U.S.-China Economic and Security Review Commission

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Highlights of This Month's Edition

- **Bilateral trade:** The U.S. goods trade deficit with China totaled $31.3 billion in October 2019, down 27.5 percent year-on-year—the largest decrease in the bilateral goods deficit in more than three years.
- **Policy trends in China's economy:** Beijing doubles down on industrial policy to steer the economy as negotiations with the United States continue; Harbin Bank becomes the fourth Chinese regional bank to get government backing; three city commercial banks issued perpetual bonds in November 2019, becoming the first subnational banks to raise capital this way since the State Council cleared the instrument for use in December 2018; MSCI finalized the expansion of the weighting assigned to Chinese A-shares in two of its widely followed indexes; Alibaba, China's largest e-commerce firm, reported record Singles' Day revenue, but sales growth continued to slow amid economic headwinds and increased competition from rival firms.
- **In focus – Chinese telecom operators launch 5G services:** China's three major telecom operators officially launched 5G networks on November 1, 2019; 5G services are planned in 57 Chinese cities by the end of 2019 compared to 34 cities currently in the United States.

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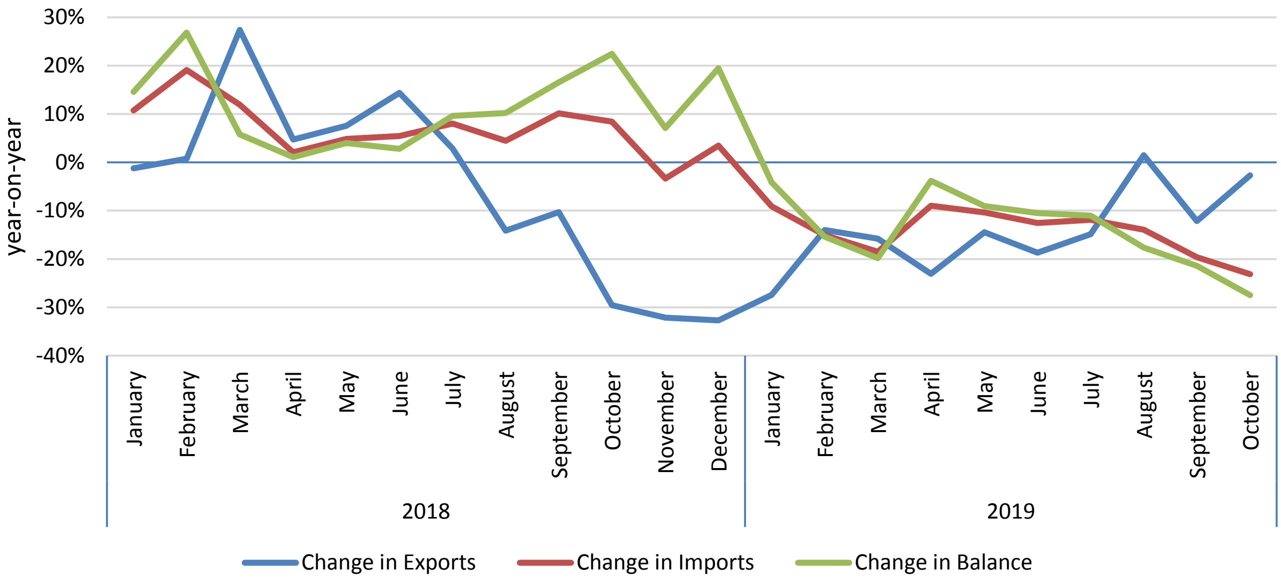
Bilateral Trade

U.S.-China Trade Deficit Sees Largest Reduction in More Than Three Years

The U.S. goods trade deficit with China totaled $31.3 billion in October 2019, down 27.5 percent year-on-year (see Figure 1)—the largest decrease in the bilateral goods deficit since March 2016. U.S. exports to China fell to $8.9 billion, a 2.7 percent year-on-year decrease. U.S. imports from China contracted 23.1 percent year-on-year to $40.1 billion.[1] Year-to-date, the U.S. goods deficit with China reached $294.5 billion, down 14.5 percent from the same time last year.[2]

Figure 1: U.S. Imports, Exports, and the Trade Deficit with China, January 2018–October 2019



Source: U.S. Census Bureau, *Trade in Goods with China*, December 5, 2019. *https://www.census.gov/foreign-trade/balance/c5700.html*.

Policy Trends in China's Economy

Beijing Reinvigorates State-Led Economic Model

As U.S. trade negotiators continue to target China's industrial policies, new actions by Beijing demonstrate the government's enduring commitment to a state-led economic model. At a November 30 meeting of the Chinese Communist Party's (CCP) Politburo, China's leaders emphasized the importance of strengthening the CCP's leadership over state-owned enterprises and making the state sector "more competitive and influential."[3] Echoing this sentiment, Vice Premier Liu He wrote in a November 2019 *People's Daily* editorial that the Chinese government will "promote state-owned economic reforms and structural adjustments, and invest more in industries related to national security, serving the national strategic goals" to make the state-led economy "stronger, better, and bigger."[4] These pronouncements, read together with other industrial policy developments, affirm that Beijing will not allow China's economic development to be separated from state control.

Industrial Policy Marches On

On November 15, 2019, China's National Development and Reform Commission (NDRC), together with 14 other agencies, released the *Implementation Opinions on Promoting and Deepening the Integrated Development of the Advanced Manufacturing and Modern Services Industries* (the Plan).[5] The Plan ensures the Chinese government will continue to guide China's economic activity in support of national development. When the Plan was first introduced in September 2019 at the tenth meeting of the Central Committee on Comprehensively Deepening

Reform, Chinese President and General Secretary of the CCP Xi Jinping called its realization an "important way to enhance the core competitiveness of manufacturing, cultivate a modern industrial system, and achieve high-quality development."[6]

The Plan is shorter than the Made in China 2025 initiative,[*] and does not prescribe any specific quantitative targets to guide the development of the advanced manufacturing sector[†] in China. Instead, the Plan directs the government to redouble efforts already underway to move up the industrial value chain. For example, in an echo of the Internet Plus initiative,[‡] the Plan calls for the enhanced development of an "industrial internet" that facilitates digital communication between manufacturing equipment lines to optimize production.[7] The Plan also emphasizes the need to accelerate the construction of charging facilities and further build out intelligent manufacturing infrastructure for electric vehicles, a sector prioritized in the Made in China 2025 initiative.[8]

The Plan's clearest focus is on cultivating a cohort of "leading enterprises" and "sector champions" to integrate advanced manufacturing with modern services and spearhead the development of cutting-edge products by 2025. While the Plan does not specify whether these companies should be state- or privately owned, in a press conference after its release, NDRC spokesperson Meng Wei stated that companies such as Huawei and Xiaomi, leaders in China's mobile devices and internet services industries, will play a major role in the Plan's execution.[9] The Plan is the latest in a series of overlapping industrial policy directives released by the Chinese government in recent months, underscoring that Beijing's push to become a high-technology superpower by 2025 continues unabated.[10]

New Government-Backed Fund to Support Realization of Economic Ambitions

In a separate development, state-owned rolling stock company CRRC, together with 19 other founding stockholders, established a $21 billion "National Manufacturing Transformation and Upgrade Fund" to promote the development of advanced manufacturing industries in China.[11] Other stockholders include the Ministry of Finance, the investment arm of China Development Bank, and China National Tobacco Corporation. All of these entities were also founding investors in the National Integrated Circuit Investment Fund, which had a smaller base of registered capital at the time of its establishment.[12] According to a stock filing submitted by CRRC to the Shanghai Stock Exchange, the fund will invest specifically in growth-stage and mature companies in areas such as new materials, next-generation information technology, and power equipment—industries that are prioritized in the Made in China 2025 initiative.[13]

Whereas the establishment of the National Integrated Circuit Investment Fund in 2014 was mandated by a related industrial policy meant to guide the development of China's integrated circuit industry, the creation of the advanced manufacturing fund was not explicitly stipulated by any particular industrial policy.[14] Nevertheless, its establishment aligns with Beijing's frequent practice of directing state financing vehicles worth billions of dollars to target sectors outlined in overarching industrial policy initiatives.[15] The creation of the fund by state-backed entities, with the Ministry of Finance holding the largest stake of 15.39 percent, also suggests the Chinese government will continue to rely on a patchwork of government-guided funds to channel financial resources into the emerging industries in which it seeks national leadership.

[*] Released in 2015, the Made in China 2025 initiative is a signature domestic economic policy of General Secretary Xi that outlines a ten-year plan to develop ten advanced manufacturing sectors through funding and policy support. The prioritized sectors, most of which are long-held strategic industries for the Chinese government, include new energy vehicles, next-generation information technology (IT), biotechnology, new materials, aerospace, ocean engineering and high-tech ships, railway, robotics, power equipment, and agricultural machinery. For more on Made in China 2025, see the U.S.-China Economic and Security Review Commission Chapter 4, Section 1, "China's Pursuit of Dominance in Computing, Robotics, and Biotechnology," in *2017 Annual Report to Congress*, November 2017, 513–515.

[†] Advanced manufacturing refers to a set of flexible and data-enabled manufacturing processes that leverage an array of technologies to enable the more efficient production of goods and services. Through the integrated use of interconnected IT systems, sensors, machines, and data, advanced manufacturing contributes to the creation of new products, services, industries, and markets. Michael Rüßmann et al., "Industry 4.0: The Future Productivity and Growth in Manufacturing Industries," *Boston Consulting Group*, April 2015, 4. *http://image-src.bcg.com/Images/Industry_40_Future_of_Productivity_April_2015_tcm9-61694.pdf*.

[‡] Released in 2015, the Internet Plus initiative seeks to—among other things—transform China's traditional, labor-intensive manufacturing sector into a more efficient, IT-driven base through the integration of the mobile internet, cloud computing, big data, and the Internet of Things (IoT) with modern manufacturing processes. U.S. Chamber of Commerce, "Made in China 2025: Global Ambitions Built on Local Protections," 2017, 16, 42. *https://www.uschamber.com/sites/default/files/final_made_in_china_2025_report_full.pdf*.

A Regional Bank Gets Regional Government Backing

On November 15, two local government entities became the largest shareholders in the Hong Kong-listed Harbin Bank—the fourth publicized government-led bank stabilization in China since Baoshang Bank was taken over by government regulators in May.[*] [16] Harbin Bank's new majority shareholders are Harbin Economic Development and Investment Co., controlled by Harbin city's financial bureau (with a stake of 29.6 percent, up from 19.7 percent in June), and Heilongjiang Financial Holdings Group Co., owned by the provincial government of Heilongjiang, Harbin's capital (a new shareholder with a stake of 18.6 percent).[17] Harbin Bank is a mid-sized regional lender that ranks as the 35th-largest bank in China by assets.[18]

The shares transferred to the Harbin government were originally held by the Tomorrow Group, the former controlling shareholder of Baoshang Bank.[†] [19] After Harbin Bank abandoned its bid to list in mainland China in March 2018, Caixin reported the Tomorrow Group owned 25.6 percent of the bank's shares through investments in five companies.[20] This ownership stake exceeded the 20 percent regulatory threshold allowed for any individual shareholder or its affiliates.[21]

The statement issued by Harbin Bank after the stake transfer offered no explanation, igniting speculation. Some analysts claimed Harbin Bank's situation was not grave enough to warrant central government intervention, leading local government entities to step in. Though Harbin Bank saw a contraction in interbank funding from larger banks in September, data reported by Rhodium Group suggest this contraction was not as great as experienced by other regional lenders (e.g., Shengjing Bank, China Everbright Bank) in the period following Baoshang's takeover.[22] The bank also reported profits of about $311.1 million (renminbi [RMB] 2.18 billion) in the first half of 2019, though profits still fell about 15 percent year-on-year over the first half of 2018.[23] The policy decision to transfer shareholdings, rather than conduct a government takeover or intervention in bank operations, suggests Harbin Bank may not have necessitated as dramatic a change.

An alternative explanation is that the central government intends to selectively intervene in institutions it considers vital, with Harbin Bank not meeting internal benchmarks for direct involvement. In November 2018, the People's Bank of China (PBOC) announced at least 30 major banks would be categorized as "domestic systemically important financial institutions."[24] Though the names of these entities are not publicly available, some analysts hypothesize the central government is differentiating bank support strategies based on this undisclosed classification system.[25] If Harbin Bank is not among the 30 earmarked by the PBOC, it may constitute a lower priority for Beijing.[26] According to Rhodium Group, the PBOC has recently urged bank shareholders to take primary responsibility for recapitalizing struggling banks, with support from local governments as necessary, leaving regulatory intervention as a last resort.[27]

Regional Banks Begin Issuing Perpetual Bonds

In November 2019, three Chinese city commercial banks issued a combined $2.7 billion (RMB 14.6 billion) in perpetual bonds—a type of fixed income security with no maturity date.[‡] This was the first time regional banks were permitted to issue perpetual bonds since the State Council approved their use in December 2018.[28] The

[*] Chinese government entities have also publicly stepped in to shore up three other troubled banks: Baoshang Bank, Bank of Jinzhou, and Hengfeng Bank. For more information on the Baoshang Bank takeover, see U.S.-China Economics and Security Review Commission, *Economics and Trade Bulletin*, July 3, 2019, 6. *https://www.uscc.gov/sites/default/files/Research/July%202019%20Trade%20Bulletin.pdf*. For more information on the Bank of Jinzhou, see U.S.-China Economics and Security Review Commission, *Economics and Trade Bulletin*, August 5, 2019, 10. *https://www.uscc.gov/sites/default/files/Research/August%202019%20Trade%20Bulletin.pdf*.

[†] The financial tycoon who controlled the Tomorrow Group, Xiao Jianhua, was reportedly kidnapped from a hotel in Hong Kong by Chinese security forces in January 2017 and is believed to be held in China. *Wall Street Journal*, "Disappearance of Chinese Billionaire Alarms Financial Sector," February 3, 2017. *https://www.wsj.com/articles/stocks-connected-to-missing-chinese-billionaire-battered-1486103953*.

[‡] Although perpetual bonds have no maturity date, they often a callable feature, which enables the borrower to pay back the principal at a predetermined price on certain dates established at the time of issuance. They can also be written down at the behest of regulators if the issuing bank's capital falls below a certain threshold or it becomes insolvent. Wu Hongyuran and Denise Jia, "China's Regulator Revises Rules on Banks' Capital Replenishment Tools," *Caixin Global*, November 30, 2019. *https://www.caixinglobal.com/2019-11-30/chinas-regulator-revises-rules-on-banks-capital-replenishment-tools-101489026.html*; BNP Paribas, "What Are Perpetual Bonds or Perpetuals?" *https://www.bnpparibasfortis.be/rsc/contrib/document/1-Website/5-Docserver/BNP/F04824E.pdf*.

issuances followed a November 6 meeting of the State Council Financial Stability and Development Committee, during which policymakers highlighted the need to support new channels for small and medium banks to replenish capital.[29] Although these issuances are tiny in comparison to the perpetual bonds issued by major commercial banks—totaling $138.2 billion (RMB 977.7 billion) as of October 2019—the availability of this new capital-raising tool is particularly significant for small commercial banks because the majority of them are unlisted and therefore cannot issue stock.[30]

For the past year, China's banking regulators have championed perpetual bonds as a way for commercial banks to recapitalize and meet tightening regulatory requirements while also continuing to lend to small businesses.[31] In January 2019, for example, the PBOC created a central bills swap system. Under this system, certain banks can temporarily exchange their perpetual bonds for central bank bills and then use them as collateral—enhancing the attractiveness of an otherwise relatively illiquid asset.[32] The urgency of regional bank recapitalization is twofold. First, Chinese banks' grace period to comply with the Basel III[*] banking standards expired at the end of 2018, and they now must hold more available capital in proportion to their credit exposure.[33] Second, interbank funding markets remain tight in the aftermath of the Baoshang Bank bailout earlier this year.[34]

Compounding the difficulty of complying with Basel III minimum capital requirements, the China Banking and Insurance Regulatory Commission (CBIRC) has also strengthened regulations on how banks disclose nonperforming loans and credit-impaired assets as part of its ongoing effort to clean up shadow banking.[35]Although stricter disclosure requirements are positive from a prudential standpoint, they are exposing weaknesses in some banks' balance sheets that were previously obscured through accounting tricks. For example, UBS's analysis of Shengjing Bank's financials indicates that prior to receiving a capital infusion in June 2019, the true value of the bank's nonperforming loans was several times the officially disclosed number and would have rendered its available capital inadequate under Basel III.[36] Beijing views perpetual bonds, which count toward the Basel III minimum available capital requirement, as a partial solution to these challenges because they are a straightforward way for banks to replenish capital without interrupting their lending activities.[37] Banks can therefore simultaneously meet their regulatory obligations and fulfill the government's economic policy directive to continue small-business lending.[38]

While perpetual bonds may be ideal for the issuing banks, the benefits for investors are less clear—especially in the case of China's regional banks. Because they have no maturity date and can be written down if the issuing bank's capital falls below a certain level, perpetual bonds are often compared to equities and are considerably riskier than typical bonds.[39] Buying a perpetual bond issued by a regional bank essentially presents the same risks as buying the bank's stock, but without the potential upside of windfall profits if the stock price increases.[40] While investors accept these limitations with the safest and most stable global financial institutions, the attractiveness of making long-term investments in China's battered regional banks is much more questionable. In November 2019, Chinese financial media highlighted that several city commercial banks' available capital has fallen below the required minimums. One of these is Weihai Commercial Bank, which is among the three that issued perpetual bonds in November.[41] Moreover, in September 2019, the recently bailed out Bank of Jinzhou was reportedly seeking another $866 million from domestic investors to recapitalize, calling into question its future solvency.[42]

To some extent, the risks of investing in the new crop of perpetual bonds are reflected in the variance among interest rates different banks must pay. For example, lenders only charged China Construction Bank an interest rate of 4.4 percent for its perpetual bonds, while Taizhou Bank had to offer 5.4 percent.[43] But the true test of whether such bonds are a sound investment will be whether the appetite for regional banks' perpetual bonds extends beyond China's state-owned commercial banks, which are very responsive to government policy priorities.

[*] Basel III is an internationally agreed-upon set of prudential standards for banks that the Basel Committee on Banking Supervision (BCBS) developed to strengthen bank stability following the global financial crisis. The Chinese government gave banks a six-year grace period from 2012 to 2018 to comply with Basel III's stricter capital requirements. Simon Rabinovitch, "China Gives Banks Basel III Timetable," *Financial Times*, December 7, 2012. *https://www.ft.com/content/fac595b4-4062-11e2-8f90-00144feabdc0*; Bank for International Settlements, "Basel III International Regulatory Framework for Banks." *https://www.bis.org/bcbs/basel3.htm*.

MSCI Completes A-Shares Weighting Expansion in Benchmark Indexes

In November 2019, MSCI, a U.S. investment research firm and equities index provider, completed the final stage of an expansion in the weighting assigned to China A-shares* in its benchmark Emerging Markets Index (EM), All Country World Index (ACWI), and its various China-specific indexes.[44] Following the completion of the weighting expansion, the EM and ACWI indexes include 472 A-shares, which represent 4 percent and 0.5 percent of the indexes, respectively.† [45]

Before MSCI announced the A-shares weighting expansion in February 2019, the inclusion factor was set at 0.05, meaning that only 5 percent of included equities' total eligible market capitalization was used for construction of the index. Between February 2019 and November 2019, MSCI raised the inclusion factor to 0.20, effectively quadrupling the China exposure of passive investment funds that track MSCI's EM and ACWI indexes.[46] With an estimated $5 trillion in assets under management benchmarked against the two indexes, the A-shares weighting expansion could lead to a $70 billion net inflow of foreign capital into China's stock markets, according to an analyst at Goldman Sachs.[47]

Throughout the A-shares inclusion process, MSCI has maintained that its decisions were based on consultations with international institutional investors.[48] However, critics contend that MSCI caved to pressure from the Chinese government in reversing its previous decision—made in 2016—to exclude A-shares.[49] A February 2019 *Wall Street Journal* article, for example, alleged that Chinese stock exchanges threatened to cut off MSCI's access to market and pricing data, which it provides to clients, after it declined to include A-shares in 2015 and 2016.[50] MSCI denies these claims, and cites improvements in the accessibility of China's equity markets through the stock connect program and looser regulations as a justification for the inclusion.[51] In a 2017 survey of institutional investors conducted by the Asian Corporate Governance Association, however, 48 percent of respondents believed that MSCI was not right to include Chinese A-shares, while only 27 percent said it was right to do so.[52]

MSCI's decision to include A-shares was accompanied by certain technical issues. One unresolved problem is what happens to an included equity when foreign ownership reaches the 30 percent cap established by Chinese regulators. MSCI takes this into account during the index construction process by requiring that at least 15 percent of the allowed foreign ownership maximum still be available at the time of inclusion for the equity to be considered investable.[53] However, this does not account for subsequent trading. In March 2019, for example, MSCI announced it would remove Han's Laser Technology Industry Group Co.—a Chinese manufacturer of laser processing equipment—from its indexes, citing investability issues due to foreign ownership limits.[54] MSCI's decision to remove Han's Laser followed an announcement from the Hong Kong Stock Exchange that it would halt buy orders from overseas investors in the company under the Shenzhen-Hong Kong Stock Connect, as foreign ownership was nearing the 30 percent threshold.[55] Another problem is that foreign institutional investors lack access to hedging instruments such as derivatives, index futures, and options contracts, which help provide volatility protection.[56] Based on these concerns, MSCI announced last month that it would halt consultations on any further expansion of the A-shares weighting until outstanding problems are resolved.[57]

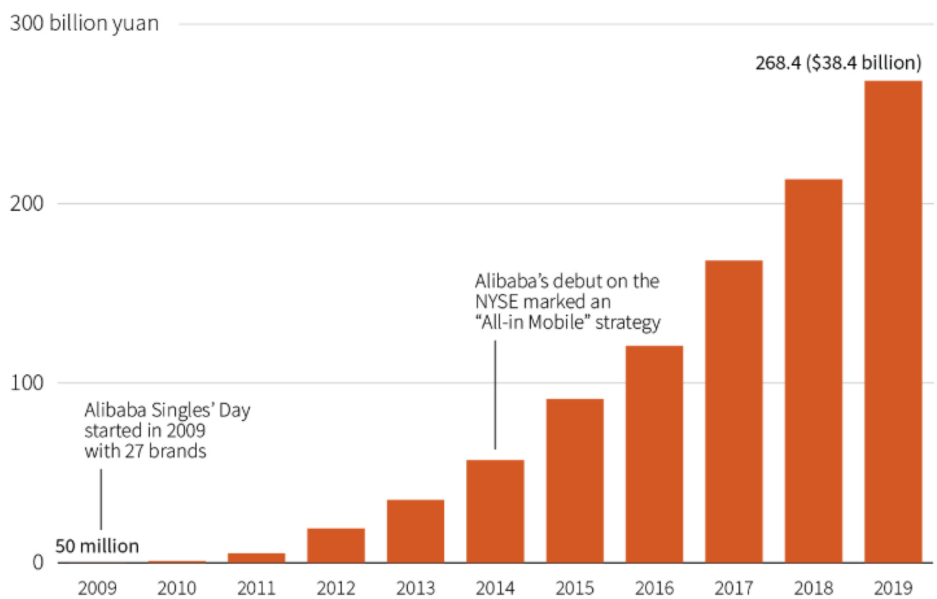
* A-shares are RMB-denominated securities of companies incorporated in China that trade on either the Shanghai or Shenzhen stock exchanges. A-share trading is restricted to Chinese residents and foreigners can only access the A-shares market through special investment programs such as the Qualified Foreign Institutional Investor program and the Stock Connect programs. A-shares are distinct from other Chinese share classes such as H-shares (shares in Chinese incorporated companies listed on the Hong Kong Stock Exchange), trading of which is not restricted to Chinese residents. FTSE Russell, "Guide to Chinese Share Classes," May 2019. *https://research.ftserussell.com/products/downloads/Guide_to_Chinese_Share_Classes.pdf*.

† The assigned weighting of A-shares within an index is determined by an "inclusion factor," which MSCI explanatory documents describe as the proportion of a security's market capitalization included in the index adjusted for foreign ownership limits. Under Chinese regulations governing the Stock Connect program, combined foreign ownership in a China-listed company cannot exceed 30 percent, and any single overseas investor's ownership is capped at 10 percent. *Reuters*, "China Halts Foreign Purchases of Shenzhen-Listed Stock as Inbound Investment Surges," March 5, 2019. *https://www.reuters.com/article/china-markets-connect/update-1-china-halts-foreign-purchases-of-shenzhen-listed-stock-as-inbound-investment-surges-idUSL3N20T0M9*; MSCI, "China A Shares Inclusion: Implementation Q&A," July 2018. 6. *https://www.msci.com/documents/1296102/1330218/CNA_Incl_QA.pdf/acc8b584-ccec-4483-958f-fc2f558ddb1a*.

Alibaba Reports Record Singles' Day Sales Figures

Alibaba, China's largest e-commerce company, saw a record $38.4 billion in sales across its platforms on its November 11 Singles' Day promotion, beating last year's record of $30.7 billion (see Figure 2).[*] [58] Singles' Day reportedly was begun in the 1990s by university students as an anti-Valentine's Day celebration, but gained far greater renown in 2009 when Alibaba launched its first online Singles' Day promotion. Since then, it has become the largest shopping day in the world, far outstripping similar U.S. holidays: Black Friday saw $7.2 billion in digital sales in 2019, while Cyber Monday drew $9.2 billion in sales.[59] Amazon's Prime Days, a two-day promotional event in July, generated an estimated $7.2 billion in sales this year, according to third-party estimates, although the company did not release exact sales figures.[60]

Figure 2: Alibaba's Singles' Day Sales, 2009–2019



Source: Brenda Goh and Josh Horwitz, "L'Oreal, Nestle Score Big at Alibaba's Singles' Day Shopping Fest," *Reuters*, November 12, 2019. *https://www.reuters.com/article/us-singles-day-alibaba-brands/loreal-nestle-score-big-at-alibabas-singles-day-shopping-fest-idUSKBN1XM0QU.*

While the $38.4 billion in sales represents the highest-ever Singles' Day sales for Alibaba, sales growth is on a downward trend: in 2019, sales growth reached 26 percent this year—down from 27 percent last year and the lowest year-on-year sales growth since the promotion began in 2009.[61] This deceleration in part reflects a broader slowdown in China's economy, which grew at 6 percent in the third quarter of 2019, the slowest growth in nearly three decades.[†] [62] Online retail remains a relative bright spot in China's economy, with sales through September seeing a 16.9 percent increase over last year, more than twice the 8.2 percent rate of overall consumer spending growth.[63] Still, this growth rate represents a considerable slowdown from the previous few years, when online spending growth averaged around 30 percent year-on-year.[64]

Alibaba is also facing increased competition from rival e-commerce firms such as JD.com and Pinduoduo, which have launched their own Singles' Day promotions. These firms are better positioned to serve China's smaller cities, which remain a relatively untapped market.[65] For example, JD.com reported $29.2 billion in sales for its Singles' Day promotional event (this figure includes sales beginning on November 1).[66] In response to competitive pressure, Alibaba increased its focus on areas outside of China's largest cities. Alibaba's Juhuasuan platform, which targets lower-tier cities, partnered with brands to develop 1,000 products catering to consumers from these areas.[67]

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[*] For highlights from Alibaba's 2018 Singles' Day, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, December 10, 2018, 7–9. *https://www.uscc.gov/sites/default/files/Research/December%202018%20Trade%20Bulletin_0.pdf*.

[†] For a review of China's economy in Q3 2019, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, November 5, 2019, 7–10. *https://www.uscc.gov/sites/default/files/2019-11/November%202019%20Trade%20Bulletin.pdf*.

As consumption in smaller cities has increased, China's e-commerce firms have placed greater emphasis on addressing the logistics of delivering packages to these areas.[68] Alibaba announced in November that it invested an additional $3.3 billion in its shipping affiliate Cainiao, raising its equity in the firm to 63 percent. JD.com and Pinduoduo have made similar investments in logistics, including developing systems using big data to determine more efficient shipping routes.[69]

This year's Singles' Day events highlighted several emerging trends in Chinese retail. One such trend is the rise of selling products through live streams—essentially a modernized version of shopping networks such as QVC in the United States. Nearly $3 billion of Alibaba's Singles' Day sales this year came from live streams.[70] According to Alibaba, live stream transactions for furniture and decoration products as well as consumer electronics have increased by more than 400 percent year-on-year in 2019.[71]

Singles' Day also saw a greater share of customers buying products on credit, which traditionally has been relatively uncommon in China.[72] One credit product that has seen greater use is Huabei, offered by Alibaba affiliate Ant Financial, which provides consumers with installment plans or credit lines. According to external estimates, at least half of all Singles' Day purchases on Alibaba's Tmall and Taobao platforms were made using Huabei, encouraged by zero-interest Huabei plans on over eight million Tmall products.[73] Banks have also expanded their credit offerings for retail customers as they seek to diversify away from loans to corporations. For example, China Merchants Bank reported a record $3.9 billion in credit card transactions on Singles' Day.[74]

While primarily a Chinese phenomenon, Singles' Day also saw a greater international presence this year. Lazada, an Alibaba subsidiary operating in Southeast Asia, reported a record three million orders in the first hour of Singles' Day, while rival firm Shopee said its order volume in the first hour was more than three times higher than last year, and sold 70 million items online.[75]

Despite ongoing trade tensions and pressure from Beijing over perceived political statements by U.S. firms, many U.S. brands saw brisk sales on Singles' Day. For instance, Tmall reported that Apple sales within the first ten minutes of Singles' Day this year were more than seven times higher than sales of the entire day in 2018.[76] Nike, Adidas, and Estée Lauder all saw sales of over $14.3 million (RMB 100 million).[77]

Despite the record-setting performance, Alibaba's founder Jack Ma said the firm's Singles' Day performance did not meet his own expectations, blaming factors such as the weather and the fact that Singles' Day fell on a Monday.[78] Nevertheless, the sales figures beat market predictions.[79] Two weeks after the Singles' Day event, Alibaba's stock debuted on the Hong Kong Stock Exchange, becoming the biggest listing of 2019.[80]

In Focus – Chinese Telecom Operators Launch 5G Services, Surpassing U.S. Coverage

China's three major state-owned telecommunications operators—China Mobile, China Unicom, and China Telecom—launched 5G services in major cities across China on November 1, 2019.[81] China's all-at-once approach is symptomatic of state planning, where U.S. networks have gradually experimented with new cities. Coupled with faster deployment of 5G infrastructure and greater availability of 5G devices, China's 5G network launch positions it ahead of the United States in providing 5G service to urban consumers.[*][82] Network coverage is only one of several important aspects in establishing a competitive advantage in 5G, however, and the United States remains poised to excel in complex commercial applications of 5G.[83]

China's accelerated 5G launch comes ahead of initial plans for a nationwide rollout in 2020. According to state news outlet Xinhua, China Mobile's 5G services are already active in 50 cities (see Tables 1 and 2), and the three carriers have announced plans to provide 5G services in at least 57 Chinese cities by the end of 2019, with each providing coverage in 50 mostly overlapping cities.[84] By contrast, 5G services are now available on a limited basis

[*] China is neck-and-neck with South Korea for greatest geographic coverage, based on number of 5G base stations. Grady McGregor, "China Is Launching Its 5G Network Ahead of Schedule and on a Spectrum the U.S. Can't Yet Match," *Fortune*, October 31, 2019. *https://fortune.com/2019/10/31/china-5g-rollout-spectrum/*.

in 34 U.S. cities,[*] and frontrunners AT&T and Verizon have often avoided direct competition in initial deployment.[85] Of the four major U.S. operators—AT&T, Verizon, T-Mobile, and Sprint—AT&T currently leads by a small margin, with 5G services available in 21 cities.[86] However, AT&T's 5G service is currently only available for corporate customers. Verizon leads in providing 5G for personal use, with service available in parts of 20 cities (see Tables 1 and 2).[87]

Deployment of 5G in the United States has been piecemeal compared to China's coordinated launch, with network availability limited to certain districts or neighborhoods in some cities.[88] For instance, Verizon's initial coverage in New York does not extend to Staten Island or Queens.[89] As of their official launch on November 1, Chinese carriers' 5G service reportedly encompassed substantial portions of the metropolitan areas in key political and commercial hubs, such as Beijing, Shanghai, port city Tianjin, and southern technology center Shenzhen. China Mobile claimed its Beijing coverage extended well into the capital city's suburbs.

The simultaneous launch of networks across operators and through many major cities also highlights the extensive coordination of Chinese economic planners in deploying 5G. Each of the major U.S. carriers launched in just a handful of cities from December 2018 (AT&T) to late June 2019 (T-Mobile), with sharply diverging commercial and technical approaches.[90] While AT&T's early emphasis is on corporate customers, T-Mobile and Verizon are focused on providing coverage at faster speeds (though it is only available outdoors and close to 5G towers).[91] Despite being the smallest of the carriers by revenue, Sprint has kept pace with its larger rivals by upgrading its 4G infrastructure to provide hybrid 4G and 5G coverage, albeit at slower speeds than Verizon and T-Mobile's 5G service.[92]

In addition to greater reported network access, Chinese consumers are also able to purchase a wider variety of 5G-compatible handsets. Currently only four devices, all retailing for $1,000 or more, are for sale in the United States.[†] By contrast, China's Ministry of Industry and Information Technology had approved 13 5G handsets for sale in the Chinese market at the end of September, though some will not be available until February 2020.[93] The majority of these devices are from Chinese brands not available in the United States or through U.S. carriers, including Huawei, ZTE, Vivo, and Xiaomi.[94]

China's rapid deployment of 5G positions Chinese developers of 5G applications to reach more urban consumers by 2020 than the United States. Nonetheless, U.S. firms are still poised to lead in many 5G applications that could precipitate the most impactful economic transformations.[95] These are typically distinct from consumer cellular services or rely on concurrent advances in several technologies, of which 5G connectivity is only one vital part. Many manufacturers plan to launch their own enterprise 5G networks, for instance to accelerate automation in warehouses that use industrial robots and augmented reality.[96] The United States is also well-poised to lead in applications made possible by 5G's faster transmission of data, such as development of autonomous vehicles, augmented reality, and advanced medical applications of 5G like remote surgery.[97]

Table 1: U.S. 5G Coverage by City and Carriers

City	Carriers Providing 5G	City	Carriers Providing 5G
Atlanta	AT&T, Verizon, T-Mobile, and Sprint	New Orleans	AT&T
Austin, Texas	AT&T	New York	AT&T, Verizon, T-Mobile, and Sprint

[*] Verizon plans to launch in seven new cities by the end of 2019, and T-Mobile will launch a slower "national" 5G network encompassing more than 5,000 U.S. cities and towns on December 6. Mark Jansen, "T-Mobile Becomes the First Carrier to Create a Nationwide U.S. 5G Network," *Digital Trends*, December 2, 2019. *https://www.digitaltrends.com/mobile/t-mobile-launches-first-nationwide-5g-network/*; Christian de Looper, "Here Are the Cities Where You Can Access 5G from Major U.S. Carriers Right Now," *Digital Trends*, November 20, 2019.

[†] These include the Samsung's Galaxy Note 10 Plus 5G and Galaxy S10 5G, LG's V50 ThinQ 5G, and OnePlus's 7 Pro 5G. One Plus's 7T Pro McLaren is due to launch December 6, 2019, and several models of Motorola handsets can be upgraded to 5G. Historically, Apple has often remained secretive about product development plans, but some market analysts believe it will release a 5G smartphone in 2020. Ben Schoon, "[Update: 12/6] OnePlus 7T Pro 5G McLaren Edition Is Coming to T-Mobile Exclusively," *9to5Google*, December 2, 2019; Philip Michaels, "5G Phones: Every Known Phone and Release Date," *Tom's Guide*, November 7, 2019. *https://www.tomsguide.com/us/5g-phones-list,news-29292.html*.

City	Carriers Providing 5G	City	Carriers Providing 5G
Boston	Verizon	Oklahoma City	AT&T
Boise, Idaho	Verizon	Omaha, Nebraska	Verizon
Charlotte, North Carolina	AT&T	Orlando, Florida	AT&T
Cleveland, Ohio	T-Mobile	Panama City, Florida	Verizon
Denver, Colorado	Verizon	Providence, Rhode Island	Verizon
Dallas	AT&T, Verizon, T-Mobile, and Sprint	Phoenix	Verizon
Detroit	Verizon	Raleigh, North Carolina	AT&T
Houston	AT&T, Verizon, and Sprint	Saint Paul, Minnesota	Verizon
Indianapolis	AT&T and Verizon, and Sprint	San Antonio	AT&T
Jacksonville, Florida	AT&T	San Diego	AT&T
Las Vegas	AT&T and T-Mobile	San Francisco	AT&T
Los Angeles	AT&T, T-Mobile, and Sprint	San Jose, California	AT&T
Louisville, Kentucky	AT&T	Sioux Falls, South Dakota	Verizon
Minneapolis	Verizon	Waco, Texas	AT&T
Nashville, Tennessee	AT&T	Washington, DC	Sprint

Source: Various.[98]

Table 2: China's Planned 5G Coverage by City and Carrier

City	Carriers Providing 5G	City	Carriers Providing 5G
Beijing	China Mobile, China Unicom, and China Telecom	Zhengzhou	China Mobile, China Unicom, and China Telecom
Tianjin	China Mobile, China Unicom, and China Telecom	Nanyang	China Mobile
Shanghai	China Mobile, China Unicom, and China Telecom	Wuhan	China Mobile, China Unicom, and China Telecom
Chongqing	China Mobile, China Unicom, and China Telecom	Changsha	China Mobile, China Unicom, and China Telecom
Shijiazhuang	China Mobile, China Unicom, and China Telecom	Zhuzhou	China Mobile
Xiong'an	China Mobile, China Unicom, and China Telecom	Guangzhou	China Mobile, China Unicom, and China Telecom
Taiyuan	China Mobile, China Unicom, and China Telecom	Shenzhen	China Mobile, China Unicom, and China Telecom
Jincheng	China Mobile	Foshan	China Mobile, China Unicom, and China Telecom
Hohhot	China Mobile, China Unicom, and China Telecom	Dongguan	China Mobile, China Unicom, and China Telecom
Shenyang	China Mobile, China Unicom, and China Telecom	Liuzhou	China Mobile, China Unicom, and China Telecom
Dalian	China Mobile, China Unicom, and China Telecom	Nanning	China Mobile, China Unicom, and China Telecom
Changchun	China Mobile, China Unicom, and China Telecom	Haikou	China Mobile, China Unicom, and China Telecom
Harbin	China Mobile, China Unicom, and China Telecom	Qionghai	China Mobile and China Telecom
Nanjing	China Mobile, China Unicom, and China Telecom	Chengdu	China Mobile, China Unicom, and China Telecom
Wuxi	China Mobile, China Unicom, and China Telecom	Guiyang	China Mobile, China Unicom, and China Telecom
Suzhou	China Mobile, China Unicom, and China Telecom	Kunming	China Mobile, China Unicom, and China Telecom
Hangzhou	China Mobile, China Unicom, and China Telecom	Xi'an	China Mobile, China Unicom, and China Telecom
Ningbo	China Mobile, China Unicom, and China Telecom	Lanzhou	China Mobile, China Unicom, and China Telecom
Wenzhou	China Mobile, China Unicom, and China Telecom	Xining	China Mobile, China Unicom, and China Telecom

City	Carriers Providing 5G	City	Carriers Providing 5G
Jiaxing	China Mobile, China Unicom, and China Telecom	Yinchuan	China Mobile, China Unicom, and China Telecom
Hefei	China Mobile, China Unicom, and China Telecom	Urumqi	China Mobile, China Unicom, and China Telecom
Wuhu	China Mobile and China Telecom	Zhuhai	China Unicom and China Telecom
Fuzhou	China Mobile, China Unicom, and China Telecom	Shaoxing	China Unicom
Xiamen	China Mobile, China Unicom, and China Telecom	Zhongshan	China Unicom
Quanzhou	China Mobile, China Unicom, and China Telecom	Changzhou	China Unicom
Nanchang	China Mobile, China Unicom, and China Telecom	Nantong	China Unicom
Yingtan	China Mobile, China Unicom, and China Telecom	Mianyang	China Telecom
Jinan	China Mobile, China Unicom, and China Telecom	Jinhua	China Telecom
Qingdao	China Mobile, China Unicom, and China Telecom		

Source: Various.[99]

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