



# Reconsidering US-China Economic Relations

## The Way Forward

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In 2019, the United States and China marked the 40th anniversary of the establishment of diplomatic relations. Since that time, the relationship has seen growing economic integration, anchored by reforms in China that introduced large elements of market capitalism to the economy. China’s admission to the World Trade Organization in 2001 was a critical turning point, opening global markets to Chinese goods and setting the stage for an accelerated flow of both inbound trade and foreign investment.

As part of this process, growing numbers of Chinese students were sent to universities in the United States, particularly for graduate study in fields such as computer science and engineering. As China’s economy grew, and with it the middle class, Chinese tourists also began traveling abroad to Asia, Europe, and the United States. Most recently, this engagement has taken the form of large flows of outbound Chinese investment, as China’s capital reserves grew and companies such as Tencent, Baidu, Huawei, and Alibaba expanded. China became a major exporter of capital, acquiring companies and investing in real estate and technology around the world. The three leading destinations for that investment in the United States were New York, Los Angeles, and the San Francisco Bay Area. Today, the Bay Area hosts a wide range of Chinese-funded development projects, companies, accelerators, and investment funds.

Supported by these developments and by government strategies, China has grown over this period to become the world's second largest economy after the United States. At the end of 2018, China was the United States' largest trading partner.

Despite this web of connections linking the two economies, the US-China relationship today stands at a crossroads where the further deepening of economic ties cannot be assumed and could be reversed. The reasons lie in politics as much as economics, as past assumptions regarding China's political and economic direction are being questioned, and longstanding policy issues in the relationship have risen to the surface in ways that bring the priorities of the two governments into increasingly open conflict.

The power lies in both governments to address those issues and set a new foundation for economic cooperation. Whether or not that occurs, businesses on both sides must manage their way forward in an increasingly complex environment. The choices that governments and business make now will set the direction for how US-China economic relations will evolve in the next 40 years.

## How Did We Get Here?

While the first 40 years of the relationship have mainly been characterized by growth and optimism, the relationship today is entering largely uncharted territory. Many of the issues being debated aren't new but have grown in intensity and are increasingly interconnected—making their resolution more challenging. Several factors have brought the US and China to this point.

One is the more nationalistic political leadership in both countries. In the United States since coming to office in 2017, President Donald Trump has aggressively pursued trade reciprocity and deficit reduction with a range of global partners. China isn't alone as a target, as the administration has also criticized and pressured US partners such as Mexico, Canada, Europe, and South Korea. But China is unique because of its size, the scale of the US deficit, and the strong role that China's government plays in shaping its economy. Administration strategies ("America First") discount multinational norms and mechanisms for advancing US interests, in favor of

unilateral strategies whose reach goes beyond trade to issues as broad as climate and security.

In China, President Xi has centralized political power and reasserted the leading role of the Communist Party in the economy and society, and outside, China is pursuing policies that conspicuously assert Chinese power and influence. For many, the concerns this raises are less about China's growing global role than about the intentions behind it. Under Deng Xiaoping, who launched China's reforms, and successive Chinese leaders, China built its economy but did so quietly, with ideology pushed to the background. That discreet strategy has been replaced by one that, by being both ideological and more visible, has become more difficult to ignore.

This emerging dividing line extends from the political realm to the economic. Despite assurance that China's economy would be increasingly market-led, in recent years China's government has expanded its political reach into the corporate sector, while at the same time increasing its support for state-owned enterprises (SOEs). While China now accounts for the second largest number of Fortune 500 companies after the United States, nearly all are SOEs. This expanded support for SOEs as national champions reverses earlier policies that promised to reform and reduce their role as the market economy took hold. With this shift, state-owned enterprises are now seen as a critical source of support for Communist Party rule. With that role have come subsidies and preferential access to loans and credit that is not available to the private sector. From the standpoint of foreign companies and governments, the concern is that with that support these companies compete unfairly with private firms. This raises the deeper question of whether China's economy is really evolving toward one that is market-driven and where all companies, Chinese and foreign, can compete on an equal footing.

The Communist Party's Fourth Plenum,<sup>1</sup> held in October 2019, was ambiguous regarding the future role of markets and economic reform. Its communiqué stated that China will allow "the market to fully exercise its decisive role in allocating resources" but also stressed the "dominant role of the public sector," suggesting that the role of state-owned enterprises will grow and that strong government leadership will continue.<sup>2</sup>

An array of laws and policies enacted in recent years reinforce these concerns. For example, the Counter-Espionage Law passed in 2014 and a National Intelligence Law passed in 2017 allow the Communist Party to compel Chinese companies to turn over information and open their systems to the country's intelligence and security agencies, further blurring the line between private business activity and government. Chinese students and scientists are subject to similar requirements to cooperate with intelligence agencies.

While building the economy has been a goal across many Chinese administrations, and IP protection and the transfer of technology from Western companies are longstanding issues, in the last several years China's goal of establishing a commanding position across a range of key technologies has become explicit, as seen in its Made in China 2025 strategy. With the nationalistic direction of recent government policy, for the United States these economic concerns have converged with national security concerns, primarily related to technology.

Over the last several decades, there has been a belief in the US and the West that while systemic differences would remain, China's economy would become progressively more market-oriented and that over time the two systems would converge around new partnerships and market-based competition. The expectation was that China's membership in the World Trade Organization (WTO), confirmed in 2001, would cement that process. But for the reasons discussed above, that assumption is now being questioned. As one consequence, the US is less willing than in the past to overlook investment and market access restrictions, technology transfer requirements, or other policies in China that belie those expectations and appear inconsistent with core WTO and global market principles.

What is making the current set of issues so difficult to resolve is that they go beyond trade—though the trade imbalance remains a central issue—as increasingly, technology issues are tied to strategic or national security concerns. Much of what the US is asking for in recent trade negotiations goes to the heart of China's current industrial policies and how its government shapes them. It is difficult for internal reasons, however, for China's government to publicly back off from

goals and policies that are at the core of its economic strategy. So the standoff continues.

The current complex of issues in US-China economic relations falls into three major categories: trade, investment, and student and scientific exchanges. Each is analyzed below from the standpoint of current laws and policies, their impacts, and their possible resolution.

## Laws and Policies

### Trade

The US has imposed or announced tariffs on goods originating from China with a total value of more than \$500 billion: 25% tariffs on \$34 billion in imports (List 1) imposed on July 6, 2018; 25% tariffs on \$16 billion in imports (List 2) imposed on August 23, 2018; 10% tariffs on imports valued at \$200 billion (List 3) imposed on September 24, 2018 followed by an increase to 25% effective May 10, 2019; 15% tariffs<sup>3</sup> on imports valued at roughly \$120 billion (List 4A) imposed on September 1, 2019; and announced tariffs on \$156 billion in imports (List 4B) planned to take effect on December 15, 2019 and then suspended when a Phase 1 trade deal with China was announced by the Trump administration on December 13, 2019. In addition to cancelling the List 4B tariffs, the Phase 1 deal also cuts the List 4A tariffs from 15% to 7.5%, but the tariffs for the first three lists remain unchanged at 25%.<sup>4</sup>

While the early tariffs focused on capital and intermediate goods, which don't directly impact consumers, the List 4A tariffs threaten to more deeply affect consumers through higher prices for products ranging from toys and sports equipment to apparel, shoes, electronic equipment, and computers. According to the Peterson Institute for International Economics, 69% of consumer goods coming from China were subject to tariffs after September 1, 2019, up from 29% following earlier tariff rounds.<sup>5</sup> A Goldman Sachs analysis of Labor Department data in mid 2019 estimated that prices rose 3% on the limited range of consumer products (such as furniture) that was covered by List 3 tariffs.<sup>6</sup> That percentage will rise further to the extent that businesses are unable or unwilling to absorb the higher costs, although the Phase 1 deal's lowering of the List 4A tariffs to 7.5% could provide some mitigation.

## Investment

In August 2018, Congress, on a bipartisan basis, passed the Foreign Investment Risk Review Modernization Act (FIRRMA), which gave expanded authority to the Committee on Foreign Investment in the United States (CFIUS)—a government body led by the Treasury Department and composed of representatives of the Departments of State, Defense, Justice, Commerce, Energy, and Homeland Security, as well as the Office of the US Trade Representative and the Office of Science & Technology Policy, that reviews inbound foreign investment for national security concerns.

Until now, CFIUS has only investigated investments where a foreign country's attempt to *acquire or merge with* an American company posed a potential national security risk. Its primary focus was on large transactions that involved the acquisition of a controlling stake. Under its expanded authority, CFIUS can now review and block transactions that include the acquisition of non-controlling, non-passive minority stakes in US companies, including small ones, that could give the acquirer access to that company's technology. FIRRMA also extends CFIUS coverage to include the acquisition of real estate located near sensitive government facilities.

From the date of FIRRMA's entry into law (August 13, 2018), full implementation was delayed by 18 months to allow development of the necessary implementing regulations. Interim regulations issued in October 2018 established a pilot program that will remain in place until final regulations are implemented on or before March 5, 2020.<sup>7</sup> The pilot program requires the declaration of certain transactions involving investment in US businesses that design, test, manufacture, fabricate, or develop critical technologies. Investment in 27 strategic industries must be reported to CFIUS if the transaction would provide the acquirer with access to non-public technical information or allow the nomination of a board member or other participation in substantive decisions within the company.<sup>8</sup> Substantive decision-making can relate to any of the following: licensing, supply arrangements, corporate strategy, R&D, manufacturing locations, storage or protection of the technology, the appointment or removal of personnel with operational oversight, or strategic partnerships.<sup>9</sup>

## Investments Covered Under the FIRRMA Pilot Program

Under the pilot program, the mandatory declaration requirement extends to investments by foreign persons that do not constitute an acquisition of "control" of a US business but which merely permit the foreign investor to receive one of the following:

- Access to any material, non-public technical information in the U.S. business's possession;
- Membership or observer rights on the board of directors or equivalent governing body of the U.S. business, or the right to nominate an individual to a position on such body; or
- Any involvement, other than through voting of shares, in substantive decision-making of the U.S. business regarding the use, development, acquisition, or release of "critical technology."

—Dorsey & Whitney LLP, "CFIUS Announces Pilot Program: Mandatory Declaration Filings in Connection with Certain Transactions," October 23, 2018

Covered sectors span a broad range of technologies including aircraft manufacturing, computer storage device manufacturing, electronic computer manufacturing, optical instrument lens manufacturing, power and distribution manufacturing, primary battery manufacturing, telecommunications, nanotechnology R&D, biotechnology R&D, semiconductor machinery manufacturing, and storage battery manufacturing.<sup>10</sup>

CFIUS coverage extends to all countries, but China is the primary focus. Historically, most of the cases undergoing CFIUS review have involved Chinese buyers (about 50% more than the next closest countries, Canada and the UK) but by mid-2018, 100% of the acquisitions *blocked* by CFIUS since its establishment in 1975 had involved potential Chinese acquirers.<sup>11</sup>

CFIUS review runs parallel to US export controls administered by the Commerce Department's Bureau of International Security (BIS), which cover munitions and dual use (military/civil) technologies. The Export Control



Reform Act of 2018 (ECRA), which was signed into law at the same time as FIRRMA, identifies the need to protect “critical technologies,” including defense articles on the US Munitions List (USML, part 121 of the International Traffic in Arms Regulations) and dual-use items on the Commerce Control List (CCL, Supplement No. 1 to Part 774 of the Export Administration Regulations). Perhaps more significantly, it requires new export control measures to protect “emerging and foundational technologies” that are “essential to national security” and not covered by other export control provisions.

In November 2018, BIS invited industry comment on the criteria for identifying and defining “emerging technology.” Technologies covered in the Advanced Notice of Proposed Rulemaking (ANPRM) included many with civilian applications such as nanobiology and synthetic biology, genomic and genetic engineering, AI and machine learning, microprocessor technology, and additive manufacturing.<sup>12</sup> “Foundational technologies,” which are upstream of any military application, are not defined beyond their being essential to US security. This will require the Department of Commerce to develop additional rules. It is important to note that the foundational technology that will be subject to review is distinct from the published research performed at universities, which is not covered by BIS-administered export controls.

The expansion of export controls to include a broader range of technologies could affect future patent applications and could potentially require export licenses for ongoing technology collaboration with China. It may also affect what are termed “deemed exports” to Chinese nationals working in research roles in the United States, where technologies to which they are exposed are “deemed” to have been exported. Deemed export licenses are widely used when hiring Chinese scientists. In 2017, 758 deemed export licenses were issued for Chinese nationals out of 1,456 issued worldwide. In the future, managers hiring Chinese nationals may need to apply for deemed export licenses or reassign those employees to non-controlled areas.<sup>13</sup>

## Student and Scientific Exchanges

Chinese students and research personnel in sensitive fields are now subject to increased scrutiny on national security grounds. Underlying this is the belief that

some Chinese students may be what are called “non-traditional intelligence collectors,” in situations where information or knowledge gained in the US can be knowingly or otherwise brought home to be used in ways that are damaging to US interests. While the United States and China have a long history of productive scientific collaboration, in which security issues have been present but not dominant, recent shifts in the environment for cooperation reflect in part a reaction to the recent assertion of stronger political influence by the Chinese government over Chinese nationals and companies. Article 7 of China’s National Intelligence Law states that “any organization or citizen shall support, assist, and cooperate with state intelligence work.”<sup>14</sup> The implication, from the standpoint of US intelligence agencies, is that Chinese students and scientists who are not otherwise connected to the government may be vulnerable to government influence or pressure to convey and share sensitive information.

This may impact scientific research in the US where Chinese nationals are engaged. National Security Decision Directive 189 (NSDD-189), issued in 1985, establishes the national policy governing scientific, technology, and engineering information generated through federally-funded research at universities and national laboratories. Its bottom line is that basic research that is published and publicly shared is essentially unrestricted. A product of the Reagan Administration, NSDD-189 was endorsed by the administrations of George W. Bush and Barack Obama, and reaffirmed in 2018 by the National Science Board,<sup>15</sup> and it is considered by the scientific community to be critical to open inquiry and research in fundamental science. While NSDD-189 remains in place, concerns in intelligence agencies regarding potential technology leakage are making the environment for its application more complex.

The most immediate change in the environment for student and scientific exchanges can be seen in immigration policy. In June 2018, the State Department announced that it would start to limit the duration of visas for students from China, especially graduate students and others involved in high technology (STEM) fields,<sup>16</sup> and would increase the number of cases subject to interagency clearances. Chinese graduate students and postdocs involved

in fields such as robotics, aviation, and advanced manufacturing are now limited to one-year renewable visas (reduced from five), and Chinese nationals applying for a US visa must obtain special permission if they work in either research or management for any institution that might arouse US suspicion.<sup>17</sup> Undergraduates are believed to present a lower security risk than graduate students. In this respect, the visa process is indirectly being used as an adjunct to traditional export controls which, as noted above, don't apply to university research.

The effects of this change can be seen in longer periods for the "administrative processing" of visa applications, which can in some circumstances make the proposed visit or exchange infeasible.

Federal security agencies are engaging US government funding agencies and academic institutions to raise these security concerns, identify research that should be protected, and strengthen reviews of programs involving Chinese students. The National Institutes of Health (NIH), for example, communicated in May 2019

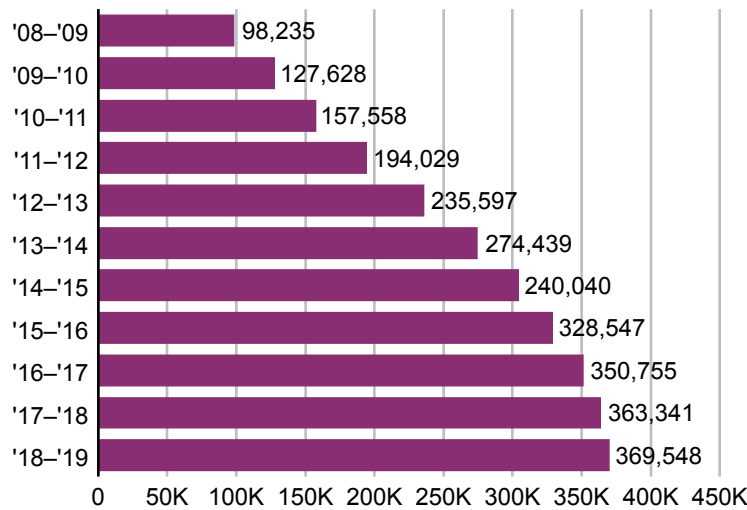
with institutions applying for NIH funding regarding the potential impact of foreign government and other overseas-sourced funding on research integrity and the potential diversion of NIH-supported research. Other agencies disbursing research grants have followed suit. The White House Office of Science and Technology Policy (OSTP), through the Joint Committee on Research Environments (JCORE) is working on a framework to rationalize the range of individual agency measures that are currently underway. In the Bay Area and elsewhere, this process is making universities more cautious regarding admitting Chinese students to programs that may involve sensitive research.

This particularly matters in the Bay Area, where universities host many foreign students in STEM fields. China is currently the largest source of foreign students in the US, with more than 369,500 enrolled in American colleges and universities,<sup>18</sup> almost half at the graduate level. Chinese students are a large presence in the Bay Area's leading research universities, particularly in departments such as engineering and computer science.

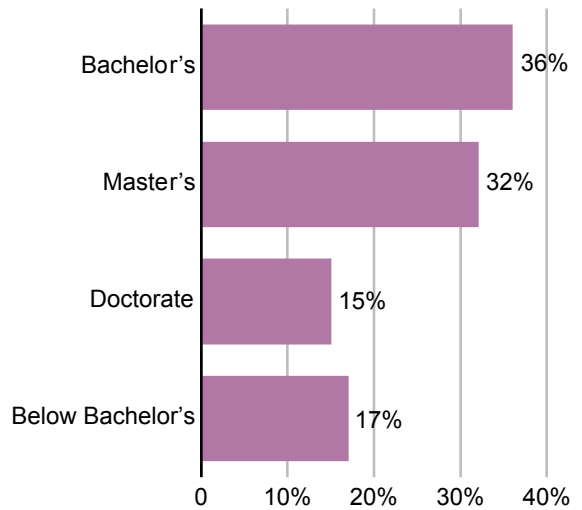
**EXHIBIT 1**

**China is currently the largest source of foreign students in the US, with more than 369,500 enrolled in American colleges and universities, almost half at the graduate level.**

**Number of College and University Students from China in the US, Academic Years 2008–09 to 2018–19**



**Level of Education Pursued by All Students from China in the US, 2016 Percentage**

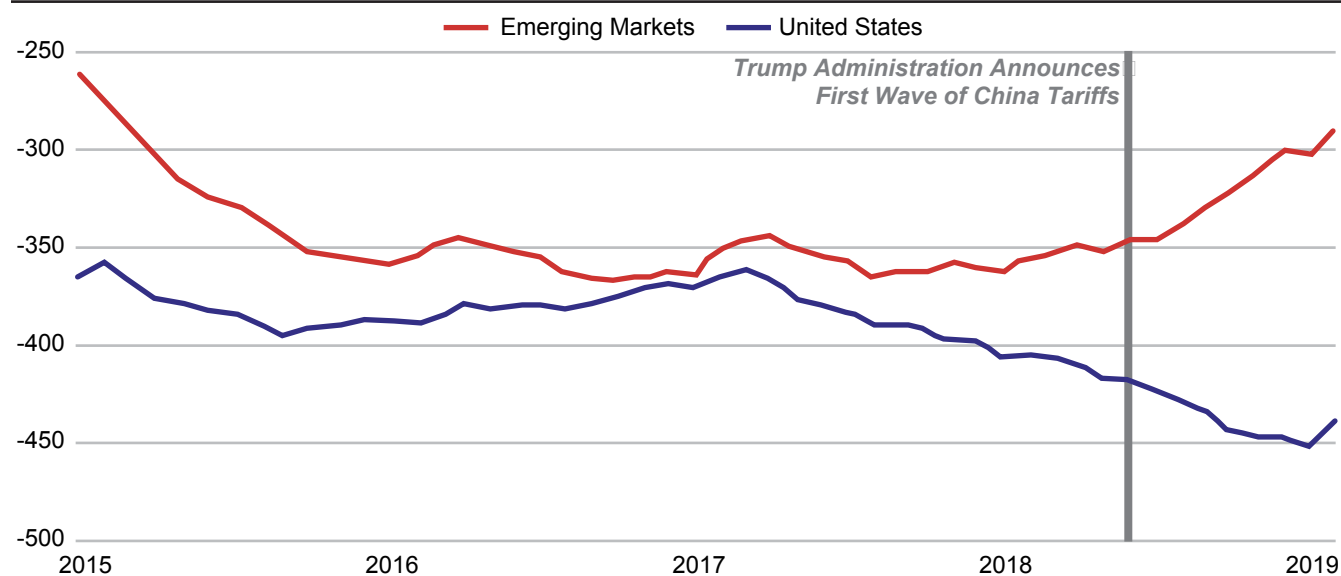


Source: Shu Han on Statista, Nov. 28, 2019 and Atlas Project reporting Department of Homeland Security July 2018 data on Quartz, Oct. 2, 2018  
 Visualization: Bay Area Council Economic Institute

## EXHIBIT 2

Although tariffs imposed by the US on Chinese exports were initially intended to reduce the US trade deficit, the deficit with China has actually increased.

Comparison of US and Emerging Markets Trade Balances With China, 2015–2019, US \$ billions



Source: Data from Haver Analytics and IMF analyzed by Council on Foreign Relations Geo-Geographics  
Visualization: Bay Area Council Economic Forum

## Economic Impacts

### Trade

The economies of both countries are being affected, with slower growth and greater uncertainty about the future of both trade and investment. These uncertainties are impacting the global economy as well.

The trade conflict with the US has lowered growth levels in China's already-slipping economy. GDP growth fell to 6.2% in the second quarter of 2019, the weakest pace in 27 years.<sup>19</sup> While trade is not the only reason for this decline, it is a substantial factor. Cooling continued through the summer, impacting nearly every aspect of the economy.<sup>20</sup> China's Purchasing Managers Index (PMI) stood at 49.3 in October, down from September, and the lowest since hitting 49.2 in February.<sup>21</sup> Estimates by the Federal Reserve Bank of San Francisco confirm that China's economy has seen an accelerated slowing over the past two years, though at a moderate level that does not suggest that growth is collapsing.<sup>22</sup>

Although tariffs imposed by the US on Chinese exports were initially intended to reduce the US trade deficit,

the deficit with China has actually increased (see the blue line in Exhibit 2), due both to retaliatory tariffs on US imports imposed by China and to stockpiling by US companies ahead of anticipated tariff increases. In contrast to the increasing US trade deficit with China, the trade deficits of other countries with China—from which they are now importing more—are decreasing, as indicated by the overall Emerging Markets trade balance with China (see the red line in Exhibit 2).<sup>23</sup>

Domestically, US manufacturers who incorporate Chinese parts and components into their products are seeing higher costs, some of which are being passed on to consumers. Many of those costs, however, have been absorbed by the manufacturers, impacting their bottom lines. In August 2019, the Institute for Supply Management's Purchasing Managers Index (PMI), a standard measure of US manufacturing activity, fell from 51.2 in July to 49.1, indicating a contraction in manufacturing activity. In September, the PMI fell further to 47.8, its lowest level since June 2009. While a number of factors contribute to the slowdown, according to Michael Fiore, the Institute's chairman, "trade remains the most significant issue, indicated by the strong contraction in new export orders."<sup>24</sup>

Consumers have also been impacted. Some of the cost of tariffs is being borne by Chinese manufacturers and exporters, who can turn to China's government for reimbursement. Most of the cost, however, is absorbed in the US. According to the American Apparel and Footwear Association, in 2017 42% of all apparel imported by the US was made in China; for footwear the number was 71%.<sup>25</sup> The Wall Street Journal estimated that roughly \$33 billion in apparel, shoes, and hats has been subject to a 15% tariff imposed on September 1, 2019, which the Phase 1 trade deal cuts to 7.5%. Retailers may attempt to minimize consumer impacts by absorbing some or all of the higher costs, but many operate on thin margins. Small apparel stores may find it necessary to raise prices sooner, in part because compared to larger chain stores, small retailers tend to import a larger share of their merchandise from China. Larger chains are better positioned to mitigate tariff impacts, and large apparel brands such as Gap can take steps to move their clothing manufacturing away from China.<sup>26</sup>

Agriculture has been particularly affected, as China's government has imposed retaliatory tariffs specifically targeting that sector. The Trump administration has promised to spend \$28 billion to partially compensate farmers who have been affected; about half of that aid was distributed by mid November 2019.<sup>27</sup> According to American Farm Bureau Federation (AFBF) comments in an August 2019 press release, China's announcement that month of a new round of tariffs on US farm imports "...only adds to the difficulties farm and ranch families are facing and takes the situation in the exact wrong direction. The US exported \$19.5 billion of agricultural products to China in 2017. Agricultural exports to China were reduced to \$9.1 billion in 2018 because of retaliatory tariffs and were already down in the first half of this year by a \$1.3 billion."<sup>28</sup> In September 2019, AFBF went on to say, "Farmers and ranchers are grateful for mitigation payments...For many, those payments are the single-most critical factor in their ability to stay in farming for a little while longer. But let's be clear: those payments do not make them whole..."<sup>29</sup>

Farm exports from California to China—principally tree nuts (almonds and pistachios), wine, dairy products, and oranges—have similarly fallen. In 2017, China/Hong Kong was the state's third largest agricultural market globally with \$2.27 billion in sales.<sup>30</sup> A US-China trade

tensions hearing called by two California Assembly committees heard testimony in July 2019 that since the imposition of steep tariffs earlier in the year, American wine exports to China had fallen by 25%, with 90% of the loss coming from California. It was also reported that the almond industry, which generates about 104,000 jobs in California, had seen a significant decrease of about one third in American almond exports to China:<sup>31</sup> most of the burden has fallen on counties in California's Central Valley.<sup>32</sup>

Altogether, the Federal Reserve Bank of New York estimated in mid 2019 that US tariffs already in place were costing \$830 per US household, a level that would rise by another \$200 or more if the additional tariffs originally targeted for December 15, 2019 were to be put in place.<sup>33</sup>

Not surprisingly, sales by US companies in China have fallen, with 37% of respondents to an annual survey by the US-China Business Council reporting that their China sales have suffered due to hesitancy by Chinese companies to do business with American firms—a seven-fold increase from the previous year.<sup>34</sup> A nationalistic backlash among Chinese consumers against American products and retaliatory purchasing policies by state-owned enterprises have contributed to the decline. Bay Area companies such as Cisco report a precipitous drop in business, particularly with state-owned enterprises. According to CEO Chuck Robbins, "...we're being uninvited to bid. We're not being allowed to even participate anymore."<sup>35</sup>

April 2019 data reported in July shows California's exports to China down 26.8% from April 2018.<sup>36</sup> Since the trade war began, China has dropped from being America's number one trading partner to number three, after Mexico and Canada. In the first half of 2019, US imports from China fell 12% and US exports to China fell 19%. This is a remarkable reversal following more than 30 years of growth.<sup>37</sup>

## Investment

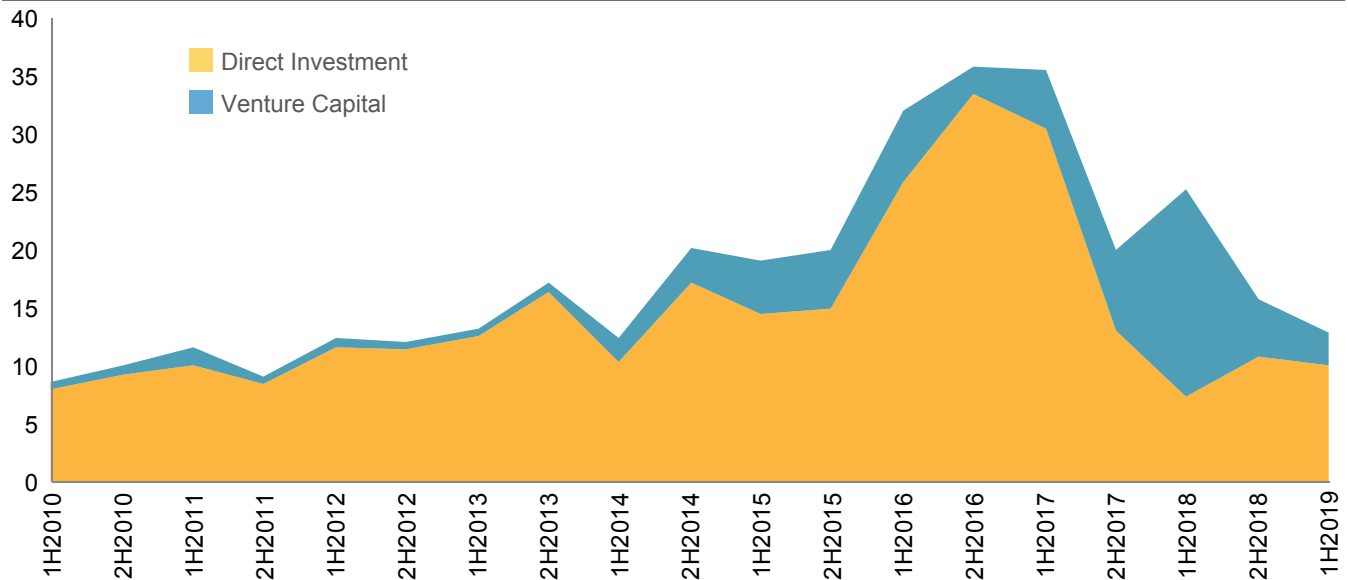
The impact of the US-China conflict can also be seen in bilateral investment flows. In the first half of 2019, the value of two-way foreign direct investment and venture capital flows between the two countries fell to \$13 billion, a decline of 18% compared to the previous six-month period and the lowest level since the first half of 2018.<sup>38</sup>



**EXHIBIT 3**

**The US-China conflict impact can also be seen in bilateral investment flows.**

**Completed Two-Way Direct and Venture Capital Investment Between the US and China, 2010–1H2019, US \$ billions**

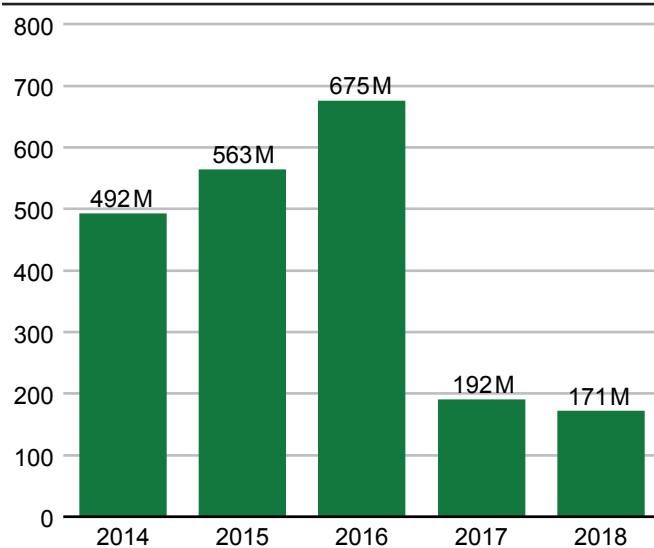


Source: Rhodium Group. FDI data represents the combined value of direct investment transactions by mainland Chinese companies in the US, including greenfield projects and acquisitions that result in significant ownership control (>10% of equity). VC data represents pro-rata value of investment from investors controlled by mainland Chinese or US general partners or companies. 1H 2019 data is preliminary only.

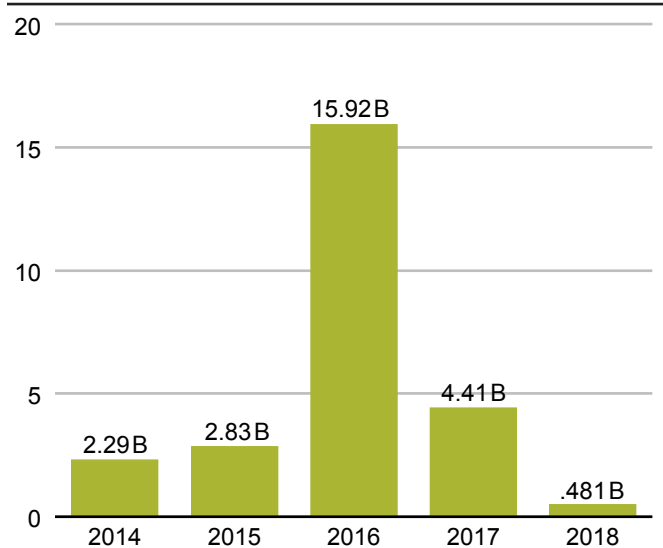
**EXHIBIT 4**

**Chinese investment in all industry sectors in California dropped significantly after peaking in 2016.**

**Chinese Greenfield Investment in California, 2014–2018**  
US \$ millions



**Chinese Acquisition Investment in California, 2014–2018**  
US \$ billions



Source: Rhodium Group US-China Investment Hub, accessed December 2019

Visualization: Bay Area Council Economic Institute

Note: Greenfield investments are those that do not involve the acquisition of an equity interest in a US company.

Much of this drop is attributable to the Chinese government's efforts to force highly leveraged Chinese companies to clean up their balance sheets by unwinding deals and limiting risky investments overseas,<sup>39</sup> and to restrain what had been a large draw-down on the nation's foreign exchange reserves as investment flowed outward. Those measures, which particularly affected large real estate investments and non-technology acquisitions, were not linked to the trade dispute. But the uncertainty generated by the new scrutiny being given to Chinese investment by CFIUS has become a factor and will be more so in the future.

### Student and Scientific Exchanges

Chinese students are continuing to come to the US, but the perception of the US as a welcoming environment is falling. Students and visiting scholars are now subject to long wait times in China as their applications are reviewed, with many denied entry. Universities and other research organizations are scrambling to adjust to the new political environment. One area of concern relates to Chinese scientists who simultaneously with their research in the United States support labs or conduct research in China without disclosing the relationship. A related concept is the Thousand Talents program, which encourages Chinese technologists residing abroad—and mid-career Chinese nationals working at technology companies overseas in particular—to repatriate their knowledge. Federal agencies that fund scientific research have recently clarified their policies to require that scientists disclose all sources of foreign support. In June 2019, for example, the Department of Energy issued a directive prohibiting its employees and most contractor personnel from participating in talent recruitment programs operated by rival nations.<sup>40</sup> It has yet to be proven, however, that the parallel relationships in question have resulted in verifiable cases of IP theft or export control violations.<sup>41</sup>

“Breaches of research ethics...include the failure to disclose required information such as foreign funding, unapproved parallel foreign laboratories (so-called Shadow labs), affiliations and appointments, and conflicting financial interests. Other inappropriate behaviors include conducting undisclosed research for foreign governments

or companies on United States agency time or with United States agency funding, diversion of intellectual property or other legal rights, and breaches of contract and confidentiality in or surreptitious gaming of the peer-review process. Ultimately, these inappropriate behaviors, whether or not they arise through participation in a foreign talent program, interfere with the allocation of Federal funding in a fair manner based on merit.”

—Kelvin Droegemeier, Director, White House Office of Science and Technology Policy, September 16, 2019<sup>42</sup>

US policy in this field is still being developed. In its November 2019 Report to Congress, the US-China Economic and Security Review Commission recommended that “Congress direct the US Department of Justice to reestablish a higher education advisory board under the Federal Bureau of Investigation.... the higher education advisory board would convene semiannual meetings between university representatives and relevant federal agencies to review the adequacy of protections for sensitive technologies and research, identify patterns and early warning signs in academic espionage, assess training needs for university faculty and staff to comply with export controls and prevent unauthorized transfer of information, and share other areas of concern in protecting national security interests related to academic research.”<sup>43</sup>

Chinese programs on US university campuses are also attracting federal attention. In the face of concern that Confucius Institutes<sup>44</sup> may be used by the Chinese government to control Chinese students or influence American students to support Chinese government policies, some at US universities—including Stanford, UC Berkeley, and San Francisco State, have been closed. In the San Francisco State case, the Department of Defense warned that unless the institute was closed, funding would be pulled for the university's Chinese Flagship Program, a five-year DOD-funded language and cultural training course designed to prepare Mandarin-fluent students for careers in national security or other government work. A Department of Defense statement affirms that “no Department funds will be used to support a Chinese language program at an institute of higher education that hosts a Confucius Institute.”<sup>45</sup>

## Systemic Costs and Risks

A failure to resolve the current issues has at least two broader costs for the US and global economies. One is that by unthreading supply chains and inducing companies to leave China or to redistribute their facilities, inefficiencies may be introduced into global production processes as companies add capital costs, distribute production across more locations, and manage regulatory issues in more countries.

“After 30 years of globalization, we now face the very real prospect that an economic iron curtain may descend.”

—Henry Paulson, former US Secretary of the Treasury<sup>46</sup>

### Born in China: The Zoom Story

Zoom Video CEO Eric Yuan emigrated to the Bay Area from China in 1997 after repeated attempts to gain a visa. Yuan learned English on the job working at WebEx, becoming its head of engineering before the company was acquired by Cisco in 2007. After several years at Cisco he believed that he could improve on existing video conferencing products, which led to the creation of Zoom Video Communications, an April 2019 IPO, and a current valuation of the company at nearly \$16 billion. (In 2018, Yuan was named Glassdoor’s Employee’s Choice Award #1 CEO.) Approximately 500 of Zoom’s 1,700 employees are currently engaged in R&D in China. The IPO’s prospectus noted, “If we had to relocate our product development team from China to another jurisdiction, we could experience, among other things, higher operating expenses, which would adversely impact our operating margins and harm our business. We would need to spend considerable time and effort recruiting a new product development team, which would distract management and adversely impact our ability to continue improving our platform’s features and functionality.”\* Ironically, Zoom, founded in the Bay Area by a Chinese immigrant and having just gone through one of 2019’s most successful IPOs, is banned in China.

\*Cromwell Schubarth, “Zoom Video’s \$16B idea was born in founder’s student days in native China,” *Silicon Valley Business Journal*, April 22, 2019

Innovation may also be impacted. China today is a source of innovation, building on a strong base of R&D, STEM talent, entrepreneurs, infrastructure, and scalable, fast-growing markets.<sup>47</sup> Efforts by either the US or China to separate their technological systems will reduce innovation in both. In the Bay Area in particular, reduced collaboration with Chinese scientists, researchers, investors, and students—who contribute to Silicon Valley’s diverse innovation ecosystem—may impact the region’s innovation base, which has long relied on talent from China and other countries. Reduced venture capital flows in both directions, though not critical to the region’s innovation ecosystem or the overall availability of capital, will have similar impacts.

The picture is further complicated by US policies targeting Chinese technology companies on various grounds. The exclusion of Huawei from the United States telecom market, which began at US government urging with regard to major carriers, has recently been extended to smaller, rural carriers. Since 2018, the US government and US government contractors have been prohibited from using Huawei equipment. A November 2019 ruling by the FCC also barred rural telecom carriers from using federal subsidies to buy Huawei gear. The same decision proposed requiring companies that receive federal subsidies to take out any equipment from Huawei or ZTE that they already had in place.<sup>48</sup> On a separate front, the current prohibition (with approved exceptions) of US technology sales to Huawei was originally presented as a national security issue but has become increasingly intertwined with the larger trade dispute.

Separately in October 2019, the Trump administration announced that eight additional leading Chinese AI and video surveillance companies would also be banned from doing business with US companies without being granted a US government license, due to their purported role in the suppression of the Uighur minority group in China’s far-western region of Xinjiang—the first time human rights have been cited as a reason to blacklist Chinese companies.<sup>49</sup> These moves are likely to accelerate China’s focus on reducing its dependence on imported technology and further divide the US and Chinese technological systems.

Huawei’s latest phone, the Mate 30 unveiled in September 2019, reportedly contains no parts from US suppliers. Where in the past Huawei purchased chips

from a range of US suppliers (including San Jose-based Broadcom), in the newest product, chips from Dutch chipmaker NXP Semiconductors were substituted for chips from Cirrus Logic, and other US-sourced chips (produced by Cirrus Logic and ON Semiconductor) were replaced by chips produced by MediaTek (Taiwan), Murata (Japan), and Huawei's in-house design unit HiSilicon. According to a Huawei spokesman, it is the company's "clear preference to continue to integrate and buy components from US supply partners. If that proves impossible because of the decisions of the US government, we will have no choice but to find alternative supply from non-US sources."<sup>50</sup> Reflecting on what may now become a trend, Hu Yu, rotating chairman of voice recognition firm iFlyTek, one of the banned companies, noted in an interview, "We used to be so comfortable using American supplies...now we will be speeding up to be more self-dependent."<sup>51</sup>

## A Phase 1 Deal

On December 13, 2019, the Trump administration announced a Phase 1 trade agreement, described by the president as "an amazing deal for all,"<sup>52</sup> that would resolve some of the issues on the table but leave others to be addressed through further negotiation.

As announced, that deal would involve "massive" purchases by China of US agricultural and other products. (Earlier reports suggested that China would "aim" to buy \$20 billion of agricultural products in the first year, and that such purchases "could" rise as high as \$40–50 billion.) The announcement by the US Trade Representative also indicated that the deal includes "meaningful, fully-enforceable structural reforms" in fields spanning intellectual property, technology transfer, financial services, and currency and foreign exchange." The existing 25% US tariffs on \$250 billion in Chinese goods will remain in place, along with 7.5% tariffs (reduced from an initial 15%) on approximately \$120 billion of other Chinese goods. (The deal withdraws additional tariffs that were set to be imposed on December 15, 2019.)<sup>53</sup>

Until more detail is available, it is unclear whether what has been accomplished in the Phase 1 deal is meaningful. US farmers are likely to remain net losers from the trade war. Benn Steil and Benjamin Della Rocca at the Council on Foreign Relations estimate that if there had been no

trade war and US farm exports had continued to grow at the same rate as they have since 2010, China's 2020 purchases would have exceeded \$27 billion, or \$7 billion more than the deal is expected to cover. There is no basis to believe that China's imports would reach anywhere close to the higher figures of \$40–50 billion.<sup>54</sup> Nor would the deal's terms represent a substantial negotiating accomplishment for the US, as essentially the same terms on agriculture had been offered by China in the spring of 2019 or earlier, since which time substantial economic damage has been inflicted on the US economy.<sup>55</sup> Liberalization of China's financial services market had been announced earlier as well.

The most difficult and important issues—China's policies regarding market competition, investment, and technology transfer—remain unresolved. The prognosis, therefore, is for extended negotiations, continued high tariffs, and continued conflict at a systemic level. Though overall tensions will be diminished by the partial deal—a welcome development for investors and consumers—absent a Phase 2 deal, meaningful improvement in the long-term trade and investment environment is uncertain, and the question can be fairly asked whether the cost of the trade war will have justified its limited gains.

## Navigating the New Landscape

### Trade

Until there is a full-faceted solution to the US-China trade dispute, businesses can expect higher tariffs and their associated costs to be continuing facts of life. Supply chains will be particularly impacted. While not leaving China altogether, some US companies are localizing their operations in order to avoid border conflicts. Others are shifting manufacturing to other countries in order to avoid the line of fire between the two governments. AmCham Shanghai (American Chamber of Commerce in Shanghai) reports that more than a quarter (26.5%) of the 333 respondents to its annual survey indicated that they have redirected investment away from China over the past year, a 6.9% increase over 2018. Technology, hardware, software, and services companies and industrial manufacturing companies led the shift. According to the Chamber, "The causes are manifold, but include a need to guard supply chains from any further deterioration in US-China trade relations and

attendant tariffs; a Chinese regulatory environment that still favors domestic companies; and growing labor and material costs in China.”<sup>56</sup>

A quick redistribution of supply chains will be difficult, however, given the extraordinarily deep supplier networks available in Shenzhen and other places in China, which cannot easily be replicated elsewhere. Production that is intended for markets in China and is not destined for the US (and is therefore not subject to US tariffs) is likely to stay in China. Vietnam and other countries in Southeast Asia, as well as Mexico, will be the most likely beneficiaries of investment that is diverted.

Long-term US technology exports to China may be affected, as US restrictions on China’s access to technology—for example, the 2018 ban on US companies doing business with telecom company ZTE (for breaking sanctions on Iran and North Korea)<sup>57</sup> and the limits placed on telecom company Huawei’s access to US semiconductors or technology such as Google’s Android system<sup>58</sup>—will accelerate the Chinese government’s efforts to reduce its reliance on imported technologies. Restrictions imposed in October 2019—on IP theft and national security grounds—on the export of US technology to Chinese state-backed semiconductor company Fujian Jinhua add to this pressure.<sup>59</sup>

Technology decoupling can be seen on the Chinese side in a 2018 government policy, reported by the Financial Times and The Wall Street Journal, that requires Chinese government agencies and critical infrastructure providers to allocate a growing ratio of their IT purchases to domestic suppliers. According to the directive, 30% of those contracts in 2019 must be with Chinese companies, a level growing to 80% in 2020 and 100% in 2021. By one estimate, up to 30 million units of domestic computers and equipment could be substituted for imports.<sup>60</sup>

Chinese consumers may rally behind domestic products. This can already be seen in booming sales of Huawei phones in China, as consumers and companies shift their buying preferences to support a threatened national brand at the expense of foreign brands such as Apple or Samsung.<sup>61</sup> Huawei’s revenues reportedly grew at a faster pace in the third quarter of 2019 than in the first half. Global smartphone shipments rose 26% to 185 million units in the year’s first nine months,<sup>62</sup> with third

quarter 66% year-on-year growth in domestic shipments to 41.5 million units.<sup>63</sup> In advance of Singles Day, China’s largest online shopping day that now exceeds Black Friday in the US in sales volume, 78% of consumers polled said they would avoid buying American brands, opting instead for Chinese products. More than half cited “patriotism” as the main reason.<sup>64</sup>

Another unknown for US technology companies is the possible creation by China of an “unreliable entities list” of foreign companies, which China is considering in response to the US “entities” list announced in August 2019 by the Trump Administration (Executive Order 13873). That order bars suspect foreign companies such as Huawei from supplying technology in the US without a government license. While the details of China’s list have yet to be announced, reported criteria for inclusion include discriminatory action taken against Chinese companies, such as boycotting or cutting off supplies, and whether those actions were taken for non-commercial purposes. It is unclear at this point whether the need to comply with US law would be accepted as a justifiable cause for such actions.<sup>65</sup>

Despite these uncertainties, China remains a major market for US and Bay Area businesses that continues to offer attractive opportunities. In the midst of the trade dispute in September 2019, the People’s Bank of China approved PayPal’s acquisition of a 70% stake in Chinese payment company Guofubao Information Technology, making PayPal the first foreign payment platform to enter the Chinese market.<sup>66</sup> Separately, in November 2019, it was announced that Chinese payments giants AliPay and WeChat Pay will open their platforms (which account for 94% of the country’s mobile payments market) to foreigners. Under the new arrangement, users who in the past needed local bank accounts to use these systems, will be able to use either pre-paid cards or credit cards for transactions. Tencent, working under guidelines from regulators, is discussing cooperation with US card network operators Visa, MasterCard, American Express, and Discover to support linking their credit cards to WeChat Pay. A statement from Visa comments, “This partnership means that we’ll be working towards an environment where Visa cardholders will be able to use their Visa card in China at the millions of places where WeChat Pay is accepted, instead of having to rely on cash.”<sup>67</sup>



And despite current tensions and some US investment shifting out of China, the AmCham China (American Chamber of Commerce in the People's Republic of China) 2019 China Business Climate Survey Report<sup>68</sup> suggests a business environment that's positive overall:

- a trend since 2015 of growing revenues, with most US companies (69%) being profitable;
- service companies reporting the largest increase in revenue;
- 80% of member companies expecting positive industry growth;
- China remaining a top priority for near-term global investment plans across all sectors;
- optimism among members that China's investment will continue to improve; and
- consumer and technology companies placing increased priority on investment in China.

In the same survey, bilateral tensions were considered the top challenge for businesses in China regardless of sector, with other top issues being "inconsistent regulatory interpretation and unclear laws and enforcement," "insufficient protection of IPR," and the "increased restrictiveness of cybersecurity-related policies." One-third of the respondents (and one-half of technology companies), reported that they limit investment in China due to IP protection concerns and would be willing to increase investment if they were required to transfer less technology and their IP was better protected. A majority remain optimistic that China will continue to open its markets, and believe that positive bilateral relations are an important foundation to the success of US companies in China.<sup>69</sup>

## Investment

CFIUS retains the option to intervene in any transaction that has not explicitly been cleared, even if that transaction occurred in the past. This was made clear in a 2019 decision to require the Kunlun Group to divest its ownership of online dating app Grindr, whose purchase had been completed in January 2018. As a result, investors will need to carefully consider whether to report a proposed transaction even if CFIUS criteria seem not to be in play. It is also clear that transactions that provide a Chinese company with access to personally identifiable information (PII) will be subject to particular scrutiny. This

was seen in both the Grindr case and in a second 2019 intervention where, based on data privacy concerns, CFIUS will require the Chinese company iCarbonX to divest its stake in PatientsLikeMe, an online service that links individuals with similar health issues in an effort to improve disease detection and treatment.<sup>70</sup>

Earlier transactions that were either de facto blocked or modified by CFIUS have included the December 2017 proposed purchase of MoneyGram International by Ant Financial and the 2018 purchase of Genworth Financial by China Oceanwide, both of which involved access to PII. In the China Oceanwide-Genworth case, Genworth was required to mitigate that access by using a third-party service provider to manage and protect the personal data of Genworth's US policyholders.<sup>71</sup>

The Rhodium Group estimates that Chinese investors abandoned deals worth more than \$2.5 billion in 2018 due to unresolved CFIUS concerns.<sup>72</sup>

In September 2019, the Treasury Department provided an early look at the regulations that will formally implement CFIUS in the future, starting with the kinds of sensitive data that could trigger a national security review. The scope of review in the proposed rules will be limited to investment in companies with data on more than one million people, or on populations that include US military members. Sensitive data that could trigger a review includes bank account statements, mental health data, details commonly required for mortgage applications, geo-location information, and financial data that would indicate that someone is experiencing financial hardship. The reach of the proposed regulation stops short of including retailers or other businesses that collect credit card information from consumers.<sup>73</sup>

Bay Area sectors that could be affected by the new restrictions include self-driving and electric vehicles where Sino-US companies are connected through investment and R&D in both Silicon Valley and China. As an example, Plus.ai, a self-driving software developer, partners with Chinese truck maker FAW Group. With activity based in Beijing and Suzhou as well as San Francisco, its business model would be directly affected by controls on the export of US-developed AI technology. As described by founder and CEO David Liu, "Our company would be split in half."<sup>74</sup>

Venture capital flows are different from FDI, but will also be impacted. In 2018, US-China two-way venture capital flows totaled \$22 billion, surpassing FDI for the first time. US VCs invested a record \$19 billion in Chinese startups—roughly double the previous record of \$9.4 billion in 2017 and five times the flow of Chinese venture investment to the US. Some American investors in Chinese companies took minority stakes in order to gain exposure in sectors where FDI is restricted.<sup>75</sup>

At a much smaller level, Chinese venture investment in the US peaked in the first half of 2018 with Chinese investors contributing an estimated \$2.2 billion across more than 170 transactions, fell somewhat in the second half of 2018, then during the first half of 2019 saw estimated declines of between 15% and 30% in most of the top historical sectors (Health, Pharmaceuticals & Biotech, ICT, Consumer Products & Services, Financial & Business Services, and Entertainment, Media & Education).<sup>76</sup> Several factors explain the drop: the cooling US market for “super-unicorns” that once attracted active Chinese investment, a weaker venture climate inside China, and the impacts of the trade war.

The anticipated publication of implementing regulations for FIRRMA and the Export Control Reform Act (ECRA) will add more specificity to the government’s oversight of investment in emerging technologies and will significantly impact venture investment from China in the technologies that are affected. Greater clarity around the new rules may help to increase venture flows by reducing uncertainty. A more likely scenario is that the extent of CFIUS review will restrain venture flows even further. A 2018 report for the Defense Department’s Silicon Valley-based innovation office Defense Innovation Unit (DIU) specifically flagged Chinese venture firms as a source of concern,<sup>77</sup> and the FBI has placed a team of analysts and agents in San Francisco to work with companies on security risks.<sup>78</sup>

As the environment shifts, fundraising by Bay Area VCs that involves Chinese investors will become more complex. At the receiving end, some Bay Area startups may be reluctant to accept Chinese funding due to concern that Chinese equity may impair their ability to do future business with the US government. Symptomatic of this shift, Sinovation Ventures, the investment firm founded by former Google executive

and AI expert Kai-Fu Lee, has closed its Palo Alto office and ceased investing in the US; Sinovation had previously made 46 US investments. The venture arm of Alibaba, also once active in Silicon Valley, is reported to be shifting the focus of its investments away from the US. Chinese conglomerate Fosun International is avoiding investments in potentially sensitive industries, while other investors are changing the structure of their US deals to avoid CFIUS review.<sup>79</sup>

This new environment will also influence decisions by Bay Area VC funds, as they review relationships with Chinese partners and consider how opportunities for portfolio companies in China may be affected. Ashu Garg, general partner at Foundation Capital, comments that “With many of our artificial intelligence companies, we’re making the assumption that China may never be a market because of the regulatory constraints around, in China. Frankly, given the way the Chinese government thinks about personal data, I think we would be hesitant to collect the kind of data that we might like to in the US, just given the risks to our overall business.”<sup>80</sup>

Despite the new hurdles raised by CFIUS and FIRRMA, the door to investment is not closed, and investors are finding ways to go forward under the emerging rules.

US national security concerns are not categorically incompatible with Chinese acquisitions. Through 2018, more than half of US-China deals reviewed by CFIUS were still being approved, particularly when carefully presented. (During the Obama Administration, more than 90% of US-China deals were clearing CFIUS; as of late 2018, 60% had been approved under the Trump Administration.)<sup>81</sup>

US and Chinese parties to a transaction will need to determine whether or not a filing with CIFIUS is mandatory under FIRRMA’s October 2018 pilot program covering investment in a business involving “critical technology”—while recognizing that without specific clearance, CIFIUS retains the right to intervene. This, of course, still entails risk and effort on the investor’s part, and the process in itself may discourage an investment before the case is ever formally brought to CFIUS. But where investors are willing to prepare their cases carefully, and where the concerns that CFIUS was created to address aren’t triggered, transactions can go forward.

CFIUS is continuing to clear even large deals where agreements are put in place “to segregate sensitive data and agree to protections against leakage” or use other forms of “third party mitigation” that create distance between the foreign investor and sensitive technologies.<sup>82</sup> Baidu Ventures, for example, has altered the structure of some of its investments to avoid CFIUS scrutiny. When Baidu considers an acquisition, it may now recruit another investor to lead the deal and sign over to them the voting rights, while not taking a board seat or asking to see company information.<sup>83</sup> Chinese investment capital can also be deployed through US-controlled funds.

Finally, CFIUS does not apply to greenfield investments (investments in the United States that do not involve the acquisition of an equity interest in a US company). This means an investor does not need CFIUS approval to establish a US subsidiary, license technology, or build a business. Nor does CFIUS apply to joint ventures outside the US, and the expansion of its jurisdiction does not extend beyond national security to include broader economic issues.<sup>84</sup> This suggests that Chinese investment in different sectors will be variably impacted. Thus, while Chinese investment in ICT in the US fell sharply in 2018, and inbound investment in health and biotech dropped somewhat in the first half of 2019, both remain among the top sectors for Chinese investors. In China, US government concerns with technology leakage may impact outbound US investment in ICT or other technologies. However, recent market openings in the financial services and automotive sectors may attract new US investors.<sup>85</sup>

## Student and Scientific Exchanges

Recognizing that national security concerns must be addressed, care must be taken not to paint all Chinese students with a broad brush—a growing concern in the Chinese American community. While abuses have been reported, their number appears to be limited, and university administrators interviewed for this report believe that the activity of the great majority of visiting Chinese students and scientists does not raise concern. Nonetheless, universities will need to assume a more active role in establishing, clarifying, and enforcing rules and standards surrounding IP protection, the activity of foreign students, and the conditions under which research faculty should accept foreign funding. To the maximum

extent possible, however, the door must stay open to international students, including those from China.

Universities in California and throughout the US are grappling with this issue. In early 2018 for example, the Office of the President of the University of California (UCOP) convened two teams in response to concerns that had been raised regarding China with respect to sponsored research and research collaboration. Their findings were circulated in 2019 to the system’s ten campuses, with the decision left to each campus as to how to operationalize the recommendations. Berkeley, for example, is evaluating where it may currently lack policies that need to be created, as well as where existing policies and procedures should be clarified or strengthened.<sup>86</sup>

More than a third of US STEM PhD recipients are temporary visa holders coming from other countries,<sup>87</sup> with a high percentage coming from China. Of the doctoral candidates, 93% were enrolled in programs focused on science and engineering, accounting for 16% of all US STEM PhD recipients.<sup>88</sup> Their presence in the graduate departments of US universities supports the viability of those programs in the absence of larger numbers of US applicants. While in the past, large numbers of Chinese students have chosen to stay and work in the United States following graduation, in recent years more have chosen to return home. Increased opportunity in China has played a role but so have more restrictive US employment and immigration policies. In a 2018 survey conducted by Indiana’s Purdue university, 42% of Chinese international students said their impressions of the US had become more negative since they arrived—up from 29% who said the same thing in the previous survey in 2016.<sup>89</sup>

The presence of Chinese graduate students is one part of a deep interweaving of the US and Chinese research communities. According to the National Science Board’s Science and Engineering Indicators 2018, more than 46% of China’s internationally coauthored scientific publications had an American coauthor, and almost 23% of US internationally coauthored scientific publications had a Chinese coauthor. This is the highest level of US scientific cooperation with any country<sup>90</sup> and reflects the quality of universities and research programs in both countries and the importance of science and engineering to China’s innovation goals.<sup>91</sup>

Chinese and other foreign students typically pay full tuition at the universities where they are enrolled, constituting an important source of income. No less significantly, they participate in a wide range of research at US universities in STEM and other fields, which have benefited from their skills and expertise, and many have remained to found companies that contribute to the economy and support American jobs. Other Chinese immigrants have come not as students but to work for US companies and are now leaders in the economy. If Chinese students and other Chinese immigrants feel unwelcome, are unable to visit home due to visa restrictions, or believe that the opportunity to remain in the US in the long term is foreclosed, their skills may either remain in China or will be redirected to more welcoming countries such as the UK, Australia, or Canada. A 2019 survey of more than 60 US physics departments that graduate at least ten PhDs per year found that outside the top tier, international applications have suffered an average two-year decline of 22%. Those institutions generate more than 70% of all physics PhDs granted in the United States. In another survey of 700 international graduate students in physics, including those who came to the US and those who decided not to, 32% responded with the perception that the US is “unwelcoming to foreigners” as a reason for not applying.<sup>92</sup>

The number of inbound Chinese students at US institutions of higher learning has remained high for 10 years,<sup>93</sup> increasing between the 2017–2018 and 2018–2019 academic years by 0.2% for undergraduate students and 2.0% for graduate students.<sup>94</sup> Berkeley has experienced few immigration-related issues to date, with intake of Chinese students comparable to past years. This suggests that for now—and despite worsening perceptions of the US and warnings to students from China’s government—for most Chinese students the US remains an attractive destination and they are continuing to be accommodated by their host institutions.

## The Way Forward

After forty years of growth and deepening exchanges, US-China economic cooperation is at risk of going in reverse. Due to the depth of connection between the Bay Area and China, this region would be particularly affected.

While the conflict between China and the United States reflects major systemic differences, they are not irreconcilable. To the contrary, for several decades trade and investment in both directions has grown, and the US and China have cooperated on a range of global issues. The present US-China impasse is the product of policy choices made by both governments, and it is within their powers both to stabilize the relationship and to place it on a new footing.

### Trade

On the trade front, dialogue can be improved and differences narrowed through a clearer understanding around how trade and its benefits are measured. Currently, the two sides use different methods. China’s Ministry of Commerce estimates China’s bilateral goods surplus in 2018 at \$323.33 billion, with a Chinese deficit of \$48.05 billion in services. US data shows a \$419.16 billion US goods deficit and a \$40.53 billion US services surplus. The discrepancies are largely accounted for by different methods of calculation for intermediate goods (supply chain) processing and for services. It has been estimated that differences in the measurement of intermediate goods trade (where component parts are imported by China from the US, processed or assembled, then exported to the US as final products) may account for as much as \$100 billion of the gap between US and Chinese data.<sup>95</sup> Bay Area Council Economic Institute reports on US-China trade have frequently pointed to this discrepancy, where a product exported from China is assigned its full value in US trade data, while only part of its value is created there; the share of domestic content in China’s exports has been rising in recent years but still accounts for significantly less than 100% of the real value of most exported goods. Mutual agreement on how to better measure trade can help to narrow the issues being negotiated.

For the US, the further laying on of tariffs to extract negotiating concessions is problematic. In addition to raising economic costs, this approach will likely feed nationalism and undermine reformers inside China who may agree with the US on many issues but risk being caught in a political backlash. In the meantime, the Department of Commerce should encourage and assist US companies to participate in the China International

Import Exposition (CIIE), an annual event focused on increasing China’s imports that was inaugurated in Shanghai in 2018. While many US companies are present (the Bay Area Council organized California pavilions at the first two CIIEs, where in 2019 20 companies exhibited), until now the US government has chosen not to participate. China’s growing market continues to offer opportunities, particularly in fields relating to climate, cleantech, and quality of life (health care, clean water, and food safety).

At the global level, the US should more aggressively pursue multilateral strategies with friends and allies to address common trade disputes with China. To support more open trade and investment more generally, including key principles regarding IP protection, data location, and the cross-border movement of data in the Asia-Pacific region, the US should also join the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), the successor agreement to the Trans-Pacific Partnership (TPP), which the US withdrew

from in 2016, but which has been adopted by the remaining ten signatories.

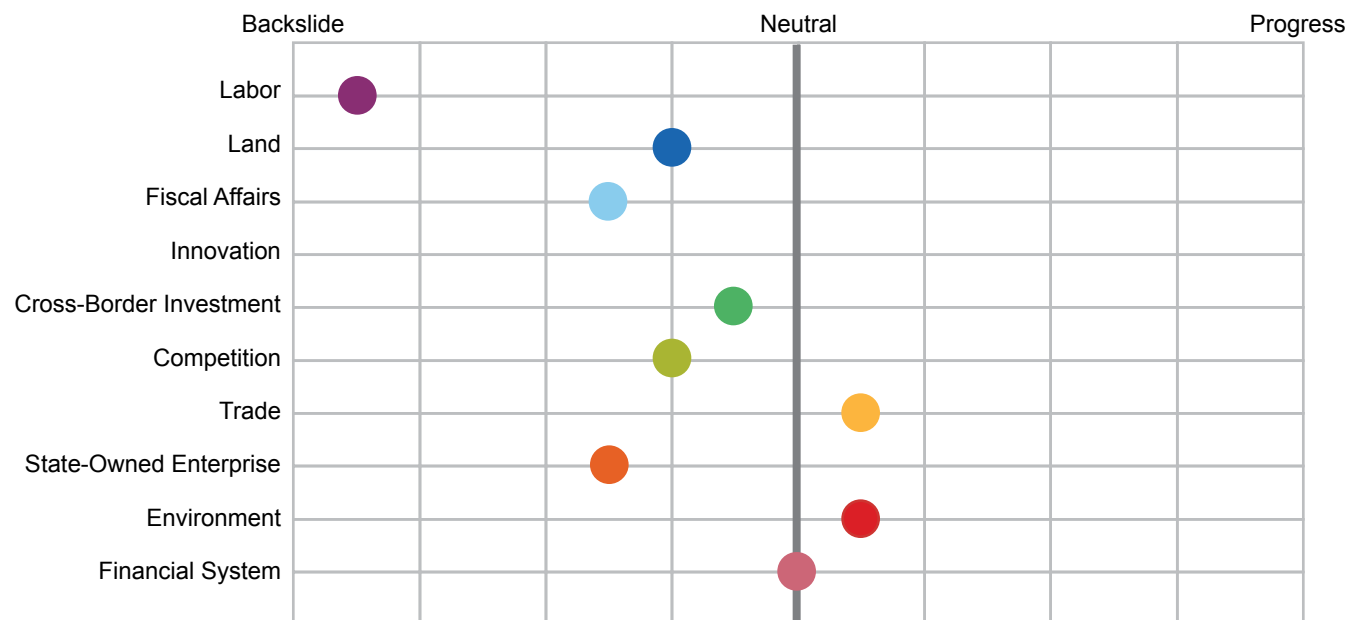
### Reform in China

The recent assertion of a more centralized role by China’s government in directing its economy and the increased support given to state-owned enterprises stands in conflict with assurances that China’s economy will be more market-led. The China Dashboard, a joint project of the Asia Society Policy Institute and the Rhodium Group, periodically measures progress on reform against President Xi Jinping’s inaugural economic plan announced at the 2013 Third Plenum, which promised a decisive role for markets. In its Spring 2019 assessment, the Dashboard finds backsliding across a range of measures (see Exhibit 5). Of the indicators that are not showing progress, Cross-Border Investment is the closest to beginning a move toward improvement and may begin to show progress after the favorable changes of China’s new Foreign Investment Law take effect on January 1, 2020 (see next page).

#### EXHIBIT 5

### The China Dashboard indicators suggest that many reform objectives have gotten bogged down or even reversed in recent years.

China Dashboard Reform Progress Indicators, Spring 2019



Source: Asia Society Policy Institute and the Rhodium Group



The report's bottom line: "China's leaders insist that nothing about its 'reform and opening' policy has changed in recent years. But the China Dashboard indicators we evaluated to track policy directions suggest that many reform objectives have gotten bogged down or even reversed in recent years. Today's reform challenges are increasingly difficult and structural. As China's economy grows more powerful and competitive globally, it must increasingly converge with the levels of economic openness of other advanced economies. That has simply not been happening."<sup>96</sup>

To address these concerns, China's government can accelerate market reform by opening its economy more fully to foreign investment in currently closed sectors and by eliminating restrictions on majority ownership across a broader range of industries. These adjustments can be made without China undermining its competitiveness and without fundamentally asking China to change its economic system. China's economy is large enough and strong enough that extensive restrictions on investment, the closing of key sectors to foreign participation, or measures to involuntarily extract technology from foreign companies—if ever justified—shouldn't be needed. To the contrary, increased competition in sectors such as banking can improve service and stimulate domestic companies to be more competitive.

## Foreign Investment and IP Protection

Important improvements have recently been made to China's regulatory environment that may lessen the concerns of overseas companies regarding forced technology transfer. China's new Foreign Investment Law and Administrative Licensing Law now mandate that technology transfer cannot be made a condition of foreign investment approval and that trade secrets should not be required to be disclosed as part of the investment review process. Changes to regulations governing joint ventures have removed provisions that required ownership by Chinese joint ventures of technology licensed to the joint venture by a foreigner after a ten-year period. And more sectors of the economy have been opened to majority or 100% foreign ownership. Articles 4 and 28 of the Foreign Investment Law state in effect that foreign investors and

their investments will be treated with no less favorable terms than those granted to domestic investors and their investments at the same "stage of investment access." National treatment in market access will be given to foreign investment in sectors not included on a "negative list" where stipulated conditions must be met. Article 15 stipulates that Foreign Invested Enterprises (FIEs) can participate equally with domestic enterprises in the setting of standards. Article 16 suggests that FIEs will be able to participate on an equal basis with domestic firms in government procurements. Article 22 states that government departments and personnel are forbidden to force the transfer of technology by administrative means.<sup>97</sup>

Another recent change is the amendment of China's Technology Import-Export Regulations (TIER) that, among other things, remove the provision that Chinese licensees have a non-negotiable right to improvements they create to any transferred technology. Failure to comply with this and other provisions has until now been regarded as "monopolization of technology" under China's Contract Law, regardless of its actual impact on competition. The US implicitly recognized these positive developments in 2018 by suspending a dispute claim at the WTO that was linked to earlier technology transfer provisions under these laws.<sup>98</sup>

The movement indicated by these changes to Chinese law should be recognized by the US as a step forward. Draft implementing regulations for the Foreign Investment Law released in November 2019 can be seen as accelerating market opening and leveling the playing field for domestic and foreign firms.<sup>99</sup> Some observers remain concerned that the new provisions fall short in detail and could be circumvented through administrative procedures. The question now for China's government and US business is how these new laws will be applied in practice. Clear implementing rules and their transparent administration will be necessary.

On the IP front, significant advances have also been made in China's legal system for IP protection. Inside China, the number of companies that would benefit from stronger IP protection has increased, producing a growing domestic constituency for faster progress. Governmentally, IP protection is increasingly linked to the goal of supporting innovation. China has established

a modern IP system over the past 40 years and has continued to improve it. As that system has matured, the number of dedicated courts with IP judges has increased, the volume of IP cases filed has grown,<sup>100</sup> the win rate in patent infringement cases is growing, and the level of damages awarded has also grown. While most cases are brought by Chinese companies, foreign companies have brought suit. In a recent survey by the US-China Business Council, nearly 60% of US companies surveyed in 2019 reported improved intellectual property protection in China.<sup>101</sup> The consistency of enforcement is now the issue, with significant variation in how the law is applied across different courts and for different sectors.

In the US, CFIUS and ECRA should be administered in a way that addresses core security concerns but at the same time does not allow these mechanisms to become tools for protectionism.

### Student and Scientific Exchanges

Affirmative efforts are also needed on both sides to maintain a flow of student and scientific exchanges that supports innovation in both countries. In the US, universities and other research institutions will need to clarify and strengthen protocols governing the activity

of foreign students and scientists conducting research in potentially sensitive fields, better understand their sources of research funding, address potential conflicts of interest, and assure that core academic standards for transparency and open inquiry are met. While disclosure of potential conflicts of interest by faculty is already a requirement at the University of California, for example, enforcement could be strengthened through random audits. As one senior university administrator explains, "This is not a stop sign. But we do need to communicate more clearly about appropriate activity and the university's procedures." Improved communication can also sensitize researchers to the importance of protecting IP. This is a balancing act, as concerns regarding the leakage of sensitive technologies must be addressed, but an overreach that unnecessarily restricts future exchanges may reduce US access to the talent and innovation of which China increasingly is a source. China, for its part, can provide greater transparency regarding its programs and presence in the US research community.

NSDD-189 should remain at the core of US policy, assuring that basic research that is published stays exempt from security controls.

### Steps to Sustain the US-China Economic Relationship

- Limit the imposition of new tariffs and selectively withdraw existing ones in return for reciprocal measures (US)
- Make greater use of multilateral strategies to address bilateral issues (US)
- Participate in the China International Import Exposition (US)
- Join the Comprehensive and Progressive Trans-Pacific Partnership (US)
- Administer new powers under CFIUS and ECRA in a way that avoids protectionism (US)
- Continue NSDD-189 as US policy (US)
- Open closed sectors to foreign participation and majority foreign ownership (China)
- Accelerate IP protection and assure more consistent application of IP law (China)
- Clarify and assure effective implementation of the new Foreign Investment Law (China)
- Reform and reduce the role of state-owned enterprises in the economy (China)
- Expand the methodology used to assess US trade balances (US/China)
- Keep the door open to the exchange of students and scientists, but with more transparency regarding their activities (US/China)
- Help to sustain the US-China dialogue through active subnational exchanges (US/China)

## Subnational Leadership

There is an important role to be played here by cities, regions, and subnational organizations, which are where most exchanges and day-to-day business take place. Overwhelmingly, these entities want to see the relationship with China grow. For US investors in China Tier 2 cities, which are motivated to work with foreign investors and are often more supportive and flexible than authorities in Beijing, there remains a promising window. As national-level differences are debated, cities and states should work with each other and with business to ensure continued dialogue and the sustained development of trade and other partnerships.

The McKinsey Global Institute estimates that between \$22 trillion and \$37 trillion of economic value (equivalent to about 15% to 26% of global GDP by 2040) could be at stake from less or more engagement between China and the world.<sup>102</sup>

## Conclusion

As US-China relations reset, a new floor must be created between the two sides that sets the rules and expectations that will govern future ties. While the future may be colored by systemic competition, this does not preclude cooperation. For the United States, this will require balancing trade and economic interests with those of security. Whatever that balance may be, the United States, China, and the world as a whole will benefit if China and the US—the world’s two largest economies—continue to grow together and not apart.

Sean Randolph is Senior Director at the Bay Area Council Economic Institute and author of its 2017 report “Chinese Innovation: China’s Technology Future and What it Means for Silicon Valley.” The Institute is grateful to the many business, university, and policy leaders whose insights contributed to this analysis and also thanks the Bay Area Council office in Beijing and its supporting partner MEBO International.

### EXHIBIT 6

## Analysis of 2040 simulated impacts shows significant value at stake from less or more engagement between China and the world.

Simulated Impacts of Less or More Engagement Between China and the World, 2040, US \$ trillions

Areas of engagement	Potential value at stake, \$ trillion, 2040
1. Growth as an import destination	3–6
2. Liberalization of services	3–5
3. Globalization of financial markets	5–8
4. Collaboration on global public goods	3–6
5. Flows of technology and innovation	8–12

Effects of climate change could be significant beyond 2040

Between \$22 trillion and \$37 trillion of economic value (equivalent to about 15 to 26 percent of global GDP by 2040) could be at stake from less or more engagement between China and the world.

Source: McKinsey Global Institute

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