U.S.-China Economic and Security Review Commission

Economics and Trade Bulletin

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Highlights of This Month's Edition

- **Bilateral Trade:** The U.S. trade deficit in goods with China totaled $37.9 billion in November 2018, a 6.9 percent increase over November 2017; in Q3 2018, U.S. services exports to China grew 2.4 percent but the pace of growth for exports and imports has steadily declined since 2016.

- **Bilateral Policy Issues:** In 2018, Chinese FDI to the United States reached $4.8 billion, 83.4 percent drop year-on-year, while Chinese venture capital investments in the United States reached record levels.

- **Quarterly Review of China's Economy:** China's economy grew 6.6 percent year-on-year in 2018—the weakest annual pace since 1990—as the effects of China's deleveraging campaign and trade tensions with the United States start to take a toll; state-owned enterprises enjoyed strong profits in 2018 despite a general economic slowdown, benefiting from the private sector credit crunch and renewed government support; the Chinese Academy of Social Sciences reports China's declining housing prices slowed toward the end of 2018, though prices in Tier 3 and Tier 4 cities continued to fall.

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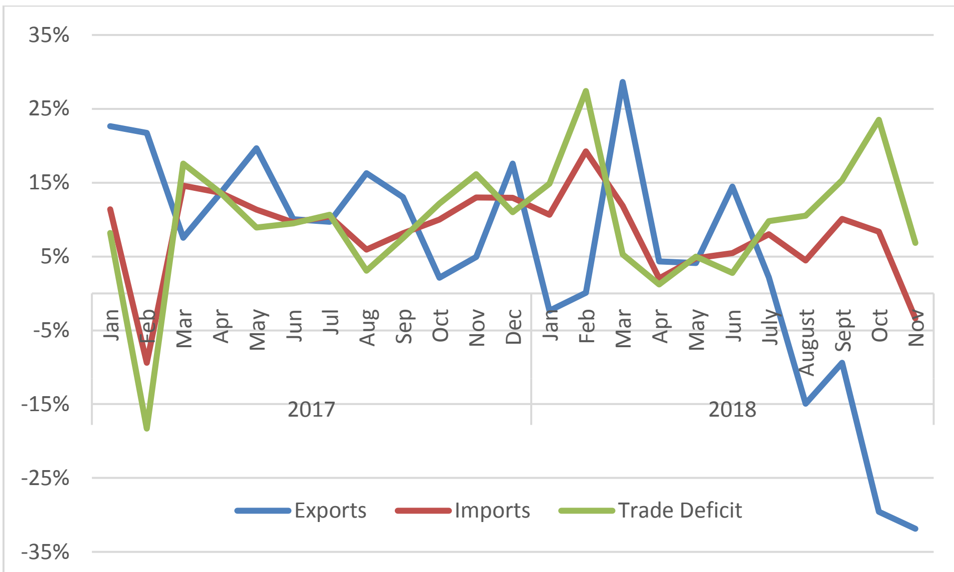
Bilateral Trade

U.S. Goods Exports and Imports Down in November 2018

The U.S. trade deficit in goods with China totaled $37.9 billion in November 2018, a 6.9 percent increase over November 2017 (see Figure 1). U.S. exports to China reached $8.7 billion, down 31.9 percent year-on-year, while U.S. imports totaled $46.5 billion, a 3.4 percent decline year-on-year. Month-on-month, U.S. exports were down 5.1 percent and imports down 10.9 percent, as the impact of tariffs and trade tensions continues to bear on trading sentiment. The cumulative U.S. goods trade deficit with China in the first 11 months of 2018 was $382.3 billion, up 11 percent over the same period in 2017.

Figure 1: U.S. Exports, Imports, and the Trade Deficit with China, January 2017–November 2018



Source: U.S. Census Bureau, *Trade in Goods with China*, February 6, 2019. *https://www.census.gov/foreign-trade/balance/c5700.html.*

U.S. Services Trade with China

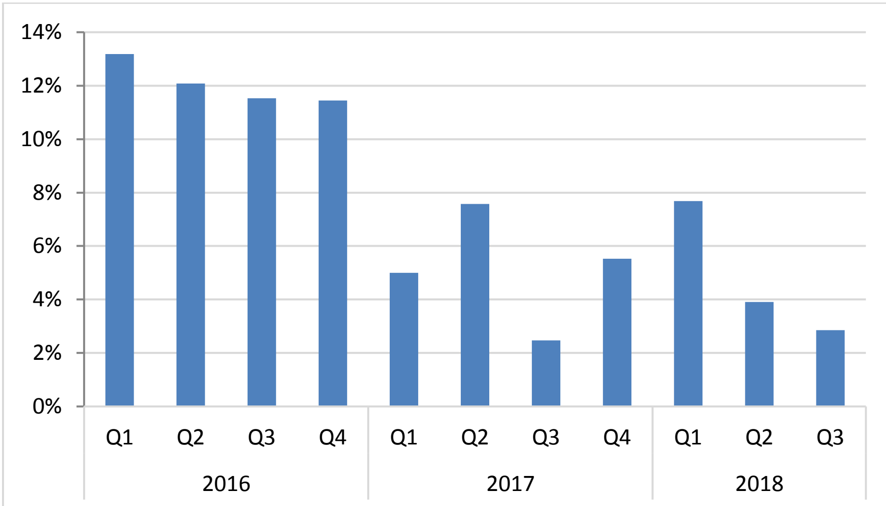
In Q3 2018, the United States ran a $12.6 billion services surplus with China, an increase of 2.4 percent year-on-year.[1] U.S. services exports to China grew to $17.2 billion, up 2.9 percent year-on-year, while imports from China were $4.6 billion, up 3.9 percent year-on-year.[2] Although U.S. services exports to China continue to increase in absolute terms, the pace of growth has been on a downward trend since 2016 (see Figure 2).[3]

Tourism (a category that includes Chinese learners studying in the United States) continues to dominate U.S. services exports to China, accounting for $10.9 billion, or 63.5 percent of total U.S. services exports in Q3 2018. Taking up the number two and three slots in Q3 2018 were charges for the use of intellectual property[*] ($2.2 billion

[*] Charges for the use of intellectual property include (1) charges for the use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs including trade secrets, and franchises) that can arise from research and development as well as from marketing and (2) charges for licenses to reproduce or distribute (or both) intellectual property embodied in produced originals or prototypes (such as copyrights on books and manuscripts, computer software, cinematographic works, and sound recordings) and related rights (such as for live performances and television, cable, or satellite broadcast).

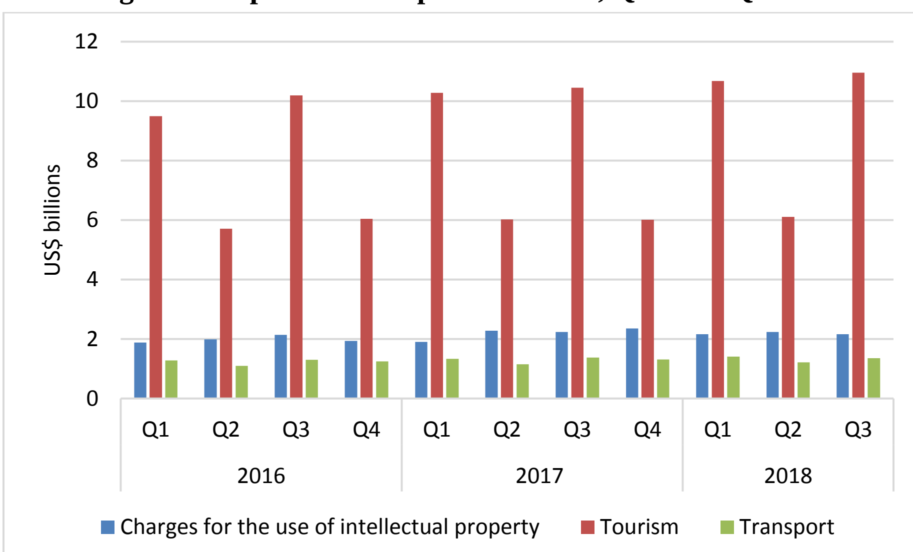
or 12.5 percent of total services exports) and transport* ($1.4 billion or 8 percent of total services exports) (see Figure 3).[4]

Figure 2: U.S. Services Exports to China, Q1 2016–Q3 2018
(year-on-year)



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. Trade in Goods and Services by Selected Countries and Areas, 1999-Present*, U.S. Department of Commerce, Foreign Trade Division, December 19, 2018.

Figure 3: Top Services Exports to China, Q1 2016–Q3 2018

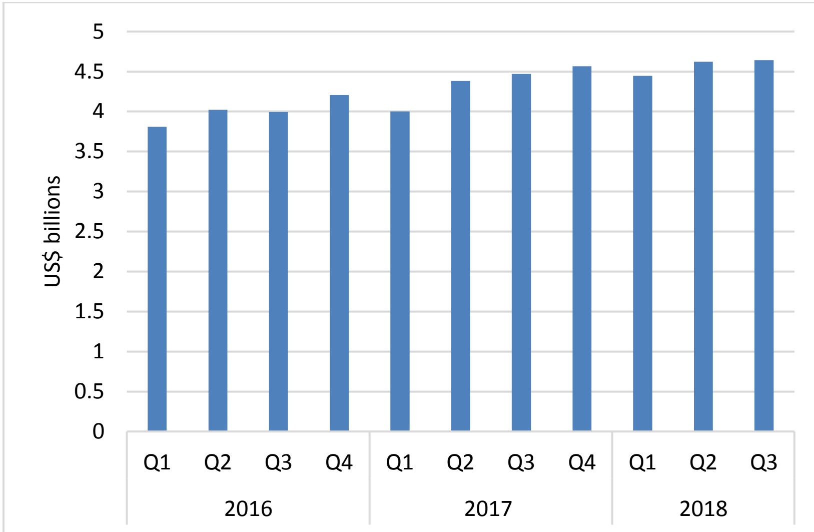


Source: U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. Trade in Goods and Services by Selected Countries and Areas, 1999-Present*, U.S. Department of Commerce, Foreign Trade Division, December 19, 2018.

In Q3 2018, U.S. services imports from China totaled $4.6 billion, up 3.9 percent year-on-year (see Figure 4). Growth in services import has been fairly flat since 2016. Business services, transport, and travel (including for education) were the top three import categories, totaling $1.4 billion, $1.3 billion, and $1.2 billion, respectively.[5]

* Transport is considered a service with transactions associated with moving people and property from one location to another, such as air, rail, and truck transportation, petroleum tanker operations, warehousing, and storage.

Figure 4: U.S. Services Imports from China, Q1 2016–Q3 2018



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. Trade in Goods and Services by Selected Countries and Areas, 1999-Present*, U.S. Department of Commerce, Foreign Trade Division, December 19, 2018.

Bilateral Policy Issues

Chinese Outbound Investment to the United States Declined in 2018

In 2018, Chinese foreign direct investment (FDI) in the United States fell to its lowest level since 2010 amid increased regulatory scrutiny in the United States and capital controls in China. According to the economic consultancy Rhodium Group, Chinese FDI in the United States was only $4.8 billion in 2018, down from $29 billion in 2017 and a record $46 billion in 2016.[6] The total number of Chinese FDI transactions in the United States also declined to 120 in 2018, down from 166 in 2017 and 162 in 2016.[7] Although industry-specific data are not available for the full year, in the first half of 2018 $2 billion in Chinese FDI flowed into the United States; the primary destinations for Chinese investment were health and biotechnology ($990 million) and real estate and hospitality ($387 million).[8]

Diminished FDI flows are partly a consequence of Chinese policies seeking to curb capital outflows and crack down on major overseas investors. Since 2016, Beijing has announced a series of policies aimed at limiting capital transfers abroad and cracking down on state bank loans for overseas investments.[*] Increased scrutiny on inbound investments in the United States has also contributed to the decline of FDI from China. Since 2017, at least ten attempted acquisitions of U.S. assets by Chinese investors have either been withdrawn due to fear of scrutiny from the Committee on Foreign Investment in the United States (CFIUS) or rejected by the president on CFIUS's recommendation.[†] [9] In August 2019, President Donald J. Trump signed into law the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA), which updated CFIUS regulations to account for the national security risks posed by foreign investments in the United States, particularly investments from China.[10]

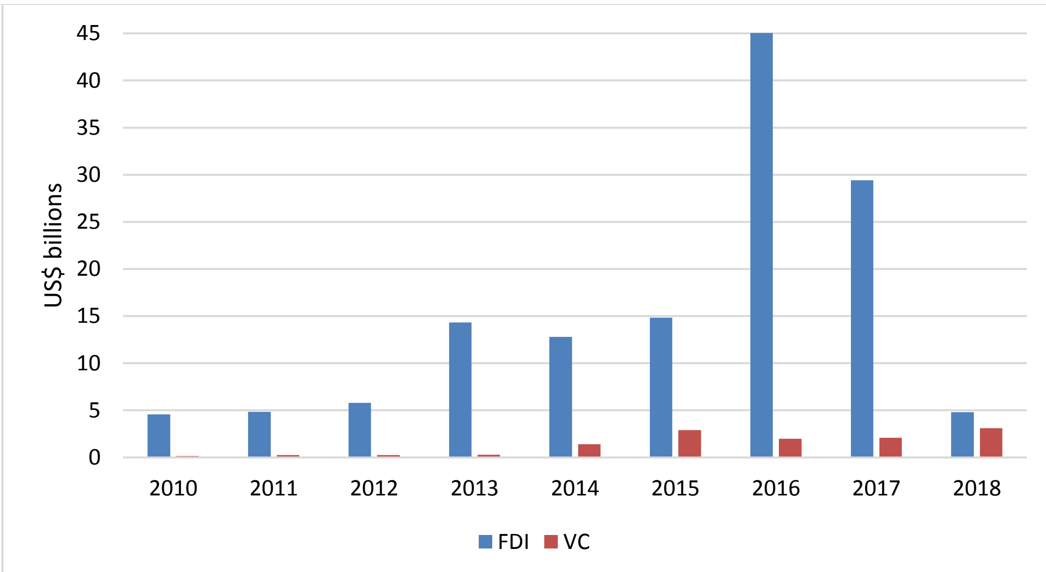
[*] For more on Chinese policies to limit capital outflows, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "Year in Review: Economics and Trade," in *2018 Annual Report to Congress*, November 2018, 36–37.

[†] CFIUS is the primary U.S. government body that reviews mergers, acquisitions, or takeovers leading to foreign control of U.S. assets. For more on CFIUS reviews of Chinese investments, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "Year in Review: Economics and Trade," in *2018 Annual Report to Congress*, November 2018.

Chinese Venture Capital Investment in the United States Reaches Record

While 2018 was a record year for Chinese venture capital (VC) investment in the United States, those flows could slow in 2019 after FIRRMA expanded CFIUS's jurisdiction over noncontrolling foreign investments, including investments facilitated through a VC fund. According to Rhodium Group, Chinese VC investment in the United States reached $3.8 billion in 2018—a record—up from $2.1 billion in 2017 (see Figure 5).[11] Chinese VC investments in the United States primarily target sensitive U.S. technologies, including health, pharmaceutical, and biotechnology companies, as well as telecommunications firms.[12]

Figure 5: Chinese FDI and VC Investments in the United States, 2010–2018



Source: Rhodium Group, "China Investment Monitor." *http://cim.rhg.com/*; Thilo Hanemann, Cassie Gao, and Adam Lysenko, "Net Negative: Chinese Investment in the U.S. in 2018," *Rhodium Group*, January 13, 2019. *https://rhg.com/research/chinese-investment-in-the-us-2018-recap/*.

Chinese VC activity in the United States declined in the final quarter of 2018 after FIRRMA as signed into law.[13] Under FIRRMA, CFIUS has jurisdiction over any noncontrolling investment if such an investment grants a foreign person control over a U.S. business that (1) owns, operates, manufactures, supplies, or services critical infrastructure; (2) produces, designs, tests, manufactures, fabricates, or develops one or more critical technologies; or (3) maintains or collects sensitive personal data of United States citizens that may be exploited in a manner that threatens national security.[*] [14] As a result, both Chinese investors and U.S. startups are more cautious to partner with each other, fearing lengthy CFIUS reviews that could drain resources and slow business activity. In an interview with Reuters, one U.S. venture capitalist indicated they knew of at least ten VC deals that fell apart due to CFIUS concerns.[15]

Quarterly Review of China's Economy

China's Gross Domestic Product Growth Slows to 28-Year Low

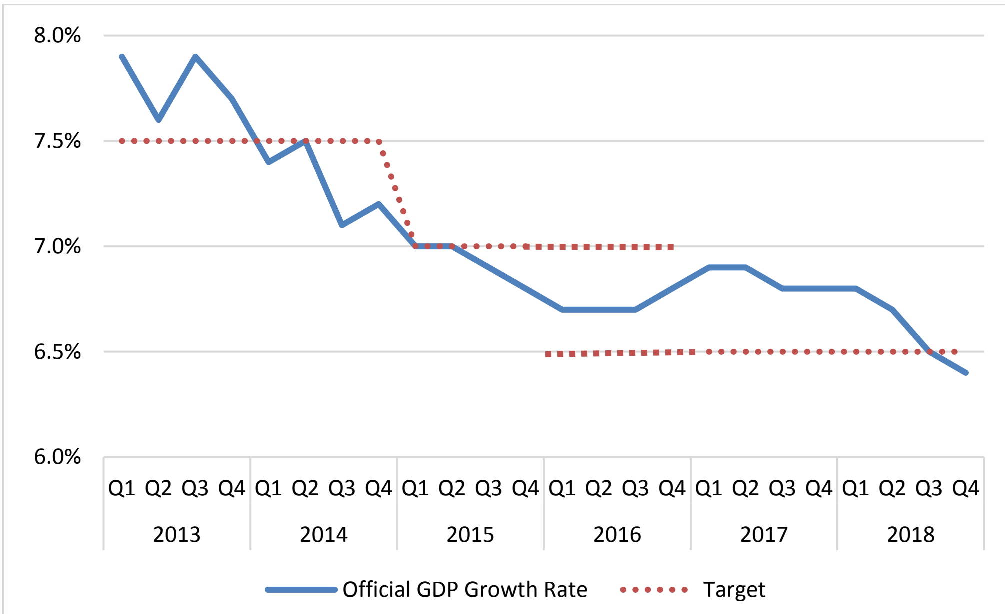
In 2018, China's official reported gross domestic product (GDP) growth cooled to 6.6 percent year-on-year—the weakest annual expansion since 1990, but still in line with the government's growth target of "around 6.5 percent"

[*] For more on FIRRMA's implications, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, September 5, 2018, 2–4. *https://www.uscc.gov/sites/default/files/Research/September%202018%20Trade%20Bulletin.pdf*.

(see Figure 6).[16] The slowdown deepened in the last months of 2018, with fourth-quarter GDP expanding 6.4 percent year-on-year.[17] While there are longstanding doubts about the reliability of China's statistics, some economists believe the official growth figure for 2018 largely tracks unofficial proxy gauges for growth.[18] The deceleration came as the effects of China's deleveraging campaign and trade tensions with the United States start to take a toll.[19]

Figure 6: China's Official GDP Growth, 2013–2018

(year-on-year)



Note: In 2016, the target was set at a range of 6.5–7.0 percent GDP growth.
Source: China's National Bureau of Statistics via CEIC database.

Both Traditional and New Growth Drivers Are Losing Steam

Data on key economic indicators such as investment, factory activity, and retail spending suggest growth remained weak at the end of 2018 (see Figure 7). Fixed asset investment (FAI)—a traditional driver of China's economy that measures investment in physical assets such as buildings, machinery, and equipment—rose 5.9 percent in 2018, the slowest annual pace since 1996.[20] FAI inched higher in the last few months of 2018 due to a policy-driven recovery in infrastructure spending.[21]

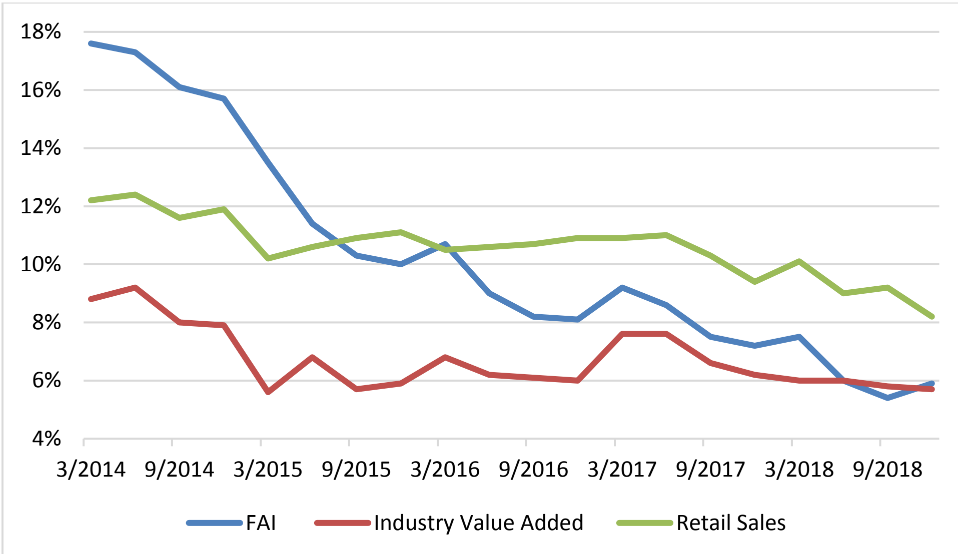
China's industrial output grew 6.2 percent year-on-year in 2018, down from 6.6 percent growth in 2017.[22] Despite this slowdown, production in key industries saw robust growth, including high tech (11.7 percent), strategic emerging industries (8.9 percent), and the equipment manufacturing sector (8.1 percent).[23]

Unofficial estimates by the Chinese financial media firm Caixin found China's manufacturing Purchasing Managers' Index (PMI),* fell to 49.7 in December 2018, from 50.2 in November, as new orders—domestic and for export—sagged (see Figure 8).[24] The December reading marked the first contraction in the manufacturing sector since May 2017.[25] "External demand remained subdued due to the trade frictions between China and the United

* The PMI measures the production level, new orders, inventories, supplier deliveries, and employment level to gauge the economic activity level in the services and manufacturing sector. The global financial information services provider Markit Economics compiles the Caixin-Markit China services and manufacturing PMI from monthly questionnaires to more than 400 purchasing executives (including small and medium-sized enterprises). By comparison, China's official manufacturing PMI tracks larger state-owned companies, generally leading to a stronger reading than private PMIs.

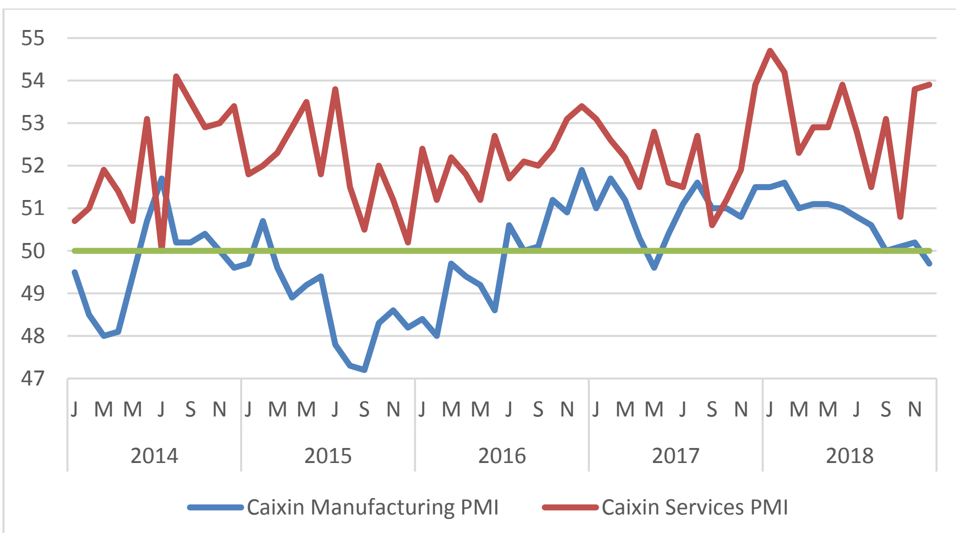
States, while domestic demand weakened more notably," said Zhengsheng Zhong, director of macroeconomic analysis at CEBM Group, a Caixin subsidiary.[26] China's services sector—which accounts for more than half of China's economy—fared better: Caixin's services PMI came in at 53.9 in December 2018, a six-month high.[27]

Figure 7: Key Indicators Point to Economic Deceleration
(year-on-year)



Source: China's National Bureau of Statistics via CEIC database.

Figure 8: Caixin Services and Manufacturing PMIs, 2014–2018



Note: A reading above 50 indicates expansion; a reading below 50 shows contraction.
Source: Caixin and IHS Markit, "Caixin China General Manufacturing PMI," *Markit Economics*, January 2, 2019. *https://www.markiteconomics.com/Survey/PressRelease.mvc/43505f4c1b3f489cb553cb84bdfd52ec*; Caixin and IHS Markit, "Caixin China General Services PMI," *Markit Economics*, January 4, 2019. *https://www.markiteconomics.com/Public/Home/PressRelease/55fdee470bd64aa0a75420aab822aa04?s=1*.

Meanwhile, softening wage growth and mounting household debt are leading Chinese consumers to spend less. Growth in China's per capita disposable income—the foundation of consumer spending—slowed to 6.5 percent year-on-year in 2018, compared with 7.3 percent year-on-year growth in 2017.[28] Retail sales growth—fairly resilient during previous slowdowns—dropped to 8.2 percent in December 2018, a 15-year low.[29] The sharp decline was largely due to a collapse in automobile sales. Auto sales in China—the world's largest car market—have been falling since summer 2018, with December sales dropping a precipitous 19 percent from a year earlier.[30]

A Return to Stimulus Risks Undercutting Deleveraging Efforts

China's economy has been slowing partly as a result of Chinese President and General Secretary of the Chinese Communist Party Xi Jinping's campaign over the past two years to curb debt growth and financial risks.[31] The campaign has been aimed at slowing down the rate of credit growth and cleaning up some of the murkier parts of the financial system, rather than cutting the overall stock.[32] At the same time, Beijing has made it clear that arresting the economic downturn is a priority for 2019.[33] At the annual Central Economic Work Conference in December 2018, President Xi declared that growth must be maintained "within a reasonable range."[34] To boost growth, Chinese leaders pledged increased economic support measures, including further tax cuts, infrastructure funding, targeted monetary loosening (but no broad-based monetary stimulus), and better access to bank lending for private firms.[*] [35]

China has made inroads in its deleveraging campaign, but a reversion to leaning on stimulus to support growth threatens that progress.[36] According to the Bank for International Settlements (BIS), in the second quarter of 2018 (the latest data available) China's total nonfinancial debt (government and private) reached $33.1 trillion, or 253 percent of GDP, up from 138 percent at the end of 2008.[†] [37] Nonfinancial corporations hold the largest category of debt, comprising nearly two-thirds of China's nonfinancial debt (see Figure 9).

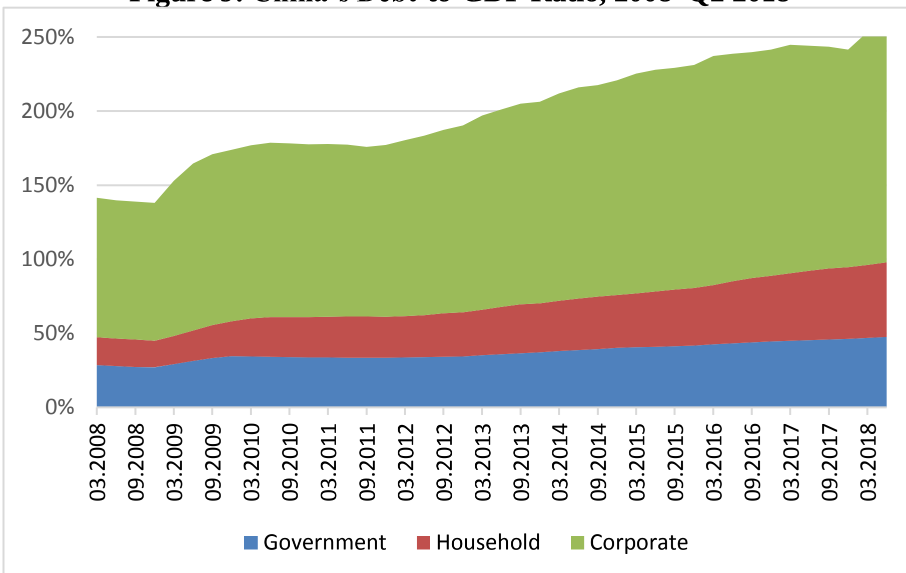
Launched in late 2016, China's campaign to contain financial risks has focused on tighter monetary policy, improving oversight of financial markets, and cracking down on the country's massive shadow banking industry. By the end of 2017, China's corporate debt leveled off to 147 percent of GDP from about 155 percent in early 2016.[38] Private companies, which relied on the shadow banking system for funding, have borne the brunt of Beijing's deleveraging efforts. While the overall debt ratio for state-owned enterprises (SOEs) fell slightly in 2017, private companies' leverage ratios have increased.[‡] [39] In the first half of 2018, corporate leverage has started climbing again, reaching 155 percent of GDP in the second quarter of 2018.[40]

[*] For more on recent monetary and fiscal support measures employed by the Chinese government, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, January 11, 2019, 3. *https://www.uscc.gov/sites/default/files/trade_bulletins/January%202019%20Trade%20Bulletin.pdf*.

[†] In comparison, in the second quarter of 2018 the United States' total debt reached $49.7 trillion (248.9 percent of GDP), Japan's total debt reached $18.4 trillion (370.7 percent of GDP), and India's total debt reached $3.2 trillion (125.1 percent of GDP). Bank for International Settlements, "Credit to the Non-Financial Sector," December 16, 2018. *https://www.bis.org/statistics/totcredit.htm?m=6%7C380%7C669*.

[‡] Private companies' debt ratios have increased in part because the deleveraging campaign's targeting of the shadow banking sector closed down important funding channels for the private sector, raising their borrowing costs. Wu Xiaomeng, "What Deleveraging? Private Companies' Debt Ratios Jump," *Caixin*, September 19, 2018. *https://www.caixinglobal.com/2018-09-19/what-deleveraging-private-companies-debt-ratios-jump-101328233.html*.

Figure 9: China's Debt-to-GDP Ratio, 2008–Q2 2018



Source: Bank for International Settlements, "Credit to the Non-Financial Sector," December 16, 2018. *https://www.bis.org/statistics/totcredit.htm?m=6%7C380%7C669*.

SOEs Post Strong Profits, Private Enterprises Struggle

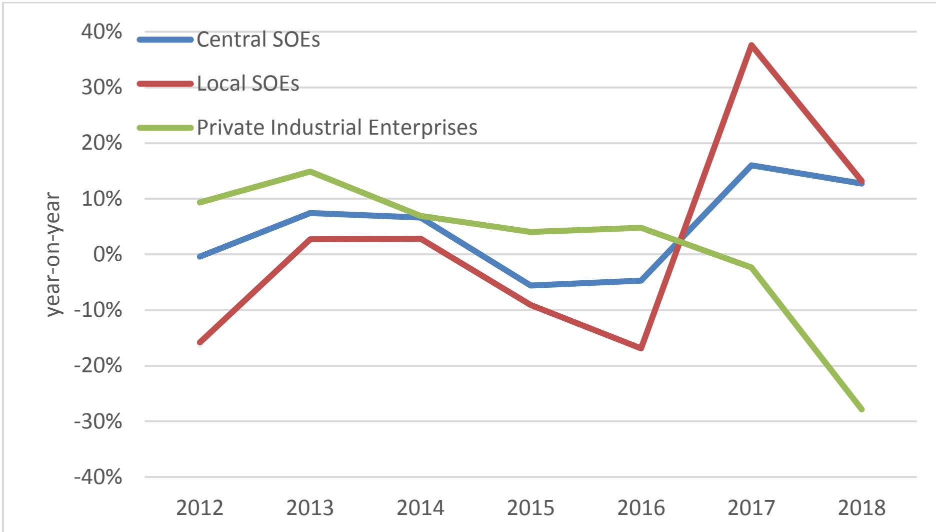
SOEs weathered China's economic slowdown in 2018 comfortably compared to the private sector, backed by continued ease of access to finance and strong political and policy support. The Chinese government has pledged a multipronged approach to level the playing field for private firms, but many analysts believe these measures will have limited impact without more fundamental changes to underlying structural incentives benefiting the state.

SOEs' revenue grew by 10 percent and profits grew by 12.9 percent during 2018, compared to revenue growth of 13.6 percent and profit growth of 23.5 percent during 2017.[41] The decrease from 2017 suggests SOEs were impacted by the slowdown, but not nearly to the extent of the private sector: revenue for private industrial enterprises decreased 29.6 percent year-on-year, while profit decreased 27.9 percent (see Figure 10).[*] [42]

Robust performance by SOEs controlled by local governments and agencies suggests revenue may have come at the expense of private enterprises, which compete more directly with local SOEs than central SOEs, which tend to be larger and operate in more strategic sectors.[43] Local SOEs outperformed central SOEs in 2018 for the second year in a row, posting profits of 13.2 percent compared to 12.7 for central SOEs.[44] Historically, local SOEs have been less profitable than central SOEs and much less profitable than private sector firms.[45]

[*] China's National Bureau of Statistics (NBS) defines "industry" to encompass extraction industries, electricity and water provision, manufacturing, processing of agricultural products (e.g., leather making), and repair or industrial manufactures. It does not encompass construction or energy. Statistics are compiled for "enterprises above a designated size," which NBS defines as enterprises having revenues at least $2.9 million (20 million renminbi [RMB]) from primary business activities. National Bureau of Statistics of the People's Republic of China, *Industry*, October 29, 2013. Translation. *http://www.stats.gov.cn/tjsj/zbjs/201310/t20131029_449443.html*; China's National Bureau of Statistics, *Profits for China's Industrial Enterprises above a Designated Size Grew 10.3 Percent in 2018*, January 28, 2019. Translation. *http://www.stats.gov.cn/tjsj/zxfb/201901/t20190128_1647074.html*.

Figure 10: Change in Profits for Central and Local SOEs and Cumulative Profits for Private Industrial Enterprises, 2012–2018



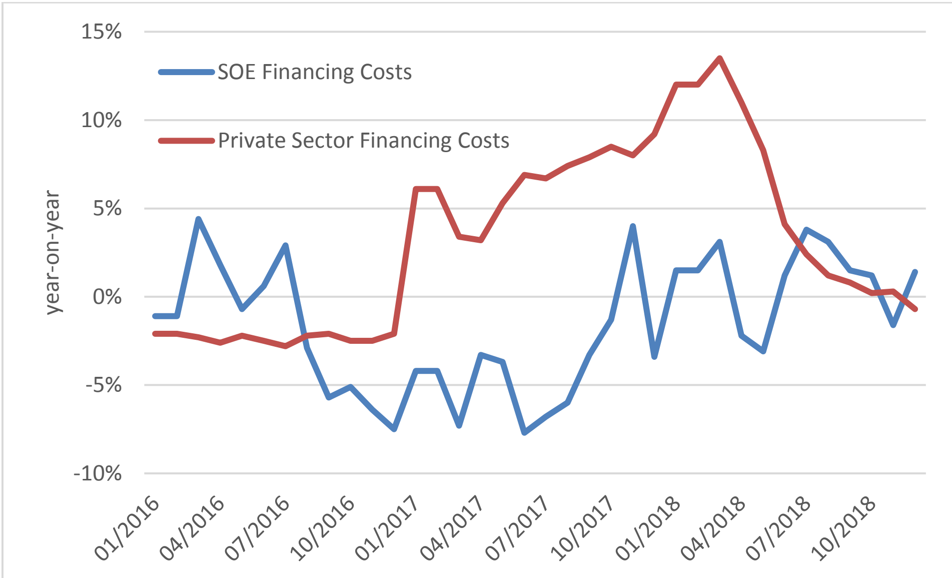
Note: Private industrial enterprises' cumulative monthly profit data for the 12 months ending in December in each year are used instead of annual data, as annual data are not yet available for 2018. Annual data averaged 5 percent more than cumulative data from 2011 to 2017, the years for which both are available, although the discrepancy has tended to converge since 2013, and in 2017 annual data were 3 percent less than cumulative data.
Source: China's National Bureau of Statistics via CEIC database and the State-Owned Assets Supervision and Administration Commission via China's Ministry of Finance.

SOE strength relative to the private sector demonstrates a continuation of two mutually reinforcing policy trends in 2018. First, efforts to reduce overall debt levels have choked off financing to the private sector to the benefit of the state sector. Previously, China's banks used off-balance-sheet channels to lend to private firms, which are regarded as more risky because they do not have implicit state support.[46] The deleveraging campaign has forced banks to bring these loans back on their books, requiring them to set aside more regulatory capital to cover for potential losses and consequently lend at a higher rate to private borrowers.[47] Following the launch of the deleveraging campaign in 2016, financing costs decreased for SOEs, but jumped for private enterprises (see Figure 11).

Second, constrained financing to the private sector has amplified the impact of renewed government support for the state sector. Following the advent of "supply-side reform" in 2016, government policy simultaneously encouraged consolidation of SOEs while pushing forward a wave of private enterprise shutdowns in industries with excess capacity, effectively hollowing out private sector competition while strengthening SOEs without addressing their overall inefficiency.[*] [48] In a stronger financial position, SOEs have been acquiring large stakes in private enterprises: *Shanghai Securities News* reported in October 2018 that while a majority of mergers and acquisitions (M&A) activity conducted through the Shanghai Stock Exchange A-shares between 2007 to 2015 was private acquisitions of SOEs, the trend sharply reversed in 2015, with 83.6 percent of M&A transactions consisting of SOE acquisitions of stakes in private enterprises; as of September, SOEs had acquired stakes in 46 struggling private firms in 2018, more than half of which were controlling stakes.[49] Meanwhile, mixed-ownership reforms inviting greater participation of private capital in state-dominated sectors, a marquee agenda item in the November 2013 Third Plenum Decision, have not proceeded beyond occasional one-offs.[50]

[*] For a discussion of central SOE mergers and their impact on state control of strategic sectors in China's economy, see Sean O'Connor, "SOE Megamergers Signal New Direction in China's Economic Policy," *U.S.-China Economic and Security Review Commission*, May 24, 2018. *https://www.uscc.gov/sites/default/files/Research/SOE%20Megamergers.pdf.*

Figure 11: Change in Year-to-Date Financing Costs for Industrial SOEs and Private Enterprises, January 2016–October 2018



Note: Values above zero indicate an increase in financing costs; a decreasing trend with values above zero indicates the rate of increase is slowing.
Source: China's National Bureau of Statistics via CEIC database.

The structural consequences of these policy trends are already evident: according to analysis by economist Nick Lardy of the Peterson Institute for International Economics, industrial SOEs are contributing more to real growth in industrial value added than industrial private firms for the first time since 1978.[51]

Sentiment among disheartened entrepreneurs grew especially bleak in September 2018 leading into the stock market rout in mid- to late October 2018, with social media openly debating whether government policy purposely aimed to marginalize the private sector, and intellectuals and even some officials tacitly acknowledging the strain on private enterprises.[52] On November 1, President Xi held a highly choreographed Symposium to reaffirm the government's support of the private sector, inviting Chinese celebrity entrepreneurs to speak.[53] President Xi pledged to improve conditions for private enterprises by: (1) cutting taxes; (2) reducing financing costs; (3) leveling the playing field vis-à-vis SOEs in terms of market access and administrative barriers; (4) improving policy implementation; (5) improving government-business relations; and (6) ensuring entrepreneurs' property and personal safety.[54]

Government agencies have moved swiftly to issue policy implementing President Xi's six-point agenda, particularly the first two points.[55] Monetary and credit policy to funnel more liquidity to the private sector appear to have had an initial impact, with cumulative year-on-year funding costs finally decreasing by 0.3 percent in December 2018 for private industrial enterprises (see Figure 10).[56] However, the Small and Medium-Sized Development Index, a broader measure of economic performance in smaller firms across all sectors compiled by China's National Development and Reform Commission (NDRC), remained 7 points below neutral (on a scale of 200 with 100 being neutral).[57] The index indicates the downturn for smaller firms continues but has stabilized, with sub-indices showing overall improvement in financing, production costs, and confidence, but declines in market demand, employment, and investment.[58]

Deep skepticism remains among economists about whether and how quickly the state can overcome structural barriers to supporting the private sector.[59] Targeted monetary policy tools, for instance, do not address the constraints limiting banks from extending more credit to riskier private sector borrowers while maintaining sufficient levels of regulatory capital.[60] In short, banks have an impossible mandate unless the deleveraging campaign is abandoned or they become much more aggressive in disposing of distressed loans.[61] Even without contradictory policy imperatives, the People's Bank of China (PBOC) risks recreating conditions that contributed to the stock market bubble in 2014 and 2015, during which several rounds of targeted easing were largely reinvested in stocks rather than being lent to intended sectors.[62]

Housing Price Declines Slow

In January, the Chinese Academy of Social Sciences (CASS) reported that housing price declines slowed in Tier 1 and Tier 2 cities toward the end of 2018,[*] though Tier 3 and Tier 4 city housing prices continued to fall.[63] According to the report, in December 2018, prices in Tier 1 cities experienced an average decline of 0.3 percent, Tier 2 cities 0.7 percent, and Tier 3 and 4 cities 0.7 percent month-on-month.[64] By comparison, November prices declined by 1.9 in Tier 1 cities, 1.4 in Tier 2, and 0.6 percent in Tier 3 and 4 over October. In August, September, and October, CASS researchers showed housing prices for preowned residences had fallen below prices in January 2017 in ten large cities.[†] Notably, the volume of sales has also slowed. According to property consultancy China Real Estate Information Corporation, during the national holidays in October—seen as high season for home purchases—property sales by floor area fell by 27 percent year-on-year.[65] Some cities have begun rolling back real estate sales regulations put in place beginning in 2016 to prevent runaway price growth in order to support the market.[66] To appeal to purchasers, developers have offered promotions or price reductions of up to 30 percent.[67]

China's deleveraging campaign has been a major contributor to downward pressure on real estate prices. Property developers relied on shadow bank financing sources curtailed by the campaign; as those sources become scarcer, developers have cut property prices and initiated presales on new projects to shore up their operations.[68] In December 2018, Rhodium Group experts found that trust loans and entrusted loans—the two prominent shadow banking components of the PBOC's aggregate credit figures[‡]—had decreased by $269 billion (renminbi [RMB] 1.85 trillion),[§] compared with growth of $374 billion (RMB 2.57 trillion) a year prior.[69] This lending is not only more scarce, but also more expensive: HSBC analysts found the yield on one-year trust loans rose to 10–11 percent in November 2018, compared with 8–9 percent a year prior.[70]

Rhodium Group noted that in the hunt for financing, some property developers are preselling property for cash, as they lack adequate financing to finish construction.[71] The use of presales to help finance current operations explains the gap between the continued increase in residential floor space started—which provides needed cash to developers—while floor space of completed and existing units has declined (see Figure 12).

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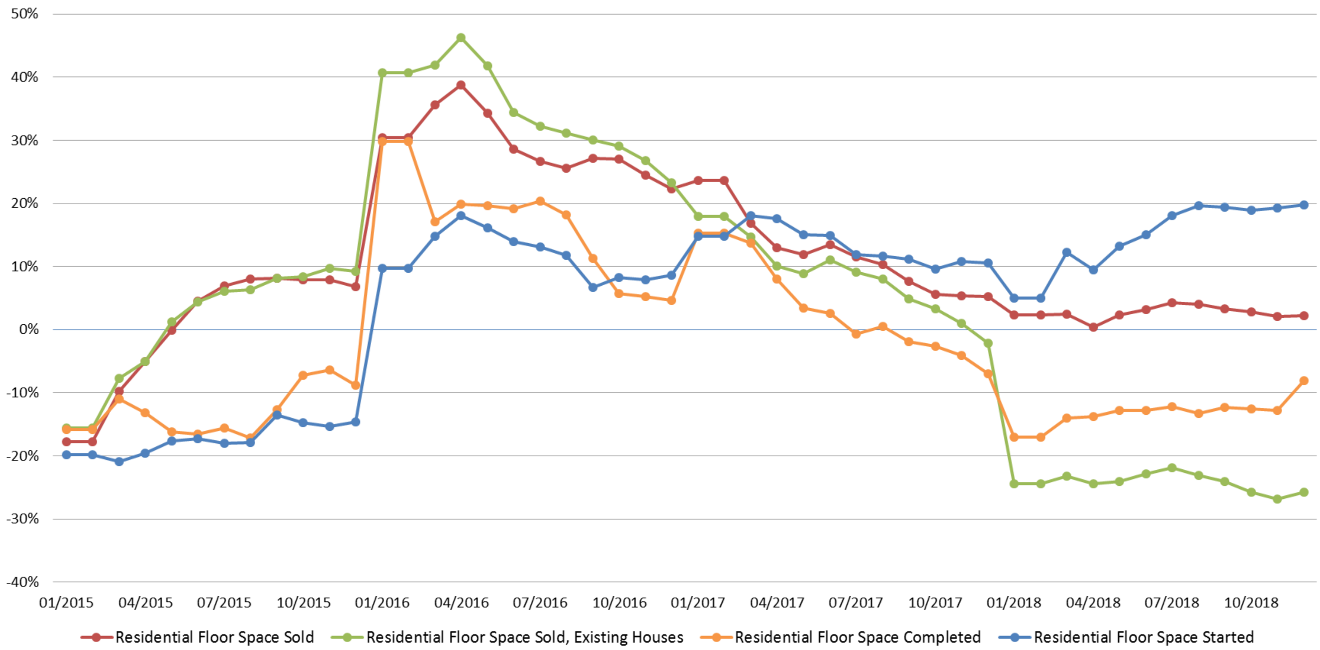
[*] The Chinese central government divides cities into four "tiers" according to their administrative oversight and economic importance: Tier 1 includes Beijing, Shanghai, Guangzhou, and Shenzhen; Tier 2 includes the municipalities of Chongqing and Tianjin and 24 provincial capitals like Chengdu, Hangzhou, Xi'an, and Nanjing; Tier 3 includes other cities administered by provincial governments, and Tier 4 includes county level cities. Chang Liu and Wei Xiong, "China's Real Estate Market," in *The Handbook of China's Financial System*, ed. Marlene Amstad, Guofeng Sun, and Wei Xiong, 2018, 5. *http://wxiong.mycpanel.princeton.edu/papers/HousingChapter.pdf*; Deloitte, "Winning the Wallet of Today's Chinese Consumers," 2010. *https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/finance/deloitte-cn-fas-winning-wallet-of-chinese-consumers-en-220610.pdf*.

[†] These cities include Beijing, Shanghai, Chengdu, Dalian, Wuhan, Suzhou, Shenzhen, Nanjing, Hangzhou, and Chongqing. Zou Lin Hua and Lu Feng Yong, "China Housing Market Development Monthly Report: January 2019," *Chinese Academy of Social Sciences Finance and Economics Strategy Research*, January 28, 2019. Translation. *http://www.cssn.cn/glx/glx_glzx/201901/t20190128_4818790_2.shtml*.

[‡] The PBOC's data on aggregate credit amounts is referred to as total social financing, or "aggregate financing to the real economy" in English. This indicator includes loans denominated in RMB and foreign currency, entrusted loans, trust loans, undiscounted bankers' acceptances, net corporate bonds, local government bonds, and nonfinancial domestic equity financing. People's Bank of China, "Aggregate Financing to the Real Economy," February 4, 2019. *http://www.pbc.gov.cn/diaochatongjisi/116219/116319/3471721/3471757/index.html*.

[§] The exchange rate of 6.876 has been used to convert from RMB to U.S. dollars, as published by the U.S. Department of the Treasury on December 2018. *https://www.fiscal.treasury.gov/reports-statements/treasury-reporting-rates-exchange/current.html*.

Figure 12: Residential Floor Space: Units Started, Completed, and Sold, 2015–2018
(year-on-year)



Source: China's National Bureau of Statistics via CEIC database.

The Chinese government's efforts to stabilize prices is complicated by conflicting incentives to maintain property value while controlling price inflation. On the one hand, policymakers are incentivized to avoid reining in prices too much, which might prompt a housing downturn. A housing downturn could severely hurt savings of Chinese households, for whom property ownership has been one of the few available investments with the potential to generate returns above low-interest bank deposits.[72] According to household finance expert Gan Li, households dedicate as much as 74 percent of their savings toward home ownership,[73] and an estimated 80 to 90 percent of Chinese households own their home.[74] In addition, local governments often rely on land sales to help meet fiscal obligations, using revenues as collateral for borrowing to fund infrastructure projects.* In 2014, researchers Brent Ambrose, Yongheng Deng, and Jing Wu estimated this household, real estate, and local government "property-related debt"—together with debt from associated sectors like construction materials and mining—at 40 to 45 percent of lending to the real economy.[75]

On the other hand, policymakers are under pressure to control housing price inflation. Starting in late 2016, prompted by guidance from the central government, municipal governments attempted to moderate price inflation using restrictions on sales, purchasing, and loans.[76] In the December 2016 Central Economic Work Conference, President Xi said that "houses are for living, not speculation."[77] As described by Johns Hopkins economist Pieter Bottelier, reining in housing price inflation to preserve affordability for first-time homeowners has become a "social and political issue."[78] Research by financial economists at Princeton, the University of Pennsylvania, and Peking

* A Local Government Financing Vehicle (LGFV) is an SOE designed to invest in city infrastructure, with a local (provincial, district, or county) government as the only or the majority shareholder. Local governments often provide collateral for bonds issued by the LGFV by selling land usage rights to property developers. Under China's Budget Law, provincial governments could not issue municipal bonds until 2015, and lower-level governments are still barred from directly issuing bonds. Brent W. Ambrose et al., "Understanding the Risk of China's Local Government Debts and its Linkage with Property Markets," March 14, 2016, 5. *https://www1.villanova.edu/content/dam/villanova/VSB/assets/Understanding%20the%20Risk%20of%20China%E2%80%99s%20Local%20Government%20Debts%20and%20Its%20Linkage%20with%20Property%20Markets.pdf*.

University on the period between 2003 and 2012 revealed that for lower- and middle-income households, a mortgage in a Tier 1 city often represented six to ten times their average annual income.[79] For this reason, policymakers have sought ways to constrain the market without prompting a downturn. As HSBC analysts concluded, "For policymakers, the bottom line is to keep housing affordable and rein in prices without imposing a bigger drag on the economy."[80]

1 U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, December 19, 2018.
2 U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, December 19, 2018.
3 U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, December 19, 2018.
4 U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, December 19, 2018.
5 U.S. Department of Commerce, Bureau of Economic Analysis, *Table 1.3 U.S. International Transactions, Expanded Detail by Area and Country*, December 19, 2018.
6 Thilo Hanemann, Cassie Gao, and Adam Lysenko, "Net Negative: Chinese Investment in the U.S. in 2018," *Rhodium Group*, January 13, 2019. *https://rhg.com/research/chinese-investment-in-the-us-2018-recap/*.
7 Thilo Hanemann, Cassie Gao, and Adam Lysenko, "Net Negative: Chinese Investment in the U.S. in 2018," *Rhodium Group*, January 13, 2019. *https://rhg.com/research/chinese-investment-in-the-us-2018-recap/*.
8 Rhodium Group, "China Investment Monitor." *http://cim.rhg.com/*.
9 Trade Practitioner, "CFIUS Information Archive," *Squire Patton Boggs*.
10 John S. McCain National Defense Authorization Act for Fiscal Year 2019, Public Law No. 115-232, 2018, Sec. 1703.
11 Thilo Hanemann, Cassie Gao, and Adam Lysenko, "Net Negative: Chinese Investment in the U.S. in 2018," *Rhodium Group*, January 13, 2019. *https://rhg.com/research/chinese-investment-in-the-us-2018-recap/*.
12 Thilo Hanemann, Adam Lysenko, and Daniel H. Rosen, "Chinese Venture Capital in the U.S.: Recent Trends and FIRRMA Impacts," *Rhodium Group*, July 11, 2018.
13 Thilo Hanemann, Cassie Gao, and Adam Lysenko, "Net Negative: Chinese Investment in the U.S. in 2018," *Rhodium Group*, January 13, 2019. *https://rhg.com/research/chinese-investment-in-the-us-2018-recap/*.
14 John S. McCain National Defense Authorization Act for Fiscal Year 2019, Public Law No. 115-232, 2018, Sec. 1703.
15 Heather Somerville, "Chinese Tech Investors Flee Silicon Valley as Trump Tightens Scrutiny," *Reuters*, January 7, 2019. *https://www.reuters.com/article/us-venture-china-regulation-insight-idUSKCN1P10CB*.
16 Keith Bradsher, "China's Slowdown Looms Just as the World Looks for Growth," *New York Times*, January 20, 2019. *https://www.nytimes.com/2019/01/20/business/china-economy-growth-davos.html*.
17 China's National Bureau of Statistics via CEIC database.
18 Tom Orlik, "China's Latest Official GDP Report Is Accurate. No, Really," *Bloomberg*, January 30, 2019. *https://www.bloombergquint.com/china/china-s-latest-official-gdp-report-is-accurate-no-really#gs.ZJ3htnAG*.
19 Tom Orlik, "China's Latest Official GDP Report Is Accurate. No, Really," *Bloomberg*, January 30, 2019. *https://www.bloombergquint.com/china/china-s-latest-official-gdp-report-is-accurate-no-really#gs.ZJ3htnAG*.
20 China's National Bureau of Statistics via CEIC database; Yawen Chen and Min Zhang, "China 2018 Fixed-Asset Investment up 5.9 Percent, December Industrial Output up 5.7 Percent," *Reuters*, January 21, 2019. *https://www.reuters.com/article/china-economy-activity/chinas-2018-fixed-asset-investment-up-5-9-pct-dec-industrial-output-up-5-7-pct-idUSZZN0GHR00*.

[21] *Reuters*, "China's Economy Cools in Fourth Quarter, 2018 Growth at 28-Year Low," January 20, 2019. *https://www.reuters.com/article/us-china-economy-gdp-instantview/chinas-economy-cools-in-fourth-quarter-2018-growth-at-28-year-low-idUSKCN1PF04Q*.
[22] *Xinhua*, "China's Industrial Output Expands 6.2 Percent in 2018," January 21, 2019. *http://www.xinhuanet.com/english/2019-01/21/c_137762123.htm*.
[23] *Xinhua*, "China's Industrial Output Expands 6.2 Percent in 2018," January 21, 2019. *http://www.xinhuanet.com/english/2019-01/21/c_137762123.htm*.
[24] Caixin and IHS Markit, "Caixin China General Manufacturing PMI," *Markit Economics*, January 2, 2019. *https://www.markiteconomics.com/Survey/PressRelease.mvc/43505f4c1b3f489cb553cb84bdfd52ec*; Caixin and IHS Markit, "Caixin China General Services PMI," *Markit Economics*, January 4, 2019. *https://www.markiteconomics.com/Public/Home/PressRelease/55fdee470bd64aa0a75420aab822aa04?s=1*.
[25] Stella Qiu and Ryan Woo, "China December Factory Activity Shrinks for the First Time in 19 Months: Caixin PMI," *Reuters*, January 1, 2019. *https://www.reuters.com/article/us-china-economy-pmi-factory-caixin/china-december-factory-activity-shrinks-for-first-time-in-19-months-caixin-pmi-idUSKCN1OW02P*.
[26] Huileng Tan, "Chinese Manufacturing Had an Even Worse December than Expected, More Data Show," *CNBC*, January 1, 2019. *https://www.cnbc.com/2019/01/02/china-reports-december-caixin-manufacturing-purchasing-managers-index.html*.
[27] Orange Wang, "China Services Activities Expanded in December despite Broader Economic Slowdown," *South China Morning Post*, January 4, 2019. *https://www.scmp.com/economy/china-economy/article/2180692/chinas-service-activities-expanded-december-despite-broader*; Stella Qiu and Ryan Woo, "China Services Sector Extends Solid Expansion in December: Caixin PMI," *Reuters*, January 3, 2019. *https://www.reuters.com/article/us-china-economy-pmi-services-caixin/china-services-sector-extends-solid-expansion-in-december-caixin-pmi-idUSKCN1OY05G*.
[28] China's National Bureau of Statistics via CEIC database.
[29] Nisha Gopalan, "Home Truths Are Holding Back China's Consumers," *Bloomberg*, January 22, 2019. *https://www.bloomberg.com/opinion/articles/2019-01-22/china-s-rising-consumer-debt-is-weighing-on-spending*.
[30] Zhang Hongpei, "China's Vehicle Sales Fall 6% in 2018, the First in 20 Years: Industry Group," *Global Times*, January 9, 2019. *http://www.globaltimes.cn/content/1135216.shtml*.
[31] Lingling Wei, "China's Annual Economic Growth Rate Is Slowest since 1990," *Wall Street Journal*, January 21, 2019. *https://www.wsj.com/articles/china-annual-economic-growth-rate-is-slowest-since-1990-11548037761*.
[32] *Bloomberg*, "How China Is Getting Serious about Financial Risk," February 12, 2018. *https://www.bloomberg.com/news/articles/2018-02-12/how-china-is-getting-serious-about-financial-risk-quicktake-q-a*.
[33] Lingling Wei, "China Moves Cautiously in Face of Economic Slowdown," *Wall Street Journal*, January 20, 2019. *https://www.wsj.com/articles/china-moves-cautiously-in-face-of-economic-slowdown-11547994330*.
[34] Lingling Wei, "China's Annual Economic Growth Rate Is Slowest since 1990," *Wall Street Journal*, January 21, 2019. *https://www.wsj.com/articles/china-annual-economic-growth-rate-is-slowest-since-1990-11548037761*.
[35] Stella Qiu and Ryan Woo, "China December Factory Activity Shrinks for First Time in 19 Months: Caixin PMI," *Reuters*, January 1, 2019. *https://www.reuters.com/article/us-china-economy-pmi-factory-caixin/china-december-factory-activity-shrinks-for-first-time-in-19-months-caixin-pmi-idUSKCN1OW02P*; Gabriel Wildau and Tom Mitchell, "China Pledges More Tax Cuts and Infrastructure Funding," *Financial Times*, December 21, 2018. *https://www.ft.com/content/3138a136-0506-11e9-9d01-cd4d49afbbe3*.
[36] Brian Spegele, "China Struggles to Limit Surging Corporate Debt," *Wall Street Journal*, January 2, 2019. *https://www.wsj.com/articles/china-struggles-to-limit-surging-corporate-debt-11546182000*.
[37] Bank for International Settlements, "Long Series on Credit to the Non-Financial Sector," December 10, 2018. *https://www.bis.org/statistics/totcredit.htm*.
[38] Bank for International Settlements, "Long Series on Credit to the Non-Financial Sector," December 10, 2018. *https://www.bis.org/statistics/totcredit.htm*.
[39] Bank for International Settlements, "Long Series on Credit to the Non-Financial Sector," December 10, 2018. *https://www.bis.org/statistics/totcredit.htm*; Wu Xiaomeng and Fran Wang, "What Deleveraging? Private Companies' Debt Ratios Jump," *Caixin Global*, September 19, 2018. *https://www.caixinglobal.com/2018-09-19/what-deleveraging-private-companies-debt-ratios-jump-101328233.html*; Anjani Trivedi, "China's Imperial Growth Delusion Just Won't Die," *Bloomberg*, September 11, 2018. *https://www.bloomberg.com/opinion/articles/2018-09-11/china-turns-to-state-companies-to-bolster-economic-growth-again*; Gabriel Wildau and Yizhen Jia, "China's State Enterprises Cut Debt as Private Groups Lever Up," *Financial Times*, June 7, 2018. *https://www.ft.com/content/77a6da72-6964-11e8-8cf3-0c230fa67aec*; Frank Tang, "China's Debt Cutting Efforts Are Sinking Private Companies, While Debt-Ridden State Firms Float On," *South China Morning Post*, June 6, 2018. *https://www.scmp.com/news/china/economy/article/2149408/chinas-deleveraging-efforts-are-sinking-private-sector-while-debt*.
[40] Brian Spegele, "China Struggles to Limit Surging Corporate Debt," *Wall Street Journal*, January 2, 2019. *https://www.wsj.com/articles/china-struggles-to-limit-surging-corporate-debt-11546182000*.
[41] State-Owned Asset Supervision and Administration Commission, *Economic Operation Conditions for China's State-Owned and State-Controlled Enterprises for January through December 2018*, Ministry of Finance, January 22, 2019. Translation. *http://zcgls.mof.gov.cn/zhengwuxinxi/qiyeyunxingdongtai/201901/t20190121_3126699.html*.

[42] China's National Bureau of Statistics, *Profits for China's Industrial Enterprises above a Designated Size Grew 10.3 Percent in 2018*, January 28, 2019. Translation. *http://www.stats.gov.cn/tjsj/zxfb/201901/t20190128_1647074.html*.

[43] Andrew Batson, "The State of the State Sector," *Gavekal Dragonomics,* March 2017.

[44] State-Owned Asset Supervision and Administration Commission, *Economic Operation Conditions for China's State-Owned and State-Controlled Enterprises for January through December 2018*, Ministry of Finance, January 22, 2019. Translation. *http://zcgls.mof.gov.cn/zhengwuxinxi/qiyeyunxingdongtai/201901/t20190121_3126699.html*.

[45] Andrew Batson, "The State of the State Sector," *Gavekal Dragonomics*, March 2017; Huang Zhilong, "Huang Zhilong: Where Did SOEs 2017 Profit Growth Come From?" *Sina Finance*, February 2, 2018. Translation. *http://finance.sina.com.cn/zl/china/2018-02-02/zl-ifyreyvz8403998.shtml*.

[46] Nisha Gopalan, "Banks Will Pay for China's Private Obsession," *Bloomberg*, November 12, 2018. *https://www.bloomberg.com/opinion/articles/2018-11-12/china-s-banks-will-pay-price-of-private-lending-edict*.

[47] *Caixin*, "Caixin View: Banks' New Fundraising Tool Won't Help Cash-Starved Firms," January 28, 2019. *https://www.caixinglobal.com/2019-01-28/caixin-view-banks-new-fundraising-tool-wont-help-cash-starved-firms-101375379.html*.

[48] Li Yuan, "Private Businesses Built Modern China. Now the Government Is Pushing Back," *New York Times*, October 3, 2018. *https://www.nytimes.com/2018/10/03/business/china-economy-private-enterprise.html*; Andrew Batson, "A Preview of Nick Lardy's New Book *The State Strikes Back*," *Andrew Batson's Blog*, January 24, 2019. *https://andrewbatson.com/2019/01/24/a-preview-of-nick-lardys-new-book-the-state-strikes-back/*.

[49] Wang Xueqing, "How to Interpret Private Enterprises Continuously Attracting State Capital," *Shanghai Securities News*, October 10, 2018. Translation. *http://news.cnstock.com/news,yw-201810-4281249.htm*. Nikkei, "China State Groups Gobble up Struggling Private Companies," September 26, 2018. *https://asia.nikkei.com/Economy/China-state-groups-gobble-up-struggling-private-companies*.

[50] Luo Guoping and David Kirton, "Most Mixed-Ownership Reform Fails to Bring Meaningful Change, Expert Says," *Caixin*, January 11, 2019. *https://www.caixinglobal.com/2019-01-11/most-mixed-ownership-reform-fails-to-bring-meaningful-change-expert-says-101369194.html*.

[51] Andrew Batson, "A Preview of Nick Lardy's New Book *The State Strikes Back*," *Andrew Batson's Blog*, January 24, 2019. *https://andrewbatson.com/2019/01/24/a-preview-of-nick-lardys-new-book-the-state-strikes-back/*.

[52] Orange Wang, "Beijing's Tilt towards State-Owned Enterprises Raises Doubts about Future of Private Sector in Chinese Economy," *South China Morning Post*, September 21, 2018. *https://www.scmp.com/news/article/2165254/beijings-tilt-towards-state-owned-enterprises-raises-doubts-about-future*; Li Yuan, "Private Businesses Built Modern China. Now the Government Is Pushing Back," *New York Times*, October 3, 2018. *https://www.nytimes.com/2018/10/03/business/china-economy-private-enterprise.html*.

[53] *Xinhua*, "Xi Jinping Hosts a Symposium on the Private Sector," November 1, 2018. Translation. *http://www.gov.cn/xinwen/2018-11/01/content_5336540.htm*.

[54] *Xinhua*, "Xi Stresses Unswerving Support for Development of Private Enterprises," November 1, 2018. *http://www.xinhuanet.com/english/2018-11/02/c_137575231.htm*.

[55] Han Wei, "China's Cabinet Unveils $29 Billion in Annual Tax Cuts for Small Firms," *Caixin*, January 10, 2019. *https://www.caixinglobal.com/2019-01-10/chinas-cabinet-unveils-29-billion-in-annual-tax-cuts-for-small-firms-101368321.html*; *Reuters*, "China Pushes Credit Support for Private Firms," November 8, 2019. *https://www.reuters.com/article/china-economy/china-pushes-credit-support-for-private-firms-idUSB9N1X6040*.

[56] China's National Bureau of Statistics via CEIC database.

[57] National Development and Reform Commission of the People's Republic of China, *Fourth Quarter 2018 Small and Medium-sized Development Index at 93*. Translation. *http://gys.ndrc.gov.cn/fwyfz/201901/t20190114_925533.html*.

[58] Liu Jiefei and Zhang Zijian, "China's Small and Midsize Businesses Continue to Struggle Despite Support," *Caixin*, January 15, 2019. *https://www.caixinglobal.com/2019-01-15/chinas-small-and-midsize-businesses-continue-to-struggle-despite-support-101370283.html*.

[59] Xu Gao, "Opinion: China Needs to Ease up on Deleveraging," *Caixin*, January 25, 2019. *https://www.caixinglobal.com/2019-01-25/opinion-china-needs-to-ease-up-on-deleveraging-101374559.html*; *Caixin*, "Caixin View: Banks' New Fundraising Tool Won't Help Cash-Starved Firms," January 28, 2019. *https://www.caixinglobal.com/2019-01-28/caixin-view-banks-new-fundraising-tool-wont-help-cash-starved-firms-101375379.html*; Yi Xianrong, "Yi Xianrong: the Past Decade of Monetary Policy Is Basically a Serious Overexpansion of Credit," *China Finance Online*, January 8, 2019. Translation. *http://opinion.jrj.com.cn/2019/01/08101126871773.shtml*.

[60] *Caixin*, "Caixin View: Banks' New Fundraising Tool Won't Help Cash-Starved Firms," January 28, 2019. *https://www.caixinglobal.com/2019-01-28/caixin-view-banks-new-fundraising-tool-wont-help-cash-starved-firms-101375379.html*.

[61] *Caixin*, "Caixin View: Banks' New Fundraising Tool Won't Help Cash-Starved Firms," January 28, 2019. *https://www.caixinglobal.com/2019-01-28/caixin-view-banks-new-fundraising-tool-wont-help-cash-starved-firms-101375379.html*; Don Weinland, "China Bad Debt Disposals Hit Levels Not Seen for 20 Years," *Financial Times*, January 23, 2019. *https://www.ft.com/content/fea6ed72-1ee6-11e9-b126-46fc3ad87c65*.

[62] Xu Gao, "Opinion: China Needs to Ease up on Deleveraging," *Caixin*, January 25, 2019. *https://www.caixinglobal.com/2019-01-25/opinion-china-needs-to-ease-up-on-deleveraging-101374559.html*.

[63] *Finance China*, "Chinese Academy of Social Sciences: Rate of Housing Price Decline Slows," January 28, 2019. Translation. *http://finance.china.com.cn/house/20190128/4883626.shtml*.

[64] Zou Linhua and Lu Fengyong, "China Housing Market Development Monthly Report: January 2019," *Chinese Academy of Social Science Finance and Economics Strategy Research*, January 28, 2019. Translation. *http://www.cssn.cn/glx/glx_glzx/201901/t20190128_4818790_2.shtml*.

[65] HSBC, "China Insights: China Property: Stable Outlook despite Recent Market Weakness," December 2018. *https://personal.hsbc.com.cn/content/dam/hsbc/cn/wealth-insight/en/pdf/market-outlook/china/china-insights-201812-en.pdf*.

[66] *Bloomberg News*, "China City Eases Home Curbs, Signaling Possible Policy Shift," December 18, 2018. *https://www.bloomberg.com/news/articles/2018-12-19/china-city-eases-property-curbs-signally-possible-policy-shift*.

[67] HSBC, "China Insights: China Property: Stable Outlook despite Recent Market Weakness," December 2018. *https://personal.hsbc.com.cn/content/dam/hsbc/cn/wealth-insight/en/pdf/market-outlook/china/china-insights-201812-en.pdf*.

[68] Allen Feng, Logan H. Wright, and Bart Carfagno, "China Markets Research: Peak Construction," *Rhodium Group*, December 6, 2018, 2; Douglas Elliott, Arthur Kroeber, and Yu Qiao, "Shadow Banking in China: A Primer," *Brookings Institution*, March 2015, 12. *https://www.brookings.edu/wp-content/uploads/2016/06/shadow_banking_china_elliott_kroeber_yu.pdf*.

[69] Allen Feng, Logan H. Wright, and Bart Carfagno, "China Markets Research: Peak Construction," *Rhodium Group*, December 6, 2018, 3.

[70] HSBC, "China Insights: China Property: Stable Outlook despite Recent Market Weakness," December 2018. *https://personal.hsbc.com.cn/content/dam/hsbc/cn/wealth-insight/en/pdf/market-outlook/china/china-insights-201812-en.pdf*.

[71] Lauren Gloudeman, Bart Carfagno, and Logan Wright, "The R-CAT Stabilization Playbook," *Rhodium Group*, January 30, 2019.

[72] Logan Wright and Daniel Rosen, "Credit and Credibility: Risks to China's Economic Resilience," *Center for Strategic and International Studies*, October 2018, 119.

[73] Peggy Sito and Pearl Liu, "China Property: How the World's Biggest Housing Market Emerged," *South China Morning Post*, November 26, 2018. *https://www.scmp.com/business/article/2174886/american-dream-home-ownership-quickly-swept-through-china-was-it-too-much*.

[74] *China Banking News*, "Chinese Housing Prices Saw Biggest Leap since Start of Decade," January 24, 2018. *http://www.chinabankingnews.com/2019/01/24/chinese-housing-prices-saw-biggest-leap-since-start-of-decade-in-2018/*.

[75] Brent Ambrose, Yongheng Deng, and Jing Wu, "Understanding the Risk of China's Local Government Debt and its Linkage with Property Markets," December 4, 2015, 6. *https://www.imf.org/external/np/seminars/eng/2015/HousingChina/pdf/Session%203_YDeng.pdf*.

[76] Richard Koss and Xinrui Shi, "Stabilizing China's Housing Market," *International Monetary Fund*, April 2018, 7, 11. *https://www.imf.org/~/media/Files/Publications/WP/2018/wp1889.ashx*.

[77] Logan Wright and Daniel Rosen, "Credit and Credibility: Risks to China's Economic Resilience," *Center for Strategic and International Studies*, October 2018, 92; Lingling Wei and Dominique Fong, "China's Booming Housing Market Proves Impossible to Tame," *Wall Street Journal*, July 12, 2017. *https://www.wsj.com/articles/chinas-bid-to-curb-its-booming-housing-market-has-only-made-it-hotter-1499875781*.

[78] Pieter Bottelier, "Beijing's New Challenge: China's Post-Crisis Housing Bubble," *Carnegie Endowment for International Peace*, July 1, 2010. *https://carnegieendowment.org/files/china_bubble2.pdf*.

[79] Hanming Fang et al., "Demystifying the Chinese Housing Boom," *National Bureau of Economic Research Working Paper 21112*, April 2015, 2–3, 27–28, 64. *https://www.nber.org/papers/w21112.pdf*.

[80] HSBC, "China Insights: China Property: Stable Outlook despite Recent Market Weakness," December 2018. *https://personal.hsbc.com.cn/content/dam/hsbc/cn/wealth-insight/en/pdf/market-outlook/china/china-insights-201812-en.pdf*.