

SECTION 4: U.S.-CHINA FINANCIAL CONNECTIVITY AND RISKS TO U.S. NATIONAL SECURITY

Key Findings

- A surge of U.S. investor participation in China's markets is outpacing the U.S. government's defense against the diverse threats to U.S. national and economic security posed by U.S. investment in some problematic Chinese companies. This inflow of U.S. capital into China's economy is occurring as the Chinese government strengthens its ability to direct nonstate firms and resources toward advancing strategic priorities that may harm U.S. interests and as Beijing further fuses military and civilian corporate operations.
- The Chinese government permits the participation of foreign firms and investors in the Chinese market only when it suits its national interest. As a result, nominal financial "opening" in China in reality is a carefully managed process designed to reinforce state control over capital markets and channel foreign funding toward fulfilling the Chinese government's national development objectives.
- China's military-industrial ecosystem encompasses state and nonstate firms, research institutes, and investment funds, all acting in concert in service of China's military modernization objectives. These coordinated efforts may advance an agenda that threatens U.S. national security but is not always evident at the level of individual entities or transactions. Traditional legal remedies, such as trade and investment restrictions, are limited in their ability to fully address these threats, and current tools may be inadequate.
- The U.S. government's defense against these challenges is further constrained by strong U.S. investor interest in Chinese markets and the outsized influence of unregulated investment indices in steering global capital flows. The substantial increase in the inclusion of Chinese securities in investment indices automates U.S. investor allocation toward Chinese companies. Because passively managed index funds replicate these indices and actively managed funds seek to at least outperform them, index providers have played a pivotal yet unregulated role in guiding foreign portfolio investment toward Chinese companies.
- Compared to portfolio investment, private equity and venture capital investment present a unique set of challenges. Critical technical knowledge, managerial expertise, and business connections often flow to the investment target in addition to funding. Lack of transparency in private transactions compounds both

oversight challenges for U.S. regulators and potential risks to U.S. economic and national security interests.

Recommendations

The Commission recommends:

- Congress consider comprehensive legislation to ensure Chinese entities sanctioned under one U.S. authority be automatically sanctioned under other authorities unless a waiver is granted by the president or the authority applying the initial sanction. This legislation should rationalize existing U.S. sanctions targeting adversarial Chinese entities to ensure, for example, Chinese firms placed on the Entity List and/or Military End User List of the U.S. Department of Commerce are also placed on the Non-Specially Designated Nationals (SDN) Chinese Military-Industrial Complex (NS-CMIC) Companies List and vice versa.
- Congress enact legislation expanding the jurisdiction of existing U.S. investment restrictions targeting Chinese entities placed on the NS-CMIC Companies List as well as the scope of entities to be targeted by such restrictions. Such provisions should include:
 - Expanding the prohibitions relating to transactions and supporting work by U.S. persons in NS-CMIC securities covered by Executive Order 14032 to include the execution, support or servicing of transactions by U.S. persons in any market or for any other person, including both U.S. and non-U.S. persons; and
 - Providing additional resources to ensure that a more comprehensive list of entities engaged in supporting the Chinese military-industrial complex be published and that subsidiaries supporting such entities be included on the list. In identifying entities that should be evaluated for inclusion in such designations, authorities should include companies designated by Chinese securities issuing and trading entities as supporting the military industrial complex.
- Congress pass legislation that defines categories of Chinese persons, Chinese entities, and Chinese Communist Party (CCP)-related persons and entities subject to full blocking sanctions and inclusion on the U.S. Department of the Treasury's SDN list due to actions that harm the vital national interest or the national security of the United States or that constitute gross human rights violations.
- Congress consider comprehensive legislation to address risks to U.S. investors and U.S. interests from investments in Chinese equity, debt, and derivative instruments by:
 - Prospectively prohibiting investment in Variable Interest Entities (VIEs) linked to Chinese entities.
 - Absent prohibition, ensuring that the risks of investments in VIEs linked to Chinese entities are more prominently identified for investors, including that the VIE structure is illegal under Chinese law, and that taxpayer subsidies do not sup-

port investments in such entities. Provisions that should be considered in support of this goal include:

- Requiring prominent identification of the potential high risk for investments in VIEs linked to Chinese companies by:
 - Identifying VIEs linked to Chinese companies be identified as such in their stock trading symbols on U.S. exchanges.
 - Requiring that broker-dealers provide risk warning labels on the potential lack of legal recourse for investors for their investments in VIEs linked to Chinese entities.
- Prohibiting preferential federal tax treatment on losses and gains on investments in VIEs linked to Chinese entities made after the passage of appropriate statutory provisions.
- Directing the U.S. Securities and Exchange Commission (SEC) as part of its evaluation of potential guidance on reporting on environmental, social, and governance matters by publicly traded companies to require reporting of:
 - Sourcing and due diligence activities of such companies involving supply chains that are directly or indirectly linked to products and services utilizing forced labor from Xinjiang.
 - Transactions with companies that have been placed on the Department of Commerce’s Entity List or those designated by Treasury as Chinese Military-Industrial Complex Companies.
- Requiring index providers that include within their indices securities issued on mainland Chinese exchanges or the Hong Kong Stock Exchange, securities of China-headquartered companies listed on U.S. exchanges through a VIE, or derivative instruments of either of the preceding types of securities, be subject to regulation by the SEC.
- Congress ensure the effective implementation of the Export Control Reform Act of 2018 and the Foreign Investment Risk Review Modernization Act of 2018 by enacting legislation that:
 - Creates a Technology Transfer Review Group (TTRG) within the Executive Office of the President responsible for identifying emerging and foundational technologies. The TTRG should be chaired by the secretary of defense and include the director of the Office of Science and Technology Policy along with Cabinet-level secretaries or their designees from the U.S. Departments of Commerce, Energy, and Homeland Security.
 - Authorizes the TTRG to direct the Department of Commerce’s Bureau of Industry and Security to implement export controls following from the identification of these technologies.
 - Authorizes and requires the TTRG to oversee multilateral engagement related to export controls, foreign investment screening, and regulations over technology transfer by rele-

vant agencies to ensure that such engagement does not undermine U.S. national and economic security interests.

- Require that additional resources be provided to improve and expand end-user verification of export controls. Export licenses to the following entities should receive strict scrutiny: end-users identified as Chinese Communist Military Companies per Section 1237 of the National Defense Authorization Act for Fiscal Year 1999, those identified as contributors to China’s military-civilian fusion activities per Section 1260H of the National Defense Authorization Act for Fiscal Year 2021, entities with direct and formal ties to the CCP or Chinese government, and entities identified by the U.S. Trade Representative, U.S. Department of Justice, and Federal Bureau of Investigation as being linked to efforts to steal or coerce the transfer of U.S. intellectual property. The inability to identify end-user facilities and, if identified, the lack of adequate and timely access to these facilities should strongly inform investigating officials and licensing officials.
- Require that the TTRG engage with the Department of Justice, the Department of Commerce’s Bureau of Industry and Security, and other relevant agencies to align “deemed export” controls with engagement on knowledge transfer and expert recruitment strategies such as the 1,000 Talents Program, as well as investigations of the CCP’s United Front Work Department and other entities and programs of the CCP designed to acquire U.S. technology and capabilities.
- Congress mandate from Treasury an annual update of the accurate U.S. portfolio investment position in China since 2008, including money routed through offshore centers such as the Cayman Islands. This should include exposure for:
 - Individual Chinese sectors;
 - U.S. institution types, such as state pension funds;
 - Sanctioned Chinese entities (Entity List, NS-CMIC List, and others);
 - Individual Chinese recipients who receive more than a minimum amount, such as \$100 million; and
 - Individual U.S. investors with more than a minimum share of the total, such as two percent.

Introduction

Despite ongoing U.S.-China tensions, U.S. investors, asset managers, and mutual funds are increasing their participation in China’s financial markets. U.S. holdings of Chinese equity and debt securities have surged 57.5 percent from \$765 billion in 2017 to as much as \$1.2 trillion in 2020.¹ Major global investment index providers accelerate and automate these flows as they continue to widen their indices’ exposure to China A-shares* and government

*A-shares are renminbi (RMB)-denominated securities of companies incorporated in China that trade on either the Shanghai or Shenzhen stock exchanges. The trading of A-shares is not re-

bonds. Many Chinese companies most attractive to U.S. and foreign investors operate in cutting-edge, high-technology sectors. The Chinese government seeks to cultivate these same sectors in realizing its technological ambitions and national security objectives. The entry of foreign wealth managers into China's financial services sector also facilitates perceptions of China's financial markets as sophisticated and stable, amplifying U.S. and foreign investor interest in Chinese securities. U.S. money managers* have promoted increasing investment participation in China.

While it is not clear whether the Chinese government is actively diverting foreign capital inflows toward fulfilling national objectives, the very structure of China's capital markets itself facilitates the funding of state priorities. This strategic use of financial markets occurs in an ecosystem in which all types of Chinese companies are subject to state control and influence. As a result, U.S. investors and policymakers cannot always know to what extent U.S. capital flowing into China may advance China's military modernization, facilitate human rights abuses, or subsidize unfair trade practices by Chinese firms. Of particular concern to U.S. national security is the possibility that U.S. investment could be directed to companies tapped by the Chinese government to modernize China's military as part of its military-civil fusion strategy. This poses unique national security risks to the United States on top of the economic risks to U.S. investors stemming from the flaws in China's financial system.†

This section examines the emerging risks to U.S. national and economic security of rising U.S.-China financial connectivity. First, the section profiles China's financial opening and U.S. and foreign investor participation in China's capital markets. Next, it examines how increased foreign investor participation in China's capital markets coincides with a Chinese government effort to strategically utilize capital markets in advancing technological development and military modernization objectives, to the detriment of U.S. national security interests. Finally, the section evaluates existing U.S. policy efforts to manage this emerging risk. This section draws from the

stricted for Chinese residents, but foreigners can only access the A-shares market through special investment programs such as the Qualified Foreign Institutional Investors and Stock Connect programs. A-shares are distinct from other Chinese share classes such as H-shares (shares in Chinese incorporated companies listed on the Hong Kong Stock Exchange), trading of which is not restricted to Chinese residents. At the end of 2020, foreign investors' holdings of China A-shares reached \$528.8 billion (RMB 3.4 trillion), accounting for approximately 4.3 percent of the total market capitalization of all China A-shares. Gene Ma, Phoebe Feng, and Lu Zhang, "China Spotlight: A-Share Market's Coming of Age," *Institute of International Finance*, April 20, 2021; FTSE Russell, "Guide to Chinese Share Classes," April 2021.

*In August 2021, U.S. asset manager BlackRock's research unit, the BlackRock Investment Institute, said China should no longer be considered an emerging market and recommended investors increase their exposure to the country by as much as three times. BlackRock's recommendation came despite the Chinese government's regulatory tightening on China's technology sector. Goldman Sachs analysts have also argued that Chinese markets remain investable, with Beijing's campaign against Chinese tech firms causing only short-term volatility. John Liu and Yujing Liu, "Goldman Sees Limited Long-Term Damage from China's Crackdowns," *Bloomberg*, September 13, 2021; Steve Johnson, "BlackRock Calls for Investors to Lift Allocations to China's Markets," *Financial Times*, August 17, 2021.

†Rapid debt accumulation and the inefficient allocation of capital to state-owned enterprises have saddled China's financial markets with systemic risks. Furthermore, the Chinese government's tenacious commitment to financial stability and propensity toward market intervention inhibit price signals and limits transparency in China's financial markets. For more on the economic risks endemic to China's financial system, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, "Vulnerabilities in China's Financial System and Risks for the United States," in *2020 Annual Report to Congress*, December 2020, 243–292.

Commission's March 2021 hearing on "U.S. Investment in China's Capital Markets and Military-Industrial Complex"; consultations with government officials, industry experts, and academics; and open source research and analysis.

Foreign Participation in China's Capital Markets

China's government sees attracting foreign capital as central to the realization of several overlapping objectives. These include overall capital market development as well as the resolution of a host of economic challenges. Financial opening is therefore carefully managed, with the Chinese government striving to manage foreign investor participation to maximize absorption of foreign capital and expertise while reinforcing its control over markets. Regardless of this extensive government control and the rigid pathways for access, foreign financial services companies and investors are increasing their participation in China's financial markets as the Chinese government opens them. China's emergence as the world's second-largest economy, rapid wealth creation, and initial recovery from the novel coronavirus (COVID-19) pandemic have consolidated the attractiveness of its financial markets to foreign investors as they pursue higher returns and portfolio diversification. U.S. and other foreign financial firms are separately drawn by the potential to generate fee income from increased transactions in Chinese securities.

Foreign Investors Embrace Beijing's Strategic Financial Opening

At the April 2018 Boao Forum for Asia, General Secretary of the Chinese Communist Party (CCP) Xi Jinping and People's Bank of China Governor Yi Gang once again announced the Chinese government would deliver on long-overdue pledges first made when China joined the WTO in 2001 to open China's financial sector to foreign competition.² Since then, Beijing has taken several steps to increase market access in the banking, securities, and insurance industries; grant foreign institutions equal treatment in credit and payment sectors; and open the domestic bond market to foreign investors.³ The Phase One agreement signed by the United States and China in January 2020 mostly codified China's previous commitments to implementing these measures.

The Chinese government encourages foreign investment in China's financial markets to serve its political, economic, and security interests. These include improving the corporate governance of Chinese-listed companies, stabilizing market activity against China's volatile retail investors, and expanding state-owned firms' access to capital.⁴ Financial opening is therefore carefully balanced against the government's strict maintenance of market control and steering of market activity. Rather than opening China's capital markets to unrestricted foreign participation, China's government maintains a number of channels through which it controls capital flows into and out of the country.

China's Government Establishes Rigid Pathways for Foreign Investor Participation in China's Capital Markets

The Chinese government has gradually created an array of mechanisms by which foreign investors can access China's capital markets. In 2002, the Chinese government launched the dollar-denominated Qualified Foreign Institutional Investors (QFII) program. The program granted foreign investors with relevant qualifications* access to China's stock and bond markets, though an aggregate quota was applied to the channel.⁵ A renminbi (RMB)-denominated cap was applied to a parallel RMB QFII program initiated in 2011. In May 2020, Chinese authorities scrapped quotas applied across the programs, allowing qualified foreign institutional investors unrestricted access to China's stock and bond markets.⁶ The QFII and RMB QFII programs were overshadowed, however, by the Stock and Bond Connect programs, launched in 2014 and 2017, respectively, enabling overseas investors with accounts in Hong Kong to trade stocks and bonds on the Shanghai and Shenzhen exchanges.[†]⁷ Leading global investment index provider MSCI's addition of Chinese onshore equity shares to its emerging market indices in 2018 further eased foreign investor access to China's stock market, and several stock and bond investment indices have since moved to increase their weighting of Chinese securities.⁸

While China's government has eased foreign access to its financial markets, foreign investors remain closely monitored and controlled. For example, the Chinese government imposes a ceiling of 30 percent foreign ownership on every publicly traded Chinese company.⁹ This ownership cap limits foreign investors to minority stakes and prevents them from using equity markets to exert control over Chinese companies.¹⁰ The Stock Connect platform also restricts daily flows into China to \$8.1 billion (RMB 52 billion).‡¹¹

*The China Securities Regulatory Commission, People's Bank of China, and the State Administration of Foreign Exchange jointly issued updated Measures for the Administration of Domestic Securities and Futures Investment by Qualified Foreign Institutional Investors and RMB Qualified Foreign Institutional Investors in September 2020. According to the measures, QFII applicants must (1) be in sound financial health, have good credit standing, and possess experience in securities and futures investment; (2) meet relevant professional and regulatory requirements of their home country; (3) possess sound and effective governance, internal control, and compliance management systems and designate an individual to be responsible for supervising compliance with China's investment regulations; (4) have not been subject to major disciplinary action from any regulator within the three year-period preceding their application to the QFII program or since their establishment; and (5) not exert a major impact on the operation of China's domestic capital market. China Securities Regulatory Commission, [Order No. 176] *Measures for the Administration of Domestic Securities and Futures Investment by Qualified Foreign Institutional Investors and RMB Qualified Foreign Institutional Investors* (【第176号令】《合格境外机构投资者和人民币合格境外机构投资者境内证券期货投资管理办法》), September 25, 2020. Translation.

†The Stock Connect program enabled gross flows via Hong Kong into China's capital markets of approximately \$9.5 billion in 2016 and \$31.3 billion in 2017, while the Bond Connect program enabled net foreign inflows of approximately \$28.7 billion in 2016 and \$53.3 billion in 2017. In April 2018, the China Securities Regulatory Commission raised the daily northbound quota (the value that individual Hong Kong and overseas investors can trade in Chinese securities through Hong Kong) for the Stock Connect program from \$1.8 billion to \$7.2 billion for both mainland exchanges. The eased quota contributed to the inclusion of China A-shares into major global investment indices. Bobby Lien and David Sunner, "Liberalization of China's Portfolio Flows and the Renminbi," *Reserve Bank of Australia Bulletin*, September 19, 2019; Logan Wright, "Hong Kong: Unforced Errors, with High Stakes," *Rhodium Group*, September 3, 2019, 6; Alice Woodhouse, "China Raises Mainland-Hong Kong Stock Connect Daily Quotas," *Financial Times*, April 10, 2018.

‡Unless noted otherwise, this section uses the following exchange rate throughout: \$1 = RMB 6.43.

Despite enduring Chinese government control, U.S. and foreign investors have poured into China's capital markets as Beijing has opened them.¹² The Chinese economy's resilience in the face of the global pandemic throughout 2020 further heightened investor interest in Chinese securities. According to independent research provider Rhodium Group,* the value of U.S. investors' holdings of equity and debt securities issued by Chinese entities on mainland Chinese, Hong Kong, and U.S. exchanges totaled as much as \$1.2 trillion at the end of 2020,† up 57.5 percent from \$765 billion in 2017.¹³ The divergence between China's economic recovery and performance and that of other emerging markets in 2020 is prompting some asset managers to change their asset allocations and devise China-specific investment strategies, with U.S. asset management firm BlackRock calling China "an investment destination separate from emerging markets."¹⁴

Some foreign investors have been drawn to China's capital markets because of the size of China's economy and higher returns offered by Chinese securities (see Figure 1). China's stock and bond markets have grown at a rapid clip, each becoming the world's second largest at the end of 2019.‡ Investors in China A-shares, for example, gain exposure to globally competitive Chinese companies operating in high-growth sectors such as technology and digital services.¹⁵ China's government bond market is also increasingly attractive to foreign investors given its high yield relative to other sovereign debt and liquidity.¹⁶ The People's Bank of China left its benchmark interest rates virtually untouched in 2020 while other major economies enacted rate cuts, making Chinese government debt § a rare source of yield in global fixed-income markets.¹⁷

*The estimates prepared by Rhodium Group take an expansive view of U.S. holdings of Chinese securities, collating estimates of U.S. institutional investors' direct purchases of China A-shares, U.S. high net worth investors' purchases of Hong Kong listed H-shares, and U.S. institutional investors' purchases of government debt and onshore and offshore corporate debt. Rhodium Group estimates also include U.S. retail investor purchases of American Depository Receipts issued by U.S. banks that represent shares in Chinese stock. The estimates prepared by Rhodium Group build on research conducted by the Global Capital Allocation Project, led by Antonio Coppola and his colleagues. In their study, *Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens*, Coppola et al. trace corporate ownership chains and assess offshore securities issuance in tax havens to better elucidate U.S. holdings of Chinese securities. Among other things, they find U.S. investor exposure to risks inherent in U.S.-listed, variable interest entity-structured Chinese companies is larger than understood; China's net foreign asset position may be half of the official value; and U.S. holdings of Chinese securities are larger when measured on the basis of nationality rather than residency. Adam Lysenko et al., "U.S.-China Financial Investment: Current Scope and Future Potential," *Rhodium Group*, January 2021, 11, 18–19; Antonio Coppola et al., "Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens," *Global Capital Allocation Project*, December 2020; 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.

†Rhodium Group finds U.S. investor holdings of equity securities outstrip holdings of debt securities. U.S. holdings of equity securities ranged from \$902 billion to \$1.1 trillion at the end of 2020, while holdings of debt securities ranged from \$65 billion to \$100 billion in the same period. Adam Lysenko et al., "U.S.-China Financial Investment: Current Scope and Future Potential," *Rhodium Group*, January 2021, 12.

‡At the end of August 2021, the total equity market capitalization for the U.S. stock market (defined as the Nasdaq and New York Stock Exchange) was \$50.4 trillion, compared to \$13.4 trillion for the Chinese stock market (defined as the Shanghai and Shenzhen stock exchanges). The U.S. bond market had \$48 trillion in bonds outstanding at the end of the first quarter of 2021, while China's onshore bond market had \$19 trillion in bonds outstanding in the same period. China eclipsed Japan to become the world's second-largest bond market at the end of the first quarter of 2019. Bank for International Settlements, "Debt Securities Statistics," September 20, 2021; *Bloomberg Professional Services*, "China's Bond Market: A Playground of Untold Potential," November 12, 2019; World Federation of Exchanges, "Statistics Portal."

§"Chinese government debt" here refers not only to central Chinese government bonds but also to policy bank bonds and local government bonds. China's Ministry of Finance issues central Chi-

Figure 1: Financial Performance of U.S. and Chinese Stock and Bond Markets, January 2019–September 2021

Panel A: Financial Performance of the CSI 300 Index vs. S&P 500 Index

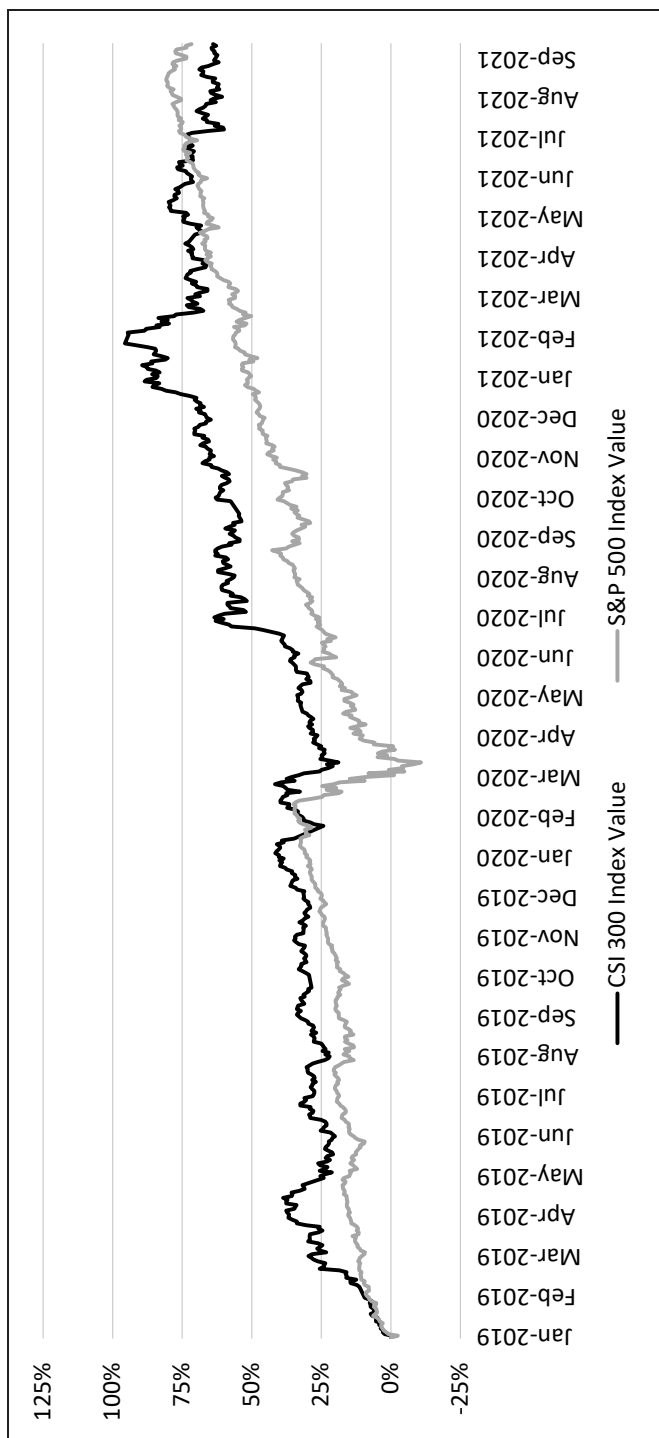
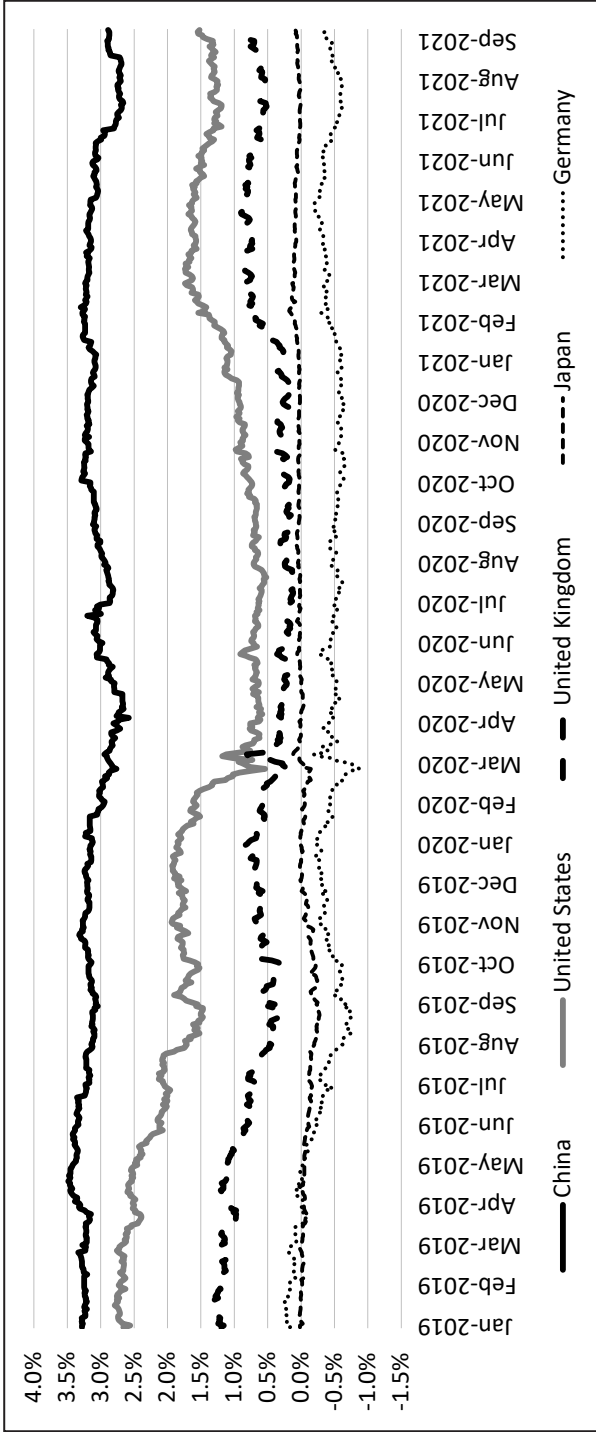


Figure 1: Financial Performance of U.S. and Chinese Stock and Bond Markets, January 2019–September 2021—Continued

Panel B: Ten-Year Government Bond Yields



Note: The CSI 300 is a market capitalization weighted stock market index of 300 of the largest companies listed on the Shanghai and Shenzhen stock exchanges. It is often considered the Chinese counterpart to the S&P 500 Index, a similar benchmark of 500 of the largest companies listed on U.S. stock exchanges. Source: Index value data from Interactive Data Pricing and Reference Data LLC via S&P Capital IQ database; bond yield data from Mergent Data via S&P Capital IQ database.

The Chinese government's campaign to check the growing influence and anticompetitive behavior of Chinese technology firms in retail markets, financial services, and data collection hammered Chinese tech stocks and contributed to a downturn in foreign investor interest in China's capital markets in 2021.¹⁸ Chinese regulators' scrutiny of China's tech giants, which are among the most attractive to foreign investors, began in November 2020 with the abrupt cancellation of fintech firm Ant Group's planned initial public offering (IPO).¹⁹ The move was followed in April 2021 by a series of antitrust actions targeting other tech firms, including a \$2.8 billion fine for Alibaba.²⁰ In early July, Chinese regulators launched a data security investigation into ride-hailing firm Didi Chuxing, erasing billions from its market capitalization within days of its IPO on the New York Stock Exchange.^{*21} Socioeconomic and political concerns are also driving the scrutiny, with China's regulators introducing new regulations barring education-technology and tutoring companies from making profits.²² Such companies are in regulators' crosshairs because of concerns that the private education industry's fees may exacerbate socioeconomic inequality and place an undue burden on families, deterring them from having more children.²³ The government is also concerned that privately taught curriculum may not track the CCP's heightened emphasis on ideological education.²⁴

China's sweeping regulatory review of a broad array of Chinese technology firms has roiled onshore and offshore Chinese stock valuations. At the close of trading at the end of September, the Nasdaq Golden Dragon Index (a gauge of U.S.-listed Chinese stocks) had fallen 33.5 percent on a year-to-date basis, while China's CSI 300 Index had fallen 6.6 percent.²⁵ Broader emerging market indices also declined in value in the same period, with the MSCI Emerging Market Index falling 3 percent.²⁶ As of September 30 2021, Chinese internet giants such as Tencent, Alibaba, and Meituan were among the top five constituents of the index.²⁷ All three firms are in Chinese regulators' crosshairs. (For more on Chinese regulators' actions against China's top technology firms, see Chapter 2, Section 1, "Year in Review: Economics and Trade.")

Despite the market turmoil, the global financial services industry continues to express optimism about longer-term investment pros-

nese government bonds, which are analogous to U.S. Treasury bonds and feature maturities ranging from three months to 50 years. The state-owned China Development Bank, Export-Import Bank of China, and Agricultural Development Bank of China issue policy bank bonds. Chinese provincial and city governments issue local government bonds, which are either general bonds or special purpose bonds. General bonds are used to finance local government expenditure, while special purpose bonds are typically used to fund infrastructure projects. Local government bonds do not have an explicit central government guarantee, making them riskier. They therefore trade at a slightly higher yield compared to central Chinese government bonds. At the end of August 2021, foreign investors held \$342.1 billion (RMB 2.2 trillion) of central government bonds, \$163.3 billion (RMB 1.1 trillion) of policy bank bonds, and \$1.5 billion (RMB 9.4 billion) of local government bonds. ChinaBond, "New Composite Index Decreased Overall as Foreign Investors' Holdings Increased Further—Bond Market Analysis for August 2021" (债券新综合指数下行 境外机构继续增持——2021年8月债券市场分析报告), September 17, 2021. Translation; *Reuters*, "Foreign Holding of China Government Bonds Hit New Record in August," September 6, 2021; UBS, "Investing in China: Opportunities for Global Investors," March 3, 2021, 15–18.

*In the wake of heightened regulatory scrutiny of Didi's data management practices, *Bloomberg* reported in September 2021 that Beijing Tourism Group and other Beijing municipal government-backed companies were considering acquiring a stake in Didi. If executed, the move would mirror a similar one made by a government-backed investment fund in April 2021 to acquire a 1 percent stake in an affiliate of Chinese social media giant ByteDance. For more on the Chinese government's expanded investment in nonstate tech firms, see Chapter 2, Section 3, "The Chinese Government's Evolving Control of the Nonstate Sector."

pects in China's financial markets. Investment strategists at JPMorgan, for example, see opportunity in the China A-shares* market as companies issuing such shares are majority domestic owned, are "often tied to policy initiatives," and are therefore "shielded" from regulatory scrutiny.²⁸ The firm also believes "China will continue to deliver superior nominal economic growth relative to other markets" over the next 10–15 years and that the country "is in the early stages of a financial evolution that will likely offer patient investors a significant opportunity."²⁹ Separately, investment analysts at BlackRock have recommended investors increase their allocations to Chinese assets by as much three times, highlighting opportunities for longer-term returns and diversification opportunities despite political risks and "greater uncertainty."³⁰ Others question or doubt this analysis, warning that investment in Chinese securities may threaten U.S. national security and investment returns may diminish as China's economy slows and Beijing cracks down on nonstate companies.³¹

Foreign Participation in China's Venture Capital Markets

While foreign venture capital (VC) investment in China only became legally permissible in the early 2000s,† it has grown at a rapid pace in the past ten years. By 2018, roughly \$125 billion, or nearly 40 percent of global VC investment activity, funded startups in China.³² This number decreased to roughly \$68 billion or 20 percent in 2020, according to data from Pitchbook.‡³³ At the 2018 peak, 6,005 VC deals were announced in China.§ This number similarly dropped by almost half to 3,529 in 2020 as concerns about slowing macroeconomic growth in China and excessive valuations for startups tempered investor enthusiasm.³⁴

Even before the regulatory structures allowing foreign VC investment were legally established,¶ foreign investors played a signifi-

*As of September 30, 2021, there are 4,158 China A-shares listed on the Shanghai and Shenzhen stock exchanges, with 1,648 in Shanghai and 2,510 in Shenzhen, including on its ChiNext board. Of these A-shares, 1,437 (34.6 percent) are eligible for trading on the Shanghai and Shenzhen Stock Connect platforms. Hong Kong Exchanges and Clearing Market, "HKEX-Connect Scheme: All Eligible Securities," September 30, 2021; Shanghai Stock Exchange, "Stock Data Overview" (股票数据总貌), September 30, 2021. Translation; Shenzhen Stock Exchange, "Securities Summary," September 30, 2021.

†Early foreign VC investments in China, such as Japanese conglomerate SoftBank's \$20 million investment in Alibaba in 2000, were executed through offshore holding companies to circumvent onshore regulatory restrictions. Massachusetts Institute of Technology professor Yasheng Huang argues that a substantial portion of foreign direct investment in China effectively functioned as VC funding, even if it was not labeled as such by investors or recipients. Adam Lysenko, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S. Investment in China's Capital Markets and Military-Industrial Complex*, March 19, 2021, 4; Yasheng Huang, *Selling China: Foreign Direct Investment during the Reform Era*, Cambridge University Press, 2003, xvi.

‡Pitchbook is a financial data and software company that compiles data on private market transactions, including VC, private equity, and mergers and acquisitions.

§By comparison, nearly \$130 billion was invested in close to 9,000 companies in the United States in 2018. PitchBook, "US Venture Capital Investment Reached \$130.9 Billion in 2018, Surpassing Dot-Com Era," January 10, 2019.

¶Among other structures, these include legalizing the limited partnership form usually assumed by private equity funds in 2006 and 2009 regulations allowing foreign investors to participate in RMB-denominated onshore funds and move capital in and out of the country. In a limited partnership, all partners (the third-party investors) are entitled to an equal share of profits absent any other agreement or negotiation on how profits or losses are to be distributed. Only the general partner (the fund manager) can make decisions on the partnership's behalf. State Council of the People's Republic of China, *Administrative Measures for the Establishment of Partnership Enterprises by Foreign Entities or Individuals in China* (外国企业或者个人在中国境内设立合伙企业管理办法), November 2009. Translation; State Council of the People's Republic

cant role in the development of China's startup ecosystem. Virtually all of China's first-wave internet firms, including technology titans Baidu, Alibaba, and Tencent, received financing from U.S. and other foreign VC investors.³⁵ In 2020, U.S. investors participated* in \$20 billion worth of all announced VC fundraising rounds for Chinese startups, accounting for 29 percent of all VC capital raised in China's startup ecosystem (\$68 billion).†³⁶ Though most cross-border venture deals into China are facilitated by major foreign private equity firms, multinational corporations' VC arms, such as Intel Capital, are also major investors in China. In 2020, such corporate investors participated in 15 percent of VC transactions involving any foreign investor in China.³⁷ Foreign funding can also flow into China's VC ecosystem through funding rounds organized by Chinese VC funds managed by Chinese general partners, such as Beijing-based Hony Capital and Hillhouse Capital, investment not reflected in the figures above.³⁸

In value terms, foreign investors have a more prominent role in non-venture private equity transactions that are focused on mature companies, such as established retail chains, rather than emerging technology companies.³⁹ Much of both VC and non-venture private equity investments by foreign firms has tended to favor consumer-facing e-commerce companies and service providers, suggesting investment decisions are driven by an attempt to capture the growth of China's emerging consumer class rather than a strong belief in the innovative capacity of Chinese technology.⁴⁰

Foreign investments in a handful of sectors, including speech recognition and computer vision—forms of artificial intelligence (AI)—and genomic sequencing are notable exceptions.⁴¹ The sectoral composition of foreign venture funding can also be influenced by the heavy hand of the state. For example, a 2017 *State Council Notice on the Publication of the Program to Build a National Technology Transfer System* called for Chinese enterprises to seek foreign VC investment as part of a multifaceted technology transfer strategy, though there is not any evidence of an uptick in foreign VC funding flowing into China's high-technology sectors.⁴² More recently, the Chinese government's 14th Five-Year Plan notes the government will continue to attract and utilize foreign capital in developing emerging technologies, advanced manufacturing, and telecommunications.⁴³ (For more on China's 14th Five-Year Plan, see Chapter 2, Section 2, "The Chinese Communist Party's Economic and Technological Ambitions: Synthetic Biology, New Mobility, Cloud Computing, and Digital Currency.")

of China, *Partnership Law of the People's Republic of China (China)* (中华人民共和国合伙企业法), August 2006. Translation.

* Fundraising rounds typically have multiple investors. The value of a fundraising round is the total capital raised by all participating investors. The contribution of an individual investor is seldom disclosed, and data on fundraising rounds simply indicate which investors participated, which led or contributed the most, and the total value of the round.

† VC funding transactions typically occur in series demarcated by letters according to the maturity of the company and often the volume of funding. Series A, the first funding round aside from any angel funding the startup may have received, is riskier because the firm's business is often less developed, though investors can acquire a larger equity stake for a smaller investment. Series E, by contrast, usually involves substantial investment in more mature companies with established business models, but investors have a higher chance of recouping their investment and earning a return through an IPO or sale. Each funding round typically sees multiple VC firms and potentially other investors participate, with the investor contributing the largest amount said to be "leading" the round.

Chinese Regulators Accelerate Approvals for Foreign Wealth Managers amid Rapid Growth in Investable Assets

Accelerating approvals for foreign financial services firms to enter and expand in the Chinese market underscore the Chinese government's pursuit of foreign expertise in addition to capital. In remarks delivered at a financial forum in October 2020, Guo Shuqing, chairman of the China Banking and Insurance Regulatory Commission, said the Chinese government welcomes foreign financial services firms with expertise in risk control, pension management, consumer finance, wealth management,* and health insurance to “vitalize” China’s financial sector.⁴⁴ While still cautious about giving foreign financial institutions too prominent a role, regulators seek to draw on their expertise to build a savings infrastructure that can help manage future economic challenges, such as an aging population.⁴⁵

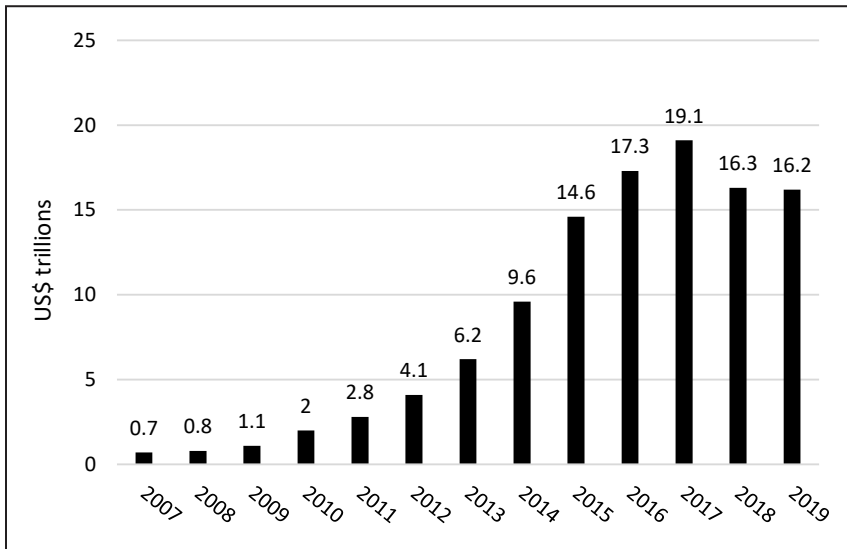
Global financial services firms are expanding into the wealth management sector specifically as the Chinese government accelerates regulatory approvals. To date, four global financial services firms have received approval to establish wealth management joint ventures with Chinese state-owned banks, including U.S. firms Goldman Sachs and BlackRock.⁴⁶ Separately, in March JPMorgan acquired a minority stake in a wealth management business owned by China Merchants Bank, marking the first time a Chinese bank opened up its wealth management subsidiary to a foreign strategic investor.⁴⁷ Executives of Chinese state-owned banks report such ventures enable them to learn from foreign expertise in asset allocation and risk control, while foreign firms are keen to capitalize on rapid growth in investable assets in China (see Figure 2).⁴⁸

While the entry of foreign firms into China’s \$16.2 trillion asset management market does not directly facilitate inflows of foreign capital into China’s financial system, it does make China’s underdeveloped financial markets appear more sophisticated. As more established international financial services firms expand operations in China to serve Chinese investors, foreign investors may view the Chinese market more broadly as a viable investment opportunity despite its significant risks.†

*Wealth management, broadly defined, is a financial advisory discipline that incorporates a diverse range of services to manage affluent clients’ overall wealth. Wealth management includes investment management advice alongside other financial advice, such as tax guidance and estate planning. This broader, integrated approach differs from other financial advisory services such as investment management, which narrowly focuses on the professional management of securities and other assets in order to meet specified investment goals.

†For more on systemic risks and vulnerabilities in China’s financial system and the Chinese government’s pursuit of foreign capital, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “Vulnerabilities in China’s Financial System and Risks for the United States,” in *2020 Annual Report to Congress*, December 2020, 243–292.

Figure 2: Total Assets under Management of China's Asset Management Industry, 2007–2019



Note: Estimates for assets under management of China's asset management industry in the years 2007–2019 are sourced from research conducted by Oliver Wyman, a consultancy. Assets under management typically refers to the total market value of investments or assets a financial institution manages on behalf of its clients. Oliver Wyman's estimate takes a broad view and includes assets managed on behalf of clients by banks; trusts; private funds; mutual funds; and futures, securities, and insurance asset managers.

Source: Charlie Zhu and Jun Luo, "Goldman Forms Wealth Venture with China's Largest Bank," *Bloomberg*, May 25, 2021; Oliver Wyman, "China (Re)Entry for Globals: Starting the New Chapter," 2019, 16.

Emerging Risks to U.S. National Security of Rising U.S.-China Financial Connectivity

The increase in foreign investor participation in China's capital markets coincides with the Chinese government's strengthening control over China's commercial ecosystem. This rising control makes the distinction between civilian and defense activities of Chinese companies increasingly blurry and furthers the Chinese government's objective of cultivating a commercial environment that supports its military-civil fusion strategy* and broader technological development. Together, these trends increase the risk that U.S. capital may contribute to improvements in China's military capabilities, surveillance technologies, human rights abuses, or other activities inimical to U.S. interests. This phenomenon presents novel challenges to U.S. policymakers. While the U.S. government has restricted U.S. investment flows toward some problematic Chinese companies, this has been done through executive action from the

*In testimony delivered at the Commission's March 2021 hearing on "U.S. Investment in China's Military-Industrial Complex," Emily Weinstein, research analyst at the Center for Strategic and Emerging Technology, described military-civil fusion as a guiding vision to align government agencies, state and nonstate firms, research centers, and investors in fostering emerging and foundational technologies with dual-use applications. For more on the objectives of military-civil fusion, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 2, "Emerging Technologies and Military-Civil Fusion: Artificial Intelligence, New Materials, and New Energy," in *2019 Annual Report to Congress*, November 2019.

president, exemplified most recently by President Joe Biden's Executive Order (EO) 14032. The U.S. government otherwise does not have any statutory authority to compel U.S. investors to cease and desist outbound portfolio investment in a foreign company. Existing U.S. policy frameworks to identify and define Chinese military companies may also struggle to keep pace with the CCP's extensive ability to influence and control all commercial activity in China's economy.

China's Capital Market Development Increases the Risk of Pass-Through from Civilian to Defense Firms

China's government is increasingly looking toward capital markets to fund its technology development goals, including financing civilian research and development (R&D) that may advance military capabilities. This trend is especially pronounced for dual-use emerging and foundational technologies outside the scope of China's traditional defense contractors, such as AI and autonomous systems. As China increasingly turns to capital markets to realize its technology development and military modernization ambitions, there is more acute risk that U.S. investment in China directly or indirectly benefits problematic companies.

Two decades ago, China's military-industrial ecosystem* was almost exclusively financed via state banking and subsidies, and defense expenditure was concentrated entirely in state-owned enterprises (SOEs).⁴⁹ Today, the Chinese government is using both foreign and domestic private equity (e.g., VC), public equities (i.e., stocks), and public debt instruments (e.g., government and corporate bonds) to fund defense-related companies.[†]⁵⁰ In addition to SOEs, this funding is increasingly directed toward nonstate firms that produce dual-use or potentially military end-use items and may supplement China's military capabilities. While few of these modes of financing are explicitly aimed at funneling foreign capital to defense firms, China's government is purposefully developing its capital markets to direct domestic institutional and retail investors toward priority sectors. U.S. investors participating in China's capital markets may in turn be drawn toward these companies in favored sectors.

*While the relationships between armed forces and the companies that make their equipment are often described as being part of a "military-industrial complex," this section finds such networks in China are better described as a military-industrial ecosystem. This is because China's military-civil fusion strategy mobilizes a broader array of actors beyond just Chinese government agencies and state-owned defense contractors to include academic institutions, industrial parks, and nonstate startups. For more background on the structure of China's military-industrial ecosystem, see Addendum I: Key Actors in China's Military-Industrial Ecosystem.

†The extent to which China's military-industrial ecosystem is financed by private debt—or debt extended to privately held companies, typically via nonbank financial institutions—is unclear from public sources. According to PricewaterhouseCoopers China, the majority of private deals in China between 2015 to 2019 were in the real estate sector. James Dilley, Victor Jong, and Ted Osborn, "Chinese Private Debt: On the Ground Insights from PwC," *PricewaterhouseCoopers China*, March 2020, 12.

Military-Civil Fusion Builds a Commercial Ecosystem Designed to Support the Chinese Government's National Security Objectives

For decades, China's government sought to emulate the mutually beneficial relationship between private sector innovation and defense sector research and contracting in the United States. These Chinese government efforts met with moderate success in technological advances, particularly in electronics and shipbuilding, but low rates of nonstate participation persisted in defense procurement.⁵¹ China's military-civil fusion strategy has sought to establish a framework for quickly mobilizing civilian infrastructure to serve defense needs, bolstering economic growth by fostering linkages between the civilian and defense sectors, and leveraging nonstate sector innovation to develop technologies with military applications. Having established an initial framework, the strategy is now entering a critical "implementation" phase during the next 15 years.*

Analysts often describe military-civil fusion as a "whole of government" or "whole of society" effort. These descriptors capture the breadth and magnitude of the program as envisioned, but they also simplify an intricate and evolving process of intra-government coordination as well as coordination between government and nonstate or quasi-state actors, such as privately managed investment funds with mostly passive state shareholders.

The resulting web of investment and administrative relations in China's military-industrial complex is labyrinthine, demonstrating both the ubiquity of military-civil fusion's impact on China's economy and the challenge in identifying whether any particular entity or transaction may be supporting military-civil fusion. In short, a transaction or an entity several steps removed from defense procurement can contribute to military capabilities. Military-civil fusion is having the greatest impact in traditional weapons systems R&D, military logistics and auxiliary functions, and public security, but not in the areas that concern major war-fighting capabilities.⁵²

Various Investment Vehicles Direct Capital toward Potentially Problematic Companies

In the last six years, China's capital market development has coincided with a proliferation of investment vehicles that contribute to both financing companies at different stages of growth and appealing to different groups of investors. The sections below describe various investment vehicles for investing in private equity, trading stocks, and investing in local government debt that steer funding to-

* Experts assess that Chinese policymakers have, to date, focused on laying the groundwork for the military-civil fusion strategy. For example, Blue Path Labs analysts Peter Wood and Alex Stone observe that Chinese leaders aimed to establish a "full-element, multi-domain, and high-return military-civil fusion deep development pattern by 2020." This suggests Chinese leaders may now be moving toward the more fulsome implementation of the strategy. Alex Stone and Peter Wood, "China's Military Civil-Fusion Strategy: A View from Chinese Strategists," *China Aerospace Studies Institute*, June 15, 2020, 26; Brian Lafferty, "Civil-Military Integration and PLA Reforms," in Philip C. Saunders et al., eds., *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, National Defense University Press, March 3, 2019, 638.

ward China's military-industrial ecosystem. Not all of these vehicles draw foreign investment toward potentially problematic companies directly, but all contribute to a capital market that prioritizes funding the state's development objectives.

Private Equity: Government Guidance Funds and Defense Conglomerates' Finance Subsidiaries

The launch of the Made in China 2025 initiative in 2015 spurred rapid proliferation of government guidance funds that seek returns while advancing policy goals.⁵³ These funds intend to bring outside management expertise and expand the pool of capital available to finance government objectives by enticing nonstate co-investors.⁵⁴ Some of these funds explicitly aim to invest in military-civil fusion projects, and many others support investment in dual-use technologies.⁵⁵ Among government guidance funds focused on military-civil fusion or dual-use technologies, portfolios often resemble or overlap significantly with the investment targets of China's defense conglomerates' financing arms.* Although foreign VC investors may invest in companies receiving government guidance funding, VC investors generally are not required to disclose the proportion of capital they invest in any investment target.⁵⁶ For example, SenseTime, a Chinese AI firm specializing in computer vision and deep learning, raised \$620 million in Series C+ funding in May 2018, with proceeds used to "spearhead China technology ambitions and to invest in research, development, and talents."⁵⁷ Qualcomm Ventures, the VC arm of U.S. semiconductor design firm Qualcomm, was among one of the participating investors.⁵⁸ This investment occurred before the U.S. Department of Commerce Bureau of Industry and Security (BIS) placed SenseTime on the Entity List. In October 2019, BIS added SenseTime along with seven other Chinese technology firms to the Entity List for their role in enabling human rights violations against Uyghur Muslims in China's restive Xinjiang Province.⁵⁹ SenseTime has also raised VC funding from Beijing-based China Internet Investment Fund Management Company.⁶⁰ The fund manager is an investment firm specializing in AI, big data, and cloud computing and whose limited partners include the Cyberspace Administration of China and China's Ministry of Finance.[†]⁶¹

Public Equities: Initial Public Offerings and Military-Related Exchange Traded Funds

While government guidance funds typically concentrate on private equity investment, two trends in China's public equities markets are also contributing to Chinese defense firms' ability to raise capital. China's securities regulator is introducing changes intended to create an equity financing pipeline that takes new ventures from start-up to IPOs, as the VC environment does within the United States. Chief among these is the STAR Market, a Nasdaq-style board with less stringent listing requirements than China's main exchanges in

* For example, the China Integrated Circuit Industry Investment Fund, a government guidance fund focused on developing China's semiconductor industry, has invested in Shenzhen China Electronics International Information Technology. The firm has also received investment from Chinese defense conglomerate China Electronics Corporation. S&P Capital IQ database.

† Neither the China Internet Investment Fund Management Company's website nor Chinese media reports provide details on the exact date or scope of the company's investment in SenseTime.

Shanghai and Shenzhen. Launched in June 2019 by the Shanghai Stock Exchange, the STAR Market is aimed at tech companies, and features a registration-based rather than approval-based IPO system. It includes Semiconductor Manufacturing International Corporation,* China's largest contract chipmaker, which was added to the Entity List in December 2020 for its involvement in China's military-civil fusion program.⁶² Additionally, AI company Cloudwalk and surveillance system microelectronics developer Shenzhen Intellifusion, both added to the Entity List for their role in China's human rights abuses in Xinjiang, have planned IPOs on the STAR Market.† The Chinese government continues to emphasize the role of public equities markets in channeling capital to technology firms as well as small- and medium-sized enterprises, announcing the establishment of a new Beijing stock exchange in September 2021.⁶³

A number of Chinese brokerages have established exchange-traded funds (ETFs) aimed explicitly at investing in military-related companies, drawing investors to their stocks and reducing their cost of capital by improving their valuations. This class of ETFs has become extremely popular on Chinese domestic exchanges, with a financial publication operated by state-run news outlet *People's Daily* tracking that their total capitalization grew tenfold to \$3.7 billion (RMB 23.9 billion) in less than five months between August 2020 and January 5, 2021.⁶⁴ Generally, these funds hold between 60 and 100 securities, many of which are suppliers to Chinese defense contractors rather than subsidiaries of the major SOEs such as Aviation Industry Corporation of China (AVIC) or China Aerospace Science Industry Group Corporation (CASIC).⁶⁵ As of September 10, 2021, 23 funds with the word "military" in the fund title were registered with the China Securities Regulatory Commission.⁶⁶ At present, while foreign institutional investors generally do not trade these ETFs, strong performance companies in any given ETF are likely to draw investor attention.

Public Debt: Municipal Bonds Raise Capital to Fund Problematic Companies

Outside of equity financing, both China's defense conglomerates and more established government guidance funds have used corporate debt markets to raise capital that may advance state objectives. For instance, Guangzhou Industrial Investment Fund Management Co., Ltd., a capital management firm run by the municipal government of Guangdong, capital of wealthy southern province Guangzhou, has raised \$460 million in total through three separate offshore bond issues to foreign investors during 2016 and 2017 in

*Semiconductor Manufacturing International Corporation is also listed on the Hong Kong Stock Exchange.

†As of September 30, 2021, the STAR Market comprised 341 firms, including firms involved in producing dual-use technology. Shenzhen Intellifusion Technology Co., Ltd., a company that designs chips used for intelligent vision in security cameras and cloud-based surveillance systems, released its IPO prospectus in December 2020. The company was added to the U.S. Department of Commerce's Entity List in June 2020 for its involvement in human rights violations in China's Xinjiang Uyghur Autonomous Region. Shanghai Stock Exchange, "Stock Data Overview" (股票数据总貌), September 30, 2021. Translation; Shenzhen IntelliFusion Technology Co., Ltd., "Initial Public Offering on the STAR Market IPO Prospectus (Declaration Form)" (首次公开发行股票并在科创板上市招股说明书(申报稿)), December 31, 2020, 1–23. Translation. https://pdf.dcfu.com/pdf/H2_AN202012081437957528_1.pdf; U.S. Department of Commerce Bureau of Industry and Security, "Addition of Certain Entities to the Entity List; Revision of Existing Entries of the Entity List," *Federal Register* 85:109 (June 5, 2020), 34503–34508.

Hong Kong.⁶⁷ It also issues debt on China's domestic markets.⁶⁸ Among other holdings, Guangzhou Industrial Investment Fund is an investor in CloudWalk, a Chinese AI company added to the Entity List in June 2020 for its involvement in human rights violations in China's Xinjiang Uyghur Autonomous Region.⁶⁹

Hikvision's Rise from a Research Institute to Global Prominence

Hangzhou Hikvision Digital Technology is a state-owned manufacturer and supplier of video surveillance equipment. The company was founded in 2001 by the 52nd Research Institute at the China Electronics Technology Group Corporation (CETC), one of dozens of CETC research institutes and subsidiaries.⁷⁰ Chinese government contracts totaling more than \$1 billion helped propel the company's rise in the intervening years, with Hikvision providing video recording, alert notification, and data storage services for the 2008 Beijing Olympics and deploying video surveillance equipment for a smart city project in Chongqing in 2011.⁷¹ Hikvision listed on the Small and Medium-Sized Enterprise Board* on the Shenzhen Stock Exchange in 2010, and by 2016 it was the largest surveillance equipment manufacturer globally, commanding 21.4 percent of the world's market share for closed-circuit television cameras and other surveillance equipment.⁷²

The Chinese government's careful cultivation of Hikvision and the surveillance technology market contributed to strong foreign investor interest (including U.S. investors)† in the company's shares once they were made accessible to foreign investors. Foreign ownership of the company jumped from 4 percent of common stock outstanding in April 2017, just after the launch of the Shenzhen-Hong Kong Stock Connect, to a peak of 12 percent of common stock outstanding in May 2018.⁷³ The firm's market capitalization also ballooned from \$31.2 billion in 2016 to \$50.7 billion in 2018, a 62.5 percent increase, and reached \$82.9 billion at the end of 2020.⁷⁴ Hikvision's rapid growth in value has occurred despite an uptick in public reports detailing how the firm's technologies are used to prosecute the CCP's mass surveillance and oppression of Muslim communities in Xinjiang.⁷⁵ In October 2019, Hikvision was placed on the Entity List because of its provision of surveillance technology used in repression in Xinjiang, and the U.S. Department of Defense (DOD) designated the firm along with CETC as "Communist Chinese Military Companies" in June 2020.⁷⁶ CETC, an SOE and Chinese aerospace defense conglomerate, owned 40.8 percent of Hikvision's common stock outstanding as of June 30, 2021.⁷⁷

*The Small and Medium-Sized Enterprise Board was established in 2004 on the Shenzhen Stock Exchange with the goal of building a multilayer stock market to create more listing opportunities for high-tech firms that could not meet the listing standards of the exchange but otherwise have growth potential. *China Banking News*, "Shenzhen Stock Exchange Frabs Approval for Merger of Main and SME Boards," February 7, 2021; Franklin Allen et al., "The Development of the Chinese Stock Market" in Marlene Amstad, Guofeng Sun, and Wei Xiong, eds., *The Handbook of China's Financial System*, Princeton University Press, 2020, 285–286.

†At the end of 2018, U.S. institutional investors T. Rowe Price, BlackRock, and JPMorgan were among the top 25 investors in Hikvision. S&P Capital IQ database.

Index Inclusion Automates U.S. Portfolio Investment in Chinese Companies

The Chinese government's strategic financial opening since 2017 has more tightly integrated Chinese securities with global financial markets. This is most visible in the growing inclusion of Chinese securities in an array of global investment indices, against which an estimated \$7.8 trillion in assets under management are currently benchmarked.⁷⁸ To date, five major indices* have announced or begun implementing inclusions of Chinese stocks and government bonds† into their indices.‡ These inclusions are projected to lead to an estimated \$385 to \$450 billion in new foreign portfolio investment inflows into China by the end of 2022.⁷⁹

The scale of asset allocation to China's domestic equities markets is significant, even if foreign shareholding accounts for a fraction of the total outstanding shares of any one Chinese firm. For example, as of September 30, 2021, the MSCI Emerging Markets Index and FTSE Russell Emerging Index feature 34 percent and 37.2 percent asset allocation toward Chinese equities, respectively, more than any other country.⁸⁰ Because many ETFs and other passively managed index funds are often designed to closely mirror these indices, Chinese companies have become a significant component of investors' emerging markets investment portfolios. Index providers have thus played a pivotal role in guiding foreign portfolio investment toward Chinese companies. The rising inclusion of Chinese companies' equity shares in these investment indices has also effectively lowered these companies' cost of capital.⁸¹ This is because passively managed index funds draw capital from a wide range of sources, including institutional investors, mutual funds, and pension funds, expanding the pools of capital available to Chinese companies.⁸²

*The five indices are the Bloomberg Barclays Global Aggregate Index, FTSE Russell World Government Bond Index, JPMorgan EM Global Diversified Index, MSCI Emerging Markets Index, and FTSE Russell Global Equity Index.

†The Chinese government bond universe includes central Chinese government bonds issued by China's Ministry of Finance, policy bank bonds issued by China's state-owned policy banks, and local government bonds. To date, three major government bond indices (Bloomberg Barclays Global Aggregate Index, JPMorgan Government Bond Index-Emerging Markets, and FTSE Russell World Government Bond Index) have announced or begun implementing inclusions of Chinese government bonds. The JPMorgan Government Bond Index-Emerging Markets includes only central Chinese government bonds issued by the Ministry of Finance, while the Bloomberg Barclays Global Aggregate Index includes these bonds as well as policy bank bonds. FTSE Russell plans to begin phased inclusion of central Chinese government bonds in its FTSE Russell World Government Bond Index in November 2021 over a 36-month period. State Street, "SPDR Bloomberg Barclays Global Aggregate Bond UCITS ETF (Dist)," September 23, 2021; BlackRock, "iShares J.P. Morgan EM Local Govt Bond UCITS ETF," September 22, 2021; FTSE Russell, "UPDATE: Reminder: Upcoming Inclusion of China in the FTSE World Government Bond Index," August 19, 2021.

‡For more on investment indices' inclusion of Chinese securities, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, "Vulnerabilities in China's Financial System and Risks for the United States," *2020 Annual Report to Congress*, December 2020, 264–267.

The Power of Investment Indices in Steering Global Capital Flows

The rising inclusion of Chinese securities in global investment indices coincides with a shift in the asset management industry from active to passive investment strategies.* In an active investment strategy, individual investors or portfolio managers buy or sell individual stocks.⁸³ Such an investment approach requires individual investors or the managers overseeing their portfolios to closely follow market activity and particulars of specific companies. In contrast, in a passive investment strategy, investors invest in an index fund, usually an ETF, whose composition of stocks and bonds reflects a market benchmark, such as the S&P 500.⁸⁴ According to Johannes Petry, lecturer at the Freie Universität Berlin, because passively managed index funds often simply replicate investment indices, index providers' inclusion decisions lead to "quasi-automatic asset reallocations."⁸⁵

Since the global financial crisis, investors have allocated some \$4.6 trillion in assets to ETFs.⁸⁶ According to PricewaterhouseCoopers, about \$30.7 trillion is invested globally in these passively managed funds that follow indices, and the firm forecasts passive assets could reach \$40.4 trillion by the end of 2025, accounting for 29 percent of the industry's total assets.⁸⁷ As the industry grows, the index providers who design the indices against which assets are benchmarked exercise growing authority over capital flows.⁸⁸ According to Perth Tolle, founder of investment index provider Life + Liberty Indexes, one implication is that index providers strongly influence global portfolio investment flows, providing benchmarks that asset allocators for global financial institutions are mandated to track.⁸⁹ Index providers' assessment of what constitutes appropriate corporate governance at the firm level and a favorable investment environment at the country level impacts firms' and countries' ability to attract foreign capital.⁹⁰ This influence extends not only to passively managed funds but to actively managed funds as well. By directing more and more passive investment via their inclusion decisions, index providers exert a "pull effect" on actively managed funds that must increasingly invest in companies included in the index in an attempt to match or outperform it.⁹¹ Legal experts have voiced concern about the light regulation of index providers,† arguing they effectively

*According to one study by the Federal Reserve Bank of Boston, as of March 2020, passively managed funds accounted for 41 percent of combined U.S. mutual fund and exchange-traded fund assets under management, up from 14 percent in 2005. Kenchukwu E. Anadu et al., "The Shift from Active to Passive Investing: Risks to Financial Stability?" *Federal Reserve Bank of Boston*, May 15, 2020, 2–3.

†Though the International Organization of Securities Commissions, an international body that convenes global securities regulators to develop and implement standards for securities regulation, published guidelines in 2013 on appropriate disclosure of investment index construction methodologies, these guidelines are not legally binding. In 2016, the European Parliament and Council of the EU legislated the EU Benchmark Regulation. It regulates indices used as benchmarks in financial instruments and financial contracts or to measure the performance of an investment fund. Among other things, the regulation requires index providers operating in the EU to register with the European Securities and Markets Authority (ESMA) and publish detailed information on index construction and constituent selection via a "benchmark statement." Compliance among U.S. index providers is mixed. For example, while S&P Dow Jones is registered with ESMA, MSCI is not. This is because the latter previously complied with the EU Benchmark

The Power of Investment Indices in Steering Global Capital Flows—Continued

operate as specialized asset managers or investment advisers rather than mere publishers of market data.⁹²

Index providers' methodologies for inclusion exclusively focus on a given equity share's value and liquidity without consideration for any risk to national security.* This narrow focus on business fundamentals, together with the passive investment management style associated with index funds, raises the risk that investors may unintentionally provide material support to Chinese companies that engage in practices contrary to U.S. national economic and security interests. In some cases, U.S. and other foreign capital can flow toward companies otherwise deemed a national security threat by the U.S. government and subject to trade restrictions. For example, on October 9, 2019, BIS placed iFLYTEK and Dahua Technology, among several other Chinese companies, on its Entity List† due to their supplying surveillance technology deployed in Beijing's repressive campaign of mass detention and surveillance of Muslim minority groups.⁹³ As of September 1, 2021, these two companies are still included in the MSCI China index.⁹⁴

Expertise and Knowledge Flow alongside VC Investment

A challenge for U.S. policymakers is that VC investment is not subject to the same market disclosures as publicly traded investment holdings. Because of these limited disclosure requirements, VC investment data are often self-reported and subject to major biases.⁹⁵ For example, privacy, competition concerns, or other considerations may lead investors party to a VC transaction to not report fundraising details.⁹⁶ As a result of these dynamics, it is difficult to track comprehensively the behaviors of U.S. VC and private equity investors in China.⁹⁷ Researchers examining U.S. VC and private equity investment in China need to rely on private market data aggregated by commercial data providers such as Preqin, Pitchbook,

Regulation via its registration with the UK Benchmarks Register, and it now has until December 2023 to register with ESMA under a transition period in the wake of Brexit. Despite these variations in registration, both S&P Dow Jones and MSCI, among other major index providers, publish benchmark statements providing information on the construction of their indices. The U.S. Securities and Exchange Commission regulates neither the supervision nor the content of stock market indices. MSCI, "Index Regulation," 2021; Johannes Petry, Jan Fichtner, and Eelke Heemskerk, "Steering Capital: The Growing Private Authority of Index Providers in the Age of Passive Asset Management," *Review of International Political Economy* (December 10, 2019): 19; Kelly Sporn, "Guide to the EU Benchmark Regulation," *Linklaters*, February 2017; International Organization of Securities Commissions, "Principles for Financial Benchmarks," July 2013; U.S. Securities and Exchange Commission, *Market Indices*, updated October 15, 2012.

*For example, in January 2019, 141 European institutional investors submitted a letter to major index providers requesting they exclude weapons manufacturers from their indices. Index providers responded that their indices, in being constructed on a market capitalization basis, aim to offer the broadest choice to investors, and that investors can choose from alternative indices that do not include securities issued by the companies of concern. Johannes Petry, written testimony for U.S.-China Economic and Security Review Commission, *Hearing on U.S. Investment in China's Capital Markets and Military-Industrial Complex*, March 19, 2021, 8; Susanna Rust, "Index Providers Respond to Controversial Weapons Campaign," *Investors & Pensions Europe*, February 14, 2019; Swiss Sustainable Finance, "Open Letter to Index Providers," January 31, 2019.

†The Entity List (Supplement No. 4 to part 744) identifies entities reasonably believed to be involved, or that pose a significant risk of being or becoming involved, in activities contrary to the national security or foreign policy interests of the United States.

or CB Insights.⁹⁸ Because VC deal announcements can vary in the quantity and quality of information reported, however, even datasets collected by such firms can lack comprehensiveness.⁹⁹ Uneven visibility into the structure of U.S. VC transactions in China compounds the risk that U.S. VC investors' knowledge and expertise could be leveraged to advance China's technological development and military modernization.

These risks of knowledge transfer extend to other private market investment strategies, such as private equity. In testimony before the Commission, Adam Lysenko of Strider Technologies noted foreign private equity investors often leverage their in-house technical expertise to offer support to portfolio companies in China, enabling them to accelerate product or technology development or commercialization.¹⁰⁰ Such investors are often drawn to certain technology segments or sectors that benefit from Chinese government procurement and may contribute to the Chinese government's efforts to utilize market mechanisms in cultivating technology startups' development.¹⁰¹ For example, by developing a sweeping end market for surveillance technology used to monitor Chinese citizens, the Chinese government has created attractive revenue opportunities for technology startups involved in the development of facial recognition software.¹⁰² An array of Chinese facial recognition firms, including Megvii and Hong Kong-headquartered SenseTime, have benefited from private capital provided by foreign investors keen to capitalize on Chinese government support for the market.¹⁰³ A lack of public visibility into private transactions by U.S. VC and private equity investors complicates oversight challenges for U.S. regulators.

U.S. Responses to National Security Threats from Chinese Companies

Since 2020, the U.S. government has bolstered defenses against the threats posed by problematic Chinese companies. Through an array of executive actions,* the Trump Administration took preliminary steps to curtail the flow of U.S. financing to Chinese companies that threaten U.S. policy interests. These steps culminated in a November 2020 EO banning U.S. investment in Chinese companies designated by DOD as "Communist Chinese Military Companies" (CCMCs). The Biden Administration built on these restrictions in 2021, modifying and expanding their scope in a signal of the U.S. government's hardened focus on defending both U.S. national security and democratic values. The implementation of these restrictions continues to evolve, with challenges in determining Chinese companies' proximity to the state, inconsistency with U.S. export controls, and narrow focus on public capital markets, highlighting the multifaceted threats Chinese military companies pose to U.S. interests.

*For a comprehensive review of the Trump Administration's executive actions on U.S.-China policy, see U.S.-China Economic and Security Review Commission, *Timeline of Executive Actions on China (2017-2021)*, April 1, 2021.

U.S. Deploys Investment Restrictions to Bolster Defenses against Chinese Companies

On November 12, 2020, then President Donald Trump issued an EO on “Addressing the Threat from Securities Investments That Finance Communist Chinese Military Companies” (EO 13959).^{*104} In the order, then President Trump cited the national security threat posed by China’s military-civil fusion strategy and the risk that U.S. investors are funneling capital toward the modernization of China’s military as key motivating factors for its implementation.¹⁰⁵ The order prohibited “any transaction in publicly traded securities” issued by 31 companies deemed by DOD at the time to be CCMCs.¹⁰⁶ On December 28, 2020, the U.S. Department of the Treasury Office of Foreign Assets Control (OFAC) clarified the scope of the order and announced it would publicly list the subsidiaries of CCMCs, to be defined as companies either 50 percent or more owned by one or more CCMCs or “determined to be controlled by one or more” CCMCs.¹⁰⁷ In January 2021, then President Trump amended EO 13959 to prohibit possession of CCMC securities, while total DOD designations of CCMCs reached 44 distinct companies.¹⁰⁸

On June 3, 2021, President Biden released a new EO building on EO 13959.¹⁰⁹ President Biden’s EO 14032 expanded the number of CCMCs subject to investment restrictions to 59 companies, with 18 prior CCMCs removed and 33 new companies added.¹¹⁰ EO 14032 also renamed CCMCs as Chinese Military-Industrial Complex (CMIC) companies and transferred authority to designate which companies face investment restrictions from DOD to the Treasury Department.¹¹¹ Investment restrictions took effect on August 2, 2021.¹¹²

While largely a continuation of the previous order, EO 14032 redefined the scope of investment restrictions on Chinese companies to focus on defense contractors, surveillance technology companies, and companies with corporate affiliates in either sector or ties to other firms listed in the order.¹¹³ Notably, the evolved restrictions target not just Chinese defense firms that pose an overt threat to U.S. national security but also those firms that “undermine the... democratic values of the United States and [its] allies.”¹¹⁴ The reframed scope therefore rationalizes previously designated Chinese military companies such as Huawei and Hikvision as subject to investment restrictions not only if they have ties to China’s military but also if they facilitate repression and human rights abuses.[†] (For more

*The issuance of the order marked the culmination of a gradual tightening of U.S. government scrutiny of Chinese securities in 2020, with the Trump Administration taking preliminary steps to close regulatory loopholes and curtail the flow of financing to Chinese companies whose operations threaten U.S. policy interests. On May 12, 2020, the Trump Administration directed the Federal Retirement Thrift Investment Board to “immediately halt” steps to benchmark the Thrift Savings Program’s I Fund to the MSCI All Country World Index. Separately, the Presidential Working Group on Financial Markets issued a report in July 2020 detailing the risks posed by U.S.-listed Chinese companies’ shoddy accounting practices and recommending the U.S. Securities and Exchange Commission seek enhanced risk disclosures and due diligence on the part of registered investment funds whose holdings include Chinese securities. For more, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 2, “Vulnerabilities in China’s Financial System and Risks for the United States,” in *2020 Annual Report to Congress*, December 2020, 271–275.

†According to President Biden’s notification to Congress of the order, “The use of Chinese surveillance technology outside [China] and the development or use of Chinese surveillance technology to facilitate repression or serious human rights abuse, constitute unusual and extraordinary threats... to the national security, foreign policy, and economy of the United States.” White House,

background on the U.S. government's evolving implementation of investment restrictions, market responses, and some Chinese companies' efforts to challenge their designations as Chinese military companies, see Addendum II: Background on U.S. Outbound Investment Restrictions on Chinese Companies.)

Statutory Authorities Underpinning U.S. Outbound Portfolio Investment Restrictions

The designation of CCMCs was first mandated by Section 1237 of the 1999 National Defense Authorization Act (NDAA), which authorizes the president to use powers granted by the International Emergency Economic Powers Act (IEEPA) against them.¹¹⁵ In November 2020, then President Trump declared a national emergency under IEEPA with reference to Section 1237 in issuing EO 13959 and formalizing investment restrictions targeting CCMCs.¹¹⁶ Section 1237 initially defined CCMCs as companies identified in two Defense Intelligence Agency publications (VP-1920-271-90, dated September 1990, and PC-1921-57-95, dated October 1995) and any other entity “owned or controlled by the [People’s Liberation Army] (PLA) [including the intelligence services] and... engaged in providing commercial services, manufacturing, producing, or exporting.”¹¹⁷ This definition has evolved in subsequent NDAs. The 2005 NDAA adds that entities are considered CCMCs if they are “affiliated with” the PLA or are owned by, controlled by, or affiliated with “a ministry of the government of the People’s Republic of China or that is owned or controlled by an entity affiliated with the defense industrial base of the People’s Republic of China.”¹¹⁸ The 2021 NDAA further expanded the definition to companies “directly or indirectly owned, or ... acting as an agent on the behalf of” the PLA or other organizations “subordinate to the Central Military Commission of the Chinese Communist Party” and targeted any company “identified as a military-civil fusion contributor to the Chinese defense industrial base.”¹¹⁹

Investment restrictions facilitated via then President Trump’s EO 13959 and President Biden’s EO 14032 are implemented through the invocation of a national emergency under IEEPA. Such an invocation is, by definition, temporary. This contrasts with other U.S. policy tools to defend against the national security threats posed by problematic companies. Specifically, trade restrictions imposed on Chinese companies via their placement on the Department of Commerce’s Entity List source their statutory authority from the Export Administration Regulations, permanently codified into law by the Export Control Reform Act of 2018.*

*Letter to the Speaker of the House of Representatives and the President of the Senate on Addressing the Threat from Securities Investments That Finance Certain Companies of the People’s Republic of China,” June 3, 2021.

*The Export Administration Regulations (EAR) initially derived statutory authority from the Export Administration Act of 1979, but under the Cold War-era legislation the regulations were only ever temporary, and the statutory authority underpinning the EAR lapsed permanently in 2001. Prior to the passage of ECRA in August 2018, the EAR continued to derive authority from EOs invoking IEEPA. For more on the Export Control Reform Act of 2018, see Emma Rafaelof,

The 2015 to 2016 surge in Chinese investment in the United States, the expansion of “military-civil fusion” policies, and resulting challenges to U.S. interests and expanding state control of the Chinese economy generally were primary reasons why Congress, on a bipartisan basis, passed updates to relevant statutes through the Foreign Investment Risk Review Modernization Act (FIRRMA) and the Export Control Reform Act (ECRA). These became law in 2018. The updates to these statutes were intended to ensure appropriate legal authorities to address new threats to national security not addressed by the then-existing laws.

In passing this legislation, as one of the key staffers who drafted the FIRRMA legislation David Hanke testified to the Commission in its September 2021 hearing, Congress was seeking to achieve a number of goals:

First, the national security landscape had evolved, and CFI-US's (the Committee on Foreign Investment in the United States) legacy authorities were outdated and inadequate. China had 'weaponized' investment and was using it to meet strategic government objectives... Second, in the modern national security landscape, technologies beyond the Commerce Control List and the U.S. Munitions List were becoming increasingly important to our long-term national security.¹²⁰

Rather than legislate a list of technologies that would guide certain aspects of government activities relating to export controls and inform implementation of CFIUS, and could become outdated within a few years, Congress delegated to the Secretary of Commerce the authority to identify emerging and foundational technologies. In the three years since, there has been no unilateral U.S. action on emerging technologies and almost no action on foundational technologies.*

At the Commission's September 2021 hearing, Jeremy Pelter, Acting Undersecretary for Industry and Security, defended the Department's approach to issuing the emerging and foundational technologies lists. He indicated that engaging allies to agree on multilateral definitions was the route being prioritized. In defending such action, Undersecretary Pelter explained that:

If BIS imposes unilateral controls targeting specific countries or entities and suppliers exist in other countries that can backfill orders to those targets with comparable items, then we will not achieve our national security or foreign policy objectives. The target of our unilateral action will still

¹²⁰“Unfinished Business: Export Control and Foreign Investment Reforms,” *U.S.-China Economic and Security Review Commission*, June 1, 2021.

*A staff-authored study prepared for the Commission indicated that to date, the Department of Commerce has “failed to carry out its responsibilities.” The study noted that a “lack of clarity from the Department of Commerce on what constitutes emerging and foundational technologies impedes the ability of the Committee on Foreign Investment in the United States (CFIUS) to fulfill its responsibilities. The years-long delay in developing these definitions may exacerbate national security risks. By law, a list of technologies defined as emerging and foundational triggers mandatory filings on certain transactions, drawing CFIUS scrutiny to higher-risk transactions. In the absence of the complete list, CFIUS continues to operate without this additional guidance and may be constrained in its ability to screen transactions.” In addition, “[b]y law, the Department of Commerce would refer to the list of emerging and foundational technologies to determine the necessity of additional export controls on a given technology.” See Emma Rafaelof, “Unfinished Business: Export Control and Foreign Investment Reforms,” *U.S.-China Economic and Security Review Commission*, June 1, 2021.

*receive the items of concern. Also, this scenario harms our technological innovation and leadership—if U.S. companies lose sales to their competitors over time, then the loss of revenue deprives U.S. companies of the substantial revenue that funds the research and development needed to stay at the leading edge. Thus, potential unilateral controls must be carefully analyzed to assess their effectiveness on the target and impact on important U.S. industry sectors, both in the short term and long term.*¹²¹

In his prepared testimony, Mr. Hanke referred to a Congressional Research Service report on the failure of the Department of Commerce to issue such lists in abiding by Congressional intent. The Congressional Research Service report stated:

*The lack of new technology identification arguably impedes not only ECRA implementation but also congressional reforms that expanded the authority of [CFIUS] to review Chinese and other foreign investments in critical and emerging technologies below a traditional threshold of foreign control. CFIUS can only act against non-controlling foreign investments if the technologies involved in the transaction are controlled.*¹²²

As a consequence, Mr. Hanke believes that CFIUS has “likely been unable to review a single non-controlling, nonpassive investment involving emerging or foundational technologies controlled under Section 1758.”* In testimony prepared for the Commission’s hearing, Giovanna Cinelli, a fellow at the National Security Institute at George Mason University Antonin Scalia Law School, also noted the “relatively slow pace of identifying these technologies” and the limits it places on CFIUS reviews and potential impact on national security interests. Ms. Cinnelli added, however, that nothing currently prevents CFIUS from determining a non-notified transaction † is within its jurisdiction after the fact.¹²³ This means that should CFIUS decide a previously made transaction unreported to CFIUS threatens U.S. national security by enabling a foreign party access to U.S. technology, CFIUS maintains the ability to review that transaction retroactively.

*Section 1758 “requires the Department of Commerce to establish appropriate controls on the export, reexport, or transfer (in country) of emerging and foundational technologies. Under ECRA, emerging and foundational technologies are those technologies that are essential to the national security of the United States and are not critical technologies [previously] described.” U.S. Department of Commerce Bureau of Industry and Security, “Identification and Review of Controls for Certain Foundational Technologies,” *Federal Register*, 85:167 (August 27, 2020).

†A non-notified transaction is a deal that has not been submitted to CFIUS for review and approval. CFIUS has long had the authority to review such transactions retroactively, but resources to do so were historically limited. FIRRMA strengthened CFIUS’ ability to conduct such reviews and pursue relevant enforcement actions by increasing the hiring of personnel and formalizing a process to identify non-notified transactions through the establishment of the Office of Investment Security, Monitoring, and Enforcement at the U.S. Department of the Treasury. This Office monitors transactions unreported to CFIUS, enforces CFIUS’ mandatory declaration requirements, oversees compliance with CFIUS regulations, and administers and enforces civil monetary penalties for violations. Olga Torres and Maria Alonso, “CFIUS Heightens Scrutiny of Non-Notified Transactions,” *Torres Law*, July 3, 2021; Farhad Jalinou et al., “CFIUS Outreach on Non-Notified Transaction: What it Means, What to Expect, and How to Successfully Navigate the Process,” *White & Case*, June 1, 2021.

Implementation Challenges and Limitations of Investment Restrictions

U.S. policymakers lack a comprehensive and efficient methodology to identify companies involved in China's technological development and military modernization drive. The proliferation of varying U.S. government designations of risky Chinese companies, including the Commerce Department's Entity List, DOD's list of CCMCs, and Treasury's Non-Specially Designated Nationals* Chinese Military-Industrial Complex Companies List, underscores the complexity of identifying, monitoring, and assessing Chinese companies of concern. Emily Weinstein, research analyst at the Center for Strategic and Emerging Technology, added that the ongoing blurring between defense and civilian sectors further complicates efforts to arrive at "a concise yet actionable definition" of companies of concern.¹²⁴ Nazak Nikakhtar, former U.S. assistant secretary for industry and analysis, contended that the evidence required for CCMC designation prevents the United States from keeping pace with the threats posed by CCMCs.¹²⁵

Investment restrictions as designed may not meaningfully alter capital flows toward China's corporate ecosystem. While investment restrictions have resulted in investment index providers deleting select securities from their indices, none of the traded subsidiaries of the companies designated as CCMCs by DOD are among the top ten constituents by market capitalization of such indices.¹²⁶ For instance, Alibaba Group and Tencent Holdings, neither of which are Chinese military companies, are among the most heavily weighted Chinese companies in three MSCI indices.[†]¹²⁷ Chinese military companies' loss of capital from unilateral U.S. divestment can also be readily restored by other global investors, suggesting multilateral implementation could heighten their effectiveness.¹²⁸ For example, in early January, Asian and European investors purchased discounted equity shares issued by CMIC companies such as China Mobile, China National Offshore Oil Corporation, and Semiconductor Manufacturing International Corporation, taking advantage of a sell-down in these companies.¹²⁹

Investment and trade restrictions are neither synchronized nor comprehensive. Investment restrictions as prescribed by EOs 13959 and 14032 do not target all companies the U.S. government has already deemed a threat to national security via placement on the Entity List. Such companies are subject to U.S. trade restrictions. For example, Anhui-Sun Create Electronics Company, a designer and manufacturer of radar and security systems, was placed on the Entity List in August 2018 due to its procurement of commodities and technologies for military end-use in China.¹³⁰ While EO 14032 bars investment in the company's parent, CETC, U.S. investors can otherwise continue to purchase shares of Anhui-Sun Create Electronics

*As part of its sanctions enforcement efforts, OFAC publishes lists of individuals and companies owned, controlled, or acting for or on behalf of targeted countries. It also lists individuals, groups, and entities such as terrorists and narcotics traffickers designated under programs that are not country specific. Collectively, these entities are called "Specially Designated Nationals" or "SDNs." In addition to SDN lists, OFAC maintains other sanctions lists, including the Non-SDN Chinese Military-Industrial Complex Companies List, U.S. Department of the Treasury, *Specially Designated Nationals and Blocked Persons List (SDN) Human Readable Lists*, June 10, 2021.

†These include MSCI China All Shares Index, MSCI All Country World Ex-U.S. Index, and MSCI Emerging Markets Index.

Company despite U.S. trade with the firm being restricted.* In other cases, investment restrictions are not matched with trade restrictions. For example, Inspur, a cloud computing and big data services provider, is designated a CMIC company but is not subject to U.S. export controls.¹³¹ Such mismatches between U.S. investment and trade restrictions reduce the strength with which the United States can defend against Chinese companies that threaten the national interest. Other companies recognized as military companies in China's own financial markets are not subject to any U.S. sanctions yet continue to benefit from U.S. investment. For example, shares of Wuhan Guide Infrared Company, an infrared thermal imaging and night vision systems developer, are included alongside those of several CMIC and Entity List companies in the Fullgoal Leading Military Enterprises Fund, a defense sector-focused Chinese ETF, suggesting its business activities may be of concern to U.S. national security.¹³²

Investment restrictions exclusively target public capital markets but omit VC and private equity. Current investment restrictions only target publicly traded securities investment, though private-market investments such as VC and private equity could pose even higher risk. Private sources such as PitchBook, Preqin, and CB Insights can provide some detail at a cost, but private market transactions are otherwise not subject to securities disclosure requirements that would enable government oversight.¹³³ Chinese technology startups, increasingly enlisted in the Chinese government's military modernization drive, benefit not just from private U.S. capital but also from the technical and financial expertise, business networks, and other resources U.S. private market investors provide.¹³⁴ These resources may prove to be of greater value to Chinese technology firms and defense conglomerates than capital they can already secure from the Chinese government and domestic market players.

Implications for the United States

The Chinese government's evolving priorities for financial market development elevate the risk that U.S. investors are funding Chinese defense and surveillance technology firms. Whereas China's economic planners once looked to stock exchanges to bail out China's heavily indebted state sector, today they see them as sources of capital to fund technological development and military modernization. This strategic use of financial markets therefore raises the risk that U.S. capital may be contributing to improvements in Chinese military capabilities, surveillance technologies, human rights abuses, and other activities contrary to U.S. national security, economic interests, and democratic values. Detecting and responding to these risks poses unique but not insurmountable difficulties for U.S. policymakers because of the blurring of boundaries between state and nonstate firms and the civilian and defense sectors.

Even as the U.S. government is increasingly challenging China's economic practices, the U.S. financial sector is becoming more invested in China's financial markets. Chinese companies operate in

*As of August 31, 2021, foreign institutional investors still hold positions in the company, though their ownership is miniscule (0.118 percent of the company's outstanding shares). S&P Capital IQ database.

dynamic, high-growth sectors, while Chinese government and corporate debt offer higher yields than what is available elsewhere. The gravitational pull China's financial markets increasingly exert on the global investment community, together with investment indices' automated investment toward Chinese securities, outpace U.S. policy efforts to defend against the threats posed by investing in some Chinese companies. As China's influence in the global economy increases and Chinese stocks and bonds become more integral components of investors' portfolios, U.S. policy efforts to manage the risks of financial integration are becoming more challenging.

Chinese firms' potential government and military ties challenge conventional policy frameworks for restricting trade and investment with problematic partners. U.S. trade and investment screening for military end use, human rights abuses, and other activities often focuses on individual entities or transactions, an approach that is ill-equipped to respond to China's military-civil fusion program. This is because military-civil fusion transforms China's military-industrial complex into a commercial ecosystem in which the aggregate efforts of firms, funds, and research institutes may pose risks not evident at the level of individual entities or transactions.

The threat of commercial advances aiding military capabilities is exacerbated by the inherent dual-use nature of many emerging and foundational technologies. In testimony before the Commission, Undersecretary Pelter identified several actions that the Department had taken to garner public sector input on the technologies to be included. However, three years after the passage of ECRA and FIR-RMA, the emerging technologies that have been newly controlled have all been done in accordance with the existing multilateral process, not in response to the stronger Congressional guidance. Additionally, no foundational technologies have been controlled at all. This constitutes a failure to guide implementation of those statutes such that the private sector understands what transactions and sales involve national security. As a result of this delay, undesirable acquisitions of U.S. assets may have avoided CFIUS reviews and technologies that enhance China's military or surveillance capabilities may have been transferred.

Separately, previously unidentified and multifaceted risks arising from U.S.-China financial integration present novel challenges to U.S. policymakers. There is no template for outbound investment restrictions, and those that narrowly target only the most overtly threatening Chinese companies may miss the broader ecosystem of actors participating in China's military-industrial complex. Structural features of global financial markets also create multiple pathways for U.S. capital to flow toward Chinese companies of concern. Against this backdrop, the U.S. government's initial attempts to craft outbound investment restrictions reflect only a preliminary step toward safeguarding U.S. national security. First, restrictions on U.S. capital flows to certain Chinese companies, as currently advanced, are facilitated by executive authority that invokes a temporary emergency response. This contrasts with established U.S. policy tools such as the CFIUS or export controls that are predicated on permanent legal authorities. Second, these outbound portfolio investment restrictions do not synchronize with other U.S. policy

efforts to defend against the threats some Chinese companies pose to U.S. national security. Some companies placed on the Entity List, for example, continue to benefit from access to U.S. capital. Third, in targeting only publicly traded securities, outbound investment restrictions leave unaddressed private flows of capital, business acumen, and technical expertise to the next generation of Chinese startups developing potentially dual-use technologies. This shortcoming is compounded by a lack of U.S. visibility into such private market transactions.

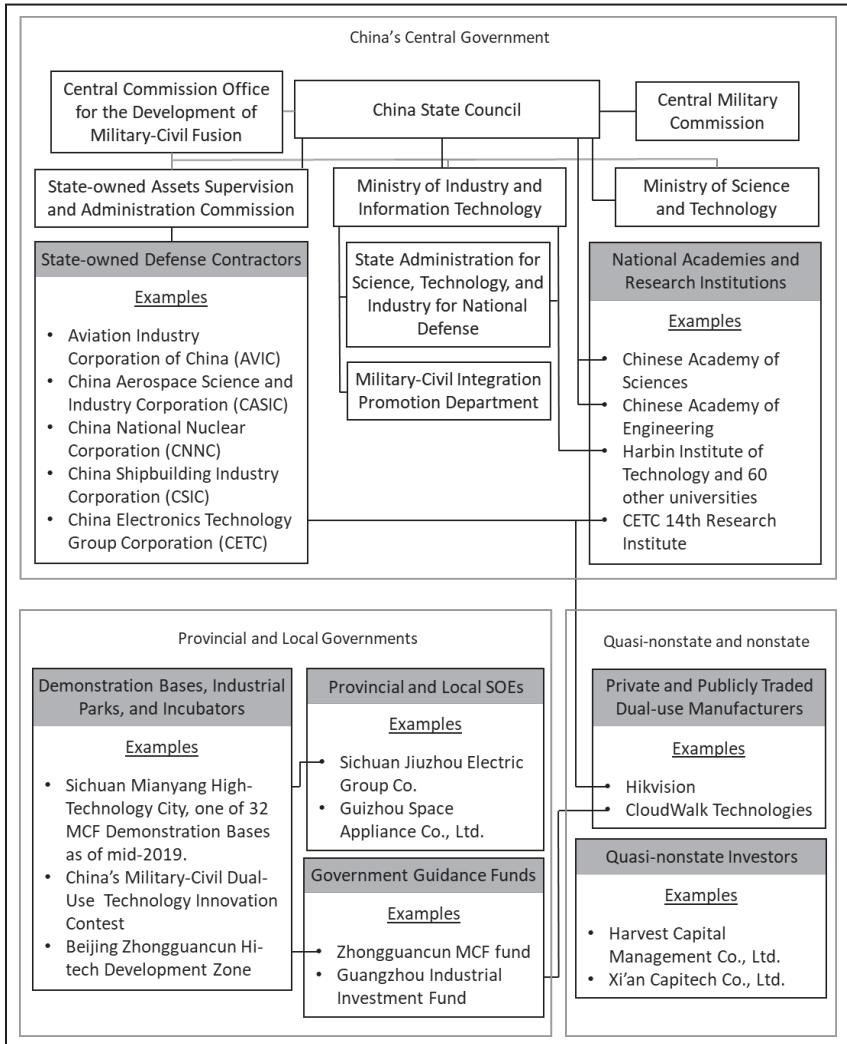
Addendum I: Key Actors in China's Military-Industrial Ecosystem

The various actors within China's military-industrial ecosystem can be grouped into a few distinct categories, detailed below and presented in Figure 3.

Central Government Agencies

Numerous government agencies are charged with implementing different facets of military-civil fusion, but their roles can similarly be grouped into three overlapping and complementary functions. First, the bulk of China's defense sector remains composed of state-owned defense conglomerates, and a number of government agencies and military offices exist to oversee fulfillment of PLA procurement needs. Second, in implementing military-civil fusion, China's government has redoubled efforts to build a network of research institutions that support technological advances in China's military capabilities, including through licitly and illicitly acquiring foreign technology as well as identifying and encouraging military applications of civilian research. Third, several central government agencies with primarily civilian mandates, such as China's Ministry of Commerce, are working to create a commercial environment that facilitates—and in some cases legally requires—civilian involvement in defense production and mobilization. Each of these functions is described further below.

- *Administering traditional defense procurement.* A network of agencies and offices interface between the PLA and Chinese defense contractors to establish procurement needs and oversee the entire lifecycle of military equipment. This includes defining procurement requirements and R&D or, as described below, identifying foreign sources for acquisition, manufacturing, deployment, maintenance, and other support. Civilian participation in most of these areas remains relatively minimal so far, as much of the information required to perform these functions according to military specifications is classified, and bureaucratic inertia within China's defense sector prevents regulatory changes to allow greater information sharing. R&D is a key exception, however, with civilian firms introducing cutting-edge knowhow into defense research.¹³⁵ A status update on military-civil fusion from *China High-Tech Industry Herald* similarly found civilian enterprises are contributing valuable knowhow to materials and parts production but are often barred from systems production and major systems integration.¹³⁶
- *Fostering military R&D and technological advances.* Led chiefly by the Ministry of Industry and Information Technology and its subordinate agencies, China's government oversees a vast and decentralized network of government research institutes with a mandate to assist in advancing defense-related R&D.¹³⁷ This network also includes offices that identify foreign technologies for acquisition and recruit foreign talent to help China close gaps in capabilities between itself and other countries, principally under China's Ministry of Science and Technology.¹³⁸ This is a particularly important facet of China's government-led R&D apparatus: as Zachary Arnold, research fellow at Georgetown's

Figure 3: China's Military-Industrial Ecosystem

Source: Various.¹³⁹

Center for Security and Emerging Technology, observed in his testimony before the Commission, China's government has a far clearer understanding of U.S. technological capabilities than vice versa due to the significant resources it expends on identifying technologies for acquisition.¹⁴⁰ In execution, the external face of these policies often makes them appear purely commercial. China's Ministry of Commerce, for instance, administers a catalogue of "encouraged foreign imports," and the Chinese government more broadly facilitates ostensibly civilian outbound investment to acquire technological capabilities, such as a multi-billion-dollar acquisition spree of U.S. and European en-

gines, materials, and avionics by aerospace conglomerate AVIC in the 2010s.¹⁴¹

- *Creating a commercial environment that facilitates civilian participation in defense production and mobilization.* Agencies with a primarily civilian mandate, such as the Ministry of Commerce, also play a pivotal role in financing nonstate firms' participation in military-civil fusion projects and coordinating between the civilian and defense sectors.
 - Foremost, a number of agencies, particularly the Ministry of Industry and Information Technology and China's state planning agency, the National Development and Reform Commission, offer funding directly to nonstate firms through subsidies or by investing through government guidance funds. These agencies also transfer funds to local governments to implement their own military-civil fusion initiatives and develop criteria for selecting firms and projects to participate in these initiatives.¹⁴² China's Ministry of Finance, its subordinate State Administration of Taxation, and local finance and taxation bureaus also work to establish favorable fiscal policies to implement military-civil fusion, for instance by offering tax breaks to firms that establish production within specially designated "demonstration bases."¹⁴³
 - Agencies such as the Standards Administration of China and State Administration for Science, Technology and Industry for National Defense (SASTIND) are involved in improving the compatibility between commercial and defense production, for instance by aligning military and civilian technical standards.
 - Lastly, China's legislature has drafted and passed laws to provide legal underpinning for military-civil fusion, such as the 2017 National Defense Transportation Law. The law aims to facilitate civilian sector support for China's military logistics, requiring road, railway, port, and airport construction to comply with defense requirements and allowing the PLA to expropriate civilian transportation resources, among other provisions.¹⁴⁴

Defense Conglomerates

The core of China's defense production is undertaken by a group of central SOEs in traditional military sectors such as aerospace and aviation. Following a major overhaul of China's defense production in the late 1990s, China's defense contractors were organized around five key sectors. Business in each sector was effectively divided among two SOEs in 1999 to encourage oligopolistic competition, though in practice the firms developed monopoly specializations. Key sectors and major defense contractors therein include:

- *Aviation.* The Chinese government established AVIC in 2008 by remerging two separate conglomerates, AVIC I and AVIC II, back into a single company.¹⁴⁵ The former focused on fighter jets, bombers, and transportation aircraft, while the latter focused on helicopters, lighter aircraft, and unmanned autonomous vehicles.¹⁴⁶ At the time of the merger, the Chinese gov-

ernment also created the Commercial Aviation Corporation of China (COMAC), a state-owned company focused on commercial aircraft production, though AVIC has an outsized influence on the firm's operations.¹⁴⁷

- *Aerospace.* China Aerospace Science and Technology Corporation (CASC) is China's premier space equipment supplier, building space launch vehicles, satellites, and missiles. China Aerospace Science Industry Group Corporation (CASIC) also supplies missiles as well as electronic and other equipment.¹⁴⁸
- *Shipbuilding.* China State Shipbuilding Corporation (CSSC) constructs frigates and smaller surface warfare combatants as well as commercial ships. China Shipbuilding Industry Corporation (CSIC) constructs destroyers and commercial vessels.¹⁴⁹
- *Ordnance.* China North Industries Group Corporation (NORINCO) supplies tanks, armored vehicles, and artillery. China South Industries Group Corporation (CSGC) produces other munitions as well as automobiles and motorcycles.¹⁵⁰
- *Nuclear.* Exercising a dual civilian role, China National Nuclear Corporation (CNNC) focuses on nuclear energy development, fuel, and equipment, while China Nuclear Engineering and Construction Group Corporation (CNECC) focuses on building nuclear power plants.¹⁵¹
- *Information and electronics.* In 2002, China Electronics Technology Group Corporation (CETC) was formed as an 11th defense enterprise group, focusing on a sixth defense sector.¹⁵²

A few common features hold true for the major defense contractors. First, they are vast conglomerates that also include extensive civilian operations and unrelated businesses. This trend dates from a 1990s policy that encouraged defense contractors to retool some of their production lines toward meeting civilian demand in order to improve profitability and cater to a growing consumer class in China.¹⁵³ An important externality of this policy was that it provides defense conglomerates with a web of ostensibly civilian subsidiaries, often not obviously connected to their parent companies, through which to engage foreign partners in joint ventures and acquire foreign technology they can transfer back to their corporate parent.¹⁵⁴ Additionally, these subsidiaries have their own financing arms and vast networks of semiautonomous research institutes. These financing arms are important in providing steady streams of revenue to the corporate group, financing major acquisitions, and making strategic VC investments in technology capabilities the defense contractors aim to cultivate.¹⁵⁵ Through investment arms such as AVIC Capital, China's defense contractors have also become minority shareholders in large swaths of China's economy, giving them financial oversight of their portfolio firms' operations.¹⁵⁶

National Academies, Universities, and Research Institutes

China's vast network of research institutes contributing to defense R&D is divided into three tiers:

1. China's State Council directly oversees institutions such as the Chinese Academy of Science, which has dozens of subordinate

- institutes focusing on basic research in areas like precision mechanics or lasers.¹⁵⁷ Additionally, some scientists from the academies, often among China's most accomplished, are assigned to PLA-affiliated universities as faculty and advisors.¹⁵⁸
2. Many of China's major universities are involved in developing technology for China's military, with SASTIND supervising 61 universities throughout China, according to research from Alex Joske, an analyst at the Australian Strategic Policy Institute.¹⁵⁹ In testimony before the Commission, Ms. Weinstein outlined a pattern of defense-affiliated universities having linkages to Chinese defense contractors, such as Northwest Polytechnic University acquiring a Xi'an-based research firm in which AVIC previously held a 45 percent minority stake.¹⁶⁰
 3. China's defense conglomerates themselves have multiple dedicated research centers to support the R&D efforts of their corporate parents.¹⁶¹ As with defense-affiliated universities, these research institutes are a key vector for acquiring foreign technology for military end use. CASC, CASIC, CETC, and CSIC, for instance, all have numerous research institutes designated on the U.S. Department of Commerce's Entity List for illegally importing U.S. technology to provide to the PLA or for use in defense production.¹⁶² The defense conglomerates' research institutes have also served as technology incubators, developing early-stage startups into successful firms, then spinning them off into venture-backed or even listed companies.¹⁶³

Demonstration Bases, Industrial Parks, and Incubators

To encourage civilian firms to participate in military R&D, provincial and local governments in China have established a few templates to provide fiscal incentives and frameworks for military-civil cooperation. Chief among these are demonstration bases and industrial parks, special zones that offer perquisites to civilian organizations that meet the criteria to establish an office or plant within the zone.¹⁶⁴ For instance, Hebei Province requires firms and research institutes to be engaged in dual-use R&D projects with clear military application and commercial promise, and in turn grants firms meeting these conditions priority in allocating military-civil fusion funding and awards to participation in military R&D projects.¹⁶⁵ Sichuan Province similarly covers 2 percent of the cost of R&D up to \$1.5 million (RMB 10 million) for Sichuan-based firms.¹⁶⁶

Addendum II: Background on U.S. Outbound Investment Restrictions on Chinese Companies

EOs 13959 and 14032, their amendments, and evolving Chinese military company designations have sparked confusion in the financial services industry* (see Figure 4). In response, Treasury's OFAC released 17 frequently asked questions (FAQs) clarifying the scope of the order between December 2020 and June 2021.¹⁶⁷ Among other things, the FAQs clarified timelines for compliance and addressed whether investment securities issued by companies whose names closely but do not precisely match those detailed by DOD and OFAC are subject to the restrictions.¹⁶⁸ In testimony before the Commission, Teresa Kong, portfolio manager for Matthews Asia, stated that some broker dealers "stopped making markets† altogether while waiting for further clarifications, resulting in mark-to-market losses."¹⁶⁹

The order's complexities resulted in a mixed impact. Major investment index providers such as MSCI and FTSE Russell, for example, removed Dawning Information Industry and Hangzhou Hikvision from their indices, effectively curbing foreign capital flows to them.¹⁷⁰ Separately, some Asian asset managers reported trading CCMC bond issues at a lower value as brokers shunned the designated companies.¹⁷¹ European and Asian investor interest in affected securities heightened amid a sell-down in early January 2021, however, leading to momentary upswings in share prices of Chinese telecommunications firms.¹⁷²

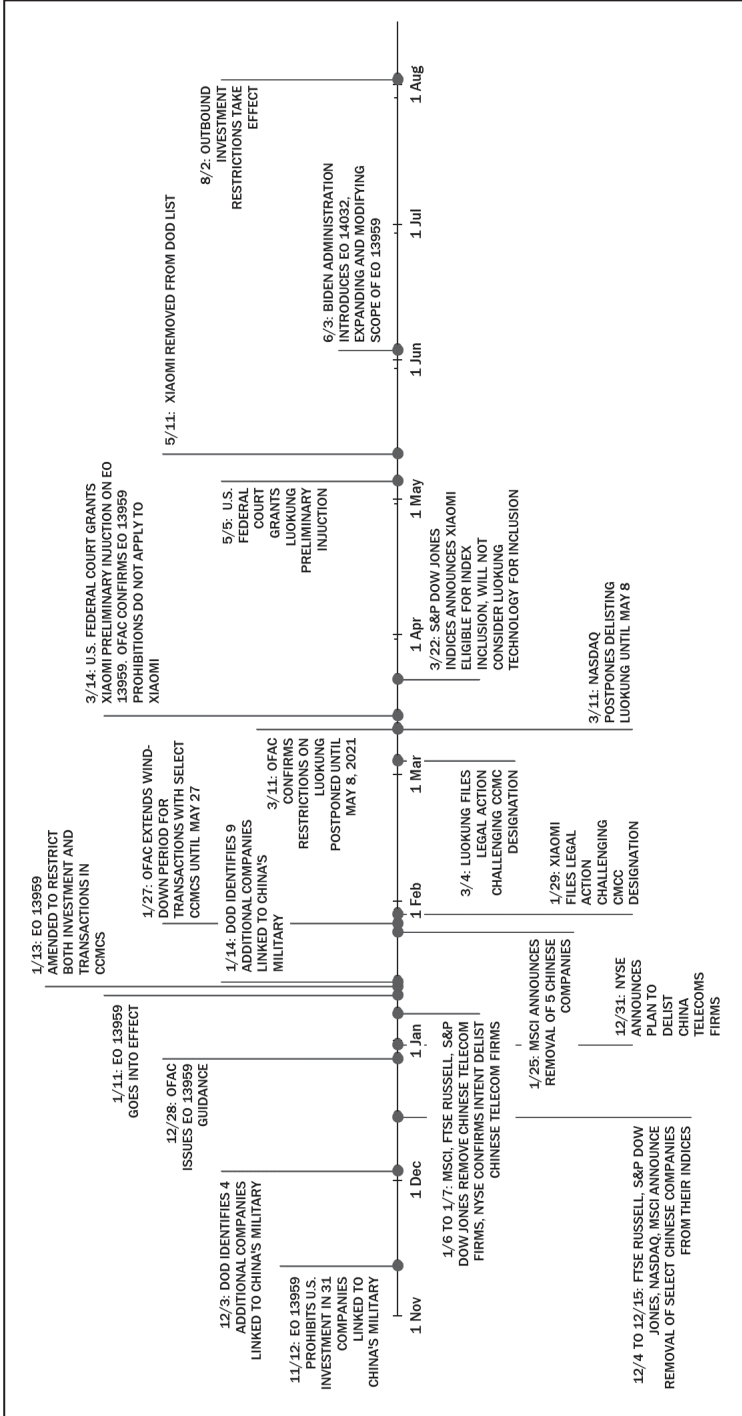
Legal setbacks from Chinese firms successfully challenging their EO 13959 CCMC designations in court prompted concerns about the viability of the Trump Administration's restrictions. Xiaomi (a smartphone maker) and Luokung (a big data processor) challenged their designation as CCMCs before the U.S. District Court for the District of Columbia and were granted preliminary injunctions in March and May 2021, respectively.¹⁷³ Court opinions for both injunctions said evidence furnished by the U.S. government of the companies' ties to China's military was insufficient to justify their designations as CCMCs.‡¹⁷⁴ Following the Xiaomi injunction, DOD removed the company from the list of CCMCs on May 11.¹⁷⁵ The adverse legal action raised concerns that more CCMCs would challenge the investment restrictions in court.¹⁷⁶ GOWIN Semiconductor, another company initially listed as a CCMC, challenged its designation in a complaint submitted to the U.S. District Court of the District of Columbia on May 21.¹⁷⁷

* Most notably, the New York Stock Exchange announced it would remove U.S.-traded shares of China Mobile, China Unicom, and China Telecom, all identified as CCMCs by DOD, on December 31, 2020. It reversed the decision on January 4, 2021, and finally delisted the telecoms on January 6 following guidance from OFAC. Jesse Pound, "NYSE Will Delist Three Big China Telecoms, Reversing Decision Once Again," *CNBC*, January 6, 2021.

† Typically large banks or financial institutions, market makers are high-frequency trading firms that engage in the buying and selling of stocks en masse to facilitate investor transactions in financial markets. In providing these high-volume trading services for investors, market makers help create markets for investors to buy or sell securities, keeping financial markets liquid. Market makers usually hold a high inventory of shares in a security so they can fulfill large amounts of orders.

‡ As such, the designations failed the "arbitrary and capricious test" established by the Administrative Procedure Act (APA), according to the ruling. Section 706(2)(A) of the APA indicates courts reviewing regulation may overturn agency actions if they find factual assertions or underlying rationale "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."⁷

Figure 4: Timeline of EO 13959 Implementation and Market Responses, November 2020–October 2021



Source: Created by Commission staff.

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