percent of the total number of listed companies—accounting for 60 percent of the total market capitalization. Mainland enterprises benefit from raising capital in a freely convertible currency and taking advantage of the Hong Kong market's greater liquidity and its more effective and better regulated risk management investment instruments.

Meanwhile, several new developments aimed at enhancing market transparency, foreign investor access on the Mainland, and crossborder fund flows have been introduced. The Shanghai-Hong Kong Stock Connect, launched in November 2014, enables institutional or retail foreign investors for the first time to trade shares in mainland China-based companies traded on Chinese exchanges. Though daily trading through the link has been minimal, it has provided additional liquidity for Hong Kong's stock market and supports the region's offshore RMB business and its role as a financial gateway to China. However, a number of restrictive features of the stock link may create operational complexity and introduce risk, especially given recent volatility in mainland stock markets. In July 2015, Chinese and Hong Kong financial regulators jointly announced the introduction of a longawaited "Mutual Recognition of Funds" initiative, giving international asset managers a channel to access mainland China's growing and previously untapped retail investor market boosted by a growing middle class and a huge pool of domestic savings.

Conclusions

- In June 2015, Hong Kong's Legislative Council voted down electoral reform legislation based on a framework designed by China's central government. This framework would have limited the candidates eligible for chief executive nomination to those acceptable to Beijing. As a result, election of the chief executive in 2017 will employ the same method as the 2012 chief executive election, whereby a 1,200 member committee elects the leader.
- Members of the general public, legislators, students, and other vested parties lack consensus on how to pursue electoral reform in Hong Kong's future chief executive and Legislative Council elections.

- Press freedom in Hong Kong is increasingly under pressure due to recent instances of violence against journalists, increasing political and economic pressure to self-censor, and use of economic coercion to disrupt independent reporting. The absence of a freedom of information law in Hong Kong also contributes to a lack of transparency with regard to open access to and preservation of government records.
- Hong Kong's world-class economy, particularly its capital markets, is playing an increasingly pivotal role in mainland China's efforts to push through financial reforms, including development of its domestic financial market, improvement of the international competitiveness of its firms, and liberalization of its capital account.
- In an effort to internationalize the renminbi, among other objectives, Hong Kong and mainland China have jointly established a number of pilot programs, including the Shanghai-Hong Kong Stock Connect and the Mutual Recognition of Funds initiative, to boost international participation in China's markets. These developments are expected to enhance market transparency and foreign investor access on the Mainland and enhance cross-border fund flows.
- Deepening integration exposes Hong Kong to the risks inherent in China's volatile equity markets, presenting operational risks for some investors. Moreover, foreign investment into mainland markets through Hong Kong still faces structural and quantitative limitations.

Comprehensive List of the Commission's Recommendations

The Commission considers 10 of its 37 recommendations to Congress to be of particular significance. These recommendations are denoted **in bold blue text**.

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

SECTION 2: FOREIGN INVESTMENT CLIMATE IN CHINA

The Commission recommends:

- Congress assess the ability of, and if necessary amend, existing U.S. trade laws to address China's industrial policies, abusive legal or administrative processes, and discriminatory treatment of foreign investors, and to determine the consistency of these practices with China's World Trade Organization commitments.
- 2. Congress consider legislation requiring the President to submit a request to Congress for approval before any change occurs, either for the country as a whole or for individual sectors or entities, in China's status as a non-market economy. Under such legislation, any change to the designation of China could not proceed without the consent of both Houses of Congress.
- 3. Congress consider legislation conditioning the provision of market access to Chinese investors in the United States on a reciprocal, sector-by-sector basis to provide a level playing field for U.S. investors in China.
- 4. Congress direct U.S. antitrust enforcement agencies to conduct an analysis and legal assessment of alleged anticompetitive behavior by Chinese antitrust enforcers, and report in full on enforcement activities.
- 5. Congress expand the guidelines for consultation and transparency relating to trade negotiations covered by Trade Promotion Authority to include negotiations on a Bilateral Investment Treaty between the United States and China.
- 6. Congress require the Administration to provide a comprehensive, publicly-available assessment of Chinese foreign direct investments in the United States prior to completion of negotiations on a Bilateral Investment Treaty. This assessment should include an identification of the nature of investments, whether investments received support of any kind from the Chinese government and at which level (national, provincial, or municipal), and the sector in which the investment was made.

7. Congress urge the U.S. Trade Representative to initiate consultations with China's Ministry of Commerce to identify the extent to which China's policy regarding subsidies and other incentives for purchases of domestically-produced new energy vehicles may violate its World Trade Organization commitments and what steps should be taken to address any inconsistencies with those commitments.

SECTION 3: CHINA'S STATE-LED MARKET REFORM AND COMPETITIVENESS AGENDA

- 8. Congress direct the U.S. Government Accountability Office to prepare a report that analyzes U.S. exposure to China's financial sector, the progress of China's financial sector reforms, and the effect of China's financial sector reforms on the U.S. and global financial systems, and identifies the policies the U.S. government is adopting to protect U.S. interests in light of this changing environment.
- **9.** Congress urge the U.S. Department of Commerce to undertake a comprehensive review and prepare a report on China's Made in China 2025 and Internet Plus initiatives, including their forced localization of manufacturing and research and development requirements, to determine their potential impact on domestic U.S. production and market access for U.S. firms.
- 10. Congress direct the U.S. Environmental Protection Agency, U.S. Department of Energy, and U.S. Department of Commerce to jointly prepare a report that outlines China's stated targets to address pollution and climate change, and evaluates whether the Chinese government has allocated sufficient resources (including expenditures) to meet those commitments.

SECTION 4: COMMERCIAL CYBER ESPIONAGE AND BARRIERS TO DIGITAL TRADE IN CHINA

The Commission recommends:

- 11. Congress assess the coverage of U.S. law to determine whether U.S.-based companies that have been hacked should be allowed to engage in counterintrusions for the purpose of recovering, erasing, or altering stolen data in offending computer networks. In addition, Congress should study the feasibility of a foreign intelligence cyber court to hear evidence from U.S. victims of cyber attacks and decide whether the U.S. government might undertake counterintrusions on a victim's behalf.
- 12. Congress require the Administration to prepare an annual classified report on foreign government-sponsored cyber attacks against all Federal Government agencies, including but not limited to an assessment of the damage and the affected agencies' plans to secure their networks against further attacks.
- 13. Congress consider legislation amending the Federal Information Security Modernization Act of 2014 to require an annual review by the U.S. Department of Homeland Security of the steps taken by all federal agencies to ensure that adequate systems are in place to protect cyber assets.
- 14. Congress pass legislation to require the Securities and Exchange Commission (SEC) to make clear to publicly traded companies and their investors the circumstances under which the theft of intellectual property through a computer network intrusion may be a material fact that might affect a company's revenues and should therefore be required to be disclosed to the SEC.
- 15. Congress evaluate existing consumer right-to-know laws to determine whether a cloud-based computing company has an affirmative duty to identify the physical location of its cloudbased assets.

Chapter 2: Security and Foreign Policy Issues Involving China

SECTION 2: CHINA'S SPACE AND COUNTERSPACE PROGRAMS

- 16. Congress continue to support the U.S. Department of Defense's efforts to reduce the vulnerability of U.S. space assets through cost-effective solutions, such as the development of smaller and more distributed satellites, hardened satellite communications, and non-space intelligence, surveillance, and reconnaissance assets such as unmanned aerial vehicles.
- 17. Congress direct the U.S. Department of Defense, U.S. Air Force, and relevant agencies within the U.S. Intelligence Community to jointly prepare a classified report that performs a net assessment of U.S. and Chinese counterspace capabilities. The report should include a strategic plan for deterring, with active and passive systems, strikes against U.S. assets in light of other countries' rapid advancements in kinetic and non-kinetic counterspace technology.
- 18. Congress direct appropriate jurisdictional entities to undertake a review of (1) the classification of satellites and related articles on the U.S. Munitions List under the International Trafficking in Arms Regulations and (2) the prohibitions on exports of Commerce Control List satellites and related technologies to China under the Export Administration Regulations, in order to determine which systems and technologies China is likely to be able to obtain on the open market regardless of U.S. restrictions and which are critical technologies that merit continued U.S. protection.
- 19. Congress allocate additional funds to the Director of National Intelligence Open Source Center for the translation and analysis of Chinese-language technical and military writings, in order to deepen U.S. understanding of China's defense strategy, particularly related to space.

SECTION 3: CHINA'S OFFENSIVE MISSILE FORCES

The Commission recommends:

- 20. Congress direct the U.S. Department of Defense to provide an unclassified estimate of the People's Liberation Army Second Artillery Force's inventory of missiles and launchers, by type, in future iterations of its *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China*, as included previously but suspended following the 2010 edition.
- 21. Congress direct the U.S. Department of Defense to prepare a report on the potential benefits and costs of incorporating ground-launched short-, medium-, and intermediate-range conventional cruise and ballistic missile systems into the United States' defensive force structure in the Asia Pacific, in order to explore how such systems might help the U.S. military sustain a cost-effective deterrence posture.
- 22. Congress continue to support initiatives to harden U.S. bases in the Asia Pacific, including the Pacific Airpower Resiliency Initiative, in order to increase the costliness and uncertainty of conventional ballistic and cruise missile strikes against these facilities, and thereby dis-incentivize a first strike and increase regional stability.
- 23. Congress continue to support "next-generation" missile defense initiatives such as directed energy and rail gun technologies, and require the U.S. Department of Defense to report to committees of jurisdiction on the status of current component sourcing plans for the development and production of directed energy weapons.

Chapter 3: China and the World

SECTION 1: CHINA AND CENTRAL ASIA

The Commission recommends:

- 24. Congress request classified briefings from the U.S. Intelligence Community on the nature of U.S.-China cooperation on counterterrorism to ensure the U.S. government is not inadvertently supporting Chinese counterterror policies and tactics that undermine human rights.
- 25. Congress direct the U.S. Government Accountability Office to prepare a report assessing the U.S. New Silk Road policy. This report should evaluate the New Silk Road's strengths and weaknesses and its current status and future prospects for meeting U.S. policy objectives in Central Asia. This report should investigate how U.S. policy toward Central Asia intersects and interacts with U.S. policy toward China more broadly, and how the U.S. and Chinese Silk Road initiatives interact in Central Asia.
- **26.** Members of Congress and their staffs consider traveling to Central Asia, and, when doing so, engage with U.S. business community and nongovernmental organizations to discuss ways of improving human rights, rule of law, environmental protection, and business environment.

SECTION 2: CHINA AND SOUTHEAST ASIA

- **27.** Congress direct the U.S. Government Accountability Office to prepare a report assessing the effectiveness of recent U.S. efforts to enhance the maritime security capabilities of allies and partners in Southeast Asia and identifying the remaining challenges and opportunities.
- **28.** Congress urge the Administration to enhance its support for regional information sharing institutions focused on maritime security in Southeast Asia.
- **29.** Congress direct the U.S. Government Accountability Office to expand its August 2015 report *Southeast Asia: Trends in U.S. and Chinese Economic Engagement* to evaluate whether Chinese government funded investment and assistance projects in Southeast Asia negatively affect U.S.-funded projects in Southeast Asia.

SECTION 3: TAIWAN

The Commission recommends:

- **30.** Congress urge the Administration to make available to Taiwan, consistent with the Taiwan Relations Act, defense articles and services required to address the continuing shift in the cross-Strait military balance toward China.
- 31. Congress direct the Administration to invite Taiwan to participate at least as an observer at U.S.-led bilateral and multilateral military and security exercises, including future Rim of the Pacific (RIMPAC) and Cyber Storm exercises.
- 32. Congress encourage the Administration to increase its public support of Taiwan's participation in international organizations[§], which would help Taiwan expand its status and legitimacy in the international community.
- 33. Congress require the U.S. Department of State, the U.S. Department of Defense, and the U.S. Department of Commerce to jointly prepare a classified report on Taiwan's role in the U.S. strategy in Asia. The report should include an overview of Taiwan's current role in the strategy; U.S.-Taiwan defense cooperation and a description of all joint programs; and opportunities for Taiwan's inclusion in U.S. Asia strategy.

SECTION 4: HONG KONG

- **34.** Members of Congress, when visiting mainland China, also visit Hong Kong, and that Congress encourage senior Administration officials, including the secretaries of State, Defense, and Commerce, to make visits to Hong Kong part of their travel.
- 35. Congress sustain the language in the Department of State, Foreign Operations, and Related Programs Appropriations Act of 2016 reauthorizing the report requirement under the U.S.-Hong Kong Policy Act of 1992 supporting human rights and democracy in accordance with the Sino-British Joint Declaration.
- 36. Congress urge the U.S. Department of State to increase its public diplomacy efforts in Hong Kong in support of press freedom, media independence, and academic freedom.
- **37.** Congress engage parliamentarians from the United Kingdom in an interparliamentary review of China's adherence to the Basic Law since the handover of Hong Kong to China in 1997, with specific attention to rule of law, progress in achieving universal suffrage, and press freedom.

[§] These organizations may include: the United Nations Framework Convention on Climate Change, International Atomic Energy Agency, International Civil Aviation Organization, International Maritime Organization, and International Criminal Police Organization (Interpol).



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Executive Summary and Recommendations