# CHAPTER 3

# U.S.-CHINA COMPETITION

## SECTION 1: U.S.-CHINA COMMERCIAL RELATIONS

### Key Findings

- The nature of Chinese investment in the United States is changing. While Chinese foreign direct investment (FDI) in the United States fell in 2018, venture capital (VC) investment in cutting-edge sectors has remained more stable. Broad trends in FDI from China mask VC investment. While lower than FDI, VC investment from Chinese entities could have more impact as it has prioritized potentially sensitive areas, including early-stage advanced technologies. This sustained Chinese investment raises concern for U.S. policymakers, as Beijing has accelerated its comprehensive effort to acquire a range of technologies to advance military and economic goals.
- U.S. laws, regulations, and practices afford Chinese companies certain advantages that U.S. companies do not enjoy. Chinese firms that raise capital on U.S. stock markets are subject to lower disclosure requirements than U.S. counterparts, raising risks for U.S. investors. The Chinese government continues to block the Public Company Accounting Oversight Board from inspecting auditors' work papers in China despite years of negotiations. As of September 2019, 172 Chinese firms were listed on major U.S. exchanges, with a total market capitalization of more than $1 trillion.
- China's laws, regulations, and practices disadvantage U.S. companies relative to Chinese companies. China's foreign investment regime has restricted and conditioned U.S. companies' participation in the Chinese market to serve industrial policy aims. In addition, recent reports by the American and EU Chambers of Commerce in China suggest technology transfer requests have continued unabated. Technology transfer requests continue to compromise U.S. firms' operations.
- Chinese firms' U.S. operations may pose competitive challenges if they receive below-cost financing or subsidies from the Chinese state or if they can import inputs at less than fair value. There are serious gaps in the data that prevent a full assessment of the U.S.-China economic relationship. Analysis of Chinese companies' participation in the U.S. economy is constrained by the absence of empirical data on companies' operations, corporate governance, and legal compliance.

**Recommendations**

The Commission recommends:

- Congress enact legislation to preclude Chinese companies from issuing securities on U.S. stock exchanges if:
  - The Public Company Accounting Oversight Board is denied timely access to the audit work papers relating to the company's operations in China;
  - The company disclosure procedures are not consistent with best practices on U.S. and European exchanges;
  - The company utilizes a variable interest entity (VIE) structure;
  - The company does not comply with *Regulation Fair Disclosure*, which requires material information to be released to all investors at the same time.
- Congress enact legislation requiring the following information to be disclosed in all issuer initial public offering prospectuses and annual reports as material information to U.S. investors:
  - Financial support provided by the Chinese government, including: direct subsidies, grants, loans, below-market loans, loan guarantees, tax concessions, government procurement policies, and other forms of government support.
  - Conditions under which that support is provided, including but not limited to: export performance, input purchases manufactured locally from specific producers or using local intellectual property, or the assignment of Chinese Communist Party (CCP) or government personnel in corporate positions.
  - CCP committees established within any company, including: the establishment of a company Party committee, the standing of that Party committee within the company, which corporate personnel form that committee, and what role those personnel play.
  - Current company officers and directors of Chinese companies and U.S. subsidiaries or joint ventures in China who currently hold or have formerly held positions as CCP officials and/or Chinese government officials (central and local), including the position and location.
- Congress enact legislation requiring the collection of data on U.S.-China economic relations. This legislation would:
  - Direct U.S. economic statistics-producing agencies, including the U.S. Census Bureau, the U.S. Department of Commerce's Bureau of Economic Analysis, and the U.S. International Trade Commission, to review methodologies for collecting and publishing not only gross trade flows data, but also detailed supply chain data to better document the country of origin for components of each imported good before it reaches U.S. consumers.

- ○ Direct the U.S. Census Bureau to restart data releases in its *Current Industrial Reports* at the ten-digit industry level.
- ○ Direct the U.S. Department of the Treasury to coordinate with the U.S. Census Bureau to match U.S. firm-level data with their U.S. employees' data.

**Introduction**

U.S. companies with operations in China, which have historically been supportive of deepening engagement, have grown increasingly pessimistic about their ability to expand and participate in the Chinese market. In describing this pessimism, U.S. companies often point to the heavy hand of the Chinese government, which is designed to favor Chinese companies via practices such as joint venture restrictions and technology transfer requirements. These practices and others are described in this section. Despite these reports, however, there are gaps in the data available to inform the policy decisions that impact U.S. companies' activities in China and Chinese companies' activities in the United States.

This section reviews the presence of Chinese companies in the United States and U.S. companies in China by describing aggregated investment flows, companies' stated motivations for their investments, and current challenges for U.S. policymakers' consideration. The section also examines Chinese government practices and concludes by discussing implications for the United States. This section is based on the Commission's February 2019 hearing on the topic, the Commission's May trip to the Indo-Pacific, unclassified statements by U.S. officials, and open source research and analysis.

**U.S.-China Economic Ties: An Unbalanced Relationship**

U.S. companies seeking to export to or operate in China inevitably come up against the apparatus of the Chinese government, which maintains broad control over the structure of the Chinese economy. The Chinese government uses a series of industrial plans and regulations to advance the development of Chinese companies and industries at the expense of their foreign competitors. It employs a variety of means to execute this strategy, including state-imposed market barriers; lack of regulatory transparency; government procurement standards that favor local producers; extensive industrial subsidies; and, in some cases, state-sponsored theft of intellectual property.[1]

Consequently, U.S.-China trade and investment flows are heavily unbalanced. U.S. goods producers struggle to export to China, while Chinese companies face no similar restrictions. In services, where U.S. firms excel, the U.S. share of China's services market stands below the U.S. share of services globally.[2] Investment flows also reflect how the U.S.-China relationship has been shaped. As U.S. companies have sought to establish production in China, U.S. FDI has historically been dominated by greenfield investment (e.g., new facilities).[3] Conversely, Chinese FDI in the United States has been skewed heavily toward acquisitions (e.g., the purchase of existing U.S. assets), to gain access to valuable technology among other reasons (see Table 1).[4]

**Table 1: U.S.-China Bilateral Transactions in 2017**
(US$ billions)

| | Exports | | Outbound FDI | |
|---|---|---|---|---|
| | Goods | Services | Mergers and Acquisitions | Greenfield |
| **United States** | $129.8 | $57.6 | $4.6 | $9.6 |
| **China** | $505.2 | $17.4 | $28.9 | $0.8 |

*Note:* Outbound FDI represents transactions that occurred in the year 2017, rather than cumulative FDI. Data from 2017 are used to maintain consistency with the most recent services trade data.
*Source:* Various.[5]

## Chinese Companies in the United States

Chinese companies can participate in the U.S. economy in several ways, including through mergers and acquisitions, greenfield investment, VC investment, listing on U.S. stock exchanges, and research and development centers. According to estimates from the Internal Revenue Service, as of 2015 (latest available data), 7,360 companies in the United States were controlled by entities in mainland China (6.5 percent of all foreign-controlled companies), roughly similar to the number controlled by entities in Japan (7,471) and the United Kingdom (UK) (7,523) and less than half than those controlled by Canadian entities (15,411).[6]

### *Chinese Investment in the United States*

Chinese FDI only accounts for a small share of total U.S. inbound FDI. With the exception of Lenovo's $1.75 billion purchase of IBM's personal computers division in 2005, annual Chinese FDI in the United States remained below $1 billion until 2010.*[7] Yet even at the peak of Chinese FDI inflows in 2016, Chinese affiliates' holding of U.S. assets remained well below that of other countries. U.S. Department of Commerce's Bureau of Economic Analysis data show Chinese corporate affiliates in the United States held $216 billion in cumulative U.S. assets in the year 2016, only 1.6 percent of total foreign corporate affiliates' holdings and low relative to the corporate affiliates of French (7.9 percent), German (10.3 percent), Canadian (13.9 percent), and Japanese companies (15.8 percent).†

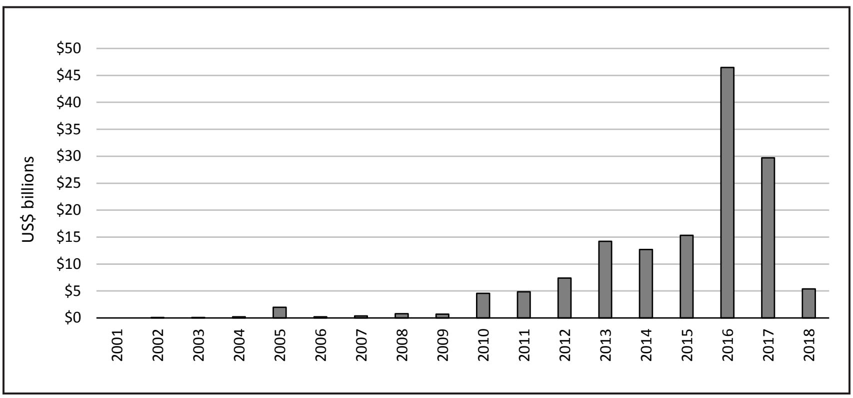
---

* Data from Rhodium Group are used throughout unless comparing Chinese and non-Chinese FDI in the United States. Data-producing agencies and organizations do not share a standard methodology for collecting and producing FDI data, leading to high variation between different organizations' figures. 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. For more information, see the addendum on investment data at the end of this section. 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.

† These data do not include investment from Hong Kong or potential corporate intermediaries in the Cayman Islands, British Virgin Islands, or other locations. Yet even if investment from Hong Kong were included, the combined assets of mainland Chinese and Hong Kong affiliates in the United States would amount to less than 2 percent of the total in 2016. U.S. Department of Commerce Bureau of Economic Analysis, *Foreign Direct Investment in the U.S., Majority-Owned Bank and Nonbank U.S. Affiliates (Data for 2007 and Forward), Total Assets, by Country of Ultimate Beneficial Owner*, accessed June 11, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=2&step=1.*

Recent changes in Chinese FDI flows to the United States have been driven by a small number of large transactions and reflect Chinese domestic policy decisions as much as the investment climate in the United States. Joy Dantong Ma, associate director at economic think tank MacroPolo, has argued the 2016 spike in Chinese FDI represented an exceptional year, in which the United States received 29 percent of total Chinese outbound FDI due to deregulation in China, outsized acquisitions by four large conglomerates,* and the sharp devaluation of the renminbi (RMB) in mid-2015.[8] The subsequent drop in Chinese FDI to the United States in 2017 represented a "reversion" to the prior average as Chinese officials clamped down on capital outflows.[9] Economic research firm Rhodium Group also concluded that while increased foreign investment scrutiny in the United States may have played some role, Beijing's tightening of administrative controls on outbound capital flows have driven the decline in Chinese entities' acquisitions since their peak in 2016 (see Figure 1).[10] These outsized acquisitions were concentrated in real estate. Cumulatively, real estate and hospitality investments have dominated FDI from China ($41.4 billion), followed by information and communication technologies (ICT) ($17.2 billion); transport, construction, and infrastructure ($16.7 billion); and energy ($13.9 billion).[11]

**Figure 1: Chinese Annual FDI Flows to the United States, 2001–2018**




*Note:* Figure 1 excludes all annual investment amounts below $50 million. It begins in 2001 following China's entrance into the World Trade Organization, which coincided with the beginning of China's "Going Out" policy in 2000 promoting investment abroad.

*Source:* Rhodium Group and the National Committee on U.S.-China Relations, "The U.S.-China Investment Hub." *https://www.us-china-investment.org/us-china-foreign-direct-investments/data*.

---

*Four high-profile conglomerates—Dalian Wanda Group, Anbang Insurance, HNA Group, and Oceanwide Holdings—accounted for more than 60 percent of Chinese FDI in the United States in 2016. After 2016, three conglomerates struggled to meet obligations as Chinese financial regulators cracked down on their acquisitions as well as broader shadow banking and capital outflows. In June 2017, Chinese financial regulators instructed large state-owned lenders not to lend to Dalian Wanda; it has since divested many of its assets. In February 2018, the China Insurance Regulatory Commission took control of Anbang to shore up the company after it struggled to repay investors; the former chairman, Wu Xiaohui, was sentenced to prison for fraud and embezzlement. In March 2018, the *Wall Street Journal* reported that HNA had received governmental support. Anjani Trivedi and Julie Steinberg, "Chinese Conglomerate HNA Gets Lifeline, *Wall Street Journal*, March 2, 2018; Pan Che, "Anbang Taken Over by Insurance Regulator," *Caixin*, February 23, 2018; Lingling Wei and Wayne Ma, "China Blocks Big Banks from Lending to Dalian Wanda," *Wall Street Journal*, July 17, 2017.

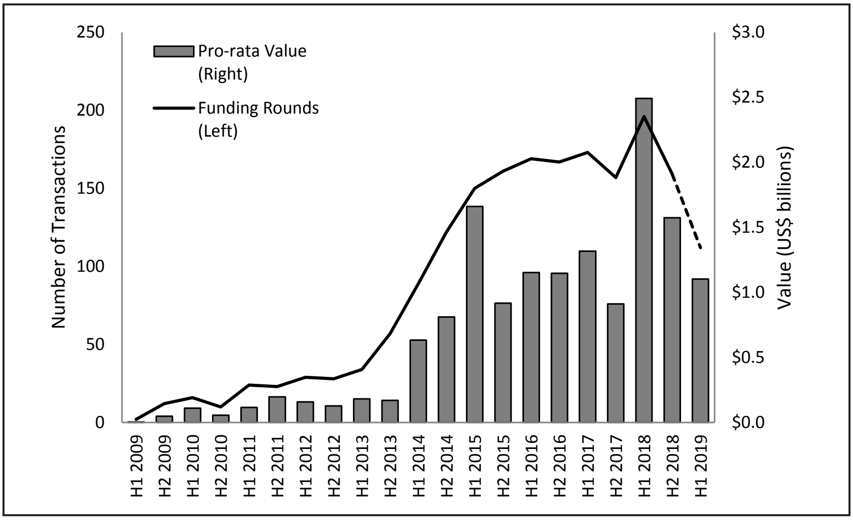
China's outbound FDI has slowed elsewhere in the world within a broader environment of lower global FDI flows. Rhodium and the Mercator Institute for China Studies (MERICS) reported Chinese FDI flows to the EU also peaked in 2016, then dropped in 2017 and 2018.[12] Notably, Chinese FDI flows to the EU did not fall as much since 2016 as to the United States.[13] In 2018, Chinese FDI flows to the United States only reached $5.4 billion, their lowest amount since 2011, while Chinese FDI flows to the EU were comparatively higher at $19.3 billion (€17.3 billion).* Chinese conglomerates HNA, Dalian Wanda, and Anbang also sold off sizable assets in the EU and the United States.[14] These divestitures occurred in a year of lower global FDI: the UN Conference on Trade and Development and the Organization for Economic Cooperation and Development (OECD) reported a fall in global FDI in 2018, which both institutions attributed to repatriations by U.S. multinational corporations following U.S. corporate tax reforms.[15]

Broad trends in FDI flows from China mask lower but more impactful levels of VC investment from Chinese entities in potentially sensitive areas, including U.S. biotechnology, energy storage, and other early-stage advanced technologies. Chinese VC investment has remained consistently above $500 million since 2014 and did not drop as significantly as FDI in 2018. VC investment peaked in the first half of 2018 at over $2 billion before dropping back to the $1–$1.5 billion range in the second half of 2018 and the first half of 2019 (see Figure 2).[16] This decrease diverged from overall U.S. VC investment, which held steady at 2018 levels.[17] Rhodium attributed the late 2018 and early 2019 reset to a pullback from Chinese state-owned VC investors, due in part to U.S. foreign investment screening's expanded role to review foreign VC investment, "with special scrutiny for state-related investors."[18] U.S. policymakers remain concerned about VC investment that might be directed by the Chinese government, as access to early-stage technologies could put U.S. national security and economic competitiveness at risk.

---

*These figures can be compared to 2016, when the United States received more FDI from China (about $46 billion) than Europe received from China (about $41 billion, or €37 billion). They do not include asset divestitures, which the dominant sources of global FDI data (the UN Conference on Trade and Development and the Organization for Economic Cooperation and Development) do. Thilo Hanemann et al., "Two-Way Street: 2019 Update on U.S.-China Investment Trends," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 26; Thilo Hanemann, Mikko Huotari, and Agatha Kratz, "Chinese FDI in Europe: 2018 Trends and Impact of New Screening Policies," *Rhodium Group* and *Mercator Institute for China Studies*, March 2019, 9.

**Figure 2: Completed Chinese VC Investment in the United States, January 2009–H1 2019**




*Note:* Pro-rata value determined as the Chinese proportional share of each funding round's value based on the number of participating investors. Data from 1H 2019 are preliminary only.
*Source:* Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 9.

Chinese VC funding in the United States has tended to prioritize investments in health, pharmaceuticals, and biotechnology; financial and business services; and ICT. According to preliminary data, health, pharmaceuticals, and biotechnology received the highest level of Chinese VC investment in the first half of 2019 (estimated at $330 million).[19] These sectors also saw the highest number of transactions involving Chinese investor participation.[20] The United States has been the primary destination for Chinese outbound VC biotech investment. Between 2000 and 2017, Chinese VC investors participated in 153 biotech funding rounds internationally, of which 131 rounds had U.S. recipients.*

Analysis of Chinese companies' participation in the U.S. economy is constrained by an absence of empirical data on companies' operations, corporate governance, legal compliance, and impact on the broader U.S. economy. In *The Clash of Capitalisms? Chinese Corporations in the United States*, one of the few studies of Chinese companies in the United States, Rutgers University law professor Ji Li stated: "The extant literature [on China's global expansion] has largely neglected Chinese investment in developed countries, especially the United States."[21]

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

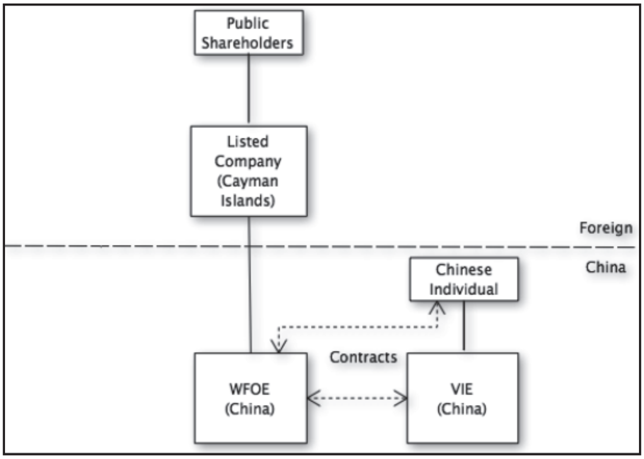
Beyond investing in the United States, many Chinese companies raise capital on U.S. financial markets. Chinese firms—like other foreign businesses—rely on U.S. financial markets to seek equity financing and establish a trading presence for their securities. Chi-

* Gryphon Scientific and Rhodium Group note that these funding rounds' target companies are engaged primarily in biotechnology, followed by the drug discovery and drug delivery markets of traditional pharmaceuticals. Gryphon Scientific and Rhodium Group, "China's Biotechnology Development: The Role of U.S. and Other Foreign Engagement" (prepared for the U.S.-China Economic and Security Review Commission), February 14, 2019, 61.

nese businesses have been attracted to U.S. financial markets due to their size and liquidity, the possibility of obtaining foreign currency, and the option to list using a dual-class structure.[22] Dual-class structures allow certain shareholders—most often company founders and executives—to have a vote that carries more weight relative to other shareholders in corporate voting, permitting those shareholders to maintain greater control over a company's management and firm decisions, such as mergers and acquisitions. As of September 2019, there were 172 Chinese companies listed on the three largest U.S. exchanges, the NASDAQ, the New York Stock Exchange (NYSE), and the NYSE American (formerly the American Stock Exchange, or AMEX), with a total market capitalization of more than $1 trillion.*[23] In 2018 alone, Chinese companies raised more than $8.5 billion through initial public offerings (IPOs) on U.S. exchanges.[24]

The Chinese government restricts foreign investment in industries it defines as sensitive, such as the internet, media, and other areas of telecommunications.[25] To circumvent these restrictions and gain access to foreign capital, many Chinese corporations use an complex corporate structure called a variable interest entity (VIE) to list in the United States, requiring the participation of at least three affiliated firms (see Figure 3).†

**Figure 3: A Common VIE Structure**




*Note:* WFOE stands for "wholly foreign-owned enterprise."
*Source:* Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 3. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf.*

*The NASDAQ, NYSE, and NYSE American exchanges had a combined market capitalization of $33.1 trillion at the end of 2018. To show Chinese companies' participation over time, 130 Chinese companies were listed on these exchanges in 2017, with a total market capitalization of $536 billion; in 2012, 188 Chinese companies were listed on these exchanges, with a total market capitalization of only $119 billion. When AMEX was acquired by NYSE Euronext, the exchange's name was changed to NYSE American. World Federation of Exchanges, "WFE Annual Statistics Guide (Volume 4)," May 1, 2019, Equities 1; U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, "Chinese Investment in the United States," in *2017 Annual Report*, November 2017, 91–92.

†According to Paul Gillis and Fredrik Oqvist, a variable interest entity is a company included in the consolidated financial statements of a second company. The second company controls the VIE through contracts rather than direct ownership. "The contracts attempt to mimic the control and economic interest of direct ownership." Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf.*

In these U.S.-listed Chinese companies, select assets are held in China by a Chinese-owned VIE (bottom right) and a Chinese individual who owns the VIE.*[26] The Chinese-owned VIE and its owner maintain complex contractual arrangements with a wholly foreign-owned enterprise in China (WFOE, bottom left), which is a subsidiary of an offshore holding company (the listed company).[27] The offshore holding company can then list publicly and receive foreign capital from public shareholders (top). Paul Gillis, professor of practice at Peking University Guanghua School of Management, explained: "This allows the company to tell its story in two ways: to domestic [Chinese] regulators it claims to be locally owned and not subject to foreign investment restrictions, while foreign investors are led to believe that they own the entire business."[28] In March 2019, Dr. Gillis estimated 69 percent of Chinese companies listed on the NYSE and the NASDAQ use the VIE structure.[29]

Investments in U.S.-listed Chinese companies are inherently risky. China's Supreme Court held the structure to be unenforceable in 2012, as a VIE's contractual arrangements "concealed illegal intentions [of circumventing foreign investment restrictions] with a lawful form."[30] As Steve Dickinson, then-partner at Harris & Moure, noted, "A contract written to avoid the requirements of Chinese law is void and the court [in China] will not enforce it."[31]

In an effort to attract companies that might otherwise list on U.S. exchanges, in April 2018 the Hong Kong Stock Exchange (HKEX) announced new regulations that allow companies to list using a dual-class structure, which the NYSE and the NASDAQ already permit.[32] The HKEX was the premier IPO destination by IPO value in the world by the end of 2018,† though the NYSE regained that position in the first half of 2019.‡[33] Mainland companies can access international capital on the HKEX. According to the Hong Kong Trade Development Council, as of year-end 2018, 1,146 mainland companies were listed in Hong Kong, with a total market capitalization of $2.6 trillion (68 percent of the market total).[34] (For further discussion on the HKEX, see Chapter 6, "Hong Kong.")

### ***Selected Concerns regarding Chinese Economic Activity in the United States***

#### *Regulatory, Oversight, and Enforceability Challenges of U.S.-Listed Chinese Companies*

The U.S. Securities and Exchange Commission (SEC) and the Public Company Accounting Oversight Board (PCAOB) § oversee dis-

---

* For more on the VIE structure, see Kevin Rosier, "The Risks of China's Internet Companies on U.S. Stock Exchanges," *U.S.-China Economic and Security Review Commission*, June 18, 2014.

† In the last ten years, HKEX has been the most popular IPO destination in 2015, 2016, and 2018. Wen Simin and Han Wei, "HKEx Ranks 3rd in Global IPOs as Trade War Weighs on Sentiment," *Caixin*, June 20, 2019.

‡ In mid-August 2019, Alibaba reportedly postponed its listing on the HKEX with no new timetable announced amid the anti-extradition bill protests. *Caixin* also reported three other companies delayed their Hong Kong initial public offerings in mid-July without specifying a cause. Michael J. de la Merced and Alexandra Stevenson, "Alibaba Postpones Hong Kong Listing as Protests Roil Markets," *New York Times*, August 22, 2019; Julie Zhu and Greg Roumeliotis, "Exclusive: Alibaba Postpones Up to $15 Billion Hong Kong Listing amid Protests," *Reuters*, August 20, 2019; Wei Yiyang and Jason Tan, "Hong Kong Bourse's Tough First Half Followed by Spate of IPO Cancellations," *Caixin*, July 16, 2019.

§ The PCAOB is a private nonprofit created by the Sarbanes-Oxley Act of 2002 to oversee the audits of public companies.

closures, reporting, and audits of publicly listed companies on U.S. exchanges.[35] These regulators encounter three types of challenges regarding U.S.-listed Chinese companies. First, regulatory gaps in U.S. law exempt U.S.-listed Chinese companies—like all foreign private issuers—from the standards required of U.S. domestic companies. Second, Chinese state security laws bar the PCAOB from reviewing the work papers from Chinese auditors, removing effective oversight over those auditors and the quality of work produced on Chinese firms and foreign affiliates' operations in China. Third, due to the lack of U.S. jurisdiction over the locations where U.S.-listed Chinese companies are often domiciled, attempts to enforce contractual arrangements or seek redress often fail.

- *Regulatory challenges:* The SEC does not maintain country-specific disclosure requirements, but as foreign private issuers, U.S.-listed Chinese companies are subject to lower reporting and disclosure requirements than domestic U.S. companies. Specifically, U.S.-listed Chinese companies are exempted from *Regulation Fair Disclosure* ("Reg FD"), which requires U.S. public companies to disclose material information to all investors at the same time.[36] The SEC adopted Reg FD in 2000 to stop selective disclosure that led to insider trading, undermining investor confidence in the integrity of U.S. capital markets.[37] In addition, foreign companies are not required to file quarterly reports with an auditor's review, release the same level of detail on executive compensation, or hold annual shareholder meetings.[38] Dr. Gillis testified that Baidu has not held a shareholder meeting in more than ten years.[39] Consequently, U.S.-listed Chinese companies are not required to maintain the high transparency demanded of U.S. market actors.
- *Oversight challenges:* Because Chinese regulatory authorities consider auditor inspections—the responsibility of the PCAOB—to impinge on China's national security, the PCAOB has been unable to inspect the work and practices of accounting firms in China and Hong Kong that audit companies with significant operations in mainland China and which are listed on U.S. exchanges.[40] The PCAOB maintains the ability to inspect the audit work papers of U.S.-listed companies from every country except China and Belgium.[41] This lack of cooperation is not only challenging for oversight of U.S.-listed Chinese firms: Chinese accounting affiliates contribute to the audits of U.S. companies with operations in China, though the PCAOB holds these companies' main auditors accountable.[42] As Dr. Gillis emphasized in testimony before the Commission, auditor inspection is arguably the most important function of the PCAOB.[43]
- *Enforcement challenges:* Because U.S. shareholders typically own the VIE company indirectly through contracts with a Chinese subsidiary of an offshore entity, rather than through direct ownership of shares in the company, attempts to enforce these contracts often fail, causing U.S. investors to suffer losses.[44] The most notable case of shareholder losses occurred when Yahoo shareholders lost their stake in Alipay in 2010.[45] In attempting to gain the requisite Chinese license for third-party pay-

ment systems, then-CEO Jack Ma unwound the Alipay VIE and transferred ownership to himself, causing a dispute between Alibaba and two of its largest shareholders, Yahoo and Softbank Corp.[46] In 2011, the three parties settled on a payout with a $6 billion cap.[47] However, in its most recent funding round in 2018, Alipay—now Ant Financial—was "the world's largest unicorn … valued at $150 billion."*[48] In other words, the payout received by the company's former investors was 25 times smaller than the current value of the company.[49] U.S. investors often have little legal recourse for two reasons. First, holding companies are typically domiciled in tax havens (e.g., Cayman Islands, British Virgin Islands) and thus are also subject to lower corporate governance regulation, oversight, and enforcement action in their place of jurisdiction.† Lack of U.S. jurisdiction—and by extension, U.S. legal protection—exposes investors to potential misappropriation of company funds or assets by corporate insiders.[50] Since these firms remain beyond U.S. jurisdiction, lack of cooperation also obstructs SEC investigations.[51] Second, court judgements in the United States and in tax havens where offshore holding companies are domiciled are not enforceable in China, where the VIE's assets are held.[52] U.S.-listed Chinese companies that use a VIE structure disclose this legal risk in their annual reports.‡

The lack of disclosure, oversight, and enforceability in listings of Chinese companies on U.S. stock exchanges opens the door to adverse activities, such as insider trading, accounting fraud, and other corporate governance concerns.[53] There is evidence that questionable financial statements and lack of disclosure in accounting have harmed investors and pensioners in U.S. markets.[54] One problem occurs when U.S.-listed Chinese companies are taken private and converted from publicly traded entities to private entities, as more than 60 Chinese companies have done since 2013.[55] Harvard Law professor Jesse Fried and portfolio manager Matthew Schoenfeld argue that as China's tech companies have matured into market giants, U.S. investors have become "dispensable" and vulnerable to low buyouts from Chinese controlling shareholders.[56]

In the case of offshore VIEs, the lack of U.S. jurisdiction may hinder shareholders' attempts to challenge management actions they

---

*A unicorn is a private company with a valuation of over $1 billion. *TechCrunch*, "The Crunchbase Unicorn Leaderboard." *https://techcrunch.com/unicorn-leaderboard/*.

†For more information about how Chinese companies list in the United States, 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, 95; and Kevin Rosier, "The Risks of China's Internet Companies on U.S. Stock Exchanges," *U.S.-China Economic and Security Review Commission*, September 12, 2014, 3.

‡For example, in its 2018 Form 20-F filing, Alibaba included the following disclosure: "In the opinion of Fangda Partners, our PRC counsel, the ownership structures of our material wholly-owned entities and our material variable interest entities in China do not and will not violate any applicable PRC law, regulation or rule currently in effect; and the contractual arrangements between our material wholly-owned entities, our material variable interest entities and their respective equity holders governed by PRC law are valid, binding and enforceable in accordance with their terms and applicable PRC laws and regulations currently in effect and will not violate any applicable PRC law, rule or regulation currently in effect. However, Fangda Partners has also advised us that there are substantial uncertainties regarding the interpretation and application of current PRC laws, rules and regulations. Accordingly, the possibility that the PRC regulatory authorities and PRC courts may in the future take a view that is contrary to the opinion of our PRC legal counsel cannot be ruled out." Alibaba, "Form 20-F," July 5, 2019, 38. *https://www.sec.gov/Archives/edgar/data/1577552/000104746919003492/a2238953z20-f.htm*.

view as adverse. For example, when Chinese internet security firm Qihoo 360 was taken private in July 2016, U.S. shareholders were paid $77 per share, equivalent to a total value of $9.3 billion.[57] In February 2018, Qihoo 360 relisted on the Shanghai Stock Exchange with a value above $60 billion, a return of 550 percent to its private owners, including company founders.[58] As Qihoo 360 was incorporated in the Cayman Islands, which offers less regulatory protection for investors, the company was allowed to be taken private by controlling shareholders, although only 21 percent of minority shareholders approved going private.[*][59] Former Qihoo 360 shareholders filed two class action lawsuits against the company in January and March 2019, alleging they were misled about the company's intentions and value.[60] The March 2019 case continues in California's Central District Court.[61]

Since 2011, the SEC and PCAOB have engaged in ongoing negotiations with Chinese counterparts on the issue of cross-border auditor inspections with no success.[62] In a 2018 joint statement with the SEC, the PCAOB said it could not conduct inspections of audit work of China-based companies listed on U.S. stock exchanges with auditors in mainland China and Hong Kong.[63] The SEC and PCAOB state they have "not yet made satisfactory progress," which they acknowledge raises investor protection issues such as "[allowing] bad actors to more effectively hide fraud."[64]

*"National Strategic Buyers" and Identifying Chinese Government Interference*

China is conducting a comprehensive effort to acquire a range of technologies to advance military and economic goals.[65] As described in a report by the Defense Innovation Unit, the Chinese government is pursuing dominance in strategic technologies critical for future innovation and military prowess, including artificial intelligence, robotics, autonomous vehicles, and gene editing, among others.[†] In support of this effort, Chinese entities have pursued illicit (e.g., cyber theft and industrial espionage) as well as legal (e.g., talent recruitment and investment) avenues to access or acquire U.S. and other foreign technologies.[66] (For a discussion of China's pursuit of critical technologies, see Chapter 3, Section 2, "Emerging Technologies and Military-Civil Fusion: Artificial Intelligence, New Materials, and New Energy.")

Given the expansive control of the Chinese government over Chinese firms, this comprehensive effort raises concerns about the mo-

---

*Delaware, where many U.S. companies are incorporated, has more robust protections for minority shareholders, including a court review process that is triggered if the controlling entities stand to benefit from the transaction in a way that is not shared with other investors, presenting a conflict of interest, particularly if a minority of shareholders approves a deal to take a company private. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019; Gail Weinstein et al., "Fried Frank Discusses Delaware Ruling that Corporate Recapitalization Required 'Entire Fairness' Review," *Columbia Law School Blue Sky Blog*, January 9, 2018; Gibson Dunn, "M&A Report—Determining the Likely Standard of Review Applicable to Board Decisions in Delaware M&A Transactions (April 2017 Update)," April 12, 2017.

†The U.S. Department of Defense established the Defense Innovation Unit in 2015 to lead outreach to commercial innovation hubs in the United States. 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*, February 2017, 3; Defense Innovation Marketplace, "Defense Innovation Unit," August 17, 2019.

tives of Chinese companies in their foreign acquisitions or operations. Legal scholars Curtis Milhaupt of Stanford Law School and Jeffrey Gordon of Columbia Law School frame this as a "national strategic buyer" problem: decisions by Chinese companies—private or state-owned—may be guided by national security or industrial policy objectives beyond the economic return sought by private actors.[67]

Despite the strengthening of U.S. investment screening processes under the Committee on Foreign Investment in the United States (CFIUS),* U.S. policymakers remain concerned about VC investment that might be directed by Chinese government entities, as access to early-stage technologies could put U.S. national security and economic competitiveness at risk. Chinese economic planners continue to exercise scrutiny over outbound FDI: National Development and Reform Commission (NDRC) regulations stipulated Chinese outbound FDI in "sensitive countries or regions" or "sensitive industries" must receive official approval through an opaque review process.[68]

*Subsidized Competition Invisible to U.S. Antitrust Law*

Chinese government support has generated market distortions in a wide array of sectors and could enable the anticompetitive expansion of Chinese companies in the United States. Angela Zhang, competition law professor at the University of Hong Kong, stated that Chinese state-owned enterprises (SOEs), backed by below-market financing and state support, have become dominant players in China's outbound investment.[69] For example, the state-owned China Railway Rolling Stock Corporation (CRRC), China's largest railcar manufacturing company, reported that it received $37.4 million (RMB 243 million) in government grants—including loans at below-market rates in the year 2017.† Globally, CRRC operates or has built 83 percent of all rail products.[70] In the United States, CRRC has won four out of five major U.S. contracts for new railcars in the cities of Chicago, Philadelphia, Boston, and Los Angeles since 2014.[71] CRRC's 2014 contract to produce 284 railcars for Boston's orange and red lines totaled $566 million, nearly half that of Bombardier's competing $1 billion bid.[72] Jim Blaze, an independent rail economist, commented that CRRC's bid "might have been a price-loss leader to establish [CRRC] in the [U.S. rail] business .... They can afford to do that, because they are a government-owned structure."[73]

---

*The 2018 National Defense Authorization Act Title XVII included provisions for the strengthening of the CFIUS and reestablishment of statutory authority for the export control regime, as well as the creation of a critical technology list. Title XVII Subtitle A, known as the Foreign Investment Risk Review Modernization Act of 2018 (or FIRRMA), extended CFIUS' review authority to transactions of sensitive real estate, evasive transactions structured to circumvent CFIUS review, incremental foreign investments that establish foreign control, and non-controlling investments in critical technologies and emerging and foundational technologies. An interagency process will establish a list of emerging and foundational technologies on an ongoing basis. John S. McCain National Defense Authorization Act for Fiscal Year 2019 §1701—2003, Pub. L. No. 115–232, 2018. *https://www.congress.gov/bill/115th-congress/house-bill/5515/text*.

†CRRC specified that government loans received at below-market rates were also treated as government grants in the companies' financial statements. As of December 2017, the RMB-to-dollar exchange rate stood at $1 = RMB 6.5040. CRRC Corporation Limited, "CRRC Corporation Limited Annual Report 2018," March 2019, 121; U.S. Department of the Treasury, *Treasury Reporting Rates of Exchange as of December 31, 2017*. *https://fiscal.treasury.gov/files/reports-statements/treasury-reporting-rates-exchange/itin-12-31-17.pdf*.

While under most circumstances the United States might welcome FDI, some companies attempt to circumvent antidumping and countervailing duties by investing in the United States. In testimony before the Commission, Elizabeth Drake, partner at Schagrin Associates, described the case of Tianjin Pipe Corporation (TPCO) where the value of such investment was unclear. As Ms. Drake detailed, once its pipe exports were affected by countervailing duties of 14 percent and antidumping duties of 49 percent in 2009, TPCO announced a $1 billion pipe facility in Texas.[74] In the first phase of its operation in 2014, the facility imported plain-end pipe ("green pipe") not subject to countervailing duties and completed finishing work on its ends. Though the company's second phase, a rolling mill, is expected to produce plain-end pipe as well, it is not slated to be operational until later in 2019.[75] This case raises questions about whether TPCO's initial investment allowed the company to effectively circumvent U.S. trade remedies and continue importing product produced below fair market value into the United States.[76]

If subsidized companies circumvent countervailing duties by establishing operations in the United States, some experts argue that U.S. companies may have no means of seeking redress through the courts. As Ms. Drake noted, since U.S. antitrust law assumes all U.S.-based firms are profit maximizers, firm pricing is only deemed anticompetitive or predatory if the firm in question recoups its losses.[77] Consequently, firms that can undercut competitors' prices by relying on government support—thereby never formally recouping the loss—cannot be challenged in U.S. courts for engaging in predatory or anticompetitive conduct. According to Ms. Drake, a subsidized Chinese company with U.S. operations may serve Chinese government political or industrial policy goals by continuing "to price its products below cost in order to take market share" from producers competing on market principles.[78] Consequently, Chinese companies that establish U.S. operations and benefit from government subsidies leave U.S. and foreign companies doing business in the U.S. market at an unfair disadvantage.[79]

## U.S. Companies in China

U.S. firms' commercial engagement in China is restricted and shaped by Chinese state industrial policies. These industrial policies encourage the localization of production within China; protect local producers through ownership restrictions and regulation; identify, prioritize, and provide government resources to strategic and emerging technology sectors; and in those sectors, often maintain state-determined market share targets for the local and international market. As the Office of the U.S. Trade Representative stated in its 2018 annual review of China's compliance with its World Trade Organization (WTO) obligations, Chinese industrial policies "[limit] market access for imported goods and services and [restrict] the ability of foreign manufacturers and service suppliers to do business in China."[80]

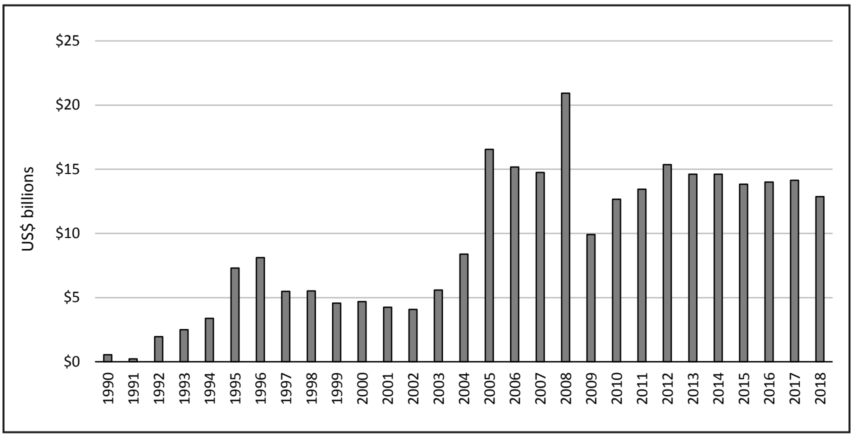
### *U.S. Investment in China*

Unlike Chinese FDI in the United States, which primarily entails the acquisition of existing assets, U.S. FDI in China is predominantly greenfield investment. In 2018, U.S. firms invested about

$13 billion in China, down from $14.1 billion in 2017 (see Figure 4).[81] Of the total, $8.3 billion (64 percent) represented greenfield investment, and mergers and acquisitions stood at $4.7 billion (36 percent).[82] These figures do not include VC or passive investment.

In 2018, real estate and hospitality received the largest share of U.S. investment ($4 billion), followed by information and communication technologies (ICT) investments ($2.7 billion), media and entertainment ($2 billion), and automotive and transportation ($1.7 billion).[83] Rhodium highlighted that ICT investment dropped by a third from $3 billion or more in the past four years due to business uncertainty, while the increase in real estate investment was driven by investments in distressed projects.[84] Of $269.6 billion cumulative U.S. FDI in China, about $177.5 billion (66 percent) represents a controlling investment of over 50 percent.[85]

**Figure 4: U.S. Annual FDI Flows to China, 1990–2018**




*Note:* Figure 4 excludes all annual investment amounts below $50 million.
*Source:* Rhodium Group and the National Committee on U.S.-China Relations, "The U.S.-China Investment Hub." *https://www.us-china-investment.org/us-china-foreign-direct-investments/data.*

China's FDI regime structure was updated in the first half of 2019. Before March 2019, three laws jointly governed China's foreign investment law: the Law on Sino-Foreign Equity Joint Ventures, the Law on Sino-Foreign Cooperative Joint Ventures, and the Law on Wholly Foreign-Owned Enterprises. In March 2019, the National People's Congress passed legislation replacing these three laws with an overarching Foreign Investment Law. In June 2019, the NDRC and the Ministry of Commerce released a new "negative list," which classifies industries as encouraged, restricted, or prohibited to FDI.[86] (For more on the Foreign Investment Law and negative list revisions, see Chapter 1, Section 1, "Year in Review: Economics and Trade.")

### *U.S. Companies' Goals for Investing in China*

U.S. multinationals establish operations in China for two primary reasons: (1) to sell into the Chinese market; and (2) to build or expand a center of production, from which firms can also export goods to the United States and other destinations. Mary Lovely, professor of economics at Syracuse University, noted in testimony before the Commission that U.S. affiliates in China sold 83 percent of their total goods and services to buyers in the Chinese market in 2016.[87] This share is higher than the 59 percent average share of U.S. affiliates' in-country sales in all foreign countries.[88] In 2017, 57 percent of member firms surveyed by the American Chamber of Commerce (AmCham) in Shanghai reported their primary goal in China was to produce goods or services for the Chinese market.[89] In 2007, only 42 percent reported this motivation.* By contrast, in 2017, 11 percent of firms stated their primary goal in China was to produce goods or services for the U.S. market, down from 23 percent in 2007.†

According to data from the Bureau of Economic Analysis, U.S. majority-owned multinational affiliates employed more workers in China than in any other country in 2017 (1.7 million, or 12 percent of the 14.4 million workers employed by majority-owned U.S. affiliates overseas).‡ About 44 percent of U.S. affiliates' employees in China were in manufacturing.[90] As Dr. Lovely testified, according to Chinese customs data, foreign-invested enterprises in China—including but not limited to U.S. corporate affiliates—accounted for 60 percent of China's exports to the United States in 2014.[91] Economists David Dollar and Zhi Wang have written that in computers and electronics, more than half of China's exports are produced by multinational firms with operations in China.[92] In a review of offshoring to China, a 2017 U.S. International Trade Commission briefing identified corporate considerations such as lower labor and overhead costs, highly flexible production and benefits from economies of scale, decreased transportation costs, and proximity to global supply chains as additional incentives.[93] These incentives made China an attractive production site, and U.S. firms still export from operations in China.

Despite restrictions, U.S. firms continue to invest and establish operations in China. U.S. firms' profitability in China is challenging to gauge, as U.S. companies typically aggregate global earnings and do not disclose earnings from China specifically. Recent estimates can only provide a window into S&P 500§ companies' share of sales in China. The financial data firm FactSet has attempted to approximate S&P 500 firms' revenues in China to predict their exposure to trade tensions and the Chinese economic slowdown. FactSet estimated in February 2019 that of all S&P 500 companies, about 33 percent have no sales in China, 33 percent have at least 3 percent of their global sales in China,

---

*AmCham Shanghai, a trade association, did not report its total membership. In 2018, 434 Shanghai member companies responded to its survey. In 2007, 267 companies responded to its survey. On its website, AmCham Shanghai currently boasts more than 3,000 members from about 1,500 companies. American Chamber of Commerce in Shanghai, "2018 China Business Report," 6; American Chamber of Commerce in Shanghai, "2012—2013 China Business Report," 17.

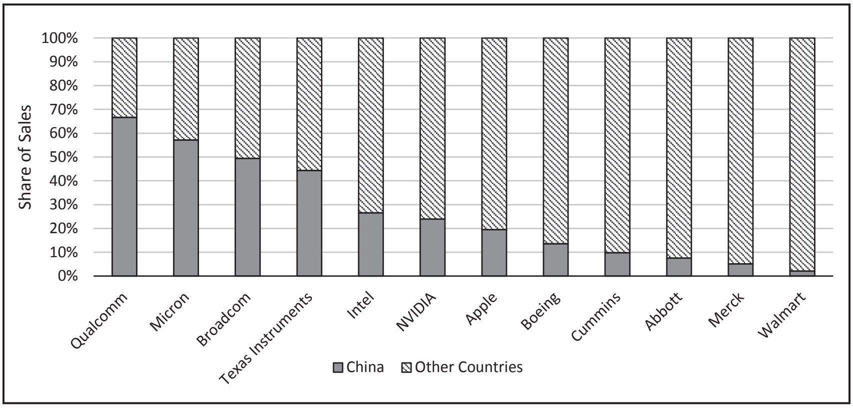
†According to the survey, another 6 percent responded their strategy was to produce or source goods and services for markets other than the U.S. and Chinese market, 9 percent reported their strategy was to import goods into China, and 18 percent responded "other." American Chamber of Commerce in Shanghai, "2018 China Business Report," 6.

‡These figures reflect employment of workers at the end of 2017 in U.S. multinationals' majority-owned affiliates. U.S. Department of Commerce Bureau of Economic Analysis, *Series Data on Activities of Multinational Enterprises, U.S. Direct Investment Abroad, All Majority-Owned Foreign Affiliates (Data for 2009 and Forward), Employment, by Country Only (All Countries)*, released August 23, 2019, accessed September 13, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=2&step=1.*

§The S&P 500 is a stock market index composed of the 500 largest companies by market capitalization. It covers about 80 percent of U.S. market capitalization. S&P Dow Jones Indices, "S&P 500." *https://us.spindices.com/indices/equity/sp-500.*

and 12 percent have 10 percent or more of their global sales in China.[94] Of U.S. companies in the S&P 500 that specify net sales in China in their 2018 annual reports, chipmakers like Qualcomm, Micron, and NVIDIA showed a larger share of their global net sales in China relative to other companies (see Figure 5).[95]

**Figure 5: Selected S&P 500 Companies' Share of Global Net Sales Generated in China in 2018**




*Note:* Per companies' 10-K filings, "sales generated in China" refers to net sales to customers' shipping locations. Some companies specified that sales from China also included Hong Kong, Macau, or Greater China.
*Source:* U.S. Securities and Exchange Commission; companies' Form 10-K filed in 2018.

As an alternative gauge of profitability, U.S. trade associations in China ask members to report on their performance in annual surveys. According to the most recent AmCham China survey, about 69 percent of member firms reported they were profitable in 2018, a slight decrease from 73 percent in 2017.[96] By industry, compared with 2017 earnings, 84 percent of resource and industrial members reported earnings increased or remained steady, while 88 percent of consumer-facing members reported their estimated earnings increased or remained steady.[97] Where earnings decreased from 2017, the most common explanations the companies cited were increasing costs; deteriorating industry conditions; slowing business growth; and, in the case of technology and research and development-intensive members, competition from private Chinese companies.[98] The survey reported that 68 percent of U.S. member companies expected to increase their investment in 2019, a decrease from 74 percent in 2018; by sector, 74 percent of consumer-facing members stated they planned to increase investment, compared with 64 percent of resource and industrial members.[99]

### *Problems Facing U.S. Companies in China*

#### *U.S. Companies' Access Hinges on China's Industrial Policy-Driven FDI Regime*

China maintains one of the most restrictive investment regimes in the world. In 2018, the OECD ranked China as the sixth most restrictive country behind Malaysia, Russia, Indonesia, Saudi Arabia, and the Philippines.[100] This foreign investment regime has limited

U.S. companies' investment and operations in China. This trend continues to this day as U.S. companies are still barred from expanding their assets or growing their operations in sectors like banking and finance, where U.S. firms are competitive. In its *2019 China Business Climate Survey Report*, AmCham China found 46 percent of survey respondents felt less welcome in 2019 than in previous years.[101] For the fourth consecutive year, respondents reported inconsistent or unclear regulations as their top concern, despite Chinese government's promises to improve the business environment for foreign firms (see Table 2).*

**Table 2: Top Five Business Challenges in China for U.S. Firms, 2015–2019**

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| **1.** | Rising labor costs: 61% | Inconsistent regulatory interpretation and unclear laws: 57% | Inconsistent regulatory interpretation and unclear laws: 58% | Inconsistent regulatory interpretation and unclear laws: 60% | Inconsistent regulatory interpretation and unclear laws: 55% |
| **2.** | Inconsistent regulatory interpretation and unclear laws: 47% | Rising labor costs: 54% | Rising labor costs: 58% | Rising labor costs: 56% | Rising labor costs: 48% |
| **3.** | Shortage of qualified employees: 42% | Obtaining required licenses: 29% | Increasing Chinese protectionism: 32% | Regulatory compliance risks: 37% | Rising tensions in U.S.-China relations: 45% |
| **4.** | Shortage of qualified management: 32% | Shortage of qualified employees: 29% | Shortage of qualified management: 30% | Shortage of qualified employees: 32% | Increased competition from privately owned Chinese companies: 29% |
| **5.** | Increasing Chinese protectionism: 30% | Industry overcapacity: 29% | Obtaining required licenses: 29% | Increasing Chinese protectionism: 32% | Shortage of qualified employees: 28% |

*Source:* American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 39.

While China's inbound FDI regime has blocked entry into some segments of the Chinese market, it has served to condition the terms of entry in others, extracting technology and other concessions from U.S. and other foreign companies seeking to do business in China. As Dr. Lovely stated in her testimony to the Commission: "Foreign investment policy is closely linked to industrial policy, primarily on a case-by-case and non-transparent basis."[102] The main

*In 2019, AmCham China sent its annual survey to 771 AmCham company representatives, and 314 completed the majority of survey questions. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 37.

tool for aligning U.S. and other foreign FDI with industrial policy priorities is the Foreign Investment Catalogue, now encapsulated by the new "negative list," which categorizes local industries into prohibited, restricted, or encouraged sectors in order to channel FDI toward industrial policy goals.[103]

Across a variety of industries, Chinese industrial policy planners aim to anticipate the next generation of technologies, designing FDI and regulatory regimes to protect and advantage local firms. Dean Garfield, then president of the Information Technology Industry Council, summarized these trends in 2018 by saying the Chinese government "[puts] its thumb on the scale in favor of its local champions so they can corner the market on the frontier innovations of the future."[104]

Research conducted by Dr. Lovely and her colleagues found the best predictor of an industry's movement into the "encouraged" investment category was its designation as a "high technology" sector by the Chinese government, marking it as an industrial policy priority.[105] Once the prioritized local industry has begun to develop, FDI restrictions and other regulatory barriers are imposed to exclude foreign firms from the market, allowing local firms to grow.[106] Those restrictions are removed only when local firms' market dominance is assured and foreign firms no longer present a competitive threat.[107] Following this pattern, the foreign investment list published in June 2019 included high-priority industrial policy technologies (such as semiconductors, information and communication technologies, electric vehicles, and new materials) in its "encouraged" FDI list.[108]

Several examples can illustrate how the Chinese government manipulates foreign companies' access to maximize technology transfer and protect local companies:

- *Auto and auto parts manufacturing:* Having failed to develop a competitive combustion-engine car industry, China has provided enormous resources to the local electric vehicle (EV) industry and its value-added inputs. Though joint ventures (JVs) with foreign companies like GM and Ford are China's current leading auto manufacturers, the top 15 EV models are produced by Chinese manufacturers, and the regulatory environment is designed to encourage EVs.[109] In addition to incentives to boost demand (e.g., consumer rebates), the Chinese government also uses subsidies and local production requirements for high-value EV inputs, especially the battery, which represents 40 percent of the car's value.[110] For example, in 2015 the Ministry of Industry and Information Technology (MIIT) issued a list of approved electric battery suppliers for which carmakers in China could receive subsidies.[111] When the ministry last updated this list of 57 firms in 2016, it did not include any foreign companies, despite the fact that large battery producers LG Chem and Samsung SDI have production in China.[112] In June 2019, MIIT announced it would scrap the list; by then, however, the top ten global electric battery manufacturers were Chinese producers.[113]
- *Cloud computing:* U.S. cloud providers are highly circumscribed in a market where they would otherwise be competitive. According to Amazon's 10-K filings, Amazon Web Services, its cloud

computing segment is its most profitable and fastest-growing business segment.[114] MIIT does not allow foreign companies to hold the internet data center and content provider licenses necessary to provide direct cloud services without a local partner.[115] However, Chinese companies may provide cloud services directly to customers in the United States.[116] Amazon's cloud services entered the market in August 2016 through a partnership with Beijing Sinnet Technology Co., Ltd.[117] In 2017, to comply with cybersecurity regulations, Amazon sold part of its cloud computing units to its Chinese partner.[118] Where Amazon might otherwise expect to hold a large share of the market, it trails protected local champions that have begun to expand abroad. In the first quarter of 2019, Alibaba was the dominant provider in China's public cloud infrastructure-as-a-service and platform-as-a-service market, holding 43 percent market share, while Amazon held 7 percent market share.[119] In February 2019, Verizon included Alibaba Cloud as one of ten cloud providers in its Secure Cloud Interconnect service offering in Singapore and Hong Kong.[120]

- *E-commerce:* The Department of Commerce estimated that over 50 percent of global e-commerce transactions originate from China. By 2020, the Chinese market will be larger than the United States, the UK, Japan, Germany, and France combined.[121] Cross-border e-commerce has also experienced significant growth: in July 2019, the Department of Commerce predicted cross-border transactions in China could grow from $122 billion to $199 billion by 2022.[122] In June 2015, MIIT loosened restrictions on foreign e-commerce to allow foreign wholly owned enterprises to operate in China where previously a JV was required.[123] However, by the time market barriers were lowered, major Chinese e-commerce companies had established highly integrated platforms and payment systems linked to local social media giants[124] and gained the loyalty of the Chinese customer base, making it nearly impossible for foreign companies to get a share of the market.

*Technology Transfer and Economic Espionage Persist Unabated*

In testimony before the Commission, Mark Wu, professor at Harvard Law School, argued China's economic structure allows the Chinese government to advance industrial policy aims by inducing technology transfer through a variety of informal mechanisms.[125] When it acceded to the WTO in 2001, the Chinese government committed to ensuring foreign entities' right to invest would not be conditioned on technology transfer.[126] Yet Chinese policymakers view technological advancement as an economic and strategic imperative; JV requirements, licensing policies, and other regulatory mechanisms have provided multiple sources of leverage to pressure and incentivize companies in this process.[127] In 2018, about one in five companies responding to the AmCham China survey—including 44 percent of aerospace firms and 41 percent of chemicals firms—reported pressure to transfer technology.[128] The European Union Chamber of Commerce in China stated a similar number of its survey respondents "felt compelled to transfer technology in order to maintain market access" in 2018.[129]

These requests are informal and often do not come directly from government entities. A 2017 U.S.-China Business Council survey reported that while 33 percent of these requests come directly from Chinese central government entities, 67 percent came from U.S. members' Chinese corporate partners during negotiations, stating: "In many cases, the hand of the Chinese government is behind these requests."[130] Moreover, despite ongoing negotiations, the trend continues. In an update to the Section 301 investigation into China's unfair acts and practices in November 2018, the Office of the U.S. Trade Representative said: "China did not respond constructively and failed to take any substantive actions to address U.S. concerns."[131]

Professor Wu used passenger aircraft—an industrial policy priority for the Chinese government—to illustrate how a combination of policies could induce technology transfer using competition between foreign firms as leverage.[132] RAND Corporation noted in 2014 that supplier and joint venture partnerships with foreign companies have helped Chinese aircraft and aircraft parts manufacturers improve their technical capabilities.[133] To encourage foreign commercial aviation manufacturers to purchase Chinese-made components and establish JVs within China, the Chinese government uses regulatory approvals processes to influence purchase decisions.[134] These purchase decisions carry a lot of weight for global manufacturers, as the Chinese market accounted for about 20 percent of global demand for aircraft as of February 2019.[135]

Only a handful of companies are capable of producing large passenger jets—Boeing, Airbus, Bombardier, and Sukhoi and Tupolev[136]—pitting the two largest companies, Boeing and Airbus, against each other in the competition for Chinese aircraft sales.[137] This competition has affected their behavior. Airbus stated in June 2019 that commercial deliveries to China "represent nearly a quarter of Airbus' global production."[138] The company has maintained an assembly facility in Tianjin for over ten years and recently opened an innovation center in Shenzhen.[139] In January 2018, however, China's airline regulator delayed approval of the planned acquisition of nearly 200 Airbus jets, reportedly due to "an extended wish list from Beijing" including the establishment of additional production in China.[140]

Meanwhile, Boeing took a majority stake in a JV with Commercial Aircraft Corporation of China (COMAC)—one of China's largest aircraft manufacturers—opening Boeing's first 737 finishing plant in Zhoushan near Shanghai in December 2018.[141] Boeing described its Zhoushan site as "the first such Boeing facility outside of the United States," and the president of COMAC congratulated Boeing on deepening its footprint in China.[142] Airbus and Boeing continue to establish production in China—sometimes jointly with COMAC, a potential competitor—knowing Chinese economic policymakers have identified aviation as an industrial policy priority.[143] As Professor Wu noted, "Both firms are betting they can manage to innovate at a faster pace and control the flow of technology transfer successfully to prevent [COMAC] from becoming a major competitor."[144]

Beyond technology transfers within China, U.S. and other foreign companies face economic espionage attempts at home. Since October 2018, the U.S. Department of Justice (DOJ) has made a series of indictments in alleged cases of economic espionage against U.S. entities. Some of these cases are alleged to have been conducted with the active assistance of China's Ministry of State Security, while others may ultimately benefit the Chinese government in other ways:

- October 2018: Yanjun Xu, an alleged deputy division director in the Jiangsu Department of China's Ministry of State Security, was indicted for recruiting aerospace employees from companies like GE Aviation to divulge trade secrets.[145] To recruit employees, he worked with Nanjing University of Aeronautics and Astronomics, a top engineering university, to invite U.S. aerospace experts to give lectures. After meeting one employee and establishing a relationship, he began soliciting small details regarding systems design and specifications and built up to requesting access to the employee's computer.[146]
- October 2018: In a separate case, DOJ charged ten individuals—including two alleged personnel in the Jiangsu Department of China's Ministry of State Security—with conspiring to steal sensitive "commercial technological, aviation, and aerospace" data to develop jetliner turbofan engines.[147] These individuals gained unauthorized access to 13 unidentified companies, including six U.S. companies, most in the aerospace industry.[148]
- December 2018: DOJ indicted two members of the APT10 hacking group, working in association with the Ministry of State Security's Tianjin State Security Bureau, on charges of economic espionage targeting U.S. government agencies and private companies across a broad array of industries for over a decade, including the NASA Goddard Space Center, the NASA Jet Propulsion Laboratory, and seven companies from the commercial aviation, space, and satellite industries.[149]
- April 2019: DOJ charged a Chinese businessman and his partner, a U.S. engineer, of stealing turbine engine technology from GE Power, allegedly transferring it to their private companies in Liaoning Province and sharing it with Shenyang Aeroengine Research Institute, Huaihai Institute of Technology, and Shenyang Aerospace University—affiliated with the State Administration for Science, Technology and Industry for National Defense (SASTIND)—to receive government funding.[150]

Beyond DOJ indictments, reports by private cybersecurity companies suggest that cyberespionage by Chinese actors increased in 2018 and 2019; CrowdStrike[151] and FireEye[152] recorded an uptick in activity.

*Growing Chinese Communist Party Influence*

The CCP seeks tighter control over the corporate sector and has become more active in encouraging the creation of CCP cells in private businesses, including foreign-invested private businesses. Little is known about the role and behavior of these Party cells. Chapter 5 of the CCP constitution requires all companies—including foreign companies—to create a Party cell if they employ three or more Party members, though the function of these Party cells is less formalized in private companies than in SOEs.[153] In the 2018 AmCham Shanghai business sentiment survey, 19 percent of respondents confirmed the presence of a CCP cell within their company.[154] Party cells were most frequently reported in the tax and auditing sector (60 percent), while the aerospace and aviation sector had the second-largest number of cells (44 percent).[155] As Eurasia Group's China Practice Head Michael Hirson testified before the Commission, private companies may advertise Party activities to display ideological correctness, particularly in the tech sector where companies have been punished for perceived morally or politically incorrect content in video games, streaming services, and other online content.[156]

Party cells represent a growing concern. In November 2017, CCP Constitution Chapter 5 was amended to call for an expanded CCP leadership role and ensure implementation of CCP policy.[157] While many Party cells only organize social events or other functions, foreign companies fear demands for greater leadership will place CCP interests and politics ahead of the interests of the company.[158] James Zimmerman, former chairman of AmCham China, commented in January 2018: "The creeping intrusion by the party apparatus into the boardrooms of foreign-invested enterprises [in China] has not yet manifested itself on a large scale, but things are certainly going down that path."[159]

According to the U.S.-China Business Council, some U.S. companies in JVs with SOEs have reported requests to alter corporate articles of association to support Party cells and allow critical issues to be approved by Party cells before presenting them to the board.[160] In September 2019, the Hangzhou local government also assigned officials to serve in a hundred local companies, such as Alibaba and car manufacturer Geely, ostensibly to improve cooperation and communication with the government.[161] As Professor Wu explained to the Commission, Party cells and other measures to co-opt private entities allow "the Party to retain some degree of oversight over private entities that it does not control."[162]

**Implications for the United States**

As Chinese companies increasingly participate in the U.S. economy and financial markets, U.S. companies have grown disillusioned with their highly circumscribed position in the Chinese economy. Pressured into JVs by ownership requirements, hounded by cyber and economic espionage, and barred from growth sectors, U.S. companies that once expressed optimism about the potential of the Chinese market have undergone a dramatic change in sentiment. AmCham China highlighted this change in its April 2019 statement: "The U.S. business community in China, so long an advocate of good bilateral relations, can no longer be relied upon to be a positive anchor."[163]

For U.S. policymakers, the core issue often lies in how to address these challenges—such as subsidized companies' investments or informal technology transfer requests—when they may not be well defined or documented. As Professor Wu has stated, the present issues in U.S.-Chinese commercial relations arise not from an easily identifiable set of actors (e.g., SOEs), but from "an ecosystem of corporate actors, both state-owned and private, as well as regulatory agencies that collectively implement industrial policy goals in line with the Party-state's interest."[164]

*Ensuring a Level Commercial Environment in the United States*

The impact of subsidy-receiving Chinese companies on the competitive environment in U.S. markets is poorly tracked and may not be easily remedied. As U.S. antitrust law assumes all firms to be profit maximizers, companies may not be able to litigate instances where a subsidized competitor may price its products below cost without expecting to recoup its losses. Further, a company receiving Chinese government subsidies could use investment in the United States to circumvent trade remedies and continue selling goods at below-market rates in the United States.[165] As stated by the Office of the U.S. Trade Representative in its review of China's compliance with its WTO obligations: "Companies in economies disciplined by the market cannot effectively compete with both Chinese companies and the Chinese state."[166]

*Mitigating Nontransparent Risk for U.S. Investors*

U.S.-listed Chinese companies present regulatory, oversight, and enforcement challenges that undermine transparency and confidence in U.S. markets. Some of these challenges expose gaps in U.S. regulation not unique to Chinese firms but true of all foreign private issuers located in tax havens. As the United States may not have jurisdiction in cases involving offshore entities, adverse actions against U.S. investors may be difficult to dispute, leaving U.S. investors with little recourse. Importantly, Chinese financial regulators continue to prevent the PCAOB from inspecting the audit work papers of companies with major operations in China, which could leave U.S. investors exposed to fraudulent activities.

These challenges affect not only direct investors but also passive investors including U.S. workers saving for retirement. Some of the largest U.S.-listed Chinese companies have been included in indices, such as those created by Morgan Stanley Capital International (MSCI), which track the performance of a group of companies. Low-cost investments commonly held in retirement accounts often "follow" or "track" an index, relying on that index to allocate funds across a diverse range of companies and locations. Indices can thus determine which companies receive a large volume of funds. For instance, as of April 2019, over $1.9 trillion was tracking the MSCI Emerging Markets Index suite.[167]

*Demands for Technology Transfer Continue Unabated*

Professor Wu contends U.S. policymakers' concerns regarding technology transfer may not be resolved through commitments made by Chinese counterparts in negotiations, given the structural challenges posed by the government's industrial policy and economic planning. Chinese policymakers regard the country's movement up the economic value chain as a strategic and economic imperative. While China made multiple commitments in its WTO accession, keeping China to these commitments has achieved limited success given "the long shadow that the Party-state casts over the Chinese economy."[168] The Chinese government's determination to advance in new and emerging industries indicates it will "deploy enormous resources while seeking to leverage its scale to attract foreign capital and know-how related [to] core technologies," with informal mechanisms for technology transfer being particularly challenging to address.[169]

*Gaps in Data and Analysis to Support Current Deliberations*

As U.S. policymakers address these economic challenges in high-stakes negotiations, they are often frustrated by the lack of data, analysis, and personnel available to conduct more detailed assessments of the U.S.-China trade and investment relationship. During the Commission hearing on U.S.-China commercial relations, panelists underscored a lack of granular information on U.S. services trade, nontariff barriers in China, the activities of U.S.-invested enterprises in China (e.g., their exports, the goods or services they provide to other foreign-invested enterprises), the amount of Chinese government support for specific industries and companies, and other data. Dr. Lovely stated, "Our understanding of our economic relationship with China is … below where it needs to be to support the negotiations that we're in today."[170]

**Addendum I: Investment Data and Sources**

Methodological differences exist between various organizations that track FDI flows between the United States and China. FDI figures can vary depending on each organization's underlying data collection method, the limitations by which each organization defines the scope of its investment data (which countries are tracked, which transactions are included, whether divestitures are also included), how institutions price transactions in a given year and adjust prices from historical years, and other criteria. National statistics compilers and many other organizations use the OECD's internationally accepted definition of FDI as a 10 percent or greater voting ownership in an enterprise located abroad.[171] Due to these differences, even when similar definitions are employed, variation between FDI data sources is common.

There are two ways to classify the country of origin for a corporate investor: (1) the country where the corporation is domiciled and (2) the country of ultimate beneficial ownership (UBO), or the entity that ultimately owns or controls an enterprise.[172] For example, a transaction by a Chinese-controlled company headquartered in Canada could count as either a Canadian entity's transaction or, using a UBO methodology, a Chinese entity's transaction. In the context of measuring Chinese investment, UBO methodologies are important to identify Chinese entities' investments in the United States when those entities are domiciled in Hong Kong or other locations.

Investment data can be presented in two ways: (1) FDI flows, which measure the volume of FDI over a given period of time;[173] and (2) cumulative FDI, which provides a snapshot of the total value of FDI at a single point in time, often at the end of a quarter or year.[174]

Data sources on Chinese and U.S. FDI include official U.S. government statistics, the China Global Investment Tracker hosted by the American Enterprise Institute, and the U.S.-China Investment Hub compiled by Rhodium Group. To compare the differences between these sources, Table 3 provides 2018 data for U.S. FDI in China and Chinese FDI in the United States.

**Table 3: Comparison of FDI Flows in 2018 by Data Source**

| | **Official U.S. Government Statistics (Bureau of Economic Analysis)** | **China Global Investment Tracker (American Enterprise Institute)** | **U.S.-China Investment Hub (Rhodium Group)** |
|---|---|---|---|
| **Chinese Investment in the United States** | -$0.8 billion (from China only); $2.7 billion (from China and Hong Kong)[175] | $8.9 billion[176] | $5.4 billion[177] |
| **U.S. Investment in China** | $7.6 billion (to China only); $8.8 billion (to China and Hong Kong)[178] | (not applicable) | $13.0 billion[179] |

- *Official U.S. government statistics:* Official U.S. FDI figures (outbound and inbound) are produced by the U.S. Department of Commerce Bureau of Economic Analysis (BEA). The BEA collects data via mandatory surveys of U.S. corporations, which are combined with the bureau's other datasets and published quarterly and annually. The BEA produces bilateral FDI and other investment-related statistics, including affiliates' financial transactions with their parent companies abroad, which are included in quarterly and annual investment flow data, and year-end data on the cumulative total value of outstanding FDI.[180] These data include divestitures as well as acquisitions and fund reinvestments, resulting in a negative number for Chinese FDI in the United States in 2018.[181] The BEA does not combine flows from Hong Kong with flows from mainland China. The BEA does not calculate FDI flows using a UBO methodology, so a Chinese company is defined as a company domiciled in China, which excludes Chinese companies domiciled elsewhere.[182] Separately, the BEA also publishes figures on the total assets, sales, and other data of U.S. affiliates abroad and foreign companies' affiliates in the United States.[183] Data from U.S. affiliates are available using a UBO methodology but are not adjusted for U.S. companies' share of ownership.
- *China Global Investment Tracker:* Housed by the American Enterprise Institute, the China Global Investment Tracker is a publicly available dataset updated biannually and limited to reviewing outbound Chinese FDI to 148 countries using a UBO methodology.[184] The tracker reports all Chinese outbound FDI transactions of $100 million or greater regardless of the Chinese investor's ownership stake in the recipient entity.[185] The tracker also records transaction-specific details on investing and recipient entities, business sector, and amount invested. Because of its focus, the tracker cannot be used to compare Chinese outbound FDI with other countries' outbound FDI in the same country (e.g., Chinese FDI in the United States and Japanese FDI in the United States) and does not include information about Chinese inbound FDI (e.g., U.S. FDI in China). Due to the methodology the tracker employs, investment flows are recorded but cumulative value of overseas investments are not, and the tracker does not include divestitures.
- *U.S.-China Investment Hub:* Compiled by Rhodium Group, the U.S.-China Investment Hub tracks outbound and inbound investment exclusively between the U.S. and China on a quarterly basis. The U.S.-China Investment Hub records transactions of $500,000 or greater resulting in 10 percent or more ownership.[186] The hub also records transaction-specific details on sector, investing and recipient entities, amount invested, and geographic location of investing and recipient entities by state or province. The hub identifies FDI transactions using a UBO methodology, and reports both FDI flows and cumulative FDI from 1990 onward.[187] The hub does not include FDI statistics beyond U.S.-China bilateral investment, it does not adjust historical FDI transactions for inflation, and it does not include divestitures.

## ENDNOTES FOR SECTION 1

1. U.S. Senate Committee on Small Business and Entrepreneurship, *Hearing on Made in China 2025 and the Future of American Industry*, written testimony of Brad Setser, February 27, 2019, 1.

2. Office of the U.S. Trade Representative, *2018 Report to Congress on China's WTO Compliance*, February 2019, 40.

3. Rhodium Group, "The U.S.-China Investment Hub: Data." *https://rhodiumgroup.gistapp.com/us-china-foreign-direct-investments/data*; U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "Year in Review: Economics and Trade," in *2018 Annual Report to Congress*, November 2018, 36, 41.

4. Ji Li, *The Clash of Capitalisms: Chinese Companies in the United States*, Cambridge University Press, 2018, 38; U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "Year in Review: Economics and Trade," in *2018 Annual Report to Congress*, November 2018, 36, 41.

5. U.S. Census Bureau, *Trade in Goods with China*, accessed August 16, 2019. *https://www.census.gov/foreign-trade/balance/c5700.html*; U.S. Department of Commerce Bureau of Economic Analysis, Table 2.3 U.S. Trade in Services, by Type of Service and by Country or Affiliation (A) (1999—2017), Total Services, accessed August 16, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=62&step=1#reqid=62&step=9&isuri=1&6210=4*; Rhodium Group and National Committee on U.S.-China Relations, "U.S.-China Investment Hub" for year 2017, accessed August 16, 2019. *https://rhodiumgroup.gistapp.com/us-china-foreign-direct-investments/data*.

6. U.S. Department of the Treasury Internal Revenue Service, *Table 3: Foreign-Controlled Domestic Corporations: Selected Items, by Age of Corporation and Selected Country of Foreign Owner, Tax Year 2015*, accessed August 14, 2019. *https://www.irs.gov/pub/irs-soi/15it03fcdc.xls*.

7. Thilo Hanemann et al., "Two-Way Street: 2019 Update on U.S.-China Investment Trends," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 26.

8. Joy Dantong Ma, "Reversion to the Mean: Why Chinese Investment in the U.S. Did Not, in Fact, Collapse," *MacroPolo*, June 4, 2018.

9. Joy Dantong Ma, "Reversion to the Mean: Why Chinese Investment in the U.S. Did Not, in Fact, Collapse," *MacroPolo*, June 4, 2018.

10. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019.

11. Rhodium Group, "The U.S.-China Investment Hub," accessed August 14, 2019.

12. Thilo Hanemann, Mikko Huotari, and Agatha Kratz, "Chinese FDI in Europe: 2018 Trends and Impact of New Screening Policies," *Rhodium Group* and *Mercator Institute for China Studies*, March 2019, 9.

13. Thilo Hanemann et al., "Two-Way Street: 2019 Update on U.S.-China Investment Trends," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 26; Thilo Hanemann, Mikko Huotari, and Agatha Kratz, "Chinese FDI in Europe: 2018 Trends and Impact of New Screening Policies," *Rhodium Group* and *Mercator Institute for China Studies*, March 2019, 9.

14. Thilo Hanemann et al., "Two-Way Street: 2019 Update on U.S.-China Investment Trends," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 28; Thilo Hanemann, Mikko Huotari, and Agatha Kratz, "Chinese FDI in Europe: 2018 Trends and Impact of New Screening Policies," *Rhodium Group* and *Mercator Institute for China Studies*, March 2019, 9.

15. UN Conference on Trade and Development, "Investment Trends Monitor, Issue 31: Global FDI Flows Continue Their Slide in 2018," January 2019, 1; Organization for Economic Cooperation and Development, "FDI in Figures," April 2019. *http://www.oecd.org/investment/FDI-in-Figures-April-2019.pdf.*

16. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 8.

17. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 9.

18. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 9.

19. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 8.

20. Thilo Hanemann et al., "Sidelined: U.S.-China Investment in 1H 2019," *Rhodium Group*, July 31, 2019, 9.

21. Ji Li, *The Clash of Capitalisms? Chinese Corporations in the United States*, Cambridge University Press, 2018, 20.

22. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 5.
23. NASDAQ, "Companies in China." *https://www.nasdaq.com/screening/companies-by-region.aspx?region=Asia&country=China*.
24. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019.
25. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8; Sue-lin Wong, "China Court Ruling Could Threaten Foreign Investments in Country," *New York Times*, June 17, 2013.
26. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8.
27. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8.
28. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8.
29. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 1; Paul Gillis, "Updated Statistics on VIE Use," *China Accounting Blog*, February 20, 2017; 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. *https://www.gwlr.org/wp-content/uploads/2016/03/84-Geo.-Was.-L.-Rev.-539.pdf*.
30. Steve Dickinson, "China's New Foreign Investment Law Does Not Resuscitate VIEs," *China Law Blog*, April 10, 2019; Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf*; U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8–9; Neil Gough, "In China, Concern about a Chill on Foreign Investments," *New York Times*, June 2, 2013.
31. Sue-Lin Wong, "China Court Ruling Could Threaten Foreign Investments in Country," *New York Times*, June 17, 2013.
32. *Nikkei Asian Review*, "Hong Kong Exchange Amends Listing Rules to Lure Tech Giants," April 24, 2018.
33. Hudson Lockett and Mercedes Ruehl, "New York Takes First-Half IPO Crown as Hong Kong Fades," *Financial Times*, July 3, 2019; Julia Fioretti, "Hong Kong Takes Global IPO Crown, Looks to a Quieter 2019," *Reuters*, December 20, 2018.
34. Hong Kong Trade Development Council, "Economic and Trade Information on Hong Kong," June 27, 2019. *http://hong-kong-economy-research.hktdc.com/business-news/article/Market-Environment/Economic-and-Trade-Information-on-Hong-Kong/etihk/en/1/1X000000/1X09OVUL.htm*.
35. U.S. Securities and Exchange Commission Office of International Affairs. *https://www.sec.gov/oia/Article/about.html*; Public Company Accounting Oversight Board, "Mission, Vision, and Values." *https://pcaobus.org/About/History/Pages/mission-vision-values.aspx*.
36. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 11–12.
37. U.S. Securities and Exchange Commission, *Final Rule: Selective Disclosure and Insider Trading*, August 21, 2000. *https://www.sec.gov/rules/final/33-7881.htm*.
38. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 11–12; Latham and Watkins LLP, "The Latham FPI Guide: Accessing the U.S. Capital Markets from Outside the United States, 2019 Edition," 2019, 15–16.
39. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 11–12.
40. William D. Duhnke, "Statement on the Vital Role of Audit Quality and Regulatory Access to Audit and Other Information Internationally—Discussion of Current Information Access Challenges with Respect to U.S.-Listed Companies with Signifi-

cant Operations in China," *Public Company Accounting Oversight Board*, December 7, 2018.

41. Public Company Accounting Oversight Board, "Public Companies That Are Audit Clients of PCAOB-Registered Firms from Non-U.S. Jurisdictions Where the PCAOB Is Denied Access to Conduct Inspections," September 20, 2019. *https://pcaobus.org/International/Inspections/Pages/IssuerClientsWithoutAccess.aspx*.

42. Michael Rapoport, "The Chinese Blind Spot in U.S. Companies' Financials," *Wall Street Journal*, July 21, 2018.

43. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 9.

44. Steve Dickinson, "China's New Foreign Investment Law Does Not Resuscitate VIEs," China Law Blog, April 10, 2019; U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 8; Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019; Paul Gillis, "Accounting Matters: Variable Interest Entities in China," *Forensic Asia*, September 18, 2012, 5.

45. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 6. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf*.

46. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 6. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf*; Kathrin Hille and Joseph Menn, "Alibaba Settles Alipay Dispute with Yahoo," *Financial Times*, July 29, 2011.

47. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 6. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf*; Kathrin Hille and Joseph Menn, "Alibaba Settles Alipay Dispute with Yahoo," *Financial Times*, July 29, 2011.

48. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 6; *Crunchbase*, "Ant Financial: Funding Rounds," accessed October 10, 2019. *https://www.crunchbase.com/organization/ant-financial/funding_rounds/funding_rounds_list*; Lulu Yilun Chen, "Ant Financial Raises $14 Billion as Funding Round Closes," *Bloomberg*, June 7, 2018.

49. Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," *GMT Research*, March 13, 2019, 6. *https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf*; Kathrin Hille and Joseph Menn, "Alibaba Settles Alipay Dispute with Yahoo," *Financial Times*, July 29, 2011.

50. 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): 548–549. *https://www.gwlr.org/wp-content/uploads/2016/03/84-Geo.-Was.-L.-Rev.-539.pdf*.

51. U.S. Securities and Exchange Commission, "SEC Imposes Sanctions against China-Based Members of Big Four Accounting Networks for Refusing to Produce Documents," February 6, 2015.

52. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019; Kevin Rosier, "The Risks of China's Internet Companies on U.S. Stock Exchanges," *U.S.-China Economic and Security Review Commission*, September 12, 2014, 5.

53. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Returns, and Rewards: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Paul Gillis, February 28, 2019, 9, 11–12.

54. Anne Stevenson-Yang, "Company: 'Nothing to See Here': AOS China Continues Its Decline," *J Capital Research*, May 29, 2019; Jacky Wong, "Short Sellers vs. Chinese Companies—a War, Not a Battle," *Wall Street Journal*, November 21, 2018; Kenneth Rapoza, "Muddy Waters Calls China's TAL Education 'Fake Finance,'" *Forbes*, July 2, 2018.

55. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019.

56. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019.

57. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019.
58. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," *Harvard Law School Forum on Corporate Governance and Financial Regulation*, February 4, 2019.
59. Jesse M. Fried and Matthew Schoenfeld, "The Risky Business of Investing in Chinese Tech Firms," Harvard Law School Forum on Corporate Governance and Financial Regulation, February 4, 2019; Yu-Hsin Lin, "Controlling Controlling-Minority Shareholders: Corporate Governance and Leveraged Corporate Control," *Columbia Business Law Review* (2017): 494–495.
60. Stanford Law School Securities Class Action Clearinghouse, "Case Summary: Qihoo 360 Technology Co. Ltd.: American Depositary Shares Securities Litigation." *http://securities.stanford.edu/filings-case.html?id=106890*.
61. Stanford Law School Securities Class Action Clearinghouse, "Case Summary: Qihoo 360 Technology Co. Ltd.: American Depositary Shares Securities Litigation." *http://securities.stanford.edu/filings-case.html?id=106890*.
62. Michael Rapoport, "Progress Cited on Audits in China," *Wall Street Journal*, August 9, 2011.
63. William D. Duhnke, "Statement on the Vital Role of Audit Quality and Regulatory Access to Audit and Other Information Internationally—Discussion of Current Information Access Challenges with Respect to U.S.-Listed Companies with Significant Operations in China," *Public Company Accounting Oversight Board*, December 7, 2018.
64. William D. Duhnke, "Statement on the Vital Role of Audit Quality and Regulatory Access to Audit and Other Information Internationally—Discussion of Current Information Access Challenges with Respect to U.S.-Listed Companies with Significant Operations in China," *Public Company Accounting Oversight Board*, December 7, 2018.
65. Meia Nouwens and Helena Legarda, "Emerging Technology Dominance: What China's Pursuit of Advanced Dual-Use Technologies Means for the Future of Europe's Economy and Defense Innovation," *Institute for Strategic Studies* and *Mercator Institute for China Studies*, December 19, 2018.
66. Office of the U.S. Trade Representative, *Update Concerning China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, November 20, 2018, 10, 31–32, 43–45; 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*, February 2017, 3.
67. Jeffrey Gordon and Curtis J. Milhaupt, "China as a 'National Strategic Buyer': Towards a Multilateral Regime for Cross-Border M&A," *Stanford Law and Economics Olin Working Paper No. 522*, June 2018, 3–4.
68. Covington and Burling, "NDRC Releases Final Outbound Investment Regulations," January 15, 2018, 1–2.
69. Angela Huyue Zhang, "The Antitrust Paradox of China," *New York University Journal of International Law and Politics* 50 (2017): 4.
70. Alexander Laska, "Chinese State-Owned Enterprises Are Eying U.S. Freight Rail Manufacturing: Report," *Eno Center for Transportation*, October 26, 2018.
71. Alexandra Alper and Allison Lampert, "China to Bid on D.C. Metro Rail Deal as National Security Hawks Circle," *Reuters*, May 9, 2019; Faiz Siddiqui, "China's State-Owned Rail-Car Builder Looks Close to Bidding on Metro Contract; Also Eying New York Subway Work," *Washington Post*, February 11, 2019.
72. Jad Mouawad, "Chinese Rail Firm Makes Inroads with U.S. Factory and Boston Transit Deal," *New York Times*, September 3, 2015; Chim Sau-Wai, "CNR Joint Venture Wins US$556.6 Million Boston Subway Car Contract," *South China Morning Post*, October 24, 2014.
73. Jad Mouawad, "Chinese Rail Firm Makes Inroads with U.S. Factory and Boston Transit Deal," *New York Times*, September 3, 2015.
74. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 5.
75. TEDA TPCO America Corporation, "Project Introduction." *https://tpcoamerica.com/about-us/project-introduction/*.
76. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 5; TEDA TPCO

America Corporation, "Project Introduction." *https://tpcoamerica.com/about-us/project-introduction/*.

77. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 1, 8.

78. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 6, 8.

79. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 9.

80. Office of the U.S. Trade Representative, *2018 Report to Congress on China's WTO Compliance*, February 2019, 11.

81. Rhodium Group and National Committee on U.S.-China Relations, "The U.S.-China Investment Hub," accessed October 16, 2019. *https://www.us-china-investment.org/us-china-foreign-direct-investments/data*.

82. Thilo Hanemann et al., "Two-Way Street: 2019 Update," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 17–18.

83. Rhodium Group and National Committee on U.S.-China Relations, "The U.S.-China Investment Hub," accessed October 16, 2019. *https://www.us-china-investment.org/us-china-foreign-direct-investments/data*.

84. Thilo Hanemann et al., "Two-Way Street: 2019 Update," *Rhodium Group and National Committee on U.S.-China Relations*, May 2019, 17–19.

85. Rhodium Group and National Committee on U.S.-China Relations, "The U.S.-China Investment Hub," accessed October 16, 2019. *https://www.us-china-investment.org/us-china-foreign-direct-investments/data*.

86. Lester Ross and Kenneth Zhou, "China's 2019 Negative Lists," *WilmerHale*, July 10, 2019.

87. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, oral testimony of Mary Lovely, February 28, 2019, 94.

88. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, oral testimony of Mary Lovely, February 28, 2019, 94.

89. American Chamber of Commerce in Shanghai, "2018 China Business Report," 6; American Chamber of Commerce in Shanghai, "2012—2013 China Business Report," 17.

90. U.S. Department of Commerce Bureau of Economic Analysis, *Series Data on Activities of Multinational Enterprises, U.S. Direct Investment Abroad, All Majority-Owned Foreign Affiliates (Data for 2009 and Forward), Employment, by Country Only (All Countries)*, released August 23, 2019, accessed September 13, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=2&step=1*.

91. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mary Lovely, February 28, 2019, 2–3.

92. David Dollar and Zhi Wang, "Why a Trade War with China Would Hurt the U.S. and Its Allies," *Brookings Institution*, April 4, 2018.

93. Alexander Hammer, "Why Have U.S. Firms Offshored to China," *U.S. International Trade Commission Executive Briefings on Trade*, June 2017, 1–2.

94. Austen Hufford and Theo Francis, "How Bad Is the China Slowdown? U.S. Companies Offer Some Answers," *Wall Street Journal*, February 11, 2019.

95. Yun Li, "Here Are the Stocks Goldman Says Have the Most on the Line This Weekend with Trump-Xi Talks," *CNBC*, June 28, 2019; Austen Hufford and Theo Francis, "How Bad Is the China Slowdown? U.S. Companies Offer Some Answers," *Wall Street Journal*, February 11, 2019.

96. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 4.

97. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 19.

98. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 20.

99. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 31–32.

100. Organization for Economic Cooperation and Development, "OECD FDI Regulatory Restrictiveness Index: Total FDI Index, All Types of Restrictions, Index Total." *https://stats.oecd.org/Index.aspx?datasetcode=FDIINDEX#*.

101. American Chamber of Commerce in China, "2019 China Business Climate Survey Report," February 2019, 39.
102. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mary Lovely, February 28, 2019, 8.
103. Ashwin Kaja and Timothy Stratford, "China's New Foreign Investment Catalogue Reduces Restrictions, Furthers Nationwide Negative List Approach," *Covington and Burling*, July 31, 2017.
104. U.S. Senate Committee on Finance, *Hearing on Market Access Challenges in China*, oral testimony of Dean Garfield, April 11, 2018.
105. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mary Lovely, February 28, 2019, 7–8.
106. U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, "Foreign Investment Climate in China," in *2016 Annual Report to Congress*, November 2015, 86–87.
107. Tom Mitchell, "China's Slow Reforms Stack Odds against Multinationals," *Financial Times*, February 19, 2019.
108. Lester Ross and Kenneth Zhou, "China's 2019 Negative Lists," *WilmerHale*, July 10, 2019.
109. Scott Kennedy, "China's Risky Drive into New-Energy Vehicles," *Center for Strategic and International Studies*, November 2018, 12–16, 23–24.
110. Echo Huang, "China's Breaking Up the EV Battery Monopoly It Carefully Created," *Quartz*, June 25, 2019.
111. Echo Huang, "China's Breaking Up the EV Battery Monopoly It Carefully Created," *Quartz*, June 25, 2019; Scott Kennedy, "China's Risky Drive into New-Energy Vehicles," *Center for Strategic and International Studies*, November 2018, 9.
112. Echo Huang, "China's Breaking Up the EV Battery Monopoly It Carefully Created," *Quartz*, June 25, 2019; Scott Kennedy, "China's Risky Drive into New-Energy Vehicles," *Center for Strategic and International Studies*, November 2018, 9.
113. Echo Huang, "China's Breaking Up the EV Battery Monopoly It Carefully Created," *Quartz*, June 25, 2019.
114. Amazon Investor Relations, *Amazon.com, Inc., Form 10-K*, December 31, 2018, 23–24.
115. Business Software Alliance, "2018 BSA Global Cloud Computing Scorecard: Country Report: China," 2018, 7.
116. Telecommunications Industry Association, "Statement of K.C. Swanson, Director, Global Policy, Telecommunications Industry Association before the Office of the U.S. Trade Representative, Hearing on Investigation under Section 301 of the Trade Act of 1974," September 28, 2017, 5.
117. Arjun Kharpal, "Amazon Is Selling Parts of Its Cloud Business in China for Up to $301 Million," *CNBC*, November 14, 2017.
118. Stephen Schmidt, "Setting the Record Straight on Bloomberg BusinessWeek's Erroneous Article," *AWS Security Blog*, October 4, 2018; Cate Cadell, "Amazon Sells Off China Cloud Assets as Tough New Rules Bite," *Reuters*, November 13, 2017.
119. Maggie Xie and Frank Wang, "IDC: First Quarter 2019, China's Public Cloud Market's Lively Opening (IDC：2019年一季度，中国公有云市场热闹开局," *IDC China*, August 1, 2019. Translation. *https://www.idc.com/getdoc.jsp?containerId=prCHC45418919*.
120. *IT Brief*, "Verizon Adds Alibaba Cloud to Its Secure Cloud Interconnect Ecosystem," February 13, 2019; GlobeNewswire, "Verizon Adds Alibaba Cloud to Its Secure Cloud Interconnect Ecosystem," February 12, 2019.
121. U.S. Department of Commerce International Trade Administration, *China—eCommerce*, July 30, 2019. *https://www.export.gov/article?id=China-ecommerce*.
122. U.S. Department of Commerce International Trade Administration, *China—eCommerce*, July 30, 2019. *https://www.export.gov/article?id=China-ecommerce*.
123. Hogan Lovells, "E-Commerce Liberalization in China: State Council and MIIT Push Forward," June 2015.
124. Chris Biggs et al., "What China Reveals about the Future of Shopping," *Boston Consulting Group*, May 4, 2017.
125. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 8–9.
126. U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, "Tools to Address U.S.-China Economic Challenges," in *2018 Annual Report to Congress*, November 2018, 91–92.

127. Sean O'Connor, "How Chinese Companies Facilitate Technology Transfer from the United States," *U.S.-China Economic and Security Commission*, May 6, 2019, 7–8.
128. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 8–9.
129. European Union Chamber of Commerce in China, "Business Confidence Survey 2019," 2019, 8; Julie Wernau, "Forced Tech Transfers Are on the Rise in China, European Firms Say," *Wall Street Journal*, May 20, 2019.
130. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mary Lovely, February 28, 2019, 6; U.S.-China Business Council, "2017 Member Survey," 2017, 9.
131. Office of the U.S. Trade Representative, *Update Concerning China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation*, November 20, 2018, 5.
132. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 8–9.
133. Keith Crane et al., "The Effectiveness of China's Industrial Policies in Commercial Aviation Manufacturing," *RAND Corporation*, 2014, 60.
134. Keith Crane et al., "The Effectiveness of China's Industrial Policies in Commercial Aviation Manufacturing," *RAND Corporation*, 2014, 29.
135. U.S. Senate Committee on Small Business and Entrepreneurship, *Hearing on Made in China 2025 and the Future of American Industry*, written testimony of Brad Setser, February 27, 2019, 6.
136. Ben Bland, "Chinese Aviation Finally Takes Off with Help from the West," *Financial Times*, May 16, 2017.
137. Alice Su, "China's Airplane Ambitions Get a Boost from Boeing Fallout," *Los Angeles Times*, March 27, 2019.
138. Airbus, "Shenzhen: The Innovation Powerhouse Taking on Silicon Valley," June 4, 2019.
139. Airbus, "Airbus' China Assembly Facility Marks 10 Years of Quality Manufacturing for A320 Family Jetliners," September 28, 2018; Airbus, "Shenzhen: The Innovation Powerhouse Taking on Silicon Valley," June 4, 2019.
140. John Ostrower, "Airbus Built a Lot of Planes for China Last Year—but Can't Deliver Them," *CNN Business*, January 12, 2018.
141. Josh Horwitz, "Boeing Opens First 737 Plant in China amid U.S.-Sino Trade War," *Reuters*, December 15, 2018; *Bloomberg*, "Boeing to Open Its First 737 Plant in China under Shadow of a Trade War," December 13, 2018.
142. Boeing Investor Relations, "Boeing Delivers First Airplane from New 737 Completion and Delivery Center in Zhoushan, China," December 15, 2018. *https://investors.boeing.com/investors/investor-news/press-release-details/2018/Boeing-Delivers-First-Airplane-From-New-737-Completion-and-Delivery-Center-in-Zhoushan-China/default.aspx*.
143. Chinese Academy of Engineering, Expert Commission for the Construction of a Manufacturing Superpower, *Made in China 2025 Key Area Technology Roadmap*, October 29, 2015, 42. Translation.
144. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 8–9.
145. U.S. Department of Justice Office of Public Affairs, *Chinese Intelligence Officer Charged with Economic Espionage Involving Theft of Trade Secrets from Leading U.S. Aviation Companies*, October 10, 2018.
146. Garret M. Graff, "China's Five Steps for Recruiting Spies," *Wired*, October 31, 2018.
147. U.S. Department of Justice Office of Public Affairs, *Chinese Intelligence Officers and Their Recruited Hackers and Insiders Conspired to Steal Sensitive Commercial Aviation and Technological Data for Years*, October 30, 2019; United States District Court Southern District of California, *United States of America vs. Zhang Zhang-gui, Zha Rong, Chai Meng, Liu Chunliang, Gao Hong Kun, Zhuang Xiaowei, Ma Zhiqi, Li Xiao, Gu Gen, and Tian Xi*, October 25, 2018.
148. U.S. Department of Justice Office of Public Affairs, *Chinese Intelligence Officers and Their Recruited Hackers and Insiders Conspired to Steal Sensitive Commercial Aviation and Technological Data for Years*, October 30, 2019; United States District Court Southern District of California, *United States of America vs. Zhang Zhang-gui, Zha Rong, Chai Meng, Liu Chunliang, Gao Hong Kun, Zhuang Xiaowei, Ma Zhiqi, Li Xiao, Gu Gen, and Tian Xi*, October 25, 2018.

149. U.S. Department of Justice Office of Public Affairs, *Two Chinese Hackers Associated with the Ministry of State Security Charged with Global Computer Intrusion Campaigns Targeting Intellectual Property and Confidential Business Information*, December 20, 2018.
150. Adam Meyers, "Meet the Advanced Persistent Threats: List of Cyber Threat Adversaries," *CrowdStrike*, February 24, 2019.
151. Adam Meyers, "Meet the Advanced Persistent Threats: List of Cyber Threat Adversaries," *CrowdStrike*, February 24, 2019.
152. FireEye, "Annual Threat Report: M-Trends 2019," 2019, 29–30.
153. U.S.-China Economic and Security Review Commission, *Hearing on What Keeps Xi Up at Night: Beijing's Internal and External Challenges*, written testimony of Michael Hirson, February 7, 2019, 4–5; Jake Laband, "Fact Sheet: Communist Party Groups in Foreign Companies in China," *China Business Review*, May 31, 2018.
154. American Chamber of Commerce in Shanghai, "2018 China Business Report," 18.
155. American Chamber of Commerce in Shanghai, "2018 China Business Report," 18.
156. U.S.-China Economic and Security Review Commission, *Hearing on What Keeps Xi Up at Night: Beijing's Internal and External Challenges*, written testimony of Michael Hirson, February 7, 2019, 4–5.
157. Jake Laband, "Fact Sheet: Communist Party Groups in Foreign Companies in China," *China Business Review*, May 31, 2018.
158. Simon Denyer, "Command and Control: China's Communist Party Extends Reach into Foreign Companies," *Washington Post*, January 28, 2018.
159. Simon Denyer, "Command and Control: China's Communist Party Extends Reach into Foreign Companies," *Washington Post*, January 28, 2018.
160. Jake Laband, "Fact Sheet: Communist Party Groups in Foreign Companies in China," *China Business Review*, May 31, 2018.
161. Louise Lucas, "China Government Assigns Officials to Companies including Alibaba," *Financial Times*, September 23, 2019.
162. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 7.
163. Michael Martina, "U.S. Firms No Longer 'Positive Anchor' for Beijing Ties," *Reuters*, April 17, 2019.
164. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 14.
165. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Elizabeth Drake, February 28, 2019, 5–6.
166. Office of the U.S. Trade Representative, *2018 Report to Congress on China's WTO Compliance*, February 2019, 5.
167. Steve Johnson, "IMF Warns on Risk of Rapid Exit from Emerging Markets," *Financial Times*, April 10, 2019..
168. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 9, 11.
169. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, written testimony of Mark Wu, February 28, 2019, 11.
170. U.S.-China Economic and Security Review Commission, *Hearing on Risks, Rewards, and Results: U.S. Companies in China and Chinese Companies in the United States*, oral testimony of Mary Lovely, February 28, 2019, 136, 140.
171. Organization for Economic Cooperation and Development iLibrary, "Foreign Direct Investment." *https://www.oecd-ilibrary.org/finance-and-investment/foreign-direct-investment-fdi/indicator-group/english_9a523b18-en*.
172. International Trade Administration, *Glossary: Key Foreign Direct Investment (FDI) Terms and Concepts*. *https://www.selectusa.gov/fdi-data-glossary*.
173. Organization for Economic Cooperation and Development, "Foreign Direct Investment Statistics Explanatory Notes." *https://www.oecd.org/daf/inv/FDI-statistics-explanatory-notes.pdf*.
174. Organization for Economic Cooperation and Development, "Foreign Direct Investment Statistics Explanatory Notes."
175. U.S. Department of Commerce Bureau of Economic Analysis, *International Data, Direct Investment and MNE: Foreign Direct Investment in the U.S., Financial*

*Inflow Transactions without Current-Cost Adjustment*, accessed September 1, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=2&step=1*.

176. American Enterprise Institute, "China Global Investment Tracker," accessed September 1, 2019.

177. Rhodium Group and National Committee on U.S.-China Relations, "Chinese FDI in All U.S. Industries from 2018 to 2018," accessed September 1, 2019.

178. U.S. Department of Commerce Bureau of Economic Analysis, *International Data, Direct Investment and MNE: U.S. Direct Investment Abroad, Financial Outflow Transactions without Current-Cost Adjustment*, accessed September 1, 2019. *https://apps.bea.gov/iTable/iTable.cfm?ReqID=2&step=1*.

179. Rhodium Group and National Committee on U.S.-China Relations, "U.S. FDI in All Chinese Industries from 2018 to 2018," accessed September 1, 2019.

180. U.S. Department of Commerce Bureau of Economic Analysis, *International Economic Accounts: Foreign Direct Investment in the United States*, 1. *https://apps.bea.gov/about/pdf/international_fdius.pdf*.

181. U.S. Department of Commerce Bureau of Economic Analysis, *International Economic Accounts: Foreign Direct Investment in the United States*, 1. *https://apps.bea.gov/about/pdf/international_fdius.pdf*.

182. U.S. Department of Commerce Bureau of Economic Analysis, *International Economic Accounts: Foreign Direct Investment in the United States*, 1. *https://apps.bea.gov/about/pdf/international_fdius.pdf*.

183. U.S. Department of Commerce Bureau of Economic Analysis, *International Economic Accounts: Foreign Direct Investment in the United States*, 1. *https://apps.bea.gov/about/pdf/international_fdius.pdf*.

184. American Enterprise Institute, "China Global Investment Tracker."

185. American Enterprise Institute, "China Global Investment Tracker"; Thilo Hanemann and Daniel H. Rosen, "Chinese Investment in the United States: Recent Trends and the Policy Agenda," *Rhodium Group*, December 2016, 24.

186. Thilo Hanemann and Daniel H. Rosen, "Chinese Investment in the United States: Recent Trends and the Policy Agenda," *Rhodium Group*, December 2016, 25.

187. Thilo Hanemann, Daniel H. Rosen, and Cassie Gao, "Two-Way Street: 2017 Update: U.S.-China Direct Investment Trends," *Rhodium Group*, May 2017, 14, 25.