

CHAPTER 1

U.S.-CHINA ECONOMIC AND TRADE RELATIONS

SECTION 1: YEAR IN REVIEW: ECONOMICS AND TRADE

Key Findings

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

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

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

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

Introduction

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

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

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

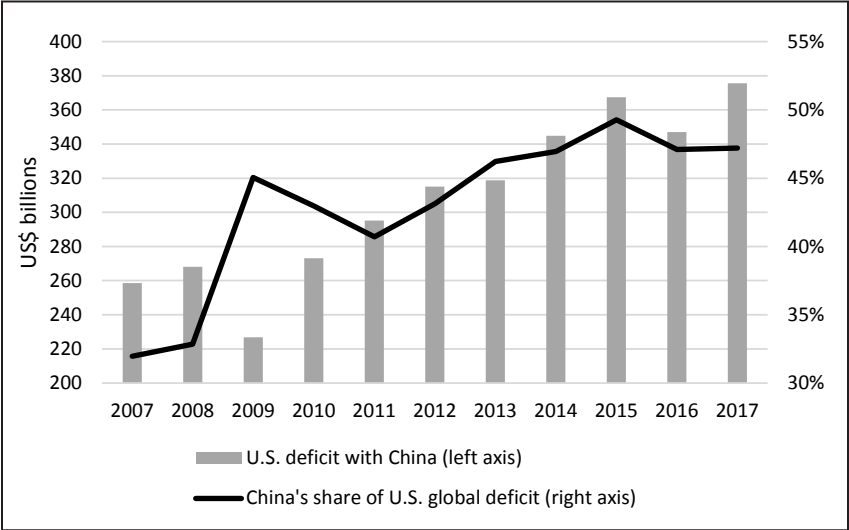
U.S.-China Bilateral Trade

The U.S.-China trade imbalance reached historic levels in 2017. U.S. goods imports from China remain the primary driver of the deficit, exceeding \$500 billion for the first time in 2017.¹ Although the United States posted a record trade surplus with China in services—primarily due to Chinese tourism—it remains dwarfed by the goods trade deficit.²

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

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

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



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

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

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

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

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

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

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

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

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

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

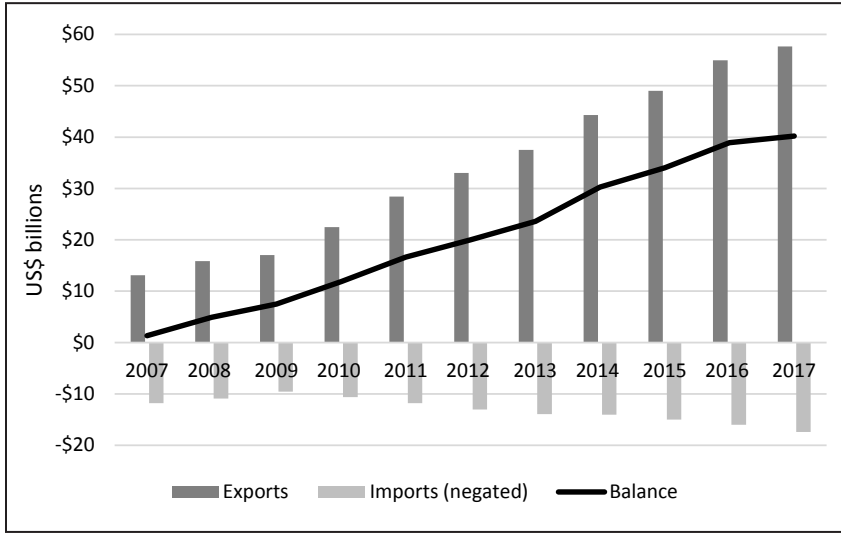
^{*}Services trade includes tourism, financial services, insurance services, transportation, charges for use of IP, and telecommunications services.

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

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

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

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



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

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

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

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

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

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

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

The U.S. trade deficit with China in advanced technology products (ATP)* stood at \$86.3 billion in the first eight months of 2018, up 8.2 percent over the same period in 2017.¹³ Total U.S. ATP imports from China reached \$110 billion, of which information and communication technology (ITC) accounted for \$99.3 billion (up 7.1 percent year-on-year).¹⁴ In the first eight months of 2018, U.S. ATP exports to China totaled \$23.6 billion (up 6 percent year-on-year). Exports of aerospace technology,[†] the largest product category, were \$9.8 billion—an increase of 1.3 percent compared to the first eight months of 2017.¹⁵

U.S.-China Investment Flows

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

Chinese Investment in the United States

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

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

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

Note on Investment Data

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

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

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

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

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

Declining FDI Flows from China

Rhodium Group estimates that through the first half of 2018, Chinese FDI flows to the United States totaled \$1.8 billion—down 92 percent from the first half of 2017, and the lowest level since 2011.²² The leading targets of Chinese investment in the first half of the year included U.S. health and biotechnology (\$990 million), real estate (\$387 million), and ICT (\$108 million).²³

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Chinese Venture Capital Investment in the United States

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

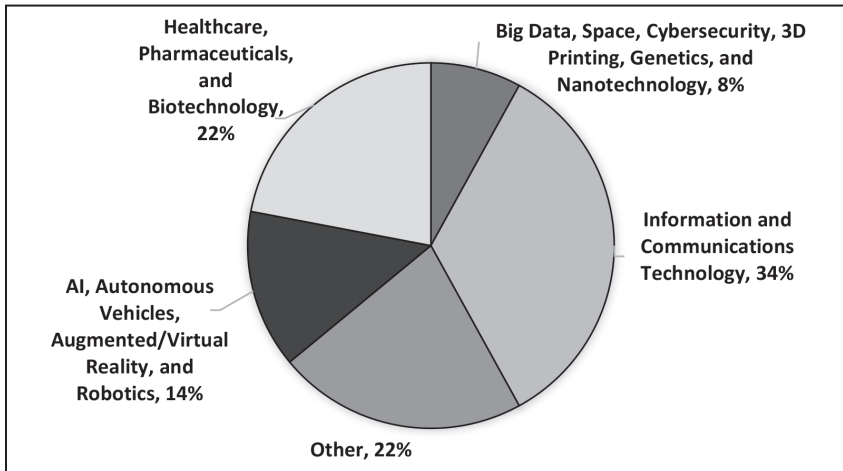
Separately, a Rhodium Group report found that from January to May 2018, Chinese VC investment in the United States reached nearly \$2.4 billion, equal to what Rhodium Group found to be the full-year record set in 2015.³⁵ From 2000 to May 2018, the report estimates that Chinese VC capital contributions in the United States totaled \$11 billion, 88 percent of which came from private Chinese investors.³⁶ Chinese VC investments involving state-owned investors have increased modestly since 2014, including deals by investors with ties to the state-owned China Development Bank, the sovereign wealth fund China Investment Corporation, and subsidiaries of Chinese state-owned enterprises (SOEs) such as SAIS Capital (a U.S.-based subsidiary of the Chinese SOE Shanghai Automobile Industry Corporation).³⁷

High-tech industries such as artificial intelligence (AI), biotechnology, and virtual reality have been the primary targets of Chinese VC activity in the United States. The DIUx study estimated that from 2014 to the third quarter of 2017, Chinese investors were involved in \$1.2 billion of VC financing for U.S. AI firms.³⁸ The capital market data firm PitchBook estimates that in the first half of 2018, Chinese VC funds participated in \$5.1 billion worth of investment rounds in U.S. biotech companies, up from \$4 billion in 2017.³⁹ As seen in Figure 3, the Rhodium Group study found that Chinese investors targeted sensitive technologies in 78 percent of all U.S. VC funding rounds involving a Chinese investor between 2000 and May 2018 (out of a total of more than 1,200 funding rounds with Chinese participation).⁴⁰ These investments are not just lucrative business opportunities; they also enable Chinese firms to acquire valuable U.S. technology and IP.

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

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

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



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

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

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

Chinese Companies Listed on U.S. Stock Exchanges

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

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

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

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

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

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

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

U.S. Investment in China

U.S. investment in China increased both in value and as a proportion of total U.S. outbound FDI since 2017. According to preliminary U.S. government data, in 2017 annual U.S. FDI in China was \$10.4 billion, up from \$9.5 billion in 2016.⁵¹ The share of U.S. FDI flows to China increased to 3.4 percent of total outbound U.S. FDI in 2016, up from 2.8 percent in 2015.⁵² In terms of FDI stock, Rhodium Group estimates that between 1990 and 2017, U.S. companies invested a total of \$256 billion in China, compared with \$140 billion Chinese companies have invested in the United States.⁵³ U.S. investments have historically been focused on manufacturing and consumer-related assets—particularly agriculture and automobiles—but in recent years have shifted to high-tech and advanced services sectors.⁵⁴

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

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

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

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

Industry	Investment Ownership Limits Reduced	Foreign JV Ownership Limits Removed	Percent of GDP, 2015
Infrastructure	- Nuclear site construction and operation - Civilian airport construction and management	Railways construction and management	6.8%
Utilities	Utilities construction (in cities with 500,000+ people)	- Gas station chain construction and management - Electricity grid construction and management	2.2%
Transport	- Water transport - Domestic shipping agencies - Airlines (25% stake)	- Aircraft and ship design, manufacturing, and maintenance - International maritime transport - Rail passenger services	4.4%
Finance	Securities firms, equity investment funds, futures companies, insurance companies (51% stake)	Single foreign investor in a Chinese bank (20% stake)	8.4%
Automobiles	- Automobile manufacturing (50% stake) - New energy vehicles	N/A	N/A
Agriculture	Wheat, corn, and seed production	N/A	9.1%
Natural Resources	Oil and natural gas exploration and development	N/A	2.8%

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

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

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

companies surveyed* listed regulatory barriers as a top challenge of operating in China, up from 39 percent in 2014 (see Table 8).⁵⁸ According to the survey, regulatory compliance risks are the third-largest challenge facing U.S. companies in China, with 37 percent selecting it as a top challenge, up from the eighth-largest challenge in 2017.⁵⁹ The role of the state is also becoming more pronounced in foreign businesses; under Chinese law, foreign companies are effectively required to create a CCP cell in their China-based business.[†] Recent reporting reveals these cells are also required to have an explicit role in the firm's decision making.⁶⁰ As a result, Beijing's efforts to loosen foreign investment restrictions remain insufficient for addressing broader market access restrictions facing U.S. firms in China.

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

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

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

Bilateral Economic Tensions

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

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

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

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

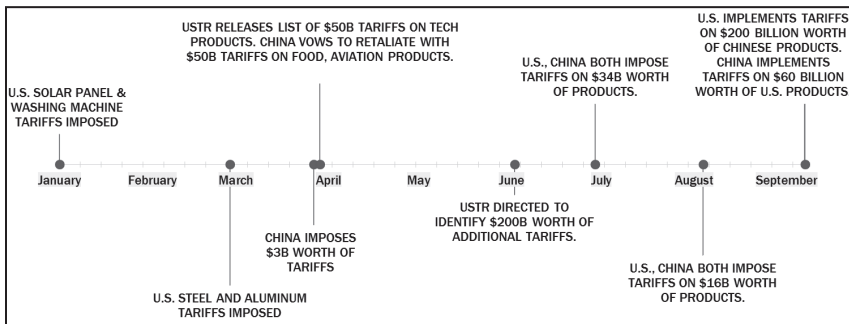
Select U.S. Trade Remedies Used by the Trump Administration

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

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

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

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



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

Tariff Actions

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

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

Between July and August 2018, the United States implemented a 25 percent tariff on 1,097 product lines imported from China worth around \$50 billion, including semiconductors, machine parts, and automobiles.[†]⁶⁹ In September, the United States implemented a 10 percent tariff (which will increase to 25 percent on January 1, 2019) on an additional \$200 billion worth of imports covering 5,745 product lines (see Table 9).⁷⁰ President Trump has also threatened to impose additional tariffs on products worth \$267 billion if China retaliates, which would bring the total tariffs imposed on imports from China to \$517 billion, more than the \$505 billion worth of goods the United States imported from China in 2017.⁷¹

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WTO Cases

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

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

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

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

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

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

China and the United States Request Consultation on Tariffs

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

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

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

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

China's Economic Policymaking

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

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

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

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

policy, or (3) free international capital flows.¹⁰¹ The United States maintains open capital markets and control over both the money supply and interest rates, but has a free floating dollar exchange rate. China continues to attempt to control all aspects of the trinity by cycling through whatever component is most vulnerable.¹⁰² For example, the Chinese government has intervened to support the value of the currency rather than let the market determine its exchange rate. Between 2014 and 2016, China's central bank stabilized the renminbi's (RMB) value, which was falling due to slowing economic growth, by selling foreign reserves to artificially create demand. The country's reserves fell from \$4 trillion in June 2014 to \$3 trillion in December 2016.¹⁰³

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

Debt and Deleveraging

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

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

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

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

debt, comprising nearly two-thirds of China's nonfinancial debt and nearly one-half of China's estimated total debt (see Table 11).¹¹⁰ Corporate debt reached 160.3 percent of GDP in the fourth quarter of 2017, down from its peak of 166.9 percent in the second quarter of 2016.¹¹¹ China's corporate debt was at 96 percent of GDP in the fourth quarter of 2008.¹¹²

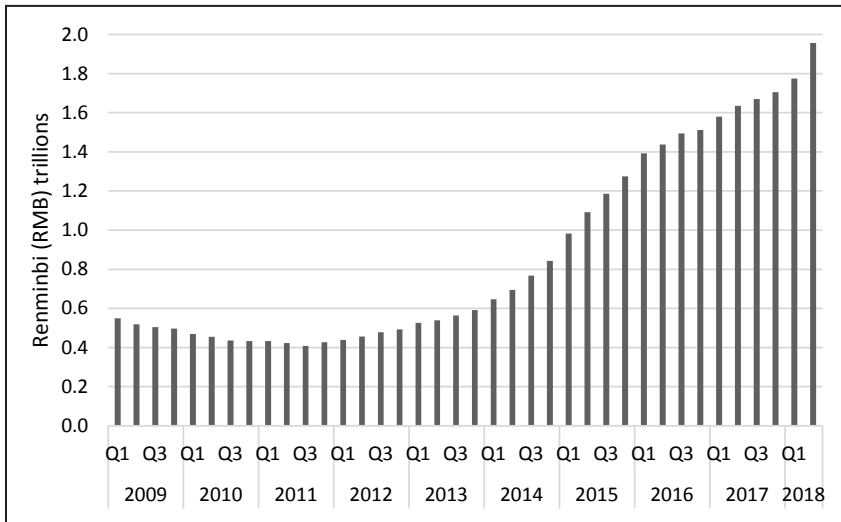
Table 11: China's Aggregate Debt, Estimate for 2017

	US\$ trillions
Corporate	\$20.34
Household	\$6.14
Government	\$5.96
LGFV	\$3.00
NPL	\$3.00
Total	\$38.45

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

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

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

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

Source: China Banking Regulatory Commission via CEIC database.

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

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

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

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

September 2018, Moody's Investors Services downgraded the credit ratings of five Chinese LGFVs, while Standard & Poor's Global Ratings lowered the credit ratings of seven Chinese LGFVs, citing a belief that local government support for these vehicles "could weaken over time."^{*123} In total, around 90 Chinese LGFVs currently hold more than \$40 billion in debt in U.S. dollar bonds, roughly half of which will come due in 2019 or 2020.¹²⁴

In an attempt to limit the risks posed by mounting debt levels, Beijing released new draft legislation strengthening financial regulations, particularly focusing on constraining the activities of wealth management products (WMPs).[†] The legislation, announced in July 2018 by the China Banking and Insurance Regulatory Commission, introduced draft rules on commercial banks' WMPs, including creating a standardized supervision mechanism of banks' WMPs, improving new protections for investors, and barring banks from offering implicit guarantees against losses to attract investors. However, the new regulations will reportedly not go into full effect until 2021.¹²⁵ According to official Chinese data, a total of 562 Chinese banks held nearly \$4.5 trillion in outstanding WMPs at the end of 2017.¹²⁶

Beijing successfully cracked down on credit growth in 2017 and the first quarter of 2018, with the country's debt-to-GDP ratio increasing just 0.4 percentage points over that period, down from 12.1 percentage points in 2016.¹²⁷ However, economic analysts fear Beijing's strategy for deleveraging is unsustainable, and Chinese policymakers are already spurring new credit growth to combat fears of an economic slowdown. In June 2018, a leaked report from the National Institute of Finance and Development, a Chinese government-backed think tank, concluded that "China is currently extremely likely to experience a financial panic" due to a combination of trade tensions, renminbi (RMB) depreciation, tight liquidity, and bond defaults,[‡] among other factors.¹²⁸ In July 2018, amid signs of a softening domestic economy and increasing trade tensions with the United States, China's State Council ended an informal campaign to get local officials to restrain their spending, and instead launched a new initiative urging local officials to accelerate approved investment projects.¹²⁹

Controlling Pollution

Policymakers at the December conference prioritized efforts to control pollution, with authorities aiming for a significant reduction in major pollutant emissions and an improvement in the overall environment by 2020.¹³⁰ In June 2018, China's State Council released a three-year action plan aimed at improving antipollution laws,

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

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

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

building law enforcement capacity to enforce pollution laws, and increasing public engagement on environmental issues.¹³¹ Under the plan, regions in northeast China—namely the Beijing-Tianjin-Hebei region, Yangtze River Delta, and surrounding areas—are banned from building new steel, aluminum, and cement capacity, and required to cut coal use by 10 percent from 2015 levels by 2020.¹³² The plan also seeks to increase China's new energy vehicle production and sales to two million units by 2020.*¹³³

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

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

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

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

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

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

cated to soil remediation projects to date.¹⁴² In its 2018 action plan, the State Council announced China will take measures to control soil pollution and restore around 90 percent of polluted farmland by 2020.¹⁴³ The plan does not include any specific measures that will be taken to reach these goals.

China produces around one-quarter of the world's total generated solid waste—200 million tons in 2016 alone—and is predicted to exceed 500 million tons a year by 2025.¹⁴⁴ Nearly two-thirds of China's municipal solid waste is buried in 640 landfills,* which slowly release methane—a greenhouse gas 25 times more damaging to the environment than carbon emissions.¹⁴⁵ In 2017, China's National Development and Reform Commission ordered 46 cities to begin mandatory waste-sorting programs, which it hopes will improve recycling and waste removal processes.¹⁴⁶ In July 2017, China's State Council announced a goal of ending all solid waste and scrap imports by 2019 to cut down on its waste holdings.¹⁴⁷ The State Council's June 2018 action plan also pledged to “promote classified disposal of waste and enhance prevention and control of solid waste pollution,” but did not include any specific policies.¹⁴⁸

China Bans Waste and Scrap Imports

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

China was the world's largest importer of waste and scrap, accounting for 22 percent of global waste and scrap imports in 2015 (\$24 billion out of \$109 billion total imports).¹⁵³ China also represented the United States' largest export market for waste and scrap, accounting for roughly \$5.7 billion (or 30 percent) of all U.S. waste and scrap exports in 2017.¹⁵⁴ By 2030, it is estimated that there will be an extra 111 million metric tons of “displaced” plastics in landfills and the ocean because of the ban, with the United States alone having to manage 37 million metric tons of additional plastic waste.¹⁵⁵ As a result of the ban, the price of scrap metal will also decline, leading to shifts in global metal supply chains.¹⁵⁶

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

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

Poverty Reduction

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

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

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

The Chinese government’s existing plans for rural development focus primarily on implementing limited reforms to the *hukou* system, which would grant more migrants urban residency and enable them to access urban education, health, and housing services. In 2016, Premier Li Keqiang pledged that 100 million migrant workers would receive urban residency by 2020.¹⁶⁴ By the end of 2016, China had issued 28.9 million new urban residency permits.¹⁶⁵ However, many structural problems persist in the *hukou* system—including lack of appropriate housing, the poor quality of services in rural communities, and an overly complicated *hukou* application process.¹⁶⁶

China’s Domestic Economic Rebalancing

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

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

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

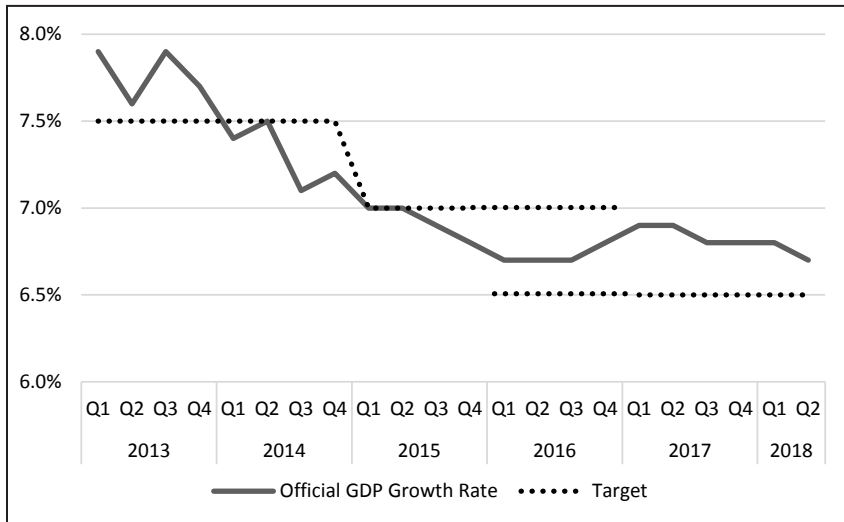
sions with the United States the “biggest challenge” to China’s economy.¹⁶⁷ Meanwhile, China Banking and Insurance Regulatory Commission Chairman Guo Shuqing commented in June 2018 that China’s financial deleveraging campaign “must fully consider the ability of institutions and the market to withstand”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

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

Faced with these economic concerns, Beijing appears to be suspending deleveraging efforts in favor of supporting GDP growth. According to Zhu Ning, an economist at Tsinghua University, “The focus is no longer on deleveraging, but on transferring leverage from one sector to another.”¹⁶⁹ In October 2018, the PBOC cut banks’ reserve requirement ratio—the fourth time it has done so in 2018—freeing up around \$110 billion in hopes of spurring new lending and investment.¹⁷⁰ In July 2018, it lent more than \$73 billion to commercial banks in an effort to boost their liquidity, the largest capital injection of this kind since 2014.¹⁷¹ A government statement also called for increased government spending on infrastructure projects and to keep credit liquidity conditions “reasonable and adequate,” a sign that banks will begin loosening their credit restrictions.¹⁷² The CCP continues to emphasize its debt reduction priorities, however, with Chinese policymakers reiterating in a July 2018 statement that their focus remains on reducing debt and creating jobs in the second half of 2018.¹⁷³

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

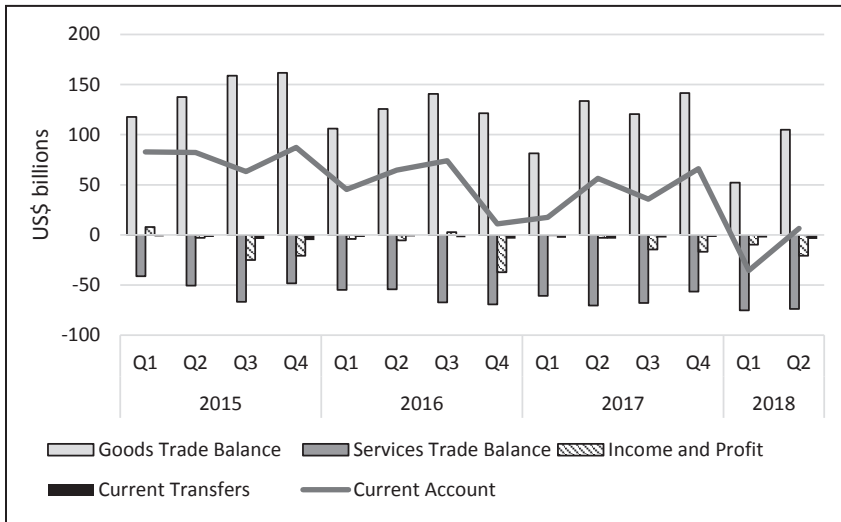
*For more on the reliability of Chinese data, see Jacob Koch-Weser, “The Reliability of China’s National Economic Data: An Analysis of National Output,” *U.S.-China Economic and Security Review Commission*, January 28, 2013.

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

Note: In 2016, the GDP growth target was set at a range of 6.5–7.0 percent.

Source: China's National Bureau of Statistics via CEIC database; Li Keqiang, *Report on the Work of the Government*, First Session of the 13th National People's Congress, Beijing, China, March 5, 2018, 20.

In the first half of 2018, China posted a current account deficit of \$28.3 billion—or 1.1 percent of GDP—the lowest level for China in 20 years.¹⁷⁷ The current account represents flows of Chinese goods and services trade as well as net income (including income payments from interest) and direct transfers (e.g., remittances). As seen in Figure 7, China's deficit in the first half of 2018 resulted from its decreasing global goods trade surplus (down 27 percent and 27.9 percent year-on-year in the first and second quarters of 2018, respectively) and an increase in its global services trade deficit (up 3.9 percent and 1.4 percent year-on-year in the first and second quarters of 2018, respectively).¹⁷⁸ Although China's total trade deficit posted a small (\$5.8 billion) surplus in the second quarter of 2018, its current account surplus has been trending downward in recent years.¹⁷⁹ As recently as 2007, China's current account surplus stood at 10 percent of GDP.¹⁸⁰ Ding Shuang, an analyst at the emerging markets bank Standard Chartered, predicts China's current account will still post an annual surplus in 2018, but will drop to just 1 percent of GDP in 2018 and 0.5 percent in 2019.¹⁸¹

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

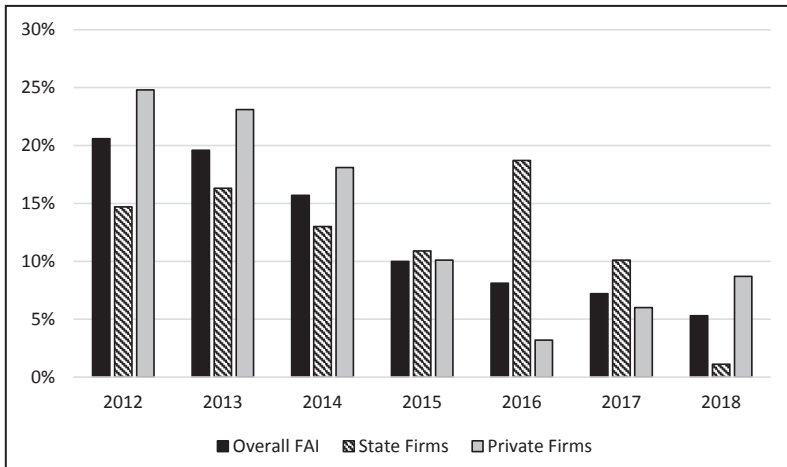
Source: China's General Administration of Customs via CEIC database.

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

Investment and Retail Sales Growth Slows

In 2017, fixed asset investment (FAI)—a traditional driver of China's economy measuring investment in physical assets such as buildings, machinery, or equipment—grew at only 7.2 percent year-on-year, the slowest since 1999.¹⁸⁴ Most of that growth was driven by SOE investments, which increased 10.1 percent year-on-year compared to 6 percent for investment from private firms.¹⁸⁵ In the first eight months of 2018, FAI expanded by only 5.3 percent year-on-year (see Figure 8).¹⁸⁶ SOE investment slowed significantly over that period, increasing just 1.1 percent.¹⁸⁷ However, investment may accelerate as the government seeks to support economic growth in the face of escalating trade tensions.¹⁸⁸

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



Note: Data for 2018 are for the first eight months of the year.

Source: China's National Bureau of Statistics via CEIC database.

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

Real Estate Growth Shows Signs of Slowing

Real estate investment increased 7 percent year-on-year in 2017, consistent with 6.9 percent year-on-year growth in 2016.¹⁹³ In the first eight months of 2018, real estate investment rose 10.1 percent year-on-year, driven by increased demand in smaller Chinese cities where property prices are lower and there are fewer restrictive regulations governing real estate purchases.¹⁹⁴

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

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

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

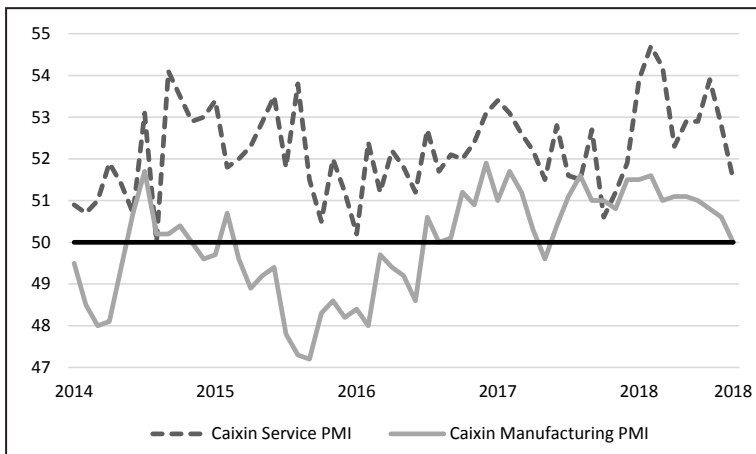
by only 4 percent year-on-year through August 2018, down from 7.7 percent year-on-year in 2017.¹⁹⁶ In the first eight months of 2018, the price of property purchases dropped in Beijing (-21.3 percent year-on-year), Tianjin (-16.5 percent), and Shanghai (-1.9 percent), among other large cities.¹⁹⁷

Exports, Manufacturing, and Services Bolster Growth

Through the first eight months of 2018, Chinese global goods exports swelled to \$1.6 trillion, up 11.4 percent compared to the same period in 2017.¹⁹⁸ However, Chinese goods exports may dip in the second half of the year as business surveys point to weakening export order growth, possibly due to fears companies will be stuck with high inventories if U.S.-China tariffs lead to rising prices.¹⁹⁹

China's manufacturing activity remains stagnant. Unofficial estimates by the Chinese financial media firm Caixin found China's manufacturing Purchasing Managers' Index (PMI),* a measure of economic expansion and industrial utilization, came in at an average of 50.9 in 2017 (see Figure 9).²⁰⁰ A reading above 50 indicates an expansion of the manufacturing sector. Through the first nine months of 2018, manufacturing PMI has averaged 51.²⁰¹ Meanwhile, the services sector has enjoyed a prolonged period of expansion, with Caixin's services PMI remaining above 50 since mid-2014.²⁰² Through the first eight months of the year, services exports from China were up 14.4 percent year-on-year, up from 10.6 percent year-on-year growth in 2017.²⁰³

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



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

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

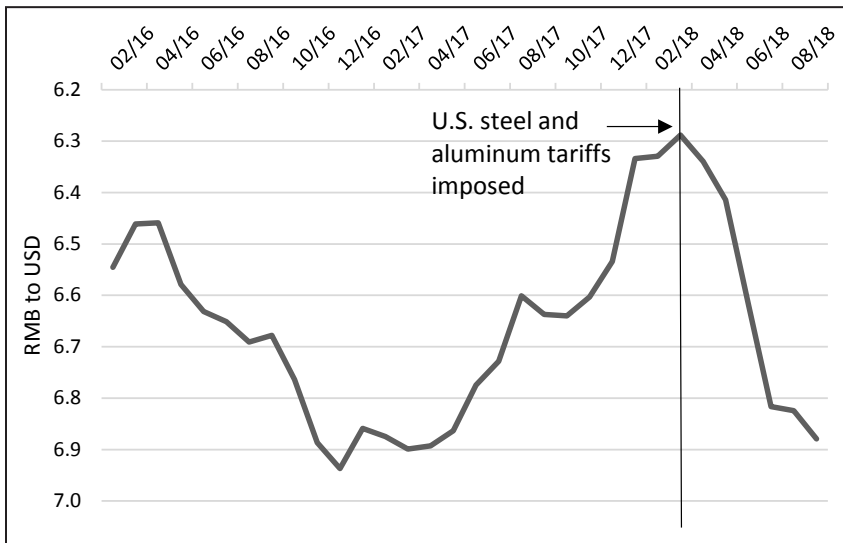
*The PMI measures the production level, new orders, inventories, supplier deliveries, and employment level to gauge the economic activity level in the manufacturing sector. The global financial information services provider Markit Economics compiles the Caixin-Markit China manufacturing PMI from monthly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

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

RMB Management

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

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



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

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

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

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

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

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

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

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

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

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

Source: World Trade Organization, Disputes by Member.

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

Addendum I: WTO Cases—Continued

Ongoing WTO Cases Brought by China against the United States

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

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

ENDNOTES FOR SECTION 1

1. U.S. Census Bureau, *Trade in Goods with China*.
2. U.S. Census Bureau, *Trade in Goods with China*; U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.
3. U.S. Census Bureau, *Trade in Goods with China*.
4. U.S. Census Bureau, *Trade in Goods with China*.
5. U.S. Census Bureau, *Trade in Goods with China*; U.S. Census Bureau, *Trade in Goods with World, Seasonally Adjusted*.
6. U.S. Census Bureau, *U.S. Trade in Goods with World, Not Seasonally Adjusted*; U.S. Census Bureau, *Trade in Goods with China*; China's General Administration of Customs via CEIC database.
7. U.S. Census Bureau, *Trade in Goods with China*.
8. U.S. Census Bureau, *Trade in Goods with China*.
9. U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.
10. U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 6, 2018.
11. U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, June 20, 2018.
12. Kevin Yao, "China Pledges to Allow More Foreign Investment in Financial Sector by Year-End," *Reuters*, April 10, 2018.
13. U.S. Census Bureau (Washington, DC: U.S. Department of Commerce, Foreign Trade Division, August 2018).
14. U.S. Census Bureau (Washington, DC: U.S. Department of Commerce, Foreign Trade Division, August 2018).
15. U.S. Census Bureau (Washington, DC: U.S. Department of Commerce, Foreign Trade Division, August 2018).
16. U.S. Department of Commerce, Bureau of Economic Analysis, *Foreign Direct Investment in the U.S.: Balance of Payments and Direct Investment Position Data*.
17. U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States (FDIUS)*.
18. American Enterprise Institute, "Chinese Investments in the United States." <http://www.aei.org/feature/china-tracker/>.
19. Rhodium Group, "China Investment Monitor."
20. Rhodium Group, "China Investment Monitor."
21. Rhodium Group, "China Investment Monitor."
22. Thilo Hanemann, "Arrested Development: Chinese FDI in the U.S. in 1H 2018," *Rhodium Group*, June 19, 2018.
23. Rhodium Group, "China Investment Monitor."
24. Bill Bishop, "Axios China," *Axios*, June 22, 2018.
25. Samuel Shen et al., "China Forex Regulator Tightens Controls to Stem Capital Outflows—Sources," *Reuters*, November 29, 2016; State Council of the People's Republic of China, *China Loosens Outbound Investment Control*, November 18, 2014.
26. Lingling Wei and Chao Deng, "Xi's Sign-off Deals Blow to China Inc.'s Global Spending Spree," *Wall Street Journal*, July 23, 2017.
27. Lucy Hornby, Yuan Ying, and Gabriel Wildau, "Big China Companies Targeted over 'Systemic Risk,'" *Financial Times*, June 23, 2017.
28. *Xinhua*, "National Development and Reform Commission Representative Answers Journalists' Questions Pertaining to 'Guiding Opinions on Further Guiding and Regulating Overseas Investment,'" *State Council of the People's Republic of China*, August 18, 2017. Translation. http://www.gov.cn/zhengce/2017-08/18/content_5218794.htm; State Council of the People's Republic of China, *Guiding Opinions on Further Guiding and Regulating Overseas Investment*, August 18, 2017. Translation. http://www.gov.cn/zhengce/content/2017-08/18/content_5218665.htm.
29. Trade Practitioner, "CFIUS Information Archive," *Squire Patton Boggs*.
30. Jeremy B. Zucker et al., "Trump Administration Blocks Broadcom's Attempted Takeover of Qualcomm," *Lexology*, March 19, 2018.
31. White House, *Presidential Order Regarding the Proposed Takeover of Qualcomm Incorporated by Broadcom Limited*, March 12, 2018.
32. Aimen N. Mir, *Letter on CFIUS Case 18-036: Broadcom Limited (Singapore)/Qualcomm Incorporated*, March 5, 2018.
33. Foreign Investment Risk Review Modernization Act of 2018, S.Res. No. 2098, introduced November 8, 2017; Foreign Investment Risk Review Modernization Act of 2018, H.Res. No. 5841, introduced May 16, 2018.

34. Michael Brown and Pavneet Singh, "China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation," *Defense Innovation Unit Experimental*, January 2018, 28.
35. Kate O'Keeffe and Eliot Brown, "China Targets U.S. Tech Startups in Investment Loophole," *Wall Street Journal*, July 16, 2018.
36. Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, "Chinese Venture Capital in the U.S.: Recent Trends and FIRREA Impacts," *Rhodium Group*, July 11, 2018, 1.
37. Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, "Chinese Venture Capital in the U.S.: Recent Trends and FIRREA Impacts," *Rhodium Group*, July 11, 2018, 4–5.
38. Michael Brown and Pavneet Singh, "China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation," *Defense Innovation Unit Experimental*, January 2018, 7.
39. Tom Hancock, "Chinese Investment into U.S. Biotech Start-ups Soars," *Financial Times*, July 1, 2018.
40. Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, "Chinese Venture Capital in the U.S.: Recent Trends and FIRREA Impacts," July 11, 2018, 8.
41. Michael Brown and Pavneet Singh, "China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation," *Defense Innovation Unit Experimental*, January 2018, 16.
42. Tom Hancock, "Chinese Investment into U.S. Biotech Start-ups Soars," *Financial Times*, July 1, 2018.
43. Heather Somerville, "China's Penetration of Silicon Valley Creates Risks for Startups," *Reuters*, June 28, 2018.
44. Michael Brown and Pavneet Singh, "China's Technology Transfer Strategy: How Chinese Investments in Emerging Technology Enable a Strategic Competitor to Access the Crown Jewels of U.S. Innovation," *Defense Innovation Unit Experimental*, January 2018, 2.
45. Jeff Farrah, "Foreign Investment Bill and Its Impact on the VC and Startup Ecosystem," *National Venture Capital Association*, July 25, 2018.
46. John S. McCain National Defense Authorization Act for Fiscal Year 2019 § 1702, Pub. L. No. 115–232, 2018.
47. U.S.-China Economic and Security Review Commission, *Hearing on Chinese Investment in the United States: Impacts and Issues for Policymakers*, written testimony of Paul Gillis, January 26, 2017; Paul Gillis, "Will China Let the PCAOB In?" *China Accounting Blog*, September 6, 2015.
48. Samuel Farrell Ziegler, "China's Variable Interest Entity Problem: How Americans Have Illegally Invested Billions in China and How to Fix It," *George Washington Law Review* 84:2 (March 2016): 542; Paul Gillis, "Son of Enron? Alibaba's Risky Corporate Structure," *Foreign Affairs*, October 28, 2014; People's Republic of China Standing Committee of the National People's Congress, *Law on Guarding State Secrets*, August 21, 2005. Translation. http://www.gov.cn/banshi/2005-08/21/content_25096.htm.
49. U.S.-China Economic and Security Review Commission, *Hearing on Chinese Investment in the United States: Impacts and Issues for Policymakers*, written testimony of Shaswat Das, January 26, 2017.
50. Josh Rogin, "It's Time to End the 'China Hustle' on U.S. Stock Exchanges," *Washington Post*, August 30, 2018.
51. U.S. Department of Commerce, Bureau of Economic Analysis, *Balance of Payments and Direct Investment Position Data*.
52. U.S. Department of Commerce, Bureau of Economic Analysis, *Balance of Payments and Direct Investment Position Data*.
53. Thilo Hanemann, Daniel H. Rosen, and Cassie Gao, "Two-Way Street: 2018 Update," *Rhodium Group and National Committee on U.S. China Relations*, April 10, 2018, 10.
54. Thilo Hanemann, Daniel H. Rosen, and Cassie Gao, "Two-Way Street: 2018 Update," *Rhodium Group and National Committee on U.S. China Relations*, April 10, 2018, 18.
55. Library of Congress, "China: Catalog of Foreign Investment Industries Updated," August 7, 2017.
56. Pan Che, "China Culls Foreign Investment 'Negative List,'" *Caixin*, June 29, 2018.
57. U.S. Department of State, *Investment Climate Statements for 2018: China*.

58. American Chamber of Commerce in the People's Republic of China, "2018 China Business Climate Survey Report," January 2018, 40.
59. American Chamber of Commerce in the People's Republic of China, "2018 China Business Climate Survey Report," January 2018, 40.
60. Simon Denyer, "Command and Control: China's Communist Party Extends Reach into Foreign Companies," *Washington Post*, January 28, 2018.
61. Office of the U.S. Trade Representative, *USTR Announces Initiation of Section 301 Investigation of China*, August 14, 2017.
62. *Xinhua*, "China Urges U.S. Not to 'Politicize' Trade Issues," February 1, 2018; White House, *President Donald J. Trump Is Promoting Free, Fair, and Reciprocal Trade*, January 30, 2018.
63. Brock R. Williams, "Escalating Tariffs: Timeline and Potential Impact," *Congressional Research Service*, July 31, 2018.
64. White House, *Remarks by President Trump in Listening Session with Representatives from the Steel and Aluminum Industry*, March 1, 2018.
65. U.S. Department of Commerce, *Secretary Ross Releases Steel and Aluminum 232 Reports in Coordination with White House*, February 16, 2018.
66. Office of the U.S. Trade Representative, *Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, March 22, 2018.
67. Office of the U.S. Trade Representative, *Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, March 22, 2018; Office of the U.S. Trade Representative, *President Trump Announces Strong Actions to Address China's Unfair Trade*, March 2018.
68. Evelyn Cheng, "How the U.S. Ended up in an Escalating Trade Dispute with China," *CNBC*, June 19, 2018.
69. Office of the U.S. Trade Representative, *USTR Finalizes Second Tranche of Tariffs on Chinese Products in Response to China's Unfair Trade Practices*, August 8, 2018; Office of the U.S. Trade Representative, *USTR Releases Product Exclusion Process for Chinese Products Subject to Section 301 Tariffs*, July 6, 2018.
70. Office of the U.S. Trade Representative, *USTR Finalizes Tariffs on \$200 Billion of Chinese Imports in Response to China's Unfair Trade Practices*, September 17, 2018.
71. Chad P. Bown, Euijin Jung, and Zhiyao Lu, "Trump and China Formalize Tariffs on \$260 Billion of Imports and Look Ahead to Next Phase," *Peterson Institute for International Economics*, September 20, 2018.
72. China's Ministry of Commerce, *First Tariff List on Items from the United States and Canada*, June 2018. Translation. <http://images.mofcom.gov.cn/www/201806/20180616015345014.pdf>; China's Ministry of Finance, *Announcement of Adding Tariffs on Some Imported Goods Originating in the United States (Second Batch)*, August 6, 2018. Translation. http://gss.mof.gov.cn/zhengwuxinxi/zhengcefabu/201808/t20180803_2980950.html.
73. *BBC News*, "China Hits Back at Trump with Tariffs on \$60bn of U.S. Goods," September 18, 2018.
74. *Xinhua*, "China Releases White Paper on Facts and Its Position on Trade Friction with U.S.," September 24, 2018.
75. U.S. Department of Commerce, *Additions to the Entity List*, March 7, 2016. <https://s3.amazonaws.com/public-inspection.federalregister.gov/2016-05104.pdf>.
76. U.S. Department of Commerce, Bureau of Industry and Security, *Order Activating Suspended Denial Order Relating to Zhongxing Telecommunications Equipment Corporation and ZTE Kangxun Telecommunications Ltd.*, April 15, 2018.
77. U.S. Department of Commerce, Bureau of Industry and Security, *Order Activating Suspended Denial Order Relating to Zhongxing Telecommunications Equipment Corporation and ZTE Kangxun Telecommunications Ltd.*, April 15, 2018.
78. U.S. Department of Commerce, *Secretary Ross Announces \$1.4 Billion ZTE Settlement; ZTE Board, Management Changes and Strictest BIS Compliance Requirements Ever*, June 7, 2018.
79. Dan Strumpf, Wenxin Fan, and Kate O'Keefe, "ZTE Replaces Board, but Power Structure Remains," *Wall Street Journal*, June 29, 2018.
80. Dan Strumpf, Wenxin Fan, and Kate O'Keefe, "ZTE Replaces Board, but Power Structure Remains," *Wall Street Journal*, June 29, 2018.
81. Edward White, "China Seeks Semiconductor Security in Wake of ZTE Ban," *Financial Times*, June 18, 2018.

82. Joe McDonald, "China Push to End Reliance on U.S. Tech at Trade Fight's Core," *Associated Press*, July 5, 2018.
83. *China Daily*, "Xi Speech: Highlights and Experts' Take," May 29, 2018.
84. Kate O'Keeffe and Siobhan Hughes, "Congress Ends Bid to Undo Trump Deal to Save China's ZTE," *Wall Street Journal*, July 20, 2018.
85. White House, *Presidential Memorandum on the Actions by the United States Related to the Section 301 Investigation*, March 22, 2018.
86. Office of the U.S. Trade Representative, *Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, March 22, 2018, 4, 37.
87. World Trade Organization, "DS542: China—Certain Measures Concerning the Protection of Intellectual Property Rights."
88. World Trade Organization, "DS542: China—Certain Measures Concerning the Protection of Intellectual Property Rights: Request to Join Consultations."
89. World Trade Organization, "DS543: United States—Tariff Measures on Certain Goods from China."
90. World Trade Organization, "DS544: United States—Certain Measures on Steel and Aluminum Products."
91. World Trade Organization, "DS544: United States—Certain Measures on Steel and Aluminum Products."
92. World Trade Organization, "DS544: United States—Certain Measures on Steel and Aluminum Products: Request to Join Consultations."
93. World Trade Organization, *Disputes by Member*.
94. World Trade Organization, "DS565: United States—Tariff Measures on Certain Goods from China II."
95. World Trade Organization, "DS562: United States—Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products"; World Trade Organization, "DS562: United States—Certain Measures Related to Renewable Energy."
96. Li Yuan, "China's Consumption Downgrade: Skip Avocados, Cocktails and Kids," *New York Times*, August 22, 2018.
97. Frank Tang, "Just How Big Is China's 'Hidden' Debt Pile? Beijing Orders Local Cadres to Find Out," *South China Morning Post*, August 18, 2018.
98. Office of the U.S. Trade Representative, *2017 Report to Congress on China's WTO Compliance*, January 2018, 2.
99. Jamil Anderlini, "Beijing Calls for Tighter Grip on State Groups," *Financial Times*, September 21, 2015.
100. Frank Tang, "China's Economic Growth Story Will Be Cut Short under Xi Jinping, Research Firm Predicts," *South China Morning Post*, May 14, 2018; *Reuters*, "President Xi: China Aims to Improve Economy's Quality, Efficiency—Xinhua," February 28, 2017.
101. *Economist*, "What Is the Impossible Trinity?" September 10, 2016.
102. Jake Van Der Kamp, "China's Pursuit of Economics' 'Impossible Trinity' Is a Sure Path to Disaster," *South China Morning Post*, April 5, 2017.
103. *CNBC*, "China FX Reserves Down Less Than Seen, but Lowest since Feb 2011," January 6, 2017.
104. *Xinhua*, "China Focus: Xi Steers Chinese Economy toward High-Quality Development," December 21, 2017.
105. Christopher Balding, "China Bets on More State Control for 2018," *Bloomberg*, December 26, 2017.
106. *Xinhua*, "China Focus: Xi Steers Chinese Economy toward High-Quality Development," December 21, 2017.
107. Andrew Polk, "China's Credit Risks," *Center for Strategic and International Studies*, May 14, 2018; *China Daily*, "Key Messages from Central Economic Work Conference," December 21, 2017.
108. Keith Bradsher, "As Trade War Intensifies, China Moves to Bolster Its Economy," *New York Times*, August 23, 2018; Liyan Qi and Grace Zhu, "Chinese Economy Starts to Feel Tariff Impact," *Wall Street Journal*, July 31, 2018; *Reuters*, "China's Central Bank to Encourage Banks to Lend More, Invest in Corporate Bonds: Source," July 18, 2018; Kevin Yao and Shu Zhang, "As Trade War Looms, China Cuts Some Banks' Reserve Requirements to Boost Lending," *Reuters*, June 24, 2018.
109. Sally Chen and Joong Shik Kang, "Credit Booms—Is China Different?" *International Monetary Fund*, January 2018, 19.
110. Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," September 12, 2018.
111. Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," June 5, 2018.

112. Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," June 5, 2018.
113. China Banking Regulatory Commission via CEIC database.
114. Ted Osborn, "Pressure on China's Banks to Report Bad Debt is Good News for Foreign Investors," *South China Morning Post*, April 2, 2018.
115. Stratfor, "In China, Unweaving the Tangled Web of Local Debt," July 17, 2018.
116. Frank Tang, "Just How Big Is China's 'Hidden' Debt Pile? Beijing Orders Local Cadres to Find Out," *South China Morning Post*, August 18, 2018.
117. Stratfor, "In China, Unweaving the Tangled Web of Local Debt," July 17, 2018.
118. David Keohane, "China's Plan to Deal with Its Debt Mountain," *Financial Times*, May 8, 2015.
119. International Monetary Fund, *People's Republic of China: Financial System Stability Assessment—Press Release and Statement by the Executive Director*, December 2017, 2.
120. *Reuters*, "China's Cabinet Tells State Firms to Debt Levels," September 13, 2018.
121. Bart Carfagno and Allen Feng, "Credit Risk Shifts to LGFVs," *Rhodium Group*, September 19, 2018.
122. Manju Dalal, "Yields on These Chinese Bonds are Making Investors Squirm," *Wall Street Journal*, July 4, 2018; *Reuters*, "S&P Puts Qinghai Provincial Investment on Negative Watch, Cites Refinancing Risks," June 21, 2018.
123. Wang Yanfei, "Local Government Financing Vehicles Get Credit Downgrade," *China Daily*, September 13, 2018.
124. Manju Dalal, "Yields on These Chinese Bonds are Making Investors Squirm," *Wall Street Journal*, July 4, 2018.
125. Wu Xiaomeng et al., "Update: China Raises the Bar for Banks' Wealth Management Business," *Caixin*, July 20, 2018.
126. *Reuters*, "China May Delay New Rules for Wealth Management Products: Caixin," July 7, 2018.
127. KPMG Global China Practice, "China Outlook 2018," 2018, 18; Bank for International Settlements, "Long Series on Total Credit to the Non-Financial Sectors," June 5, 2018.
128. Bloomberg, "China Think Tank Warns of Potential 'Financial Panic' in Leaked Note," June 27, 2018.
129. Chao Deng and Lingling Wei, "China's Effort to Control Debt Loses Steam," *Wall Street Journal*, July 12, 2018.
130. *Xinhua*, "China Focus: Xi Steers Chinese Economy toward High-Quality Development," December 21, 2017.
131. State Council of the People's Republic of China, *Three-Year Action Plan for Cleaner Air Released*, July 3, 2018.
132. State Council of the People's Republic of China, *State Council Issues War to Win Blue Sky: Notice of Three-Year Action Plan*, June 27, 2018. Translation. http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm.
133. State Council of the People's Republic of China, *State Council Issues War to Win Blue Sky: Notice of Three-Year Action Plan*, June 27, 2018. Translation. http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm.
134. Climate Action Tracker, "China—Pledges and Targets"; Javier Hernandez, "Labor Protests Multiply in China as Economy Slows, Worrying Leaders," *New York Times*, March 14, 2016.
135. Climate Action Tracker, "China—Pledges and Targets."
136. Keith Crane and Zhimin Mao, "Costs of Selected Policies to Address Air Pollution in China," *RAND Corporation*, 2015, iii; China's National Bureau of Statistics via CEIC database.
137. Yixuan Zheng et al., "Air Quality Improvements and Health benefits from China's Clean Air Action since 2013," *Environmental Research Letters* 12:11 (November 2013).
138. Feng Hao, "China Is Building Coal Power Again," *China Dialogue*, August 3, 2018.
139. Feng Hao, "China's Belt and Road Initiative Still Pushing Coal," *China Dialogue*, May 12, 2017.
140. Ben Westcott and Serenitie Wang, "Can China Fix Its Mammoth Water Crisis before It's Too Late?" *CNN*, April 20, 2017.
141. Jennifer L. Turner, "Controlling Pollution in China," *Center for Strategic and International Studies*, May 17, 2018.
142. *Reuters*, "China Needs Patience to Fight Costly War against Soil Pollution: Government," June 22, 2017.
143. State Council of the People's Republic of China, *State Council Issues War to Win Blue Sky: Notice of Three-Year Action Plan*, June 27, 2018. Translation. http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm; State Council of the

People's Republic of China, *China Unveils Guideline to Win Battle against Pollution*, June 24, 2018.

144. Siyi Mi, "Hot Times: Waste-to-Energy Plants Burn Bright in China's Cities," *New Security Beat* (Wilson Center blog), November 27, 2017.

145. Siyi Mi, "Hot Times: Waste-to-Energy Plants Burn Bright in China's Cities," *New Security Beat* (Wilson Center blog), November 27, 2017.

146. Jennifer L. Turner, "Controlling Pollution in China," *Center for Strategic and International Studies*, May 17, 2018.

147. State Council of the People's Republic of China, "Action Plan to Phase out Waste Imports," July 27, 2017.

148. State Council of the People's Republic of China, *State Council Issues War to Win Blue Sky: Notice of Three-Year Action Plan*, June 27, 2018. Translation. http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm; State Council of the People's Republic of China, *China Unveils Guideline to Win Battle against Pollution*, June 24, 2018.

149. World Trade Organization, "Notification 17-3880."

150. *Reuters*, "China Bans Imports of 16 More Scrap, Waste Products from End 2018—Ministry," April 18, 2018.

151. *Reuters*, "UPDATE 1-China Bans Imports of 16 More Scrap, Waste Products from End-2018—Ministry," April 18, 2018.

152. Kimiko de Freytas-Tamura, "Plastics Pile up as China Refuses to Take the West's Recycling," *New York Times*, January 11, 2018.

153. United Nations Comtrade, "UN Comtrade Database."

154. U.S. Census Bureau, *USA Trade Online*, August 4, 2018.

155. Darryl Fears and Kate Furby, "A Giant Wave of Plastic Garbage Could Flood the U.S., a Study Says," *Washington Post*, June 20, 2018.

156. Susanne Barton, "Need Junk? Scrap-Metal Dealers Hunting Users after China Ban," *Bloomberg*, March 29, 2018.

157. Li Keqiang, *Report on the Work of the Government*, First Session of the 13th National People's Congress, Beijing, China, March 5, 2018, 30.

158. Li Keqiang, *Report on the Work of the Government*, First Session of the 13th National People's Congress, Beijing, China, March 5, 2018, 30; *Xinhua*, "Xi Leads China to Win World's Biggest Poverty-Relief Battle," June 2, 2018.

159. Tan Weiping, *Chinese Approach to the Eradication of Poverty: Taking Targeted Measures to Lift People out of Poverty*, United Nations, April 18, 2018, 3-4.

160. World Bank, "Poverty and Equity Brief—China," April 2018.

161. China's National Bureau of Statistics via CEIC database.

162. Sonali Jain-Chandra et al., "Inequality in China—Trends, Drivers and Policy Remedies," *International Monetary Fund*, June 2018, 9.

163. Sonali Jain-Chandra et al., "Inequality in China—Trends, Drivers and Policy Remedies," *International Monetary Fund*, June 2018, 9; John Giles, "China's Anti-Poverty Campaign," *Center for Strategic and International Studies*, May 3, 2018.

164. *Xinhua*, "China to Orderly Urbanize Migrant Workers: Premier Li," February 2, 2016.

165. Spencer Sheehan, "China's Hukou Reforms and the Urbanization Challenge," *Diplomat*, February 22, 2017.

166. Spencer Sheehan, "China's Hukou Reforms and the Urbanization Challenge," *Diplomat*, February 22, 2017.

167. Jun Mai, "Could China-U.S. Trade Row Be Chinese President Xi Jinping's Biggest Ever Challenge?" *South China Morning Post*, July 7, 2018.

168. Jun Mai, "Could China-U.S. Trade Row Be Chinese President Xi Jinping's Biggest Ever Challenge?" *South China Morning Post*, July 7, 2018; Han Yi and Fran Wang, "Deleveraging Must Consider What Market Can Bear: Official," *Caixin*, June 14, 2018.

169. Keith Bradsher, "As Trade War Intensifies, China Moves to Bolster Its Economy," *New York Times*, August 23, 2018.

170. Kevin Yao and Shu Zhang, "China Slashes Banks' Reserve Requirements as Trade War Imperils Growth," *Reuters*, October 7, 2018.

171. *Reuters*, "China's Central Bank to Encourage Banks to Lend More, Invest in Corporate Bonds: Source," July 18, 2018; Liyan Qi and Grace Zhu, "Chinese Economy Starts to Feel Tariff Impact," *Wall Street Journal*, July 31, 2018.

172. Liyan Qi and Grace Zhu, "Chinese Economy Starts to Feel Tariff Impact," *Wall Street Journal*, July 31, 2018.

173. Orange Wang and Sidney Leng, "China Still Focused on Reducing Debt, Creating Jobs Despite Trade Row with United States," *South China Morning Post*, July 31, 2018.

174. China's National Bureau of Statistics via CEIC database; Li Keqiang, *Report on the Work of the Government*, First Session of the 13th National People's Congress, Beijing, China, March 5, 2018, 20.
175. China's National Bureau of Statistics via CEIC database.
176. Keith Bradsher, "China's Economic Growth Looks Strong. Maybe Too Strong," *New York Times*, January 18, 2018.
177. China's State Administration of Foreign Exchange, *Preliminary Figures of China's Balance of Payments in the Second Quarter and the First Half of 2018*, August 6, 2018. Translation. <http://newweb.safe.gov.cn/safe/2018/0806/9814.htm>; *Bloomberg News*, "China's Current Account Returns to Surplus on Trade Rebound," August 6, 2018; Han Wei, "China Books First Half-Year Current Account Deficit in 20 Years," *Caixin*, August 6, 2018.
178. China's General Administration of Customs via CEIC database.
179. China's General Administration of Customs via CEIC database.
180. *Economist*, "China's Vanished Current-Account Surplus Will Change the World Economy," May 17, 2018.
181. *Economist*, "China's Vanished Current-Account Surplus Will Change the World Economy," May 17, 2018.
182. *Economist*, "China's Vanished Current-Account Surplus Will Change the World Economy," May 17, 2018.
183. *Economist*, "China's Vanished Current-Account Surplus Will Change the World Economy," May 17, 2018.
184. China's National Bureau of Statistics via CEIC database.
185. China's National Bureau of Statistics via CEIC database.
186. China's National Bureau of Statistics via CEIC database.
187. China's National Bureau of Statistics via CEIC database.
188. Liyan Qi, Grace Zhu, and Dominique Fong, "China's Growth Engine Sputters as It Battles U.S. over Trade," *Wall Street Journal*, August 14, 2018.
189. China's National Bureau of Statistics via CEIC database.
190. China's National Bureau of Statistics via CEIC database.
191. Jun Saito, Japan Center for Economic Research, meeting with Commission, Tokyo, Japan, May 25, 2018.
192. Li Yuan, "China's Consumption Downgrade: Skip Avocados, Cocktails and Kids," *New York Times*, August 22, 2018.
193. China's National Bureau of Statistics via CEIC database.
194. China's National Bureau of Statistics via CEIC database; Kevin Yao and Yawen Chen, "China Property Investment Growth Slows, Sales Dip on Increased Curbs," *Reuters*, May 14, 2018.
195. Christopher Balding, "Why China Can't Fix Its Housing Bubble," *Bloomberg*, June 24, 2018; Kevin Yao and Yawen Chen, "China Property Investment Growth Slows, Sales Dip on Increased Curbs," *Reuters*, May 14, 2018.
196. China's National Bureau of Statistics via CEIC database.
197. China's National Bureau of Statistics via CEIC database.
198. China's National Bureau of Statistics via CEIC database.
199. Kevin Yao and Fang Cheng, "Soft China April Investment, Retail Sales Suggest Economy Losing Steam," *Reuters*, May 14, 2018.
200. Caixin and IHS Markit, "Caixin China General Manufacturing PMI," *Markit Economics*, September 1, 2017.
201. Caixin and IHS Markit, "Caixin China General Manufacturing PMI," *Markit Economics*, September 1, 2017.
202. Caixin and IHS Markit, "Caixin China General Services PMI," *Markit Economics*, September 5, 2017.
203. China's National Bureau of Statistics via CEIC database.
204. People's Bank of China via CEIC database.
205. Gabriel Wildau and James Kynge, "Renminbi's Worst Month Ever Sparks U.S.-China Currency War Fears," *Financial Times*, July 1, 2018.
206. Daniel Shane and Jethro Mullen, "China Says It Will Never Use Its Currency as a Weapon in the Trade War," *CNN*, September 19, 2018.
207. Christopher Balding, "Why China Can't Free the Yuan," *Bloomberg*, August 17, 2017.
208. Brad Setser, "What Would Happen If China Started Selling off Its Treasury Portfolio?" *Follow the Money* (Council on Foreign Relations blog), June 21, 2018.
209. Brad Setser, "What Would Happen If China Started Selling off Its Treasury Portfolio?" *Follow the Money* (Council on Foreign Relations blog), June 21, 2018.
210. Karen Yeung and Enoch Yiu, "Yuan Loses 3 Percent in Nine Days, Points to Tolerance for Weakened Currency in Beijing as U.S. Trade War Looms," *South China Morning Post*, June 26, 2018.

211. *Bloomberg News*, “China Won’t Weaponize the Yuan in Trade War, PBOC Official Says,” July 3, 2018.

212. Brad Setser, “China’s Currency Is Back in Play,” *Follow the Money* (Council on Foreign Relations blog), July 23, 2018.

213. Kelly Olsen, “China’s New Currency Policy Is a Dovish Signal in the Trade War, Analysts Say,” *CNBC*, August 27, 2018; *Bloomberg News*, “China Changes the Way It Manages Yuan after Currency’s Jump,” January 8, 2018.

214. Huileng Tan, “China’s Currency Is Still Nowhere Near Overtaking the Dollar,” *CNBC*, February 2, 2018.