

Chinese Competitiveness in the International Digital Economy

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With protectionist policies shielding their rear flank domestically, China's digital firms are out to capture global marketshare. Their strategy hinges on state-backed innovation mercantilism—and their success will come at the cost of U.S. jobs, exports, and economic growth.

KEY TAKEAWAYS

- The mercantilist “China First” digital strategy has been wildly successful: China first copies foreign technology, then limits access to its domestic market while showering homegrown champions with a panoply of unfair supports.
- There is little U.S. Internet firms can do to gain marketshare in China at this point. Chinese firms' takeover there is a done deal. The real battleground is in other nations.
- The United States and its allies should embrace the principle of reciprocity and only give Chinese companies access to their digital markets if China grants foreign companies the same level of access there.
- Governments should contest Chinese firms' expansion into overseas markets with financing programs for capital-intensive industries, foreign aid for telecom infrastructure, and diplomatic pressure.
- U.S. regulators also should take account of how antitrust actions against U.S. Internet firms undermine their ability to compete successfully against Chinese firms.

INTRODUCTION

The digital economy is the key driver of growth and innovation. For a variety of reasons, including strong software capabilities, deep entrepreneurial ecosystems such as in Silicon Valley, and a large national market, U.S. firms once led in the digital economy. And because digital industries, especially information (including search engines and social networking) and e-commerce, are characterized by scale and network effects, U.S. firms were able to capitalize on early leads to be the most competitive in the global market.

And because of that initial lead, coupled with continued investment of tens of billions of dollars a year in research and development (R&D), U.S. digital industry firms hold significant market share in virtually every nation in the world, except one: China. Indeed, as the Information Technology and Information Foundation (ITIF) noted:

China made arguably the most important digital strategy decision in the history of the IT industry. It decided it would not let the giant U.S. dot-coms—especially Google, Facebook, and Amazon—just set up shop and dominate the Chinese market the way they were doing in so many other nations. Instead, it significantly limited the role of or banned U.S. firms, creating time for its own firms—especially Baidu, Alibaba, and Tencent (often called BAT)—to build similar services, or at least initially copies of U.S. services.¹

While this type of protectionism was unfair and even illegal under the World Trade Organization (WTO), there's no doubt this “China First” strategy was wildly successful, and led directly to China's now highly diverse and dynamic mobile and Internet services industries.

As in virtually all technology sectors, the Chinese game plan is the same: first copy foreign technology, then limit access to the Chinese market of foreign firms while showering domestic firms with a panoply of support.

As a result, China's digital economy is massive, with an estimated \$1.5 trillion of online retail transactions in 2019, or 25 percent of the nation's total retail transactions—more than twice both the volume and proportion of e-commerce in the United States.² This is even more impressive given that China's Internet penetration rate remains low at only 60 percent and 99 percent of its Internet users have mobile Internet (with 70 percent using mobile payments).³

As noted, China's digital economy is dominated by domestic firms, due in large part to the Chinese government banning such international competitors as Facebook and Twitter in 2009, and Dropbox and Google in 2010.⁴

As in virtually all technology sectors, the Chinese game plan is the same: first copy foreign technology (often through forced joint ventures, intellectual property theft, or reverse engineering); then limit access to the Chinese market of foreign firms while supporting domestic firms with a panoply of support, including grants, tax breaks, favorable lending deals, discriminator government procurement, and other tools; and finally, support “going out” to gain global market share outside of China.

The unfair takeover of the Chinese market by Chinese Internet firms is a done deal. There is likely little American Internet firms can do to gain significant market access there, even if China

let them in. The real battleground is in other nations. If China succeeds in taking market share away from U.S. companies in other markets—on the basis of Chinese government “innovation mercantilism”—it would reduce U.S. jobs, exports, and gross domestic product (GDP).

This report assesses the progress of Chinese firms in international digital markets. Overall, Chinese firms still make up only a small share of international digital markets. But in many segments, they are growing quickly and have demonstrated significant innovations. Notably, Alibaba has made inroads throughout the Asia-Pacific and European e-commerce markets, while ByteDance’s TikTok and Tencent’s WeChat have garnered massive international userbases. In contrast, search engine Baidu has had a more difficult time penetrating foreign markets. Each of these firms has invested billions of dollars in bids in attempting to become the global leader in cutting-edge technologies from artificial intelligence (AI) to the cloud and financial services. Over the next ten years, we should see an increasing battle for global market share between U.S. and Chinese digital firms.

CHINA’S DIGITAL INDUSTRIES

Together, Baidu, Alibaba, and Tencent (BAT) for years have been cast opposite Facebook, Amazon, Netflix, and Google (FANG) as China’s dominant tech giants. Baidu controlled China’s search engine market, Alibaba e-commerce and online advertising, and Tencent messaging and social media, while each has online streaming platforms. And BAT played a key role in Chinese innovation, provided 42 percent of China’s venture capital investment in 2016, dwarfing FANG’s 5 percent of U.S. venture capital.⁵

Collectively, BAT has acquired 14 firms valued at least \$1 billion, totaling \$63.5 billion (see table 1). Alibaba has made the lion’s share of acquisitions, spending \$48.7 billion across 11 firms, compared with \$12.9 billion by Tencent and \$1.9 billion by Baidu. Importantly, only two acquisitions have been of non-Chinese firms (Finland’s Supercell and Singapore’s Lazada), demonstrating the extent to which Chinese tech companies are still primarily focused on their domestic markets, and also reflecting potential barriers to Chinese acquisitions of foreign companies, particularly in Allied nations.⁶

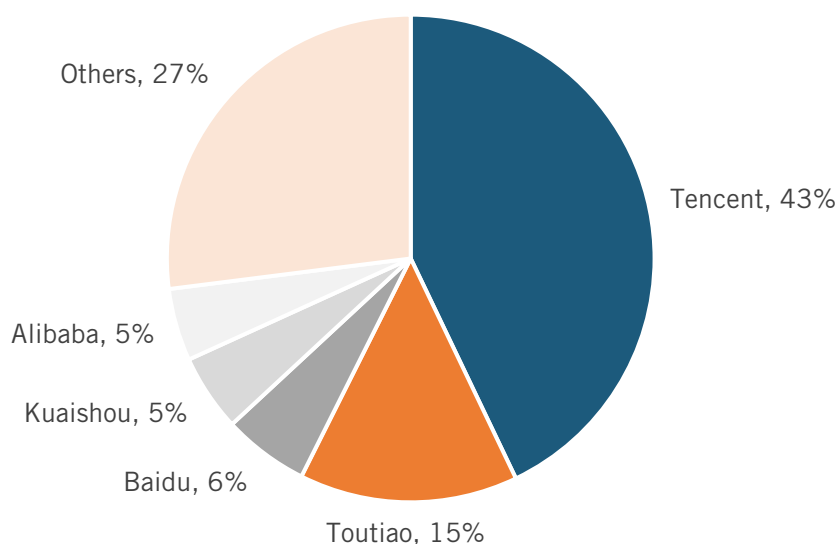
In comparison, Facebook, Amazon, and Google have acquired 15 firms of this magnitude for a total of \$69.5 billion, just above BAT. Google has been the most active in acquisitions, purchasing eight firms for \$27.4 billion, the largest of which was Motorola in 2012 for \$12.5 billion.⁷ Facebook and Amazon have each made a few acquisitions dominated by a single deal, with \$22 billion of \$25 billion for WhatsApp in 2014 and \$13.7 billion of \$17.1 billion for Whole Foods in 2017, respectively.⁸

Table 1: Billion-dollar acquisitions by BAT

Company	Acquirer	Valuation (billions)	Industry	Country
Cainiao	Alibaba	\$20.0	Logistics	China
Supercell	Tencent	\$10.2	Video Games	Finland
Ele.me	Alibaba	\$9.5	Food Delivery	China
Youku Tudou	Alibaba	\$4.8	Video Hosting Service	China
UCBrowser	Alibaba	\$4.7	Web Browser	China
China Music Corp	Tencent	\$2.7	Music Streaming	China
91 Wireless	Baidu	\$1.9	App Store	China
Kaola	Alibaba	\$1.8	E-commerce	China
AutoNavi	Alibaba	\$1.6	Maps Service	China
Lazada	Alibaba	\$1.5	E-commerce	Singapore
iKang Healthcare	Alibaba	\$1.4	Preventative healthcare	China
Alibaba Pictures	Alibaba	\$1.3	Film	China
Amap	Alibaba	\$1.1	Maps Service	China
Koubei	Alibaba	\$1.0	Local Services Platform	China

BAT's dominance in the last five years has eroded somewhat. In 2016, apps from BAT accounted for over 70 percent of Chinese users' time on mobile phones, with Tencent representing just over half of all phone time. By January 2020, however, Tencent had fallen to 42.9 percent of mobile phone use. Toutiao, a news app owned by ByteDance (the owner of the app TikTok), is now the second most-used app, at 14.5 percent of users' time (see figure 1.)⁹

Figure 1: Chinese mobile time use by company¹⁰



BAT was less dominant in the digital advertising space in 2016, holding 56 percent of the market share, with Alibaba and Baidu neck and neck at 25 and 22 percent, respectively. As of the first half of 2019, BAT's total share remained the same as in 2016, but the landscape had changed significantly. Alibaba increased its share to 29 percent (and Tencent to 12 percent), while Baidu's share fell to 15 percent. More important, though, is the meteoric rise of ByteDance—the second-largest player in the market—from 2 to 18 percent of digital advertising revenue over this period.¹¹

Unlike the norm for Western smartphones, much of China's digital economy functions through just a few general-purpose apps, rather than companies each publishing their own specialized apps. Instead, these “super apps,” such as Tencent's WeChat and Alibaba's Alipay, operate similarly to the iOS App Store or Android Google Play, providing access to thousands or millions of “mini programs”—simplified apps within those apps that can launch instantly.¹²

WeChat, which was released in 2011 as a messaging service akin to WhatsApp (indeed, most major Chinese Internet firms started as copies of U.S. digital products or services), now has nearly 1.2 billion monthly active users and, as of early 2019, has 2.3 million mini programs—more than the 2.1 million apps on the App Store.¹³ WeChat mini programs had transactions worth \$115 billion in 2019, all moderated through Tencent's digital payment system WeChat Pay, which is accepted by 79 percent of small and medium-sized Chinese retailers.¹⁴

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Alibaba and Baidu have also each developed their own super apps, complete with mini programs and payment services. Alipay, owned by Alibaba affiliate Ant Financial, and led by Alibaba's founder Jack Ma, is a strong second with 647 million monthly users mid-2019, 401 million of whom used mini programs. Yet Baidu lagged behind, with only a quarter of its 469 million

monthly users in the same period accessing mini programs.¹⁵ Baidu's position today is even worse in the digital-payment sphere, where a survey finds that 87 percent of respondents reported using Alipay, 76 percent reported WeChat Pay, and only 19 percent reported Baidu Wallet—in fourth place behind Tencent's second payment service, QQ Wallet.¹⁶ Collectively, about one-third of Chinese retail purchases are made by mobile e-wallet buyers.¹⁷ Of that, 92 percent is claimed by Alipay and WeChat Pay, which lead in business-to-consumer and consumer-to-consumer transactions, respectively.¹⁸ The digital financial services market is especially crucial given its ubiquity among Chinese consumers—in the same survey, 91 percent of respondents said they use digital payment services to pay online, followed closely by 87 percent in physical stores, while 60 percent said they use the services daily.¹⁹

Controlling financial services is key to realizing the benefits of super apps. The popularity of digital financial services has been propelled by the weaknesses of China's banking system, constraining the adoption of credit cards: There were only 0.3 cards per capita in 2015 compared with 2.5 in the United States.²⁰ By collecting data on mini program sales and its users' spending more broadly, Alipay can glean far more about the financial prospects of both businesses and consumers, which it has used to dramatically outperform traditional banks. Ant Financial's MYBank operates on a "3-1-0" model, promising small and medium businesses that loan applications can be completed within three minutes and approved in one second with zero human intervention.²¹ On the consumer side, Huabei (which translates to "just spend" in Chinese) offers no-interest microloans, with credit limits starting as low as \$7.²² Additional lending platforms are limited by Alibaba's credit-scoring system, Sesame Credit.²³ In September 2020, Ant announced that, of its five services—payment, wealth management, micro-financing, insurance, and credit—40 percent of Alipay customers have used all five, and 80 percent have used at least three.²⁴

CHINA'S INTERNATIONAL MARKET SHARE

As in many advanced industries in China, Chinese share of the global market is relatively sizeable. But because of the massive size of the Chinese market, once Chinese sales are taken out, its share is much more modest. This section examines China's market share in a number of key digital markets.

Search Engines

China's domestic search engine market exhibits a dramatic divide between mobile and desktop usage. As of the first quarter of 2020, Baidu controls 84.7 percent of the mobile market, followed by the Alibaba-owned Shenma at 7.4 percent and the Tencent-backed Sogou at 6.3 percent. The desktop market is far more competitive, with Sogou holding a narrow lead over Baidu (43.6 to 41.3 percent), followed by Qihoo 360 at 6.2 percent.²⁵

Of these four firms, only Baidu has at least a 1 percent market share in any country outside of mainland China, which it holds in eight countries, as shown in figure 2. Baidu's relative strength in mobile search holds true outside of the domestic market, as seven of the eight countries show a foothold in only the mobile search market—that one being Hong Kong, which represents 1.0 percent of desktop search traffic. All but two (Tuvalu, in Polynesia, and Angola) are in East or Southeast Asia.

Figure 2: 2020 Q1 mobile search market share²⁶

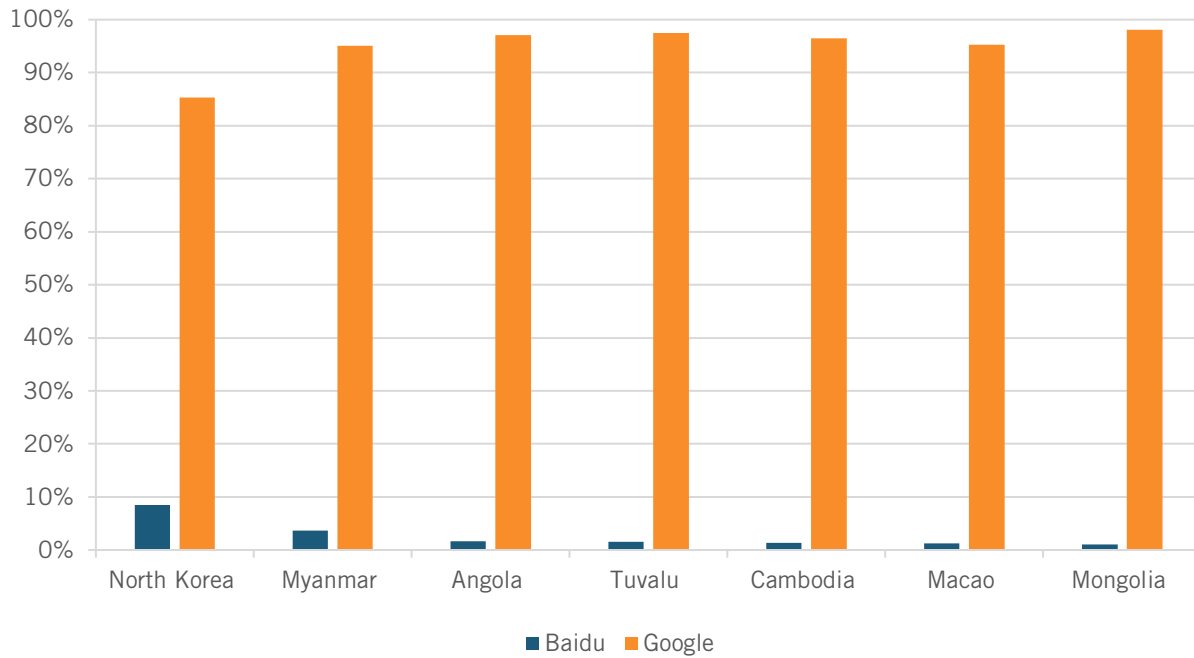
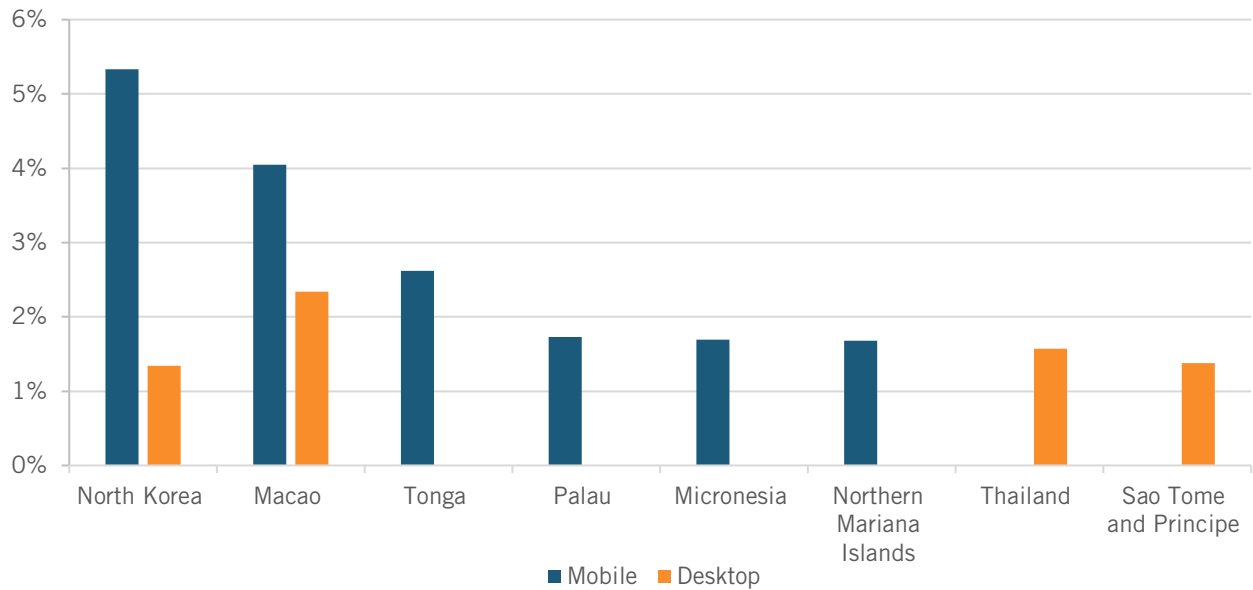


Figure 3 shows that Baidu’s position in international markets has not significantly improved in the last five years, since the first quarter of 2015. While only North Korea and Macao were present in both 2015 and 2020, the picture largely remains the same: Baidu’s international presence is predominantly limited to small nearby nations and is not dominant in any of them. North Korea’s mobile share has grown from 5.3 to 8.5 percent, but this was largely at the expense of Sogou, which held a 4 percent share in 2015. Further, Baidu’s presence was much more significant in Polynesia (falling from five nations to one) and desktop searches (falling from four nations to one) five years ago than it is today.

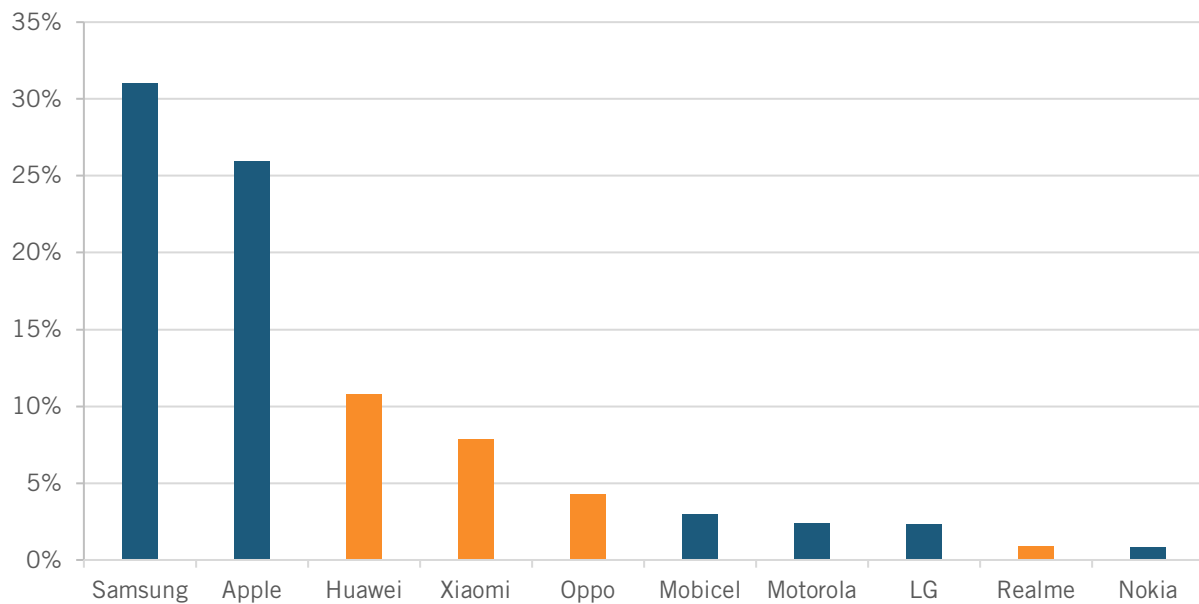
Figure 3: 2015 Q1 Baidu mobile and desktop search market share²⁷



Smartphones

Smartphones, while not directly part of the digital economy, are increasingly crucial to how the digital economy is accessed. Globally, approximately a quarter of mobile devices are sold by Chinese firms, as shown in figure 4. While Samsung and Apple are the clear leaders with 31 and 25.9 percent of the market, respectively, the third through fifth-largest firms are Chinese: Huawei (10.8 percent), Xiaomi (7.9 percent), and Oppo (4.3 percent.)

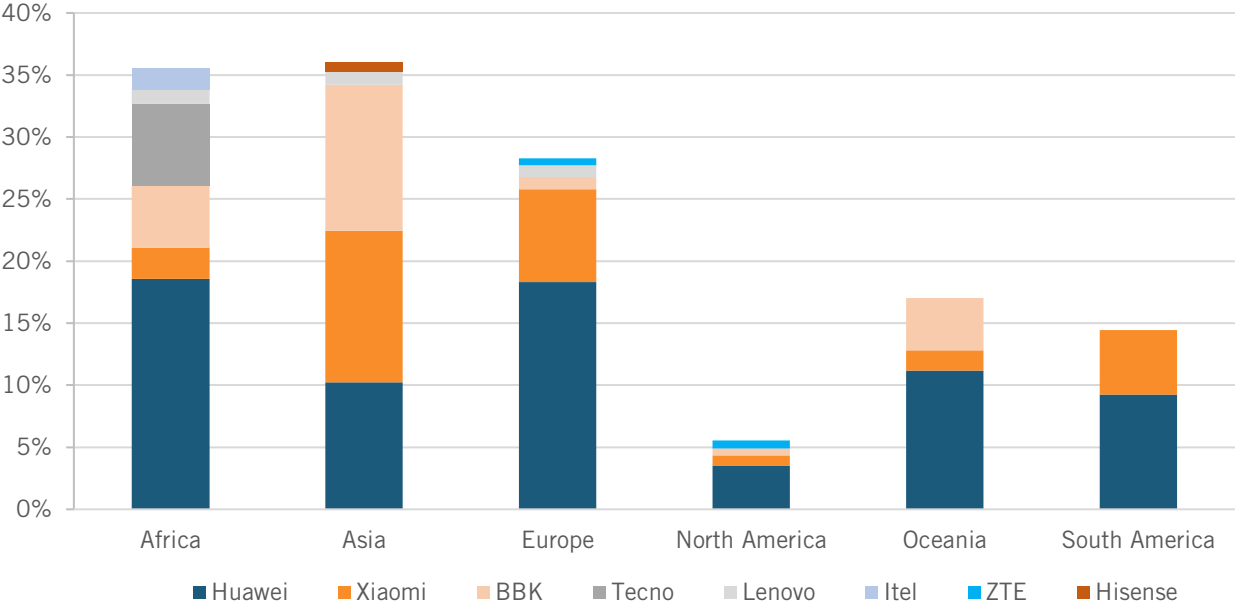
Figure 4: 2019 smartphone global marketshare (Chinese firms in orange)²⁸



As shown in figure 5, when divided by continent, Asia narrowly has the highest concentration of Chinese phones, at 36.1 percent, followed by Africa (35.6 percent) and Europe (28.3 percent).

In contrast, Chinese firms have a much smaller footprint in the Western hemisphere, with only 14.5 percent of mobile devices in South America and 5.6 percent in North America. Huawei sells the majority of Chinese phones in every continent but Asia. Its highest absolute market share is 18.6 percent in Africa, while its highest share of Chinese firms is 65.6 percent in Oceania. The next-largest vendors, Xiaomi and BBK Electronics (which owns the brands Oppo, OnePlus, Vivo, and Realme), are far more concentrated in Asia, where they make up 12.2 and 11.8 percent of the market, respectively. After Asia, Xiaomi represents 7.5 percent of the European market and 5.2 percent of the South American market, while BBK represents 5 percent of the African market and 4.2 percent of the Oceanic market.

Figure 5: 2019 smartphone market share of Chinese firms by continent²⁹



Cloud Computing

Cloud computing—a technology model that enables on-demand delivery of information technology (IT) services such as applications, processing, and storage—has become a key enabler of the global digital economy. According to Canalys, Alibaba dominates the Chinese cloud infrastructure market, with 46.1 percent of the \$10.7 billion market in 2019, followed by Tencent, U.S.-based Amazon Web Services (AWS), and Baidu.³⁰ Globally, Alibaba’s revenues reached \$5.2 billion in 2019, or 4.9 percent of the \$107.1 billion global market.³¹ However, these figures suggest that Alibaba earned only \$270 million of the \$96.4 billion it made outside of China in 2019, for a market share of only 0.3 percent, compared with AWS’s 34 percent.

Since first expanding its cloud service internationally in 2015, Alibaba has heavily focused on the Asia-Pacific region (APAC), stating that it is “in Asia, for Asia.”³² Of its 12 overseas data centers, 7 are in APAC (Hong Kong, Jakarta, Kuala Lumpur, Mumbai, Singapore, Sydney, and Tokyo). Its interest in the region is not unique.³³ Alibaba and Tencent, as well as U.S. cloud providers Amazon, Google, IBM, and Microsoft, have data centers in Hong Kong, Singapore, and Tokyo, while all but Tencent have centers in Sydney, and all but Alibaba have centers in Seoul. Further, Google has three forthcoming data centers in the region, along with two for Amazon and

one for Microsoft.³⁴ While Baidu has the highest market share in China's AI public cloud services market, it has expanded far less internationally (see table 2.)³⁵

Table 2: International cloud data center locations³⁶

Location	Alibaba	Tencent	Baidu
Bangkok, Thailand		•	
Dubai, UAE	•		
Frankfurt, Germany	•	•	
Hong Kong	•	•	•
Jakarta, Indonesia	•		
Kuala Lumpur, Malaysia	•		
Moscow, Russia		•	
Mumbai, India	•	•	
Seoul, South Korea		•	
California, United States	•	•	
Singapore	•	•	•
Sydney, Australia	•		
Tokyo, Japan	•	•	
Toronto, Canada		•	
London, United Kingdom	•		
Virginia, United States	•	•	

Chinese firms have made some progress. While Synergy Research Group found that in the final quarter of 2019, Alibaba, Tencent, and Baidu ranked second, fifth, and sixth in public Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) cloud revenues in APAC overall, respectively. Excluding China causes Alibaba to fall to fourth, and Tencent and Baidu to fall out of the top six providers.³⁷ Chinese firms fair even worse in Europe, where none rank in the top six either overall or within the largest markets: France, Germany, Netherlands, and the United Kingdom.³⁸

Gartner showed dramatic growth for Huawei's cloud program, which increased 222 percent in 2019, reaching third in China and sixth worldwide.

Some estimates suggest slightly larger shares. Gartner found that in 2019 Alibaba ranked first in the APAC IaaS market, increasing from 26.1 to 28.2 percent, and third worldwide, up 1.4 percent to 9.1 percent.³⁹ However, China makes up the bulk of the APAC cloud market, wherein the government only provides permits to domestic firms without majority foreign ownership.⁴⁰ That being said, Alibaba has secured footholds in some APAC markets, namely Australia, Japan,

India, Indonesia, Malaysia, Singapore, and South Korea.⁴¹ Further, Gartner showed dramatic growth for Huawei's cloud program, which increased 222 percent in 2019, reaching third in China and sixth worldwide.⁴²

BAT members, as well as Huawei, have each reaffirmed their commitment to major cloud investment in recent months. In April, Alibaba announced it will invest over \$28 billion into its cloud services over the next three years.⁴³ In May, Tencent dedicated \$70 billion over five years to "new infrastructure," focusing on cloud computing, AI, and cybersecurity.⁴⁴ In June, Baidu announced a goal of 5 million cloud servers by 2030, without specifying any concrete investments, and Alibaba Cloud said it plans to hire 5,000 engineers this year.⁴⁵ This represents more than a doubling of Alibaba Cloud's workforce, given estimates that it currently has around 3,000 employees.⁴⁶ Huawei is investing at least \$200 million into cloud computing in 2020.⁴⁷

E-Commerce

In Alibaba's fiscal year 2020 (which ended March 31), it earned \$10.4 billion in domestic commerce, with 65 percent of its total revenues of \$16.1 billion, while foreign commerce revenues reached \$1.1 billion. This represents a 10.4 percent annual increase in foreign sales, which is barely half of Alibaba's overall commerce growth of 19 percent.⁴⁸ Notably, the vast majority of Alibaba's domestic commerce is retail, with only 3.8 percent of domestic commerce revenues attributable to wholesale purchases. In contrast, over a third of international commerce is wholesale, nearly matching domestic wholesale revenue (\$347 billion to \$394 billion.) This disparity may be explained by import restrictions by the Indian government, which makes non-wholesale international e-commerce purchases onerous or outright impossible.⁴⁹

Customers spent over a trillion dollars in Alibaba's ecosystem during the year ending March 2020, 93 percent of which occurred in Chinese retail marketplaces. Alibaba does not disclose its international marketplace purchases, but these sales, as well as other domestic services, must be less than \$66 billion.⁵⁰

Alibaba had 960 million consumers purchase goods or services in FY 2020, 180 million of which were international. This proportion of international users is significantly out of line with the proportion of international retail revenue, suggesting that foreign Alibaba users purchase far less than their domestic counterparts. In fact, Alibaba recorded an average of \$60.25 retail revenue per user within China and only \$19.08 outside of China.⁵¹

AliExpress, Alibaba's platform for foreign business to consumer commerce, has taken strides to expand beyond Chinese sellers, with sellers from Turkey, Russia, Spain, and Italy joining in 2019.⁵² Having become the largest e-commerce site in Russia, AliExpress Russia formed a joint venture with MegaFon, a telecom firm, Mail.ru, a social media and search portal operator, and the Russian sovereign wealth fund in late 2019, of which Alibaba maintains majority ownership but only 49.9 percent of voting rights.⁵³ Outside of Russia, Alibaba's international gains have largely been through acquisitions of local e-commerce platforms, such as purchasing Trendyol in Turkey, Daraz in Pakistan, and Lazada in Singapore, in addition to investments in Indonesian and Indian firms.⁵⁴

COVID-19 has provided Alibaba a foothold in many new markets due to shortages of personal protective equipment (PPE), particularly in Europe, where in the first quarter of 2020, AliExpress saw a 20 percent increase in traffic from Spain and a 14 percent increase from Italy. AliExpress

has now become the fifth most downloaded shopping app in France, fourth in Poland, and third in Spain.⁵⁵ In the United States, Alibaba made headlines when New York Governor Cuomo thanked the company for vetting and delivering 1,000 ventilators to the state.⁵⁶

Further, Alibaba plans to recruit 100,000 social media influencers to promote AliExpress, mimicking its domestic strategy of closely integrating livestreaming and e-commerce.⁵⁷ In particular, Taobao Live, a platform for sellers to promote products live, has reached over 800 million monthly active viewers.⁵⁸ Similar systems have been released on Amazon, Instagram, and YouTube, but have failed to gain significant traction in the West.⁵⁹

Financial Services

Chinese firms have moved aggressively to be in the mobile payments space. In contrast, in part because of the widespread use of credit cards, this sector has grown slowly in the United States. The U.S. market reached \$99 billion in 2019, with Apple Pay, Google Pay, and Samsung Pay commanding the largest shares. Vendor adoption has stymied growth, as some retailers have opted to launch their own payment systems, making it difficult for consumers to rely on a single service, as they might expect of a credit card.⁶⁰

The growth of WeChat Pay and Alipay is heavily tied to foreign acquisitions, both in and out of the financial sector. For example, Chinese investments in Indian tech companies reached \$8 billion in 2019. Eighteen of India's 31 "unicorns" have at least 1 Chinese investor, including 12 from Alibaba and Tencent.⁶¹ Some are directly financial, most notably Alibaba being the largest shareholder of Paytm, the country's largest mobile payment service, valued at \$16 billion.⁶² Paytm has grown to 300 million users, a tenfold increase from 2015, surpassing PayPal as Asia's third-largest digital payment platform.⁶³

Indirectly, Alibaba and Tencent have invested widely in India's digital economy, purchasing stakes in a hotel aggregator, a ride-share service, a logistics firm, and two food-delivery platforms.⁶⁴ Each has leveraged these deals to broaden the number of merchants that accept Alipay or WeChat Pay.⁶⁵ In doing so, they circumvent a key problem in the expansion of payment platforms: ensuring that enough vendors accept the currency for it to be valuable to consumers to adopt.

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Alipay's international expansion is centered on establishing partnerships with global financial services companies, through both acquisitions and the leveraging of the value of Chinese tourists, bringing it to 56 markets. Chinese tourists spend more abroad than any other nation's travelers, accounting for \$258 billion in 2017. This makes facilitating easy shopping for Chinese tourists a lucrative proposition, leading to deals such as that with Barclaycard, the largest processor of U.K. credit card transactions, allowing merchants to accept Alipay without any new equipment.⁶⁶ Within Asia, acquisitions have played a larger role. Ant has purchased minority stakes in digital payment services in India, Thailand, Philippines, Indonesia, Pakistan, Bangladesh, South Korea, Hong Kong, and Malaysia.⁶⁷

However, its expansion in the United States was limited by national security concerns. In 2017, Ant Financial attempted to acquire MoneyGram, a U.S. cross-border payment service, for \$1.2 billion. But the deal was blocked by the Committee on Foreign Investment in the United States (CFIUS).⁶⁸ Ant went to significant lengths to avoid a repeat when it purchased the British WorldFirst, which facilitates global remittance services, for \$700 million in 2019. Shortly before the takeover, WorldFirst shuttered its U.S. offices, which it had opened only six months prior.⁶⁹

WeChat Pay has a similar international reach to Alipay, covering 49 countries and 17 currencies, but has only launched local payment services in Hong Kong, Indonesia, and Japan. As of 2018, though, cross-border payments are still a minute fraction of the pair's revenues, with one estimate placing the year's payments at \$29 billion, or 0.13 percent of China's domestic total.⁷⁰

OneConnect, the fintech arm of Ping An Insurance, has expanded internationally by offering Software as a Service (SaaS) to financial institutions. It conducts business directly in Hong Kong, Singapore, Thailand, Indonesia, Cambodia, South Korea, and the UAE, including establishing an R&D center in Singapore and a blockchain-based trading network in South Korea. Further, OneConnect has partnered with Germany's finleap and Japan's SBI Holdings to offer its services to local banks.⁷¹ Despite that, the company reports that less than 5 percent of its revenue is generated overseas, which it hopes to double "over the next several years," displaying a degree of caution about its prospects for international expansion.⁷²

Social Media

WeChat is the clear social media leader in the Chinese market, with users on the app for just over 1 billion hours per day, twice the next most used app, ByteDance's Douyin (China's domestic version of TikTok), at 506 million daily hours of use. In third and fourth are the Tencent-backed Kuaishou, a short-video platform that is Douyin's chief rival, and the Alibaba-backed Weibo, a microblogging platform akin to Twitter.⁷³

Estimates place WeChat's foreign monthly active users at 170 million in 2018, with an average annual growth rate of 45 percent in the past four years.

Tencent has not released separate active user counts for the domestic and foreign versions of WeChat since 2013. However, estimates place WeChat's foreign monthly active users (MAUs) at 170 million in 2018, with an average annual growth rate of 45 percent in the past four years.⁷⁴ WeChat's reported total MAUs of 1.1 billion for 2018 suggest that foreign users are 15 percent of the user base.⁷⁵ This is more success than the vast majority of Chinese social media platforms have had, but pales in comparison to TikTok, the popular short-video platform. In September 2016, ByteDance launched Douyin in China, which quickly became the most popular short-form app in the country, boasting 100 million users and 1 billion daily views a year later, when it released an international version of the app, branded as TikTok.⁷⁶

Two months later, ByteDance purchased Musical.ly, a similar app in the United States focused on lip-syncing, which at the time had 60 million MAUs, for between \$800 million and \$1 billion.⁷⁷ In August 2018, Musical.ly had grown to 100 million MAUs, but was shut down and merged with TikTok, which had eclipsed it with 500 million MAUs.⁷⁸ TikTok's growth since the merger has been dramatic, boasting 800 million daily active users (DAUs), nearly half of Facebook's 1.7 billion DAUs.⁷⁹ In the first quarter of 2020, the app was downloaded a record

315 million times across the App Store and Google Play, crossing 2 billion total downloads. Notably, this excludes Chinese Android downloads, where Google Play is banned, such that the data shows India as the largest source of installations at 611 million, followed by China at 197 million and the United States at 165 million.⁸⁰

ByteDance's revenue more than doubled in 2019, from \$7.4 to \$17 billion, and it earned \$5.6 billion in the first quarter of 2020, a 130 percent year-on-year increase.⁸¹ ByteDance retains an unusually large portion of TikTok's revenue, as it is reported to retain half of the tips users donate to creators during livestreams and does not share ad revenue with posters, unlike other streaming services such as YouTube and Twitch.⁸² TikTok's users have spent at least \$457 million in the app, 72 percent of which is from China, followed by the United States at 19 percent.⁸³

TikTok's distinguishing feature is its endless scrollable "For You" page, which centers the user experience around algorithmic content from the first time the app is used, quickly honing in on the kinds of content users engage with—unlike most recommendation systems, which rely on users curating their own set of desired content before accurately suggesting new creators.⁸⁴

However, TikTok faces significant political barriers to maintaining or expanding its international standing. In September 2019, *The Guardian* published leaked internal TikTok documents that ordered moderators to censor videos with content contrary to the goals of the Chinese Communist Party, including mentions of Tiananmen Square, Tibetan independence, and the banned religious group Falun Gong. TikTok reported that it retired those internal guidelines in May of 2019.⁸⁵ In November 2019, several former U.S. TikTok employees told *The Washington Post* they felt pressure to clamp down on content deemed controversial by their Beijing colleagues, who had the final say in restricting such content as political debate and heavy kissing. TikTok again responded by claiming that its U.S. operation does not take instructions from its parent company in Beijing.⁸⁶

Some policymakers have pushed to limit ByteDance, the Chinese parent company of TikTok. In late June, the Indian government banned 59 Chinese smartphone apps, including TikTok, WeChat, and Alibaba's UC Browser. The Ministry of Information Technology cited national security concern when announcing the ban, which came two weeks after 20 Indian soldiers died in fighting along a disputed region of the India-China border.⁸⁷ In the United States, the Trump administration has attempted to force ByteDance to sell TikTok to American investors. A court will rule on whether this is legal.⁸⁸ In addition, the House of Representatives has voted to bar TikTok from government-issued devices.⁸⁹

TikTok has released statements claiming they store American user data on servers in the United States and Singapore, and the data is not subject to Chinese law.⁹⁰ While TikTok collects large amounts of user data, it is in line with what is collected by other social media platforms.⁹¹ Even if China could access user data, the kind of information TikTok stores seems unlikely to be useful for espionage purposes.⁹² Additionally, Chinese companies such as Alibaba and Tencent have demonstrated an unwillingness to broadly share data with the Chinese government, and have successfully resisted the government's demands that they hand over data before, indicating the national security laws in question do not give China unfettered access to corporate data.⁹³

Games

While digital games are not as directly key to future innovation as other facets of the digital economy, gaming is particularly important as a revenue stream. It's also an area in which China, especially Tencent, has reached prominence in the international market. In 2019, Tencent earned \$16.4 billion, over 30 percent of its revenue, from online games, of which 23 percent came from overseas in the fourth quarter.⁹⁴ In fact, 5 of the 10 smartphone games with the highest daily users outside of China in 2019 were developed by Tencent.⁹⁵

Tencent has created an international footprint in digital gaming, primarily through acquisitions. In 2011, Tencent bought L.A.-based Riot Games, which developed *League of Legends*, the most popular PC game in the world, with 112 million active users in 2019.⁹⁶ As of June 2012, Tencent owns 40 percent of Epic Games, the American developer behind *Fortnite* and the Epic Games Store, and has also acquired 5 percent shares of U.S. giants Ubisoft and Activision Blizzard.⁹⁷ In 2016, Tencent invested in Supercell, a Finnish mobile developer of such popular games as *Clash of Clans* and *Clash Royale*, and secured a majority stake by 2019, when Supercell earned \$1.6 billion in revenue and \$577 million in profit.⁹⁸ In Japan, Tencent has invested in Aiming, Marvelous, and Platinum Games, and partnered with industry leaders Square Enix and Nintendo.⁹⁹

In 2019, Tencent earned \$16.4 billion, over 30 percent of its revenue, from online games, of which 23 percent came from overseas.

While acquiring stakes in foreign game developers, Tencent has also demonstrated its ability to create its own international hits. It created PUBG Mobile, which earned \$1.3 billion in the first half of 2020, 48 percent of which is from overseas, including 14 percent from the United States.¹⁰⁰ Tencent's gaming studio TiMi, which has an office in Los Angeles, plans to triple its U.S. workforce by the end of 2020.¹⁰¹

RECOMMENDATIONS

Overall, Chinese Internet companies dominate the large and growing Chinese market. Now these firms are seeking to expand their position outside of China.

There are a number of steps the United States should take, ideally together with other trade-law-abiding, democratic nations, to address Chinese innovation-mercantilist policies in the digital economy.

Embrace Reciprocity

China made the strategic—and unfair—decision to either ban or discriminate against foreign Internet companies in China. They used that “breathing space” to enable their own companies to launch and dominate Chinese markets. Now Chinese firms want to be able to enter foreign markets. Not only that, China and Chinese firms expect other countries to keep their markets open to their firms and to treat them fairly—exactly the opposite of how they restrict their own market and discriminate against foreign firms. All nations that support the WTO principles and rules should embrace reciprocity: As long as China does not let foreign (including U.S.) Internet firms operate fairly in China, those nations should enact measures that exclude or disadvantage Chinese Internet firms in both their own and third-country markets until there is reciprocity.

For example, U.S. and other governments should explicitly exclude state-owned and supported Chinese Internet foreign firms from competing in any public procurement projects. Likewise, where licenses or certifications are required for market entry and operation, the United States and others should factor in whether a given firm is the beneficiary of unfair and market-distorting support and protection. Chinese payment providers should face extensive delays, if not outright exclusion, following China's refusal to allow foreign electronic payment providers to enter its market. All the while its electronic payments market has grown rapidly. For example, in February 2020, Mastercard secured Chinese government approval to enter the country's electronic payment services market—17 years after the sector was theoretically first opened to foreign investors when China joined the WTO.¹⁰²

Similarly, U.S. cloud providers face extremely restrictive licensing and operating requirements in China.¹⁰³ The United States should ensure Chinese cloud firms and other Internet firms face similar scrutiny, and where possible, targeted restrictions. As allied nations limit Chinese firms' share of their markets, they counter China's unfair advantage by enabling non-Chinese firms to gain market share.¹⁰⁴

At the same time, governments should block Chinese Internet firm acquisitions of their own domestic Internet firms. Chinese Internet firms benefit from extensive protection and access to subsidized financial support that directly or indirectly subsidizes foreign acquisitions. Furthermore, while China allows foreigners to own shares in major Chinese Internet firms, there's no way China would allow a foreign firm to acquire a major firm. Again, the United States should ensure foreign investment regimes are broadly reciprocal. In the United States this criterion is part of the CFIUS foreign investment review process. And governments, including that of the United States, should block Chinese Internet firms from accessing U.S. securities markets.

Consider Chinese Internet Firms in Antitrust Decisions

Chinese Internet firms enjoy two core advantages over non-Chinese Internet firms. The first is they enjoy protected access to the largest Internet market in the world, and can use that advantage to subsidize foreign expansion. The second is they do not face aggressive scrutiny from populist antitrust enforcers who do not believe that there are natural economies of scale and network effects in Internet markets that lead to "monopolies." This advantage will help at least some Chinese Internet firms challenge U.S. Internet firms in other markets, especially developing economy markets. Antitrust officials should consider the effects of any actions regarding Internet firms on their ability to continue to successfully contest Chinese competitors.

Government Policy Should Support Contesting Chinese Overseas Market Expansion

There is likely little other governments can do to open up China's Internet market, but they can and should contest Chinese firms' efforts to gain market share overseas. In the case of firms in capital-intensive firms such as telecom equipment and Huawei, that means increasing export financing programs to challenge China's subsidies. Further, Congress should increase funding for international development aid, with an increasing focus on digital infrastructure, leveraging the Agency for International Development's (USAID) first-ever *Digital Strategy*.¹⁰⁵

In addition, the Department of Commerce should expand and upgrade its network of digital attaché positions in China and other U.S. embassies around the world.¹⁰⁶

The next administration should work more aggressively in international bodies to defend cross-border data flows and empower industries to forge international standards that ensure a level playing field.

Finally, the next administration should continue to support the Global Partnership on Artificial Intelligence (GPAI) and make sure it works to build an alliance of democratic, rule-of-law nations to craft and support an alternative to China's model of AI governance.

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About ITIF

The Information Technology and Innovation Foundation (ITIF) is a nonprofit, nonpartisan research and educational institute focusing on the intersection of technological innovation and public policy. Recognized as the world's leading science and technology think tank, ITIF's mission is to formulate and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress.

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