E-commerce, Mobile Technology, Advanced Manufacturing, and U.S.-China Relations

BACKGROUND REPORT
About the Initiative on U.S.-China Dialogue on Global Issues

The Georgetown Initiative for U.S.-China Dialogue on Global Issues is a university-wide platform for research, teaching, and high-level dialogue among American and Chinese leaders from the public sector, business, and the academy.

The initiative is premised on the view that despite inevitable national differences, there remains considerable room for the cultivation of shared U.S. and Chinese approaches to global issues, including climate change, global health, business and trade, peace and security, and economic and social development.

Created in January 2016 through a gift from the Hong Kong-based Spring Breeze Foundation, the initiative builds on Georgetown’s core strengths of academic excellence, location in Washington, D.C., and Catholic and Jesuit mission of service to the world. Four core principles organize the initiative’s work—Independence, transparency, balance, and academic excellence.

About This Report

This background report on U.S.-China dialogue on business and trade was developed under the auspices of the U.S.-China Research Group on Business and Trade. Background reports in this series provide a general overview of the evolution of a critical issue in U.S.-China relations with wider implications for world affairs. The text of this report was crafted by initiative staff under the editorial guidance of the research group, which is led by Dr. Abraham Newman of Georgetown University, Dr. Henry Farrell of George Washington University, and Dr. Xue Lan of Tsinghua University. For more information on this topic and the work of the research group, visit the initiative site at https://uschinadialogue.georgetown.edu/topics/business-and-trade.

© February 2019 Georgetown University U.S.-China Dialogue on Global Issues
# Table of Contents

Introduction ........................................... 1

The Rise and Ramifications of Mobile Technology, E-commerce, and Advance Manufacturing ........................................... 2

Policy and Regulatory Drivers of Change ........................................... 8

U.S.-China Engagement on Mobile Technology, E-commerce, and Advanced Manufacturing ........................................... 14

Opportunities and Challenges for U.S.-China Cooperation on Global E-commerce ........................................... 20

Notes ........................................... 23
Introduction

Technological breakthroughs have revolutionized the global economy and transformed the way people live. E-commerce—the conducting of commercial transactions digitally—has created innovative new companies and spurred economic growth. U.S. tech companies shaped the early e-commerce landscape, but China has become the world’s largest online retail market with the creation of e-commerce giant Alibaba. China has also moved up the global value chain from a supplier of mobile components to a world-leading producer of mobile products. Connected to these shifts in the supply chain are technology-driven advances in manufacturing, where U.S.-developed technologies have blazed the trail but China is now at the forefront.

The U.S. and Chinese governments have become increasingly engaged with one another as companies compete in selling final products both abroad and in their respective home markets. However, U.S. and Chinese supply chains are starting to become disentangled. Differing national policies, conceptions of internet governance, and approaches to managing the tension between national security and international manufacturing processes are among the challenges the bilateral relationship faces in paving the way for a mutually prosperous future.

How are the United States and China responding to these challenges domestically and internationally? What are the political and economic changes exerting pressure on the bilateral relationship, and what are the drivers behind these changes? How should they improve their emerging regulatory frameworks? And how should government and businesses in both countries work together to advance an effective global regulatory regime? This report provides the necessary background to start answering these key questions. It presents an overview of the recent history of mobile technology, e-commerce, and advanced manufacturing as global phenomena and as policy challenges confronting the United States and China. By exploring how the two countries’ parallel digital journeys have brought them to this moment of greater cyber interaction, and how their complementary manufacturing strengths have led them toward a greater sense of competition, we may be able to see the importance of dialogue and cooperation in these economically vital fields and uncover potential shared pathways moving forward.
The Rise and Ramifications of Mobile Technology, E-commerce, and Advanced Manufacturing

The past few decades have seen the dramatic rise and widespread adoption of mobile technology, which grew out of breakthroughs in personal computer (PC) technology and that technology’s integration into mobile phones. The evolution of mobile technology has been driven in large part by U.S. companies, although companies in other parts of the world, including China, also reacted quickly in establishing footholds for these technologies. Technology began to reshape the economy in the early 1980s and evolved over the next two decades, laying the foundation for an entire digital economy. Mobile technology has become nearly ubiquitous in both China and the United States, though it is an industry controlled by only a few companies. Apple is America’s single largest smartphone manufacturer with 45 percent market share. Samsung, a South Korean smartphone manufacturer using Google’s Android system, has the second largest U.S. market share at 33 percent. 1 Fully 95 percent of Americans own mobile phones, and 77 percent own smartphones.2

China’s mobile device landscape is somewhat more crowded. Four domestic companies—Huawei, Vivo, Oppo, and Xiaomi—comprise just over half the mobile device market, with other domestic manufacturers and foreign companies like Apple and Samsung making up the rest.3 At 94.5 percent and 68 percent, respectively, mobile phone and smartphone market penetration in China is similar to the United States, but the raw numbers are staggeringly higher: China has 1.6 billion mobile phone subscriptions, and 700 million Chinese own smartphones.4

The rapid adoption of mobile technology has allowed the rise of e-commerce and has created a massive demand for advanced manufacturing around the world. In the remainder of this section, we examine the rise of e-commerce and advanced manufacturing as well as the economic and political effects that these new technologies have had in the United States and China.

E-commerce

E-commerce has exploded as a percentage of commercial activity in developed countries and some emerging economies. Initially, e-commerce developed as the result of technology entrepreneurs who began experimenting with the concept of online shopping systems, eventually leading to the founding of Amazon and eBay in the United States during the mid-1990s, as well as Alibaba in China in 1999.

The field was driven by the private sector, in part because of the U.S. government’s preference for self-regulation over industry regulation and willingness to use its clout to push back against international regulatory efforts. However, some important attempts were made to establish international norms. In 1996, the UN Commission on International Trade Law produced the Model Law on Electronic Commerce for consideration by national legislatures, which became the first legislative text explicitly laying out the principles of nondiscrimination, technological neutrality, and functional
equivalence. Since 1996, 32 countries have passed legislation influenced by the model law, including China but not the United States.

The dot-com bust of 2000 saw the market capitalization of technology companies plummet, leading many to go out of business. But some of the companies that survived the bust would go on to become the dominant corporate forces guiding the next technological era. Alibaba achieved its first year of profitability in 2001. Amazon achieved its first annual profit in 2003. Google, founded in 1998, established itself as a leader in online search. Facebook became the dominant social networking site in the United States, Western Europe, and much of the rest of the world. The Chinese online search engine Baidu was established in 2000; it now owns 70 percent of the Chinese search engine market share.⁵

Indeed, e-commerce shows a potential for expanding economic opportunities and contributing to poverty alleviation in developing countries. Global e-commerce sales reached nearly $2 trillion in 2016, 8.7 percent of all retail spending worldwide. With annual growth rates exceeding 20 percent, global retail e-commerce is far outpacing the low-single-digits growth of total retail spending.⁷ The 2015 UN Conference on Trade and Development (UNCTAD) released a report on “Unlocking the Potential of E-commerce for Developing Countries.” The UNCTAD secretary-general stressed, “As the digital economy expands…it becomes more important for Governments to consider policies that can help to harness e-commerce for sustainable development.”⁸

In 2012, the UN’s International Telecommunication Union (ITU) convened the World Conference on International Telecommunications to update the 1989 International Telecommunication Regulations, a global treaty dedicated “to facilitating global interconnection and interoperability of telecommunication facilities and to promoting the harmonious development and efficient operation of technical facilities, as well as the efficiency, usefulness and availability to the public of international

---

In 1996, the UN Commission on International Trade Law produced the Model Law on Electronic Commerce for consideration by national legislatures, which became the first legislative text explicitly laying out the principles of nondiscrimination, technological neutrality, and functional equivalence.
telecommunication services.”⁹ The ITU also held the second Global Standards Symposium, the first having taken place in 2008. UN agencies have also investigated the poverty alleviation potential of e-commerce.

Beyond the potential role that e-commerce can play in alleviating poverty, more recent innovations have created new arenas of e-commerce known as the mobile economy and the sharing economy. As a leading digital marketing executive observed, “Uber, the world’s largest taxi company, owns no vehicles. Facebook, the world’s most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world’s largest accommodation provider, owns no real estate.”¹⁰

Nonetheless, despite the emergence of the decentralized sharing economy, e-commerce as an industry remains highly centralized in a few powerful companies. Alibaba’s platform makes up about 60 percent of e-commerce transactions in China, followed distantly by JD.com. The industry is less centralized in the United States, where Amazon accounts for under 50 percent of the U.S. market and many traditional retailers such as Walmart and Target operate their own online stores. In other technological arenas, however, centralization is the norm in both China and the United States. The Chinese and U.S. search engine markets, for instance, are both dominated by their respective giants: Baidu holds 70 percent of the Chinese market share; Google holds over 90 percent of the U.S. market share in mobile phone searches and 63 percent of the core searches on the internet.¹¹

**Advanced Manufacturing**

The rise in mobile technologies has also generated a massive demand for advanced manufacturing, though demand was already rising as a result of changes in the level of technology used by other, more traditional industries. The term “advanced manufacturing” refers to an array of technologies, products, and processes—such as robotics, nanofabrication, biomaterials, 3-D printing, and semiconductor innovations—across a broad range of industries from automobile manufacturing to ceramics or pharmaceuticals. This paradigm shift from traditional to advanced manufacturing was not the result of a single development but is rather an ongoing process fed by the interplay of scientific research, technological innovation, practical experimentation, and market forces. The past decade has seen an accelerated adoption of next-generation technologies which has transformed the U.S. manufacturing sector and is poised to do the same in China, which dominates global manufacturing. Two major components of advanced manufacturing are the manufacturing of semiconductors and the creation of advanced materials.

Semiconductors are materials that can be manipulated to alternatively conduct and resist electric currents. Commercial production of semiconductor devices began in the 1960s, and U.S. companies have always dominated this industry. Of the 10 largest semiconductor manufacturers, four are American, one is joint American-Singaporean, and two are South Korean, with one each for Taiwan, Japan, and the Netherlands. China imports most of its semiconductors but has made plans to significantly expand domestic manufacturing. The growth rate of Chinese semiconductor production over
the past decade (13.6 percent compound annual growth) has outpaced its already high consumption growth rate (12 percent). Today, China represents over 60 percent of global semiconductor consumption.

Advanced materials, also referred to as new materials, are materials that have been engineered—or in some cases isolated from naturally occurring materials—for their unique properties. Advanced composite materials began booming in the United States in the 1960s with particular applicability to aviation and aerospace. Today’s new materials include alloys stronger than steel but a fraction of the weight and nanomaterials that convert waste heat into electricity, and the potential applications for these new innovations span industries. In the near future, the United States is projected to maintain the highest production and consumption growth rate, but China is also poised to significantly boost its own levels.

Unlike the e-commerce and mobile spheres, advanced manufacturing is less a market and more a range of diversified industries. Intel is America’s largest semiconductor manufacturer. China does not yet possess any semiconductor manufacturers with a notable global market share, and China’s import of around 90 percent of its semiconductors in recent years has given China the world’s largest semiconductor trade deficit. HiSilicon, a subsidiary of Huawei, is China’s largest semiconductor producer, but government backing has sought to develop Tsinghua Unigroup into the hub of national semiconductor manufacturing as part of an effort to make China a leader in semiconductor production.

The United States is the largest new materials market in terms of both production and consumption, while China and Japan have the fastest-growing demand. U.S. companies such as 3M, Dupont, Cytec Solvay, Huntsman, Hexcel, and Materion are manufacturing leaders. In China, a large number of private and state-owned enterprises have incorporated over the past decade and a half, collectively more than tripling the revenues of the Chinese new materials industry over just the past five years to $292 billion. The result is that advanced manufacturing plays an increasingly important economic role in both the United States and China, with the result that access to advanced materials markets is an increasingly significant strategic goal for both countries.

**Economic and Political Effects in the United States**

Although there is a popular perception of all-around decline in the U.S. manufacturing sector, the reality is more nuanced. Employment in traditional manufacturing has been declining for decades. Advanced manufacturing industries, however, added nearly half a million jobs in the four years following the 2009 global financial crisis, and manufacturing accounted for more than a quarter of all U.S. economic growth. Moving forward, U.S. tech companies may also play a role in stimulating advanced manufacturing. In 2017, Apple announced a billion-dollar fund to invest in advanced manufacturing companies, pointing to the growing confluence of advanced manufacturing and mobile technology.

In 2011, President Barack Obama (2009-2017) announced the Advanced Manufacturing Partnership, an initiative to bring together representatives from
industry, academia, and government to identify technologies capable of boosting U.S. manufacturing. This evolved into the Obama administration’s establishment of the National Network for Manufacturing Innovation—rebranded Manufacturing USA under President Donald Trump (2017– ). The U.S. government also has 15 investment projects stimulating advanced materials manufacturing, as well as the Materials Genome Initiative, which has invested over $250 million in research and development and innovation infrastructure since 2011 to facilitate the development and use of advanced materials in industry.

The rise of e-commerce has had a significant impact on traditional U.S. brick-and-mortar retailers, wiping out some once-thriving businesses. The growth of Amazon played a major role in the 2011 dissolution of the huge Borders Books franchise and, along with Apple’s iTunes, also led to many music store companies going defunct. E-commerce and mobile apps are also disrupting major service industries. Mobile ride-sharing services like Uber and Lyft have drastically reduced the business of taxi companies in some major cities. Peer-to-peer online homestay services like Airbnb have challenged the hotel industry.

**Economic and Political Effects in China**

China is also feeling the impact of its dramatic e-commerce growth on brick-and-mortar businesses, but the Chinese government has actively taken measures to buttress these economic sectors while developing new technology. This economic development policy, known as “Internet Plus,” is one of the pillars of China’s Thirteenth Five-Year Plan (2016-2020), and was first introduced by Premier Li Keqiang in his 2015 Government Work Report: “We will develop the ‘Internet Plus’ action plan to integrate the mobile Internet, cloud computing, big data, and the Internet of Things with modern manufacturing, to encourage the healthy development of e-commerce, industrial networks, and Internet banking, and to guide Internet-based companies to increase their presence in the international market.” This action plan encourages traditional industries to develop a stronger online component, and citizens to innovate and take advantage of internet-driven opportunities.

Alibaba negotiated an alliance with Chinese electronics retailer Suning in 2015, allowing Alibaba customers to try out products at Suning’s 1,600 physical locations. Suning’s many locations and strong logistical arrangements are helping Alibaba deliver electronic products in as little as two hours. Baidu has pledged to invest $3.2 billion in the joint offline-online (O2O) business model. O2O works particularly well in China because of the vast country’s urban density, providing relatively short distances from merchants to customers. Migrant workers provide a cheap source of labor to shuttle goods.

The Chinese government hopes that e-commerce can help lift 55 million rural Chinese out of poverty by 2020.

China has put the global growth of e-commerce to work not just for economic development but also for poverty reduction. Rural Chinese citizens tend to be far more connected to the internet, with a greater likelihood of owning mobile phones, than rural populations in other developing countries. In 2009, the first “Taobao villages” coalesced into existence.
Taobao villages are rural communities transformed into online business clusters through e-commerce. The Chinese government hopes that e-commerce can help lift 55 million rural Chinese out of poverty by 2020.²⁴ Alibaba in 2015 entered into agreements with Guangzhou City and the Hebei provincial government to pilot rural e-commerce. Also in 2015, JD.com penned agreements with the Chongqing and Shaanxi provincial governments to facilitate entrepreneurial online activity.

While mobile-enhanced e-commerce is viewed as an agent of economic growth, the Chinese government is placing a far heavier emphasis on the promise of advanced manufacturing to drive socioeconomic progress. In 2015, China’s State Council unveiled “Made in China 2025,” a high-profile plan to upgrade the country’s massive manufacturing sector with innovative technologies.²⁵ This plan envisions the country’s manufacturing, emphasizing quality over quantity, becoming more environmentally sustainable, and nurturing a more highly skilled workforce. The vision presents more of a transformation than an upgrade. Made in China 2025 imagines the future of manufacturing as a digitally linked platform that suppliers, developers, designers, and individual consumers can all plug into, creating a network effect that will make products easily customizable for consumers and high-end manufacturing available as a service even to smaller enterprises.²⁶

One of the central goals of Made in China 2025 is to increase the domestic content of core components in the manufacturing process to 40 percent by 2020 and 70 percent by 2025. This goal is already being pursued through China’s investments in semiconductors and new materials. Indeed, Made in China 2025 specifically identifies new materials as one of the 10 priority sectors for upgrading. China plans to invest $150 billion into its microchip industry between 2015 and 2025.²⁷ And guidelines issued by the Ministry of Industry and Information Technology have established the goal of domestically producing 70 percent of needed advanced materials by 2020.²⁸ Despite the name of this signature manufacturing initiative but in line with its goals, President Xi Jinping has called on the nation to move away from a “Made in China” mentality and instead embrace an “Invented in China” mentality.²⁹

In addition to funding directly from government ministries, state financial institutions will contribute significant sums, with China Development Bank, for instance, planning to contribute an estimated $47 billion in funding through 2020. The initiative already claims notable achievements through the smart manufacturing pilot projects that have been funded—109 of them operational by 2017—which saw an average rise in productivity of 39 percent.³⁰
Policy and Regulatory Drivers of Change

The most important conditions upon which the U.S. and Chinese mobile, e-commerce, and advanced manufacturing sectors interact are determined by—and shift on the basis of—the countries’ antitrust laws, regulatory capacity, standards, and security considerations.

Antitrust

Antitrust legislation has played a major role in shaping the U.S. economy since the late nineteenth century when the Sherman Act of 1890 became law, giving the federal government the power to break up monopolies and business cartels. The Clayton Act of 1914 was passed to prevent the formation of monopolies through mergers and acquisitions. Finally, the Federal Trade Commission Act of 1914 established the Federal Trade Commission (FTC) as an independent federal agency tasked with preventing and eliminating anticompetitive business practices.

As an emergent industry, the tech sector was relatively free of governmental antitrust actions in its earliest years. It was, in part, the rise of internet usage that led to the first major antitrust suit in 2001, United States v. Microsoft Corporation. Microsoft’s bundling of its Internet Explorer web browser with its industry-dominant Microsoft Windows operating system was prosecuted as a threat to competition. Microsoft ultimately agreed to share its application programming interfaces with third-party companies, and the case established a precedent that rejected per se illegality for tie-ins within the high-tech industry—distinguishing the treatment of liability in the tech sectors from U.S. courts’ less permissive treatment of other sectors—on the grounds that doing so would be overly stifling to innovation.

In the 2013 antitrust case United States v. Apple, Inc., a district court found Apple guilty of price fixing ebooks with publishers. In 2016, the Supreme Court decided not to hear Apple’s appeal, forcing it to settle the case for $450 million. The spirit of this ruling differed from that in Microsoft in that it reversed a previous precedent by asserting per se illegality for vertical price fixing (in addition to the established per se illegality of horizontal fixing).

Unlike the more-than-century-old antitrust law of the United States, antitrust legislation in China crystallized only a decade ago with the passage of the country’s Anti-Monopoly Law (AML) in 2007. The AML was based largely on the globally accepted antitrust norms of the United States and the European Union, including the illegal per se rule and the rule of reason. China’s first antitrust case, Qihoo 360 v. Tencent, was decided by the Supreme People’s Court in 2014. Antivirus software producer Qihoo 360 brought suit against tech giant Tencent when the latter bundled its own antivirus software with its market-dominant instant messaging platform. The court rejected the charges of Tencent’s abuse of market dominance, establishing an important early precedent in Chinese antitrust law that thoroughly analyzed how business behavior affects consumers.
Regulatory Capacity

The economic regulatory framework of the United States has wielded significant power in shaping the U.S. economy and has proven influential in establishing regulatory norms for other national economies as well as the global economic system. There are two primary regulators in the United States. The first is the Federal Trade Commission, an independent federal agency tasked with eliminating anticompetitive business practices, including by bringing civil cases against antitrust violators, and with formulating trade rules when necessary. The second main regulator is the Antitrust Division of the Department of Justice, which advises businesses on abiding by antitrust laws, prosecutes violations in both civil and criminal proceedings, and cooperates with other national and regional regulators in the investigation and prosecution of antitrust violators and in the promulgation of global regulatory standards.

The U.S. government has generally allowed the technology industry to flourish, viewing it as one of the few areas of exceptional growth since the Great Recession. However, the negative effects of e-commerce on physical retailers and the fact that tax-free online transactions deprive state and local governments of tax revenues have led to efforts to even the playing field. In 2013, the Senate passed the Marketplace Fairness Act, which called for online retailers to collect tax on all shipped products; the bill died in the House of Representatives, but states have enacted their own laws such that Amazon now collects sales tax in all 45 states that have a sales tax.3⁵ Industries targeted by tech firms for disruption, such as taxis and hotels, have sought to restrict upstart firms, sometimes with the aid of local governments. Taxi unions in New York City, Miami-Dade County, and other localities have organized lawsuits either against Uber or against pro-Uber laws.

While Chinese economic activity has always been significantly regulated since the Communist Party came to power, an increasingly defined regulatory structure has emerged as centralized economic planning recedes. The Anti-Monopoly Law and Anti-Unfair Competition Law are perhaps the two most prominent pieces of regulatory legislation, but they are part of a web of other laws and measures stipulating certain regulations in certain sectors. Helming this complex and sometimes opaquely administered regulatory framework are three State Council bodies. The Ministry of Commerce (MOFCOM) oversees and negotiates foreign economic activity with China, and also acts in the fields of antitrust and consumer protection. The National Development and Reform Commission (NDRC) is the agency most directly involved in the country’s economic planning. And the State Administration for Industry and Commerce (SAIC) is charged with formulating new legislation to effectively manage economic activity.

While China is the site of considerable government-industry collaboration, there are also areas where the two forces are at odds, as is most clearly seen in competition between Alibaba and state-supported China UnionPay for market share of online payments. UnionPay, which holds a near-monopoly on bankcard issuance, promulgated requirements in 2012 that all online transactions tied to UnionPay-issued bankcards be run through its system.3⁶ Alipay responded by stopping its offline point-of-sale services, but has since reestablished them, as both sides continue to maneuver for influence in the market.
The regulatory apparatuses of the U.S. and Chinese governments have found themselves dealing with the other country’s business activities as well. In May 2016, the U.S. Securities & Exchange Commission announced an investigation into whether Alibaba’s accounting practices violated U.S. laws, temporarily sending the company’s stock price falling. In April 2016, Chinese authorities blocked access to Apple’s iBooks and iTunes movies services, stating that new regulations prohibited online publishing by foreign companies. Apple and other large foreign technology companies have also been subject to reviews of data storage and encryption by China’s Cyberspace Administration.

Standards Policy

The setting of technical and design standards is essential to international commercial activity. As U.S. standards strategy points out, “The global economy has raised the stakes in standards development. Competition for the advantages that accompany a widespread adoption of technology is increasingly intense worldwide, and the impetus to develop globally accepted standards is greater now than ever before.” The Geneva-based International Organization for Standardization (ISO) is the primary standard-setting body on the world stage, but its work is premised on national and private voluntary standards organizations.

The American National Standards Institute (ANSI) manages the voluntary consensus standards developed for U.S.-made products. While ANSI oversees U.S. standards and represents their interests to international standards organizations like the ISO, the main drivers of U.S. standards development are private sector standards developing organizations (SDOs), of which there are nearly 600. Thus, the U.S. standards system is significantly decentralized and diversified along industry lines. In 2000, the ANSI brought together private SDOs and government agencies to formulate the first “National Standards Strategy for the United States,” a strategic document that was last updated in 2005. Principles of the United States Standards Strategy include procedural transparency, openness to all stakeholders, impartiality, and consensus. On the international stage, U.S. strategy seeks to ensure that international standards development processes share these values such that standards do not act as barriers to trade.

Standards development in China is overseen by the Standardization Administration of China, an official government body. Unlike the ANSI, the administration is able to mandate standards, although it often allows private businesses to develop standards for their particular industries, mediating where necessary. Chinese standards strategy seeks to improve the market adaptability and international competitiveness of Chinese technical standards to gain a greater global market share for Chinese products. While the U.S. and Chinese standards systems are both open to input from all relevant parties, there is a four-tier hierarchy that overlies the Chinese system. The highest tier is composed of the national standards. In the absence of any national standards, professional standards
take precedence, as developed privately across an industry. Where there are neither national nor professional standards, local standards are used for a particular province. Finally, the lowest tier is composed of enterprise standards used by a single company. Approximately 15 percent of national standards are mandatory, while the remaining 85 percent are voluntary.⁴²

China has been criticized by U.S. government and business interests for using technological standards as a protectionist tool. For its part, China has criticized the cost of royalties that must be paid to use standards developed by foreign businesses or governments as economically disadvantageous to Chinese firms. A standards-based trade dispute arose in 2003 when China mandated use of the domestically established WAPI standard for all devices accessing wireless networks, such as computers and smartphones, whereas the United States and much of the rest of the world had taken to using devices that complied with the Wi-Fi standard. Only 11 companies, all in China, had access to the WAPI standard, meaning any foreign companies wishing to sell their wireless-enabled products in China would have to partner with one of these firms. China sought ISO certification for the WAPI standard, but it was rejected in 2006. China resubmitted WAPI to the ISO in 2010 but withdrew it from consideration. Wi-Fi is now used across China.

Chinese standards agents have since gained greater experience with and knowledge of international standards bodies like ISO, poising China to gain greater influence in setting standards. For example, the Chinese government has taken proactive steps to become a global leader on setting standards for blockchain—the technology behind digital currencies like bitcoin—by issuing a white paper calling for international standards and prioritizing greater Chinese influence in the development and evolution of cryptocurrencies.⁴³ The advanced manufacturing initiative Made in China 2025 may signal a shift in the Chinese approach to standards that could ease the tensions with U.S. and international standards bodies. Whereas a previous schema for technological innovation—issued in 2006 as the Medium- and Long-Term Plan on the Development of Science and Technology—intended to have the Chinese government set distinct technical standards, Made in China 2025 is meant to make Chinese businesses more open to the global market by allowing manufacturers to adhere to international standards systems or self-declare their own standards.⁴⁴

Security

Security has always been a primary concern in the handling of bilateral tech-related economic activity. In 1975, the U.S. government established the Committee on Foreign Investment in the United States (CFIUS)—an interagency committee now comprised of 16 different government departments including the Departments of Defense, Commerce, State, and Homeland Security—to review the investments of foreign entities in U.S. companies for potential national security concerns. Over the

Made in China 2025 is meant to make Chinese businesses more open to the global market by allowing manufacturers to adhere to international standards systems or self-declare their own standards.
past 40 years, CFIUS has only blocked three foreign investments, but all three of those decisions were against Chinese firms: in 1990, CFIUS voided a Chinese purchase of an aerospace company; in 2012, CFIUS ordered the divestment of a Chinese heavy machinery manufacturer from wind farms located near a U.S. Navy weapons system training facility; and in 2016, CFIUS blocked the Chinese purchase of U.S. assets of German LED maker Aixtron, asserting that the Chinese buyer “might take action that threatens to impair the national security of the United States.”

While instances of CFIUS proceeding to the point of making recommendations against inbound investment have been relatively few, Chinese and other foreign companies often withdraw their investment plans when faced with CFIUS’s stated intention to investigate the deal. The stymied Aixtron acquisition was just one of eight failed attempts by Chinese companies since mid-2015 to purchase or acquire controlling interests in U.S. and U.S.-linked semiconductor companies. Tsinghua Unigroup sought to purchase U.S. semiconductor maker Micron in 2015 for $23 billion, but discussions fizzled as threats of CFIUS involvement arose from Congress. U.S.-listed Dutch electronics company Philips attempted to sell an 80 percent share of its LED semiconductor subsidiary to a Chinese consortium until CFIUS concerns stymied the deal. A Chinese LED maker tried to buy U.S.-based semiconductor company GCS for $226 million, but CFIUS pressure led the two companies to form a joint venture instead. In 2016, the Chinese tech company Unisplendour withdrew its $3.8 billion stake in U.S. data storage and microchip manufacturer Western Digital, and China Resources and Hua Capital withdrew its $2.5 billion offer for a stake in Fairchild Semiconductor after CFIUS intensified its review process of these deals. In 2017, President Donald Trump vetoed the attempt of a Chinese private equity firm to acquire Lattice Semiconductor for $1.3 billion. And in February 2018, CFIUS withheld approval of an attempted $580 million sale of Xcerra, a U.S. manufacturer of semiconductor testing equipment, to the Chinese government-backed investment fund Hubei Xinyan. In March 2018, Trump intervened to block Singapore-based semiconductor company Broadcom’s massive, $117 billion deal to purchase its American competitor Qualcomm, citing “credible evidence” that Broadcom might use its acquisition to “take action that threatens to impair the national security of the United States.” This move was particularly notable given that no Chinese business was involved in the deal, yet concerns were high over how a Qualcomm takeover by an R&D-lite company would position Huawei to be the global leader in semiconductor production. Other potential Chinese buyouts of U.S. tech companies have also been scuttled by CFIUS, such as Alibaba’s money-transfer company Ant Financial’s proposed $1.2 billion deal to purchase U.S. MoneyGram in January 2018.

Because acquiring foreign semiconductor companies with more advanced products is a key aspect of China’s plans for boosting its domestic semiconductor production capacity, these stymied mergers and acquisitions have to some degree been a setback for China’s plans. The heightening of U.S. national security concerns over Chinese acquisitions of American semiconductor companies beginning around mid-2015 notably coincides with the announcement of Made in China 2025, within which China’s efforts to advance its domestic semiconductor industry are now situated. One of the defining aspects of Made in China 2025 is an approach known as civil-military
fusion, meaning the technologies gained and goods and services produced through advanced manufacturing ought to have both civil and military applications for them to be worth pursuing.⁴⁹ Allowing China to acquire technology that will enhance its military power from American companies is a prospect to which the U.S. government will be predictably resistant.

The governments of both China and the United States are grappling with national security and sovereignty questions related to the unprecedented growth of the international mobile technology sector. Although the two countries came to an agreement in September 2015 not to engage in commercial-oriented cyber espionage, various tensions have arisen since.⁵⁰ In October 2012, the U.S. House of Representatives issued a report calling on U.S. companies not to do business with Chinese companies ZTE—the top-performing Chinese smartphone company in the United States—and Huawei, the largest telecommunications equipment manufacturer in the world. The committee cited concerns that state influence has led their products to transmit sensitive information from the United States to the Chinese government, a charge the companies claim is part of a persistent effort to keep them out of the U.S. market.⁵¹ The report did, however, exclude the companies’ mobile phones from the proposed ban.

In March 2016, the U.S. Department of Commerce blocked ZTE’s access to critical smartphone components, claiming that ZTE supplied Iran with U.S.-made high-technology products, which is illegal under U.S. export law because of U.S. sanctions against Iran. The Commerce Department issued a reprieve for ZTE’s license to export through the end of February 2017, after which ZTE pled guilty to violating U.S. export controls and sanctions. ZTE was fined $1.19 billion, the largest penalty ever in a U.S. export control settlement.⁵² The fine officially restored the export privileges ZTE relies upon, which enabled it to resume sourcing components from the United States, until Secretary of Commerce Wilbur Ross imposed a denial of export privileges on ZTE after finding that the company had given false statements.⁵³ After a $1 billion payment to the U.S. Treasury followed by a $400 million escrow deposit in a U.S. bank as a guarantee of compliance with strict monitoring measures, Ross lifted the export ban against ZTE in July 2018.⁵⁴

In the first update in over a decade to CFIUS, President Trump in August 2018 signed into law the Foreign Investment Risk Review Modernization Act (FIRRMA). The Trump Administration has stated that FIRRMA is meant to close gaps between the transactions that CFIUS is currently able to review and transactions it currently cannot review despite raising similar national security concerns. The reality is that those “gaps” largely pertain to particular Chinese investment trends: (1) real estate acquisitions in sensitive areas; (2) minority investments (particularly through private equity-type structures) that might not be controlling but that nonetheless provide access to sensitive information or technology of the target U.S. business; (3) the increasing use of Chinese joint ventures into which U.S.-origin technology is

---

China, for its part, takes a broader view of national security by not just preventing foreign businesses from acquiring sensitive materials or information, but also preventing its own citizens from acquiring information deemed inappropriate or subversive.
transferred; and (4) concerns that Chinese deals are being structured to circumvent CFIUS.⁵⁵

China, for its part, takes a broader view of national security by not just preventing foreign businesses from acquiring sensitive materials or information, but also preventing its own citizens from acquiring information deemed inappropriate or subversive. While the MOFCOM’s Department of Foreign Investment Administration sees to the former function, the latter is handled by the system of laws, projects, and internet infrastructure popularly termed the “Great Firewall,” which is itself part of the Chinese Ministry of Public Security’s Golden Shield Project that began in 2003.⁵⁶ Facebook as well as Twitter are unable to operate in China because they have refused to comply with Chinese laws on filtering content deemed objectionable by the Chinese government.⁵⁷ Chinese-based social networks, especially the hugely popular WeChat, have filled the void, with WeChat’s active user base growing from 2.8 million users in 2011 to over 1 billion users in 2018.

The Golden Shield Project has also stymied the expansion of U.S.-based Google and its suite of online services into China. The company established Google China in 2005 under an agreement to comply with Chinese government filtering requirements. In 2009, when footage posted to Google’s YouTube service appeared to show Chinese security forces beating Tibetans, the government temporarily suspended access to all Google websites.⁵⁸ In 2010, Google announced its detection of a hacking project known as “Operation Aurora” that the company called “a highly sophisticated and targeted attack on our corporate infrastructure originating from China,” the primary goal of which was “accessing the Gmail accounts of Chinese human rights activists.”⁵⁹ Google ceased filtering its search results, leading the government to block access to Google’s search engine; the blockage was extended to all Google products in 2012, though limited, country-specific versions of services like Google Maps and Google Translate became accessible in 2018.

U.S.-China Engagement on Mobile Technology, E-commerce, and Advanced Manufacturing

Interactions between the U.S. and Chinese governments and between the two countries’ businesses and consumers have been both promising and challenging across all economic sectors ever since China’s opening to the world in the 1970s. In the smartphone industry, Google’s 2008 release of its open-source Android operating system for smartphones leveled the international playing field for mobile software, and Chinese smartphone manufacturers seized the opportunity to create globally competitive devices. ZTE was the first Chinese company to enter the U.S. smartphone market, and its Android-based devices have gone from one percent name recognition in 2012 to having the fourth largest U.S. market share after Apple and South Korean brands Samsung and LG.⁶⁰ China’s Huawei has effectively been shut out of the U.S. market as regulators and congressional pressure have driven U.S. wireless carriers away from deals with Huawei. In the other direction, Apple began operating in China
in 2008 and has expanded its business there such that by the end of 2015 the number of iPhone users in China surpassed the number in the United States.⁶¹

Chinese e-commerce companies have been slow to enter the U.S. market, though Alibaba has started to do so. When Alibaba could not reach an agreement with the Hong Kong Stock Exchange and listed on the New York Stock Exchange in 2014, it raised $25 billion in the largest U.S. IPO in history.⁶² In 2015, Alibaba built two facilities in Silicon Valley for its cloud computing branch AliCloud, which competes with Amazon Web Services, and reached an agreement with the U.S. Postal Service to facilitate e-commerce shipments.⁶³

Far more successful have been the Chinese small to medium-sized enterprises (SMEs) looking to enter the U.S. market through U.S. e-commerce platforms like Amazon and eBay. These SMEs, Chinese manufacturers, and logistics businesses have built out robust infrastructure to meet the online demand from the United States. In fact, more new Chinese online sellers are establishing themselves with Amazon in order to sell to the United States and the rest of the world than are establishing themselves with Alibaba’s Taobao to sell domestically.⁶⁴ While Amazon does not perform well among Chinese buyers, it is the venue of choice for Chinese sellers, thereby facilitating Chinese online entrepreneurship and alleviating poverty.

The U.S. and Chinese manufacturing sectors have been extensively linked for decades, with some U.S. businesses moving operations to China in order to benefit from the lower associated costs. However, the advent of advanced manufacturing may shift that dynamic to a degree. Along with other factors, the relatively rapid rate of innovation within U.S. industries has made U.S. factories nearly twice as productive per unit of labor as their Chinese counterparts, significantly offsetting the differences in labor and regulatory compliance costs.⁶⁵ Indeed, significant developments have already begun to make the U.S.-China manufacturing relationship more bidirectional. China’s Fuyao Glass Industry Group built the world’s largest automotive glass factory in Ohio in 2016.⁶⁶ In 2017, China Investment Corporation partnered with U.S. investment giant Goldman Sachs to create the $5 billion Cooperation Fund to invest in American manufacturing companies. One motivation in the Chinese government’s partnering with Goldman Sachs may be to secure easier regulatory approval for its U.S. investments.⁶⁷ In 2018, after President Trump announced a new 30 percent tariff on solar panel imports based on concerns that Chinese government subsidies were making the market unfair for U.S. producers, Chinese solar company JinkoSolar announced plans to construct an advanced manufacturing facility for its solar panels in the United States in order to avoid the tariff.⁶⁸

In terms of political engagement, the U.S. and Chinese governments have sought to address issues surrounding mobile technology, online commerce, and advanced manufacturing through dialogue with one another, with both publicly stating the goal of greater market openness and fairness. For example, in 2011, the U.S.-China High Technology and Strategic Trade Working Group (HTWG) of the U.S.-China Joint Commission on Commerce and Trade (JCCT) negotiated an agreement between the

---

Significant developments have already begun to make the U.S.-China manufacturing relationship more bidirectional.
The U.S. and Chinese governments have sought to address issues surrounding mobile technology, online commerce, and advanced manufacturing through dialogue with one another, with both publicly stating the goal of greater market openness and fairness.

U.S. Department of Commerce and the Chinese Ministry of Commerce, called the “U.S.-China High Technology Trade Key Sectors Cooperation Action Plan,” thereby facilitating civilian high-technology trade between the countries.⁶⁹

A major breakthrough in U.S.-China trade relations came in 2014 when President Barack Obama and President Xi Jinping negotiated an agreement to expand the World Trade Organization’s (WTO) Information Technology Agreement (ITA). The ITA was agreed to in 1996 and entered into force globally the following year, with China acceding in 2003.⁷⁰ With the global trade governed by the ITA having more than tripled since its entry into force, the agreement was greatly in need of updating. Xi and Obama’s agreement allowed the WTO to move forward, and the WTO passed the new ITA (ITA-II) in December 2015, marking the first tariff-reducing WTO agreement in 18 years. ITA-II expanded tariff elimination to computer software, GPS devices, medical equipment, video game consoles, high-end semiconductors, and many other information technology goods.⁷¹

A different dynamic has come into play, however, under the Trump administration. In August 2017, U.S. Trade Representative Robert Lighthizer initiated a Section 301 investigation against China under the Trade Act of 1974 that determined that Chinese practices around technology transfer, intellectual property, and innovation are discriminatory or burdensome to U.S. commerce. China strongly objected, with Chinese Ministry of Commerce spokesperson Gao Feng stating that it “sabotages the existing international trading system, and has poured cold water on all parties that have been working to promote bilateral economic ties.”⁷² In a report to the U.S. Congress later that year, Lighthizer made a statement that upended the longstanding U.S. approach to China’s economic development: “[T]he United States erred in supporting China’s entry into the WTO on terms that have proven to be ineffective in securing China’s embrace of an open, market-oriented trade regime.”⁷³

This hostility toward China’s membership in the WTO set the stage for what has become an increasingly bitter trade dispute. In January 2018, Trump unveiled tariffs on foreign washing machines and solar panels, the latter of which was targeted at China for its alleged flooding of the solar panel market; Trump then announced tariffs on foreign steel and aluminum in March. Chinese Foreign Minister Wang Yi cautioned against such measures, saying, “A trade war is never the right solution. In a globalized world, it is particularly unhelpful, as it will harm both the initiator and the target countries.”⁷⁴ Later in March 2018, Lighthizer announced the findings of the Section 301 investigation.⁷⁵

In May 2018, the Trump administration directly identified China’s drive toward advanced manufacturing as a target of U.S. opposition, announcing a 25 percent tariff on $50 billion of Chinese goods containing “industrially significant technology, including those related to the ‘Made in China 2025’ program.”⁷⁶ When $34 billion of these tariffs came into effect on July 6, China retaliated with $50 billion of its own tariffs against U.S. products. The U.S. government had previously warned that such
a retaliatory move by China would trigger another set of tariffs worth $200 billion, which were put into place at a 10 percent tariff rate on September 26. The Office of the United States Trade Representative also announced that these tariffs would increase to a rate of 25 percent on January 1, 2019. However, on November 30, 2018 during a dinner at the G20 summit in Buenos Aires, President Trump and President Xi agreed to delay plans for increased tariffs to allow time for negotiators to work out an overall trade agreement.

President Trump has signaled his willingness to place tariffs on all of China’s exports to the United States if Beijing does not meet U.S. demands for Chinese trade concessions. And in late July, the United States announced plans to implement more stringent, across-the-board restrictions on Chinese companies seeking to acquire advanced technology companies, as well as its intention to seek reforms at the WTO aimed at curbing Chinese economic practices seen as unfair or disadvantageous to the United States. Moreover, the National Defense Authorization Act for 2019, signed into law in August 2018, mandates that any firm using the products of Huawei, ZTE, and three other Chinese firms will be barred from doing business with the United States government beginning in August 2020. The United States is lobbying trading partners to bar Huawei from involvement in their development of 5G telecommunications on the basis of national security concerns.

As antagonistic as the U.S.-China trade relationship has become since 2017, it should be noted that, amidst the heated rhetoric, President Trump has stated that the long-term goal of the United States is to have a robust trading relationship with China, albeit on grounds more amenable to his administration’s view of U.S. interests; whether Chinese interests share any common ground with these positions remains to be seen.

**Mergers and Acquisitions**

International mergers and acquisitions (M&A) have become an increasingly important element of economic activity in both China and the United States, and M&A between U.S. and Chinese businesses have played a major role in shaping the economic ties and political dynamics between the two countries. In order to become official, U.S.-Chinese M&A must navigate the antitrust, regulatory, standards, and security challenges outlined in the previous section.

For U.S. firms, M&A have been widely viewed as the best way into the Chinese market given the need for preexisting local expertise in an economy that values personal connections and that possesses an often-opaque regulatory environment. But any discussion of U.S. outbound M&A to China in the tech and online sectors must mention the poor success record of U.S. firms in the Chinese market, which is attributable to a variety of reasons, including protectionist policies, online censorship, and a tendency on the part of the U.S. entrants to not fully understand Chinese consumer culture. Amazon China started in 2004 with Amazon's purchase of Joyo, China's largest online bookseller at the time, but Amazon never penetrated the Chinese market, dropping from 15.1 percent market share in 2008 to 1.3 percent in 2013 and losing money every year. Amazon even
opened a virtual shop on Alibaba’s business-to-consumer platform Tmall in 2015 rather than rely on its own domain. eBay purchased Chinese EachNet in 2004 to capture the e-commerce market, but was outcompeted by Alibaba and effectively pulled out of China in 2006.⁸³

While the United States has long been the global leader in outbound M&A, 2016 saw Chinese businesses surpass those in the United States in total M&A for the first time.⁸⁴ The total volume of M&A deals between Chinese buyers and U.S. sellers nearly tripled between 2013 and 2015 to a total of $735 billion.⁸⁵ In 2016, the total increased to over $955 billion.⁸⁶ In 2014, Beijing-based mobile phone maker Lenovo acquired U.S. mobile company Motorola for $3.1 billion. An inbound 2016 deal saw U.S.-based Uber give up its Chinese operations to domestic ride-sharing service Didi Chuxing in exchange for a 20 percent stake in Didi.⁸⁷

Chinese outbound M&A into the United States has fallen dramatically by 95 percent since 2016. The Chinese government took steps to control currency depreciation and limit corporate debt levels. Beijing issued a set of outbound M&A guidelines in August 2017 that listed the types of investments that would be encouraged, restricted, and banned.⁸⁸ Some of China’s pre-2017 outbound M&A were seen by the leadership as frivolous vanity purchases by China’s nouveau riche.

### Data Practices

The biggest asset in the digital economy is data. The United States and China have staked contrasting positions on the handling of digital data. China advocates data sovereignty, which holds that data sourced or used within a country’s borders is subject to that country’s laws. The value priority behind this is security, taken broadly; the Chinese government wants to control this information to protect the personal data of its citizens, prevent foreign espionage, and more easily monitor people’s data as the government sees fit. While the U.S. government also values data security, its emphasis on free markets has led the country to call for the generally free flow of data across borders to allow for digital companies to more easily move between and compete in disparate markets.

The two countries have identified data security as an issue on which they hope to cooperate. The 2005 Asia-Pacific Economic Cooperation (APEC) forum approved a “privacy framework” in which APEC member countries agreed on non-binding principles with the goal “to balance and promote both effective information privacy protection and the free flow of information in the Asia Pacific region.”⁸⁹ In 2012, the Office of the U.S. Trade Representative established a Trade Policy Staff Committee Task Force on Localization Barriers to Trade, prominently including data localization/forced localization, in order to dialogue with countries like China that employ these measures in an effort to come to an understanding on diminishing or dismantling them.⁹⁰

During their September 2015 meeting, U.S. and Chinese presidents Obama and Xi announced a pact on cybersecurity, pledging, among other things, to make a common effort “to further identify and promote appropriate norms of state behavior in cyberspace within the international community.”⁹¹ While this cyber deal was a positive step forward on a contentious issue, it suffered from a lackluster follow-through in which the two
sides did not achieve any substantive progress. A September 2016 report from the U.S. Chamber of Commerce covering threats posed by the policies of foreign governments to international commerce—including e-commerce—related to information and communications technology focused almost exclusively on China and its protectionist data policies.⁹²

These U.S. concerns expanded further when the Chinese government passed its Cybersecurity Law in November 2016. The law mandates that data transmitted electronically be stored in local data centers—a policy known as “data localization.” Chinese authorities explain these measures as necessary for national security while U.S. and other non-Chinese officials and business leaders claim they are being used to disadvantage foreign businesses or to facilitate government control of telecommunications systems. U.S. businesses have been highly critical of this aspect of the Cybersecurity Law in particular. The U.S.-China Business Council called on the Chinese government to delay the law’s implementation and reconsider its contents.⁹³ Even so, Apple localized the data for its Chinese users in February 2018, moving their data, along with the encryption keys necessary to read it, onto Chinese state-run servers.

**Intellectual Property**

Intellectual property rights (IPR) are a major topic of discussion in U.S.-China economic relations. Part of this stems from different cultural views of IP: Whereas the United States generally views IP as a product in itself, and at least as a profitable source of competitive advantage, China tends to see IP as a component of the production process.⁹⁴ This relative diminution of IP has contributed to China developing a reputation for IP theft: It has been estimated that 8 percent of China’s GDP derives from unauthorized sales of counterfeit goods.⁹⁵ But IP infringement has increasingly extended to higher levels, with actual allegations in 2014 of Chinese government-directed hacking of U.S. corporations’ trade secrets. Then-U.S. Attorney General Eric Holder stated, “This is a case alleging economic espionage by members of the Chinese military and represents the first ever charges against a state actor for this type of hacking.”⁹⁶ While defense technology firms have been the biggest targets, Chinese corporate espionage and other forms of IP infringement have been concerns across most sectors of the U.S. economy.

In 2011, the governments of the two countries signed the U.S.-China Intellectual Property Rights Cooperation Framework Agreement. In the years since, the Chinese government has taken meaningful action to strengthen its IPR regime. China became the biggest patent filer in the world in 2011 and the biggest patent issuer in 2015. Chinese IP enforcement has also skyrocketed, with Chinese courts hearing 130,000 IPR cases in 2014, while U.S. courts heard less than a tenth of this number in 2016. The Chinese government has established three new courts in Beijing, Shanghai, and Guangzhou specializing in IP cases, and created four more IP tribunals in early 2017. In addition, the Chinese Patent Law was amended in 2016, adding enforcement provisions and dramatically increasing penalties.⁹⁷
Opportunities and Challenges for U.S.-China Cooperation on Global E-commerce

The increasing integration of U.S. technology companies into the Chinese market and Chinese technology companies into the U.S. market is both promising and fraught. In a time when the benefits of economic globalization are being questioned, there is a great need for serious dialogue on what constitutes prudent measures by governments versus measures that unnecessarily thwart international trade and restrict data flows that are the life blood of business operations. Some of the key areas for discussion include:

Delineating “Cyber Sovereignty”: The concept of cyber sovereignty is relatively new to international diplomacy, and it will likely take some time for governments and the business community to recognize and agree on a governing framework. President Xi Jinping defined this term at the World Internet Forum in December 2015 as “respecting each country’s right to choose its own internet development path, its own internet management model, and its own public policies on the internet.” Many pressing questions arise from this concept, as the greater the degree of government regulation in cyberspace, the greater the chances of impeding the legitimate flow of information and commerce.

Harmonizing Information Sharing and Data Localization Requirements: As countries attempt to manage the ever-increasing amount of information circulating on the internet, they are instituting new data privacy and information storage laws. These laws require companies, especially in such fields as finance, health care, and telecommunication, to store identity-related data on servers within the country of the business activity. While these measures are understandable as attempts to protect national security and the rights of citizens, such requirements impose high costs and are problematic as they may also require companies to hand over encryption keys and data to the national security services. Moreover, such laws can also put host country firms trying to do business abroad at a disadvantage.

Transparency of Legal Requirements: The ambiguity of Chinese legal requirements are concerns of U.S. firms and other foreign companies operating in China. The Chinese legal landscape can be daunting to navigate, with an array of hard laws and soft guidelines that are often clarified as they are enforced. A number of recent and soon-to-be-passed laws have foreign companies worried about requirements that could handicap them in the Chinese market. At the same time, Chinese companies want greater access to the U.S. market, where profit margins are higher, but face numerous financial risks such as patent lawsuits and government investigations into foreign state influence.
Untangling Protectionism, Free Trade, and National Security: The sometimes mercurial complexities of Chinese state-capitalism, President Trump’s demands for the opening of markets alongside his willingness to levy tariffs, and the concerns regarding national security that frequently intersect with these phenomena all combine to weave an untidy web with the potential to sour the important U.S.-China relationship. Companies in both countries want a stable understanding of the dynamics that affect their international business dealings.

The Future of Free Trade Concepts: A critical area for future developments in the U.S.-China relationship lies in the debate over how trade around the Pacific Rim should be structured. The Obama administration championed the Trans-Pacific Partnership (TPP) between the United States and Pacific Rim countries, but President Trump withdrew from the agreement. The TPP has a chapter on international e-commerce policies that establishes a largely free and open e-commerce environment, and this chapter has been lauded even by those with reservations about other aspects of the agreement.¹⁰¹

APEC’s proposed Free Trade Area of the Asia-Pacific (FTAAP), under consideration since 2006, bears similarities to the TPP but is envisaged as encompassing China and all APEC nations for a much larger free trade area. After the TPP summit in Beijing in 2014, all 21 APEC parties issued the Beijing APEC Declaration calling for the “eventual realization” of the FTAAP.¹⁰² In what ways might the fate of the TPP or FTAAP affect U.S.-China mobile technology trade and e-commerce as the two countries compete for influence in Asia while also working cooperatively on commercial matters that benefit both countries?

Another free trade concept has arisen from China’s private sector. Alibaba’s founder and chairman, Jack Ma, is championing the concept of an “Electronic World Trade Platform” (eWTP) to standardize e-commerce on a global level by making the global market freer and more open and preventing protectionism. The G20 initiated consideration of the idea at their September 2016 summit in Hangzhou. Ma has stated that the WTO and the wider international free trade regime tends to benefit large corporations, whereas a eWTP would benefit SMEs. Ma envisions the eWTP being worked into the WTO-led trade regime. The G20’s Hangzhou Communique only mentioned e-commerce in passing,¹⁰³ but with a Chinese e-commerce leader promoting an idea that is viewed fairly favorably in U.S. circles, it may be telling to see how the two countries address this issue.

China and the United States must find a constructive way forward as the information age becomes the hyper-connected cyber age. Businesses and customers are expecting more and more of their online retail and wholesale shopping experiences, just as they are looking for greater customization and sophistication in the products they purchase. Companies such as Amazon are experimenting with drones and driverless cars to reduce delivery times to hours, if not minutes. Our advances in mobile and manufacturing technologies have rapidly outpaced our legal frameworks and only through constructive dialogue can we hope to maximize the global return on these remarkable human achievements.
Notes


17 Elizabeth Gurdus, “Exclusive: Apple just promised to give US manufacturing a $1 billion boost,” 
CNBC, May 3, 2017, https://www.cnbc.com/2017/05/03/exclusive-apple-just-promised-to-give-
us-manufacturing-a-1-billion-boost.html.

18 President’s Council of Advisors on Science and Technology, “Report to the President: Accelerating 
default/files/microsites/ostp/PCAST/amp20_report_final.pdf.


20 Subcommittee for Advanced Manufacturing, National Science and Technology Council, “Advanced 
Manufacturing: A Snapshot of Priority Technology Areas Across the Federal Government,” April 
snapshot.pdf.

about.

22 Benny Evangelista, “How ‘Amazon factor’ killed retailers like Borders, Circuit City,” San Francisco 
retailers-like-6378619.php.

Republic of China, March 5, 2015, http://english.gov.cn/archive/publications/2015/03/05/
content_281475066179954.htm.


25 Scott Kennedy, “Made in China 2025,” Center for Strategic & International Studies, June 1, 2015,

26 He Wei and Cheng Yu, “Fresh impetus for Made in China 2025 plan,” China Daily, October 21, 

com/2017/02/23/china-intel-qualcomm-huawei-semiconductor-computer-chips/.

28 Xinhua, “China issues guidelines.”

29 Xinhua, “China Focus: ‘My job is to serve the people,’ Xi says in Lunar New Year inspection,” 

30 Xinhua, “China to invest big in ‘Made in China 2025’ strategy,” State Council of the People’s 
content_281475904600274.htm.

31 Adam Liptak and Vindu Goel, “Supreme Court Declines to Hear Apple’s Appeal in E-Book 

32 Roger Parloff, “Apple will ask Supreme Court to hear its ebooks price-fixing case,” Fortune, 

33 Juliet Ye, “QQ-360 Battle Escalates into War,” Wall Street Journal, November 5, 2010, 

34 David Evans and Vanessa Yanhua Zhang, “Qihoo 360 v Tencent: First Antitrust Decision by the 
www.competitionpolicyinternational.com/qihoo-360-v-tencent-first-antitrust-decision-by-the-
supreme-court/.

35 Nick Statt, “Amazon will start collecting sales tax nationwide starting April 1,” The Verge, March 
states.

36 Wen Xiu and Zhang Yuzhe, “Alipay and UnionPay Battle over How Payments Are Processed,” 


40 United States Standards Strategy Committee, *United States Standards Strategy*.


44 Kennedy, “Made in China 2025.”


