PART I

THE YEAR IN REVIEW

CHAPTER 1: U.S.-CHINA ECONOMIC AND TRADE RELATIONS (YEAR IN REVIEW)

Executive Summary

China's economic system is under serious strain. High debt levels and eroding fiscal capacity have constrained Chinese officials' means to address the domestic slowdown without more serious structural reform, which remains unlikely for political reasons. The result is increasingly a two-speed economy, whereby broader economic growth remains under substantial pressure while priority areas for the Party such as advanced manufacturing continue to see plentiful policy support and access to capital. Domestic consumption remains tepid amid mounting concerns over stagnant wages, unemployment, high household debt, and a weak social safety net. Amid the deflation of the property bubble, manufacturing remains the government's growth driver of choice, even as the measures China is taking to bolster this sector are having an increasingly adverse impact on its trading partners. Facing a glut of manufactured goods and weak domestic demand, Chinese factories are redirecting much of this excess supply abroad, part of a dynamic that is contributing to a "China Shock 2.0."

China faces additional challenges from new U.S. and other tariffs on Chinese exports, sparking it to engage in retaliatory measures while also exposing the interconnected nature of supply chains for critical technologies. Rising economic tensions have collided with mounting concerns over China's growing technological prowess. U.S. measures to limit China's progress, such as bans on advanced semiconductor exports, have been pulled into broader trade negotiations as bargaining chips. China has also employed its own sources of leverage, targeting individual U.S. companies with punitive measures and ramping up restrictions on critical minerals exports. As economic relations between the United States and China have worsened, Chinese producers are looking for more receptive markets in third countries. China's manufacturing sector is both globally dominant and increasingly a source of concern among its trading partners, even as Beijing shows little intention of changing course on its market-distorting industrial policies. Therein lies the dilemma: China's self-portrayal as a responsible member of the international economic system

is directly at odds with its status as perhaps the world's most structurally unbalanced economy.

Key Findings

- Despite over a decade of pledges to rebalance from export- and investment-led growth toward greater domestic consumption—claims repeated throughout 2025—China's economy has deepened its reliance on export-oriented manufacturing in recent years. Especially as its property crisis deepens, China has doubled down on an economic model based on supply-side support to boost production, often resulting in far more products than domestic demand can absorb, with the intent of becoming the dominant global exporter of all types of manufactured goods and materials.
- China has made limited progress, at best, toward rebalancing its economy to promote domestic consumption as a greater driver of growth. Sluggish financial markets, falling property values, and weak wage growth are all significant headwinds, and the recent modest uptick in consumption indicators is primarily due to temporary measures used to pull forward growth.
- If exports falter and efforts to redirect the economy toward greater domestic consumption remain politically non-viable, China has limited other sources of growth to propel its economy forward without backtracking on its progress to deflate the real estate bubble and control rising levels of debt.
- As we approach the 25th anniversary of China's accession to the WTO, China remains a major beneficiary of the global rules-based trading system despite flouting the rules and maintaining an unbalanced, state-led economy fundamentally inconsistent with that system.
- While Chinese officials tout China's openness to foreign investment, the government routinely takes measures adverse to the interests of foreign businesses. Multiple U.S. firms' operations in China have come under threat as a point of leverage in trade negotiations.
- U.S.-China technology competition shapes significant aspects of the U.S.-China economic and security relationship, with global impacts magnified in sectors reliant on advanced semiconductors and artificial intelligence (AI). Chinese companies have made notable progress in these and other key technologies despite U.S. and allied export controls intended to limit China's access to the most advanced technologies.
- China has sought to soften the impact of U.S. tariffs by increasing exports to other countries, while Chinese companies are increasingly offshoring manufacturing capacity, both to avoid tariffs as well as to ensconce themselves deeper in key supply chains. To seek leverage against the United States, China has implemented retaliatory tariffs and export controls on critical minerals and rare earth magnets. China has also targeted retaliation at specific U.S. firms.

- China continues its efforts to position itself as the reliable partner of choice for trade and investment, particularly with emerging markets. At the same time, a variety of countries, including many of those same emerging market countries, have begun to implement their own tariffs and other barriers to safeguard their manufacturing industries from China's massive excess supply.

Introduction

All economic growth is not created equal, and China's current patterns of growth do not suggest a healthy economy. In 2025, China relied on a familiar playbook of vast subsidies, preferential purchasing of domestic goods, and other nonmarket practices to prop up loss-making firms across its manufacturing sector. These unsustainable policies exacerbate underlying structural issues: aside from deflationary pressure in its corporate sector, China faces a rising fiscal deficit and unresolved local debt problems, a property sector still in crisis, and a potential longer-term demographic collapse. As the external economic environment becomes increasingly hostile to China's exports, China has ramped up efforts to find new outlets for its excess supply in emerging markets, launching a charm campaign to promote its exports and keep avenues open for overseas investment. Meanwhile, over the past year, China's AI firms continue to make progress despite U.S. export restrictions on the most advanced semiconductors. Chinese officials have doubled down on support for the sector and other advanced manufacturing in the hopes that these industries will both make up for lost growth from the property sector slump and help China catch up to the United States.*

China's Macroeconomic Outlook

Hitting a gross domestic product (GDP) growth target does not necessarily correlate to a healthy economy, especially in a country with heavy state intervention into markets and production. China's emphasis on manufacturing has come at the cost of weak domestic consumer sentiment and exploding exports as Chinese firms seek less saturated markets abroad. The continued deflation of the property market bubble has left a trail of unfinished and unoccupied apartments across the country, compounding China's problems. Local governments will need to either repay or write off a looming debt bill, both of which would require forcing officials to choose between propping up growth and improving standards of living.† Years of

*This chapter is based on open source research and analysis and consultations with experts.

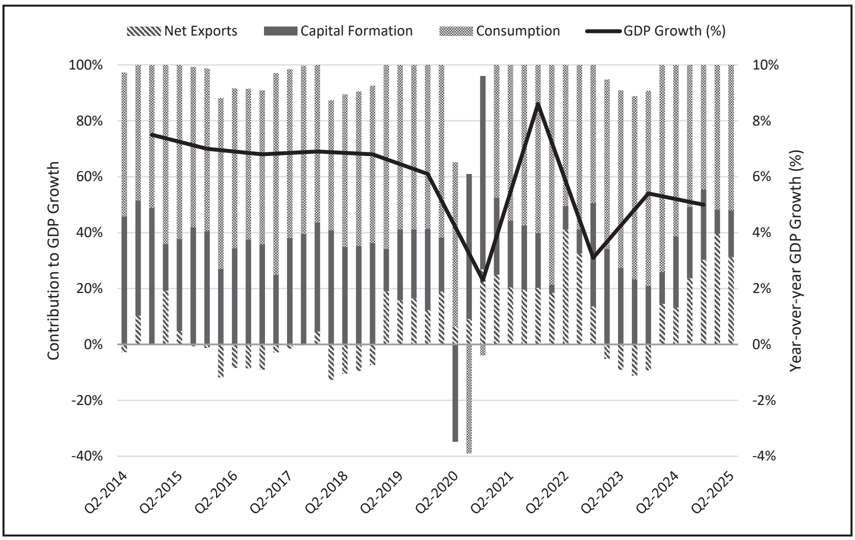
†China's public debt varies by maturity and interest rate. The central government has implemented a program to bring debt back onto local government balance sheets by refinancing debt currently held by off-balance-sheet local government financing vehicles (LGFVs). These refinancings have brought down average interest rates and lengthened maturities. Still, the International Monetary Fund projects that public debt equal to between 10 and 20 percent of China's GDP will come due each year through 2029. 2.3 trillion renminbi (RMB)($321 billion) in onshore LGFV bonds, mostly held by Chinese banks, and $23 billion (RMB 164 billion) in offshore LGFV bonds are maturing in 2025. The low proportion of Chinese debt held by international investors lessens the risks of contagion to global financial markets. Chinese households may ultimately pay the price if the government allows these bonds to default, either through increased taxes to fund bailouts or through the loss of their savings deposited at the local banks that held the bonds. Charles Chang and Chang Li, "China Default Review 2025: Tariffs To Cap Tolerance for Big Hits," *S&P Global*, April 2025, 3; Davis Sun, "China's Accelerated Debt Substitution Eases LGFV Burden; Structural Fiscal Risk Remains," *Fitch Ratings*, October 20, 2024; International Monetary

supply-side policy support emphasizing investment and production have led to thousands of unproductive and often profitless entities that Chinese officials avoid shuttering amid fears of widespread unemployment.[1] To keep the wheel spinning, the Chinese government must provide growing amounts of policy support, which risks exacerbating the cycle until it becomes unsustainable.

Growth Still Driven by Manufacturing and Exports

China's GDP growth drivers, while effective at meeting official targets in the short term, are experiencing headwinds due to structural imbalances in China's economy. China's GDP growth in the first half of 2025 was announced at 5.3 percent, outpacing the annual target of around 5 percent.[2] Yet the components of this GDP growth—consumption, investment, and net exports—reveal a continuing overreliance on the latter two.* Moreover, obstacles to this reliance are proliferating; China's productivity growth has declined and markets overseas are beginning to push back against its surging exports.[3]

Figure 1: Composition of GDP Growth, Q2 2014–Q2 2025



Note: Negative numbers in the figure indicate that the percentage point contribution of the component fell compared to the prior period, although overall growth remained positive. The contribution of China's net exports to GDP growth flipped negative around 2016 as China imported large quantities of raw materials to fuel its manufacturing sector, and again in 2023 as exports fell due to supply chain issues. In the beginning of 2020, stringent pandemic lockdowns led to an almost complete pause in new investment, with consumption also taking a hit due to quarantines.

Source: China National Bureau of Statistics, "*China: Share of GDP Growth Rate*," via Haver Analytics; China National Bureau of Statistics, "*China: GDP Index*," via Haver Analytics; "China's Export Slump Eases as Economy Searches for Stability," *Bloomberg*, September 6, 2023; "China's Economy Returns to Growth amid Global Virus Struggle," *Bloomberg*, July 16, 2020; "China Exports Snap Seven-Month Losing Streak as Imports Surge," *Bloomberg*, December 8, 2016.

Fund, "People's Republic of China: 2024 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for the People's Republic of China," August 2, 2024, 79; Tom Hancock, "China Kicks Off $137 Billion Plan to Tackle LGFV Debt Risk," *Bloomberg*, September 27, 2023.

*China's retail sales figures include purchases by government agencies, schools, and the military, which can obscure weak household consumption when government consumption is rising. Nicholas R. Lardy, "Skeptics of China's GDP Growth Have Not Made Their Case," *Peterson Institute for International Economics*, August 14, 2015.

China Remains Heavily Reliant on State-Driven Manufacturing and Exports

Manufacturing and exports remain outsized drivers of China's GDP growth. In the first half of 2025, industrial value-added growth, which measures the amount the manufacturing sector contributes to GDP growth,* outpaced the same period in 2024.[4] While China's exports have grown almost 6 percent, Chinese imports have fallen over 2 percent year-to-date through August 2025, reflecting a policy push for self-sufficiency in everything from food and basic inputs to critical technologies.[5] As a result, China's trade surplus for year-to-date August 2025 rose 28 percent over the prior year, even after its 2024 trade surplus hit a world record high of nearly $1 trillion, and it is on track to hit $1.3 trillion for the full year 2025 if trends persist.[6] China's trade volume accounted for around 15 percent of the world total in 2024.[7]

Expanding manufacturing activity and a widening trade surplus obscure the fact that China's enterprises are increasingly unprofitable, a telltale sign of overcapacity. In economic terms, overcapacity occurs when a factory's production exceeds the demand for the goods it produces, leading to underutilization and excess supply. Years of vast state support—including direct subsidies, cheap land, and below-market loans—have generated sustained overcapacity for many of China's domestic manufacturers, such as those producing steel, solar cells, and automobiles.[8] Exacerbated by weak domestic demand, excess supply and fierce competition among manufacturers have contributed to downward pressures on prices, while firms have turned to international markets to absorb manufacturing surpluses with help from China's government.† [9] (For more on China's industrial policies and export of excess capacity, see Chapter 6, "Interlocking Innovation Flywheels: China's Manufacturing and Innovation Engine," and Chapter 8, "China Shock 2.0.")

Chinese officials have recently begun to acknowledge the problem of oversupply after years of denial, albeit indirectly, raising hopes from both domestic and foreign producers for supply-side reform. As recently as last year, Chinese officials, commentators, and executives were claiming that China's automobile sector did not suffer from overcapacity and that, regardless, China was helping the rest of the world transition to cleaner sources of energy with its "good value for money" exports.[10] Chinese Communist Party (CCP) officials shifted their messaging in 2025, embarking on an "anti-involution" campaign. The National Development and Reform Commission, China's economic planning agency, describes "involution-style competition"‡ as setting prices below product costs to seize market share, leading to market distortions.[11] Anti-involution is basically a Party-approved concept to raise concerns about overcapacity, since state me-

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* China's National Bureau of Statistics also counts some extractive activities within industrial value added.

† In November 2024, China's Ministry of Commerce introduced new measures to support Chinese exporters, including expanding coverage of export credit insurance and financing, improving cross-border e-commerce development, and facilitating travel visas for business purposes. "China Announces New Measures to Promote Foreign Trade," *Fibre2Fashion*, November 23, 2024; "China's Cabinet Approves Measures to Boost Trade Growth," *Reuters*, November 8, 2024.

‡ The anthropological concept "involution" (内卷, *neijuan*) became a Chinese internet slang term to describe cut-throat competition in staying ahead of others and gained popularity as official media and policy documents started using it to characterize price wars in overcapacity sectors.

dia continues to deny the existence of overcapacity and the role of Chinese central government industrial policy in driving it, calling it a "Western" narrative.[12] Per the Party-state, weak demand, wasteful investment, and lack of a unified national market are major causes of involution.[13] General Secretary of the CCP Xi Jinping has criticized local governments for all supporting the same few industries, and officials have issued warnings to electric vehicle producers and online delivery companies over excessive discounts.[14] Officials do appear to be targeting excess supply in their efforts to crack down on price wars, however. Since July, regulators have held two meetings with the solar industry to promote measures that would address overcapacity, such as encouraging an orderly reduction in obsolete production capacity.[15] Regulators are also investigating Chinese coal producers who exceed production quotas.[16]

However, China's overcapacity problem appears poised to get worse before it gets better. The producer price index, a measure of the prices of industrial goods sold by manufacturers, has fallen over 2 percent each month in 2025, pointing to continued supply and demand imbalances.[17] The share of loss-making entities in China has steadily climbed 38 percent since 2021 and now is approaching a quarter of all firms.[18] Despite these trends, growth in fixed asset investment, in particular in the manufacturing sector, remained robust in the first half of 2025.[19] In August 2025, guidance issued by numerous high-level People's Republic of China (PRC) agencies made passing reference to involution while calling on the finance industry to support advanced manufacturing.[20] In other words, China continues to invest in expanding manufacturing capacity despite a record number of loss-making firms—yet more output that foreign countries will be pushed to absorb, to the detriment of producers and employment in those countries.

Consumption Hampered by Structural Issues

Weak domestic demand, reflected by a prolonged slump in consumer spending and confidence, continues to exacerbate China's overcapacity issues. China's share of GDP growth from consumption was 54 percent in the second quarter of 2014, and despite fluctuations over the interim decade, it was 52 percent in the second quarter of 2025.[21] A stronger consumer base would reduce China's reliance on exports to drive growth and could help reduce cyclical volatility from investment and export-driven growth.

China has implemented a series of policies to shore up consumer sentiment and spending, which appear to have achieved some success in the short term. In March 2025, Chinese officials released the Special Action Plan to Boost Consumption, identifying a laundry list of ways to boost consumption with limited clarity on mechanisms for implementation.[22] The list included expanding subsidized trade-in programs for purchases of capital goods and electronics, supporting tourism and other cultural events, promoting training programs for workers, making improvements to the minimum wage system, stabilizing the stock market and cracking down on fraud, and enforcing consumer product safety and vacation policies.[23] The trade-in programs for electronics and household appliances, which have driven the uptick in consumption so far, were so popular that provincial government funding ran out, causing the programs to be paused temporarily.[24] Retail sales growth has accelerated in 2025 compared to the prior year, and the core consumer price index, which measures the change in prices for consumers—excluding prices for food and fuel—has mostly stayed out of deflationary territory.[25] Other indicators of consumption have also ticked up, including a rise in the number of domestic trips taken by tourists during major holidays.[26]

These short-term measures to boost spending are unlikely to result in sustained rebalancing. Trade-in programs are designed primarily to pull forward consumption that would have occurred anyway; they will not increase demand in the long run, nor do they change the structural disincentives to spend.[27] China has also introduced an annual renminbi (RMB) 3,600 ($500) subsidy for children under three as a way to boost spending and in an attempt to alleviate a looming demographic crisis, but prior efforts to boost the birth rate have mostly failed.[28] The latest consumption policy, an effort to boost spending on services released by China's Ministry of Commerce and eight other ministries in September 2025, purports to ease restrictions on foreign-invested services providers and draw more foreign tourists to boost domestic consumption of services.[29] Without a demand-side boost in financial support, however, the plan is unlikely to spur consumption.[30]

Structural impediments to boosting consumption remain entrenched in China's development model and cast doubt on the efficacy of China's stimulus measures. These impediments include an erosion in household finances, low interest rates that punish savers, and a weak social safety net. Other challenges to stimulating domestic demand include:

- *High household debt leaves consumers wary of spending:* China's household debt to GDP is only slightly below the United States', while average debt to disposable income of Chinese consumers, primarily mortgage debt, hit a record high in 2024.[*][31] This upward trend is a major headwind for China's attempts to stimulate consumption through access to cheaper credit as consumers remain focused on paying down existing debt rather than taking out new loans.[32]

- *Difficult investment environment has squeezed savings:* Savers who choose to invest their spare funds in equity markets are overexposed to volatile and typically money-losing domestic securities.[33] Astonishingly, the Shanghai Composite Index has fallen over 35 percent from its peak in October 2007 through August 2025; in comparison, the S&P 500 has risen over 300 percent in that same time frame.[34] Recent defaults by Chinese trust companies (asset managers) after major real estate losses have also wiped out billions of dollars in savings, hurting China's more affluent consumers; by one estimate, at-risk assets

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*China lacks a country-wide personal bankruptcy process that could provide relief to the over 100 million individuals struggling with personal debt. The lack of a pathway to personal bankruptcy has spillover effects for the financial sector, which tends to have lower lending standards and balance sheets that are weaker in reality than on paper. Wang Juanjuan, "Interview: Time Is Right for China to Fix Personal Bankruptcy Legal Omission, Expert Says," *Caixin Global*, February 18, 2025.

in the industry have reached RMB 600 billion ($84 billion).[35] In part due to lack of good investment opportunities, China's gross household savings rate was 35 percent in 2023, higher than all Organisation for Economic Co-operation and Development (OECD) economies.[36] Most Chinese financial assets are held as bank deposits, which are low risk but yield low interest as well.[37]

- *Weak social safety net contributes to high savings rates:* High savings rates are particularly prevalent among internal migrant workers who are unable to access urban healthcare and education for free due to China's household registration system, an internal passport system that regulates access to social services for these workers.[38] Issues in increasing access to social services will likely persist as long as the measures announced by the central government remain funded by overstretched local governments. (For more on China's fiscal situation, see "Fiscal Position Limits Stimulus Options" later in this chapter.) Estimates that China's state pension fund could run out of money by 2035 have discouraged younger generations from participating, potentially exacerbating future shortfalls.[39]
- *Wage growth has slowed:* Annual wage growth has fallen off dramatically in recent years, from over 9 percent in 2021 to below 3 percent in 2024 in nominal terms as firms cut costs due to downward pressure on profits, including from price wars due to overcapacity.[40] Wages are likely to see further downward pressure, as a slowing economy and fallout from U.S. tariffs have led to factory closures and layoffs.[41] Many manufacturing workers who have managed to remain employed are underemployed or forced to take contract positions, which provide fewer benefits.[42]
- *Workers face a mismatch between their skillsets and opportunities:* As China's older generation of factory workers retire, younger waves of college graduates are seeking white-collar jobs that are increasingly competitive, leading to sustained youth unemployment. Employment opportunities generated by China's science and technology sectors are insufficient to absorb the excess labor from faltering sectors like construction, and youth unemployment has remained elevated through the first half of 2025 (see Figure 2).* Although China's shrinking population may eventually help balance out the labor market as China's oldest generations of workers retire, factories have struggled to find workers in the interim.† [43]

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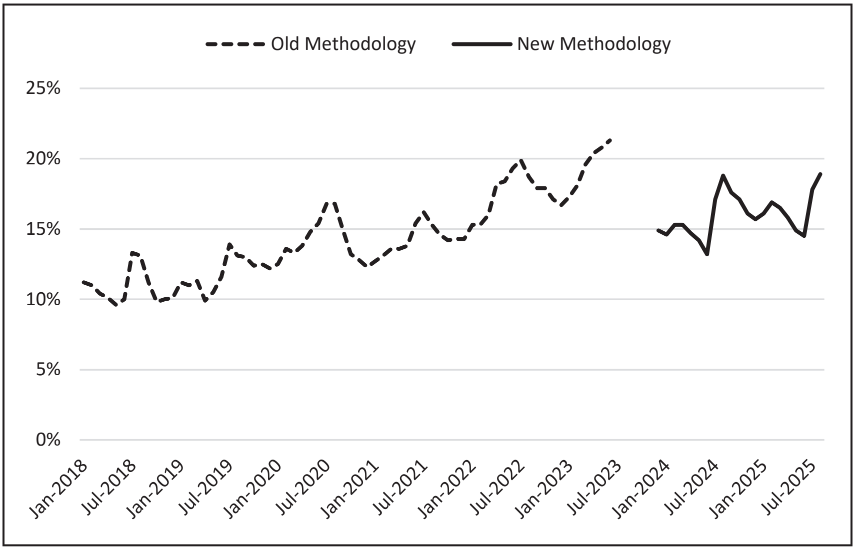
*Average employment by real estate developers has dropped by almost one-third since 2020. China National Bureau of Statistics, "*China: Real Estate Development Employees: Average*," via Haver Analytics.

†According to China's Center for Human Capital and Labor Market Research, the average age of China's workers increased from 32.25 years in 1985 to 39.72 years in 2022. Twenty-six percent of the non-retirement population is over 45 and under retirement age. Haizheng Li, "Human Capital in China 2024," *Center for Human Capital and Labor Market Research*, 2024, 2–3.

Figure 2: China's Youth Unemployment, January 2018–August 2025



Note: In 2023, in the face of wildly high published youth unemployment figures, China revised the calculation methodology to exclude students looking for work—a break with common methodology in OECD economies. Chinese statistical authorities did not release historical data adjusted for the new methodology, making it more difficult to follow the trend over time. For more on China's data weaknesses, see the textbox on "China's Incongruous and Disappearing Data" below. "China Brings Back Youth Jobless Rate, with Rosier Number," *Bloomberg*, January 17, 2024.

Source: China National Bureau of Statistics, "*Urban Unemployment Rate: Age 16–24*," via Haver Analytics.

China's expressed commitment to transitioning to a consumption-led growth model has generated much skepticism, considering repeated past failures by its leaders to do so. In December 2024, the Central Economic Work Conference, China's annual December conference that determines key economic priorities for the coming year, listed support for consumption as the top priority—over industrial policy—moving it up from the number two spot in 2023.[44] However, this is hardly the first time these pledges have been articulated. Over the years, Chinese officials have repeatedly pronounced their intent to elevate the contribution of consumption to growth,* to no avail.[45]

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*China has claimed to be addressing weak consumer sentiment for over two decades. The *2001 Work Report* from China's Two Sessions mentioned "adjusting consumption structure" and "improving the consumption environment" as strategies for China to address deflationary trends and improve standards of living. Multiple work reports in the following decade reiterated this policy agenda. For example, the *2005 Work Report* laid out the government's intent to encourage consumption through "fiscal, tax, financial and industrial policies." A 2018 Central Committee and State Council opinion called for increasing consumption in specific industries, including cultural tourism and sports, both repeats from sector-specific opinions released in 2014 and 2015. Many of these policies and guiding opinions repeat prior ideas such as calling out specific sectors or pledging to uphold consumer protection laws without providing commensurate fiscal measures that would support these aims. Central Committee and State Council, 关于完善促进消费体制机进一步激发居民消费潜力的若干意见 [Several Opinions on Improving the System and Mechanism for Promoting Consumption and Further Stimulating Residents' Consumption Potential], September 20, 2018; China State Council, 国务院办公厅关于进一步促进旅游投资和消费的若干意见 [Several Opinions of the General Office of the State Council on Further Promoting Tourism Investment and Consumption], August 11, 2015; China State Council, 国务院关于加快发展体育产业促进体育消费的若干意见 [Several Opinions of the State Council on Accelerating the Development of the Sports Industry and Promoting Sports Consumption], October 20, 2014; Central People's Government of the People's Republic of China, *2007 Report on the Work of the Government*; Central Peo-

Moreover, some analysts regard the failure to shift toward consumption as a reflection of CCP leadership priorities. Xi has continued to emphasize the importance of manufacturing and technology, fearing a focus on consumption could divert economic resources from state policies, and he has criticized policies that encourage "welfarism."[46] Chinese policies emphasize the moral nature of frugality, with recent directives telling officials to refrain from excess work-related spending on items like flowers, alcohol, cigarettes, and banquets; limit travel expenses; and control costs related to meetings.[47] Officials remain wary of stimulus that could lead to "irrational" spending, and China's censors are also concerned about relinquishing control over a large untapped services sector, which could introduce alternative ideologies.[*][48]

Some analysts suggest Chinese officials are reluctant to allow consumption to play a greater role in the economy, fearing it could introduce other sources of volatility to CCP rule by putting more wealth and power in the hands of ordinary people.[49] Even if China meaningfully shifts to encouraging consumption now, such a rebalancing would require increasing consumption's share of GDP by ten percentage points to catch up to other economies.[50] It would also divert economic resources from state priorities—a key theme in Xi's criticism of "disorderly expansion of capital" and regulatory tightening against consumer internet firms in the 2021 Common Prosperity Campaign.[51] Such an erosion would affect a key tool for the CCP, which funnels credit to state-owned enterprises (SOEs) and offers business and career advancement opportunities to Party members.[52] From this perspective, Chinese officials may in part be voicing commitment to structural change as a messaging device targeted at foreign and domestic investors, who routinely react with exuberance to China's announcements of major fiscal stimulus programs despite repeated failures to follow through at scale.[†][53]

ple's Government of the People's Republic of China, *2005 Work Report*, March 24, 2005; Central People's Government of the People's Republic of China, *2001 Work Report*.

* China's political concerns can hinder its own efforts to encourage consumption. The official consumption action plan calls for support for domestic intellectual property. The global explosion of popularity in Chinese toy company Pop Mart's Labubu dolls would appear to exemplify Chinese brand power. However, reports of obsessive consumption led officials to crack down on practices that have supported the company's growth, including its practice of packaging items in blind boxes and releasing special collectable editions. The contradiction between the state's desire to promote consumption and retain control over its populace continues to limit China's consumer power. Officials targeted entire thriving industries in prior crackdowns, including banning private after-school tutoring due to concerns of over-intense competition during college admissions and requiring video game companies to limit students' online gaming time. Charlotte Yang, "China's Warning on Blind-Box Toys Sends Pop Mart Shares Sliding," *Bloomberg*, June 20, 2025; Vivian Wang, "China Appears to Backpedal from Video Game Crackdown," *New York Times*, January 23, 2024; "China's $100 Billion Tutoring Ban Backfires, Spawning Black Market," *Bloomberg*, July 20, 2023.

† For example, Chinese leaders announced plans to provide additional support for the economy in September 2024, boosting mainland and Hong Kong equities markets. However, by November, stimulus measures had failed to materialize in a meaningful way. A similar situation played out in 2018 as China introduced moderate stimulus measures in the midst of an escalating trade confrontation with the United States. Despite pledges at the 2018 Economic Work Conference to provide additional support via "significant" tax and fee cuts in 2019, actual measures fell short as China attempted to continue deleveraging at the same time. China again announced an increase in special government bonds to mitigate the economic fallout from strict pandemic lockdowns in late 2022, but execution fell short of planned fiscal spending. An analysis by Bloomberg found that China's final spending lagged budgeted spending by at least 1.4 percent from 2019 to 2024 as local government officials struggled to find worthwhile investments to help boost the economy. "China Should Not Wait to Stimulate Its Economy," *Economist*, November 14, 2024; Samuel Shen and Tom Westbrook, "China's Stocks Rally Fizzles as Stimulus Offer Disappoints," *Reuters*, October 8, 2024; Tianlei Huang, "Lessons from China's Fiscal Policy during the COVID-19 Pandemic," *Peterson Institute for International Economics*, March 2024, 17; Don Weinland, "China Stimulus

Banks Gird Themselves for Consumer Loan Losses

At the end of 2024, the People's Bank of China (PBOC) shifted to a "moderately loose" monetary policy for the first time since the global financial crisis.* [54] Chinese officials have pressured banks to broaden access to consumer credit as a part of the government's stimulus package, and commercial banks initially competed to attract new customers by lowering loan rates.[55] As a result, bank net interest income in the first quarter of 2025 fell 2 percent over the prior year for Mainland-listed banks after China's six largest banks recorded their lowest-ever net interest margins at the end of 2024.[56] The net interest margin for 81 percent of Mainland- and Hong Kong-listed banks declined below a warning threshold set by a Chinese banking industry association, indicating widespread weakness in profitability.[57]

Chinese officials' directive to banks to extend more credit as a stimulus measure has led to declining credit quality.[58] In response to bad debt risks, banks are raising rates on consumer loans, which will likely weigh on spending going forward. In April 2025, banks raised consumer loan rates from 2.5 percent to 3 percent, a move that could substantially reduce consumer demand.[59] Short-term household loans, a proxy for consumer credit, contracted by RMB 274.1 billion ($38.3 billion) in February before rebounding in March and then decreasing again in April.[60] Some of China's largest commercial banks reported increases in bad loans in their consumer divisions at the end of 2024.[61]

Property Market Slide Continues to Weigh Down China's Economy

Four years after Evergrande—once China's largest property developer by sales—defaulted on its debt, the property markets have continued their slow-motion crash.† [62] Property development and real estate were major drivers of growth before Beijing introduced the "three red lines" policy in 2020, which restricted further borrowing by overleveraged developers and led to a wave of defaults, bankruptcies, and eventually state purchases of unsold developments.‡

Feared 'Too Little, Too Late,'" *Financial Times*, September 11, 2019; "China Pledges More Stimulus in 2019 as Economy Seeks Bottom," *Bloomberg*, December 21, 2018; "China Signals More Stimulus Measures Planned," *Bloomberg*, October 31, 2018.

*For the past 14 years, the PBOC's "prudent" monetary policy sought to balance supporting growth and stabilizing inflation with preventing asset bubbles through a mix of tools to control liquidity. The shift to "moderately loose" signals a greater willingness to lower interest rates and boost liquidity in hopes of encouraging borrowing and spending. Kevin Yao, "China Central Bank Is Moving Faster towards Its Policy Limits," *Reuters*, January 10, 2025.

†Evergrande was finally delisted from the Hong Kong Stock Exchange on August 25, 2025 after bankruptcy proceedings revealed that its outstanding debt was larger than previously disclosed. Hong Kong courts have ordered Evergrande and other Chinese developers to liquidate their assets, a complex process considering the number of entities involved and the large number of projects still under development. In Evergrande's case, the assets recovered so far are just a fraction of total claims. Venus Feng, "China's Property Crisis Hits New Low with Evergrande Delisting," *Bloomberg*, August 12, 2025; Clare Jim and Scott Murdoch, "China Evergrande Liquidators Say $255 Million of Assets Have Been Sold," *Reuters*, August 12, 2025.

‡Never officially promulgated, the "three red lines" are a series of prudential measures aimed to contain excess leverage by property developers: (1) a liability-to-asset ratio less than 70 percent, (2) net debt not exceeding equity, and (3) enough cash on hand to cover short-term borrowing. Many developers were not in compliance at the time the policy was implemented, and Chinese officials intended the policy to prevent developers from incurring additional debt until they reduced their liabilities to more sustainable levels. However, the sudden cutoff in access to

Buying and selling activity in tier one cities drove incremental improvement in nationwide property market indicators at the beginning of 2025, but this was quickly stamped out by rising uncertainty over the broader macroeconomic environment.[63] Home sales by floor space and value continued to fall in the first eight months of 2025.[64] Prices of new and existing residential buildings across the country are still below where they were in 2020.[65] Waves of developer defaults and falling prices have repeatedly forced Beijing to step in to stabilize the sector.

A widely cited 2019 survey by the PBOC found that 59.1 percent of Chinese urban * household wealth was held in residential property, over-indexed in the emerging middle class.[66] The PBOC has not released updated survey results, but former chief economist of Evergrande Ren Zeping estimated that housing still accounted for 60.5 percent of household wealth in 2023.[67] As a result, the widespread phenomenon in 2022 of developers failing to deliver prepaid but unfinished apartments led to mortgage boycotts and other soft forms of protest.[68] In response, Beijing has periodically stepped in to prop up prices and passed measures to ensure completion and delivery of prepaid homes.[69] Local governments have been directed to prop up local property markets through lower mortgage and down payment rates, buying back unsold apartments and land from developers, and finishing prepaid projects on a "whitelist" for delivery to homeowners.[70] However, China still faces a glut of housing supply, especially in second- and third-tier cities where growth has slackened due to falling urbanization rates and population decline.† [71] Beijing is also reluctant to provide too much support to the sector for fear it will encourage a return to speculative behavior.

New measures introduced in 2025 are unlikely to provide meaningful support for the struggling sector. Facing softening consumer sentiment, the central government introduced additional guidelines for urban renewal, including renovating older structures, building

credit led to a liquidity crunch, debt defaults, and the bursting of the property bubble. The crackdown on the property sector also marked the beginning of broader official oversight of China's so-called "grey rhinos": long-simmering issues that threatened the underlying stability of the Chinese economy, including shadow banking, property bubbles, SOE and local government debt, and illegal fundraising. Tianlei Huang, "Why China's Housing Policies Have Failed," *Peterson Institute for International Economics*, June 2023, 5; "China's Three Red Lines: Opportunities in China Real Estate," *UBS Asset Management*, January 11, 2021; Frank Tang, "China Has a Choice between the 'Grey Rhino' Risk of Rising Debt or the 'Black Swan' Threat of an Economic Slowdown," *South China Morning Post*, September 10, 2019.

*Urban land is owned by the government and is leased out to commercial interests and individuals. By contrast, rural land is owned by village collectives. Rural properties cannot legally be transferred outside of the village by the owners, limiting its value as an asset, although local governments have frequently expropriated land from rural residents, providing minimal compensation in return. Mandy Zuo, "China's Rural Land Is Vast, Vacant—and Not for Sale. Would Putting It on the Market Spell Windfall or Woe?" *South China Morning Post*, March 12, 2024; William Sandlund, "China's Retrograde Rural Land Policies," *Council on Foreign Relations*, August 5, 2020.

†The divide between urban and rural property markets continues to weigh on the sector, fueling renewed speculative purchasing in tier one cities while property markets in tier two cities and lower languish. The near default of China's largest privately held property developer Vanke in early 2025 exposed ongoing weaknesses and triggered a flight to safety in state-owned developers for purchases of new apartments, exacerbating private developer liquidity issues. The shift toward state-owned developers, which are much more active in China's largest cities, worsens the divide between property markets in tier one cities and other smaller cities around the country. Logan Wright, Allen Feng, and Endeavour Tian, "Property Market Chartbook, March 2025," *Rhodium Group*, March 28, 2025, 2; Thomas Hale et al., "How the State Is Propping Up China's Housing Market," *Financial Times*, February 25, 2025; Shuli Ren, "China Vanke's Year of Reckoning Has Finally Arrived," *Bloomberg*, January 6, 2025.

new elderly and childcare facilities, and modernizing utility infrastructure.[72] Mortgage rates are also falling after the PBOC cut interest rates by ten basis points in May.[73] Countrywide, accumulated inventory is falling, but most of the remaining inventory is likely concentrated outside of tier one cities, where it will be harder to sell.[74] The primary support measure introduced to date—local government property buybacks—has been unsuccessful.[75] After two years, the total amount of an RMB 300 billion bond quota to fund the program had seen only RMB 16.2 billion tapped through September 2024.[76]

Even as excess supply works its way through the market, the construction slowdown will have long-term impacts on China's economy, fiscal capacity, and financial system. Construction and related activities, which by some estimates contributed 32 percent of annual GDP in 2021, the year the property crisis began, can no longer be counted on as a major growth engine.[77] Employment in the sector has fallen for both construction and property developers.[78] Falling house prices have also contributed to deflation both upstream and downstream as the economy struggles to absorb excess supply in steel, cement, and construction equipment and households feeling the negative effect of the depressed property market on their wealth curtail spending.[79]

Local government budgets have also been negatively impacted. In 2021, at the peak of the property bubble, land sales revenue made up 30 percent of local government revenue, but this figure had dropped to 20 percent by 2023.[*] [80] Some provincial governments have turned to more strict enforcement of property taxes to try to make up for lost transaction revenue.[81] However, property taxes only apply to commercial and some high-end residential properties, accounting for less than 3 percent of total tax revenue.[82] As long as the property markets remain depressed, local governments' ability to use fiscal stimulus will remain constrained. (For more on China's fiscal capacity, see "Fiscal Position Limits Stimulus Options" later in this chapter.)

Government-directed efforts to bail out industry participants have prolonged the hangover from bad debt in the financial system. As household anger over presold but undelivered apartments grew, the central government rolled out a program directing local banks to lend to a "whitelist" of property projects in an attempt to ensure their completion and delivery to owners.[83] However, it is unclear how successful the program has been; concerned about the repayment capacity of already indebted borrowers, banks continue to resist lending to such projects. In 2024, the total amount of lending committed for these projects far exceeded the total amount actually disbursed to borrowers.[84] As more developers ran into financial trouble, China's SOE regulator, the State-Owned Assets Supervision and Administration Commission, issued a directive in June 2025 requiring state-owned de-

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[*] Land sales revenues declined 23.1 percent in 2022, 13.3 percent in 2023, and 16 percent in 2024. Cumulative lost revenue surpassed RMB 3 trillion (over $400 billion) for those three years. These losses occurred despite local government efforts to prop up prices through LGFV purchases of land. Cheng Siwei and Denise Jia, "China Plans Fiscal Overhaul to Fix Crisis in Local Government Finance," *Caixin Global*, March 10, 2025; "Propping Up Prices? Assessing the Role of Local Governments in China's Real Estate Market," *Stanford University*, 2024.

velopers to avoid defaulting on public debt.[85] However, without providing direct financial support for the developers to pay down public debt, this directive merely shifts the risk of nonpayment to non-public forms of debt, like trade payables, and puts pressure on state-owned banks to roll over loans.[86] In response, China has announced plans to recapitalize major commercial banks to alleviate pressure from waves of property defaults and provide more support by lending to the real economy.* [87] This is hardly the first time officials have been forced to inject capital into the banking system after years of poor risk management. In April 2025, the Chinese Ministry of Finance issued RMB 500 billion in new bonds to support the recapitalization through share purchases, reflecting the importance of these banks in implementing government policy goals.[88] In September, Bloomberg reported that the central government was considering directing state-owned banks to lend money to local governments for overdue payments to the private sector, an amount estimated at over $1 trillion.[89]

Fiscal Position Limits Stimulus Options

China's fiscal position has worsened, constraining the government's ability to prop up key sectors of the economy with fiscal policy. Most tax revenue in China is routed to the central government, but local governments are still responsible for social services expenditures.[90] The International Monetary Fund estimates that years of debt-fueled investment have left local governments with debt of RMB 66 trillion (approximately $9 trillion).[91] Aggregate fiscal revenue growth has been flat in recent years, and China anticipates only 0.1 percent fiscal revenue growth in 2025.[92] Combined central and local tax revenues declined 3.4 percent in 2024, owing to deflationary pressures and increased tax rebates for exporters, while fiscal revenue from land sales—a substantial traditional source of income for local governments—decreased 16 percent as property markets continued their slide.[93] Fiscal revenues are overly reliant on taxes from manufacturing and have flattened as deflation broadly impacts profitability.[94] China's tax revenues are split roughly evenly between local and central governments, but expenditures are primarily the responsibility of local governments.[95] Transfers from the central government are supposed to make up the difference, but the system suffers from major inefficiencies.[96] Rising interest payments on debt have also limited local government fiscal capacity to support consumption stimulus programs.[97] Prior announcements on reforming the distribution of central and local tax revenues to rebalance the expenditure burden of local governments have led to little change, and tax reform that would give local governments more leeway is unlikely because it would cede central control to local governments.[98]

At the same time as fiscal revenues are stagnating, China's expenditures have increased. In the first half of 2025, the central government budget deficit year-to-date reached a record after im-

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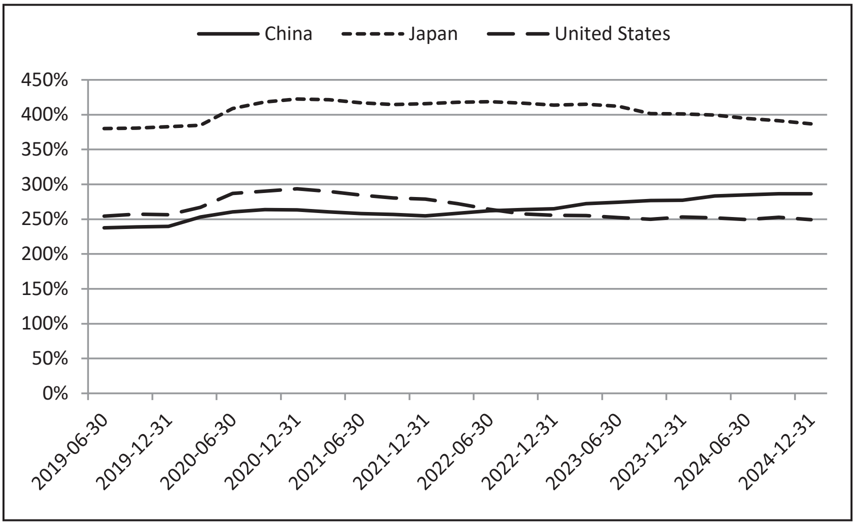
*This round of recapitalization echoes China's strategy of moving bad debt around the financial system by creating new asset management entities to hold the debt. China has propped up asset values in the past by moving non-performing loans into segregated asset management companies, which helps banks appear healthy but does not resolve the underlying distressed debt issues. Francois Chimits and Maximilian Karnfelt, "Huarong—A Silent Bail Out That Went Wrong," *Mercator Institute for China Studies*, June 23, 2021.

plementing heavier fiscal stimulus to offset the impact of global tariffs on its exports.[99] Some of the funds raised have been used to pay for wage hikes for civil servants; remaining funds raised will likely go toward consumer and capital goods trade-in programs, additional infrastructure investment, and recapitalizing banks.[100] In prior years, actual fiscal spending has lagged behind Chinese policy pledges for greater stimulus.* [101] However, Chinese policymakers, in the face of rising global pushback on Chinese exports that could inflict significant pain on the economy, have finally been forced to roll out more substantial support. In the first seven months of 2025, China's local governments issued 60 percent more bonds compared with the prior year, with nearly half allocated to major infrastructure projects, adding to a growing debt burden.[102]

Figure 3: Government and Private Non-Financial Sector Borrowing as Percentage of GDP, June 2019–December 2024



Note: The Bank for International Settlements' measurement of total credit to the government and non-financial sector provides an effective cross-country comparison of debt-to-GDP ratios. It encompasses currency and deposits, loans, and debt securities but excludes special drawing rights (SDRs); insurance, pension, and standardized guarantee schemes; and accounts receivable/payable, which are not measured in the same way across countries. Bank for International Settlements, "Introduction to BIS Statistics."
Source: Bank for International Settlements, "BIS Data Portal–*Credit to the Non-Financial Sector*."

* Special local bond issuance has lagged behind its allocated quota as localities have failed to identify infrastructure investment opportunities good enough to justify additional issuance. The consumption multiplier effect from additional special bond issuance is also increasingly diluted as more of the proceeds go toward rolling over off-balance-sheet debt. "These Are All the Different Bonds China Hopes Will Boost Economic Growth," *Bloomberg*, October 15, 2024; Allen Feng, "NPC: No More Disappointments," *Rhodium Group*, March 3, 2025, 4.

China's Incongruous and Disappearing Data

As China's economy has slowed, the government has aimed to obscure weaknesses by manipulating, non-transparently revising, or outright eliminating various data series. Throughout the rapid period of growth in the 2010s, manipulation of official data often sought to smooth volatility and make the economy appear more stable than it actually was—a narrative aimed at both domestic audiences and foreign investors.[103] During this time, poor data quality was exacerbated by the speed and size of China's total growth. Fixed asset investment, which was based on a system of local governments self-reporting spending toward planned investment, was far overstated and only later converged with central government estimates after China's National Bureau of Statistics revised the collection methodology.[104] Since then, the Bureau has taken other steps to bring Chinese data calculations in line with global standards.[105] However, these changes are sometimes made strategically to explain away weaknesses or make it difficult to track changes across periods. For example, China revised its method for calculating the money supply beginning in 2025,* allowing officials to disguise declining figures that would contradict official GDP growth rates and smooth changes over time.[106] Traditional difficulties in parsing data remain, including retail sales data skewed by the inclusion of purchases by government agencies, schools, and the military. To boost purported growth rates, Chinese statistical authorities also routinely revise retail sales data downward to lower the base of comparison for future periods (i.e., make "growth" in the numbers more likely), sometimes by tens of billions of dollars.[107] China's data manipulation also supports its geostrategic aims, which often obscure external imbalances by overstating domestic consumption and outbound investment.[108] While experienced analysts are well aware of these issues, China may still be able to hide the extent of its economic slowdown to other trade partners in an effort to continue encouraging trade and investment.[109]

China's headline macroeconomic figures also generate substantial skepticism because of the CCP's efforts to tighten international access to Chinese data while at the same time silencing the economic community in China. Over the past few years, Chinese officials have stopped publishing data that reflect poorly on the country's economic health, including figures on developer land purchases, foreign investment, and unemployment.[110] Other data considered sensitive, including corporate information and satellite images, are now only available domestically.[111] China's State Council recently amended laws expanding the definition of state secrets to include more expansive corporate data and tightened control over digital information.[112] In 2023, China also launched crackdowns on West-

*Among other changes to M1, or narrow money supply, the PBOC announced it would include balances in virtual wallets like Alipay or Wechat Pay. Ming Ming, "评论 | M1统计口径调整,数据将如何变化?" [Commentary | M1 Statistics Specifications Adjustment: How Will the Data Change?], December 4, 2024.

China's Incongruous and Disappearing Data—*Continued*

ern corporate due diligence firms operating domestically.[113] Greater restrictions on data publication coincide with a broader crackdown on critical discussion of China's macroeconomic health. Whereas the CCP used to tolerate some open debate on the state of the economy (so long as it questioned policy not politics), this no longer appears to be the case. Chinese economists, including Gao Shanwen and Zhu Hengpeng, as well as certain economics publications have been silenced when their statements are seen as too critical of official policy decisions.[114]

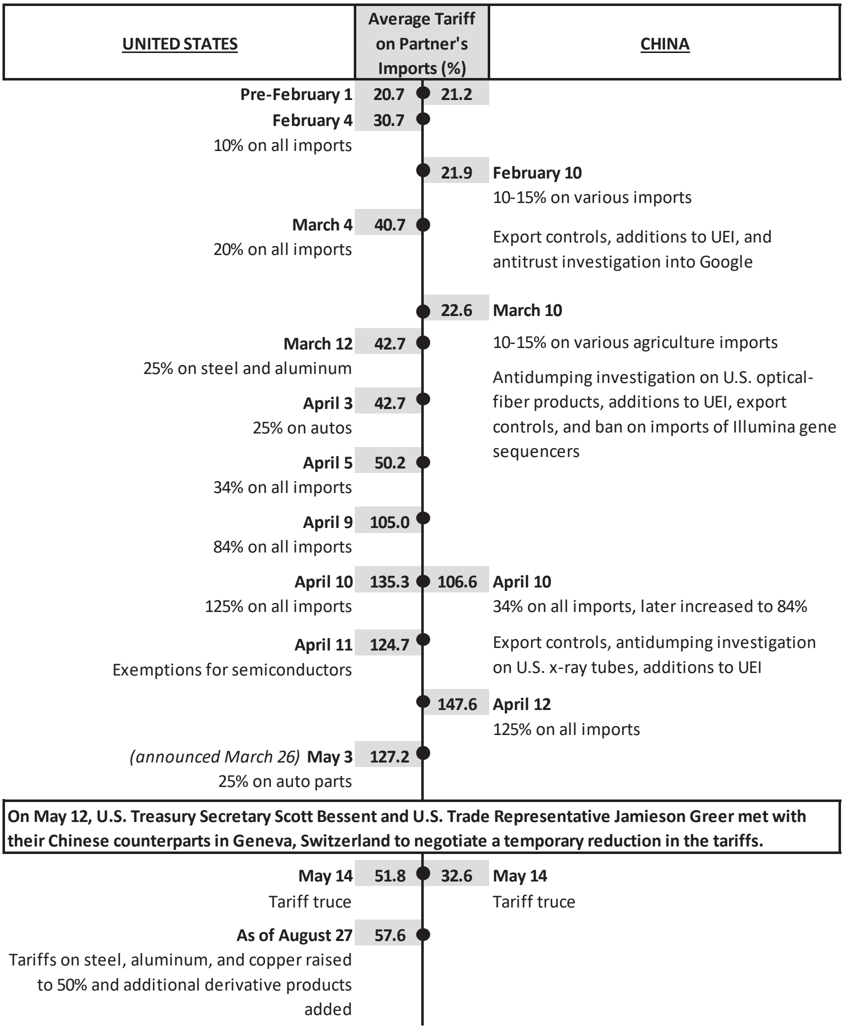
U.S.-China Economic Relations

While years of escalating tariffs, export controls, threats of outbound investment restrictions, and supply chain adjustments have caused turbulence, the United States and China remain close economic partners in terms of overall trade and investment, exhibiting the difficulties in achieving strategic decoupling. China is still the United States' third-largest trade partner, and the United States is China's single-largest export market through the latest available data—despite tariffs having been in place on over half of China's exports to the United States since 2019.[115] From 2023 to 2024, U.S. stock of foreign direct investment (FDI) in China increased 3.4 percent to $123 billion.[116]

China Faces Off with the United States on Trade Measures

In the first half of 2025, the Administration implemented additional tariffs on China, ostensibly in response to China's unfair trade practices and lack of cooperation on cracking down on the shipment of fentanyl precursors to North America. After a series of escalations, U.S. tariffs on China briefly reached 145 percent, before being pulled back to around 57 percent a number of weeks later (see below for a full timeline of events). In September, U.S. and Chinese officials met in Madrid, Spain to negotiate over tariff rates, the fate of Chinese-owned short video app TikTok, and the possibility of a visit by President Trump to Beijing.[117] A return to higher tariff rates remains on the table as the Trump Administration threatened to impose 100 percent tariffs on China in response to Beijing's expansion of export controls on rare earths in October (see more below).[118]

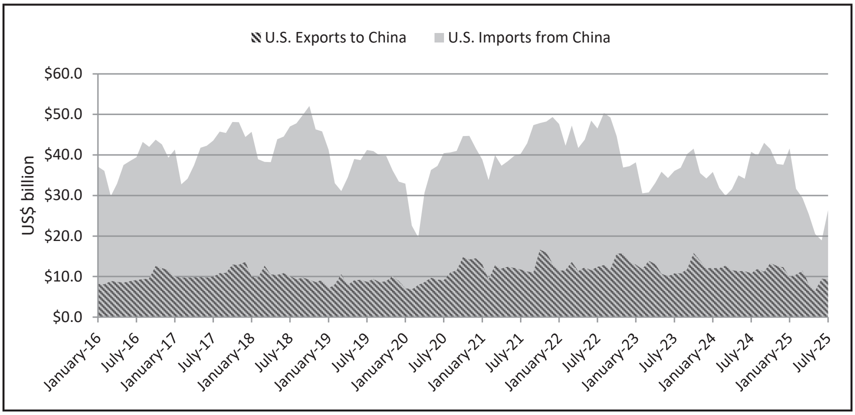
Figure 4: Timeline of U.S. and China Tariff Actions and Non-Tariff Measures in 2025, as of September 30



Note: An April 2 executive order revoked the de minimis exemption for Chinese exports, effective May 2. The tariffs applied to de minimis imports have varied since then. Additionally, both sides have exempted certain products from the reciprocal tariffs, including Chinese-made smartphones in the United States and U.S.-made aircraft engines in China. William Burkhart and Keigh Hammond, "Presidential 2025 Tariff Actions: Timeline and Status," *Congressional Research Service* R48549, August 22, 2025; Andrew Silver, "China Creates List of U.S.-Made Goods Exempt from 125% Tariffs," *Reuters*, April 30, 2025; Auzinea Bacon, "Smartphones and Computers Are Now Exempt from Trump's Latest Tariffs," *CNN*, April 12, 2025.
Source: Various.[119]

As of September 30, 2025, tariffs remained in place on most imports from China with an average tariff rate of 57.6 percent.[120] Year-to-date imports of Chinese goods to the United States for the first seven months of 2025 have dropped 18.9 percent and reached their lowest value since 2009.[121] Tariffs are set to continue rising as the Administration announced new 10 to 25 percent Section 232* import tariffs on timber, wood furniture, and other wood products, effective October 14, 2025.[122]

Figure 5: U.S.-China Monthly Bilateral Trade, January 2016–July 2025



Source: U.S. Census Bureau, "USA Trade Online."

China used a variety of retaliatory tools in response to U.S. tariffs, including implementing counter-tariffs on U.S. exports, imposing export controls on critical minerals, targeting U.S. companies for antimonopoly investigations or import bans, and adding U.S. firms to China's unreliable entity list. While some of the measures had immediate consequences for U.S. production, other measures were softened by China's years-long efforts to reduce its own reliance on the United States:

- *Retaliatory tariffs exacerbate longer-term trend of fewer U.S. exports to China:* China's retaliatory tariffs contributed to a drop in U.S. exports to China of 22 percent year-over-year.[123] Since February, Chinese buyers have reportedly halted new purchases of U.S. soybeans after China imposed retaliatory tariffs of 34 percent on U.S. exports.[124] China typically purchases over half of U.S. annual soybean production.[125] Through July 2025, U.S. exports of soybean and soybean products to China have dropped over 50 percent.[126] However, U.S. exports to China had already been falling, as China has enacted policies to reduce its reliance on U.S. goods.[127] From 2023 to 2024, Chinese purchases of U.S. soybeans fell from $15.1 billion to $12.6 billion.[128] Despite this trend, China remains reliant on imports of specialized semiconductors and medical goods from the United States, a fact highlighted by the exemption of these products from China's retaliatory tariffs.[129]
- *Export controls on critical minerals inflict pain on U.S. producers and target advanced technology:* On April 4, China's Ministry of Commerce announced export controls on the rare earth

*A Section 232 investigation, conducted under the Trade Expansion Act of 1962, assesses whether imports threaten U.S. national security. Within 270 days, the Commerce Secretary reports findings to the President, who may impose remedies if a threat is identified. U.S. Department of Commerce Bureau of Industry and Security, *Section 232 Investigations: The Effect of Imports on the National Security*, July 23, 2025.

elements (REEs) samarium, gadolinium, terbium, dysprosium, lutetium, scandium, and yttrium.[130] These materials are critical for the production of magnets used in industries including automobiles, wind turbines, electronics, and robotics, and controls have led to shortages and production delays outside of China.[131] Exports of these goods now require a license application and approval from China's Bureau for Industrial Security and Import and Export Controls under the Ministry of Commerce, and China has used these licenses as leverage during trade negotiations with the United States.[132] On October 9, China's Ministry of Commerce expanded its licensing requirement to encompass five additional REEs* and REE processing technology, and include exports of goods that either contain Chinese-sourced REEs or were made using related Chinese extraction, processing, and manufacturing technologies.[133] The strengthened controls also require "case-by-case approvals" for such exports destined for use in semiconductors below 14 nanometers, related semiconductor manufacturing equipment, and AI development, in an apparent attempt to counter U.S. restrictions of advanced AI chips.[134] (For more on China's dominance over critical mineral supply chains and its attempts to use this as leverage against the United States and other countries, see Chapter 9, "Chained to China: Beijing's Weaponization of Supply Chains" and Chapter 10, "Power Surge: China's Electrification Drive and Push for Global Energy Dominance.")

- *Unreliable Entity List primarily targets U.S. defense firms, with little incremental impact to date:* In early April, China's Ministry of Commerce added 17 U.S. drone makers and defense firms to its Unreliable Entity List for their sales to or military cooperation with Taiwan, although it later issued a statement on May 14 suspending these additions for 90 days.†[135] China added 17 more entities headquartered in the United States, Canada,‡ and the UK to the list on September 25 and October 9.[136] The additions will likely have little impact on the operations of most of the companies, many of which China had already imposed sanctions on throughout 2024.[137] The exceptions to this were the additions of Illumina and PVH group (the parent of fashion brand Calvin Klein) to the list in February 2025, both of which still have significant revenue-generating operations in China.[138] As China has reformed its export control laws to tighten oversight of exported dual-use items, however, these rules could be used

*The new REEs are holmium, erbium, thulium, europium and ytterbium. Ernest Scheyder et al., "China Expands Rare Earths Restrictions, Targets Defense and Chips Users," *Reuters*, October 9, 2025.

†China's Ministry of Commerce promulgated the Provisions on the Unreliable Entity List in 2020, creating a mechanism to investigate and penalize foreign companies for taking actions perceived as harmful to China's interests. Inclusion on the list can restrict a company's imports and exports from China, prohibit investment in China, and bar senior management from entering China. Lester Ross and Kenneth Zhou, "China, the United States, and the Rivalry over the Imposition of Unilateral Trade Sanctions," *WilmerHale*, September 6, 2024; Cari Stinebower, Jacob Harding, and Kai Zhan, "China Adds Additional Entities to the Unreliable Entity List," *Winston and Strawn LLP*, June 11, 2024.

‡Canada-based semiconductor research firm TechInsights was responsible for uncovering the presence of restricted TSMC, Samsung, and SK Hynix chips and parts in Huawei devices. "China Blacklists Researcher That Exposed Huawei Chip Secrets," *Bloomberg*, October 9, 2025.

to prevent more U.S. end users from accessing Chinese-made components.[139]

- *Targeted actions against U.S. companies to use as leverage:* China's State Administration for Market Regulation (SAMR) announced an antitrust investigation into Google on February 4, although the investigation was later dropped during trade negotiations in September.[140] The company, which does not offer its major products like its search engine and app store in mainland China, nevertheless maintains business relationships with Chinese companies for purposes such as providing the Android operating system and selling advertising space in third country markets.[141] After adding Illumina to the Unreliable Entity List the prior month, in March, China escalated restrictions on the company by banning imports of its gene sequencing machines.[142] China accounts for around 7 percent of Illumina's sales, but the company said it would offset the impact of lost revenues on its profit margins by cutting costs.* [143] (For more on China's ban of Illumina gene sequencers, see Chapter 6, "Interlocking Innovation Flywheels: China's Manufacturing and Innovation Engine.") In September China's Ministry of Commerce announced separate discrimination and antidumping investigations into U.S. chip sales as the two sides geared up for trade negotiations in Madrid.[144] Two days later in the midst of negotiations, SAMR accused Nvidia of anti-trust violations.[145] Chinese officials said the company's acquisition of Israeli firm Mellanox Technologies in 2020 violated China's anti-monopoly law, a deal regulators had approved at the time.[146] The move coincided with SAMR dropping its anti-trust probe into Google, signaling China's willingness to both exert leverage and ease pressure as a negotiating tactic.[147] On October 10, 2025, a day after expanding export controls on REEs, SAMR opened an anti-trust investigation into U.S. chipmaker Qualcomm's June 2025 acquisition of Israeli chip designer Autotalks, claiming the probe would examine whether Qualcomm misreported details of the deal.[148]

As of September 2025, U.S. and Chinese officials appear to have reached a deal that would allow TikTok to continue operating in the United States. In 2024, Congress passed a law that would ban TikTok as of January 2025 unless ByteDance divested control over its U.S. operating entity.[149] Multiple executive orders declined to enforce the law for temporary periods, with the September order lasting through December 2025.[150] Under the terms of the September 2025 agreement, a consortium of U.S. investors including Oracle will have around 80 percent ownership in a new entity with ByteDance's stake reduced to below 20 percent.[151] According to statements from the White House, the app's key algorithms will be recreated by licensing TikTok technology and Oracle will host U.S. user data in the

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*This appears to be the first reported instance of China using the Unreliable Entity List to single out a specific product for an import ban. China uses a variety of methods to encourage self-sufficiency among its technology firms, including market entry barriers, financial incentives, forced technology transfer, government investment funds, and discriminatory procurement policies. For more, see "China's Industrial Policy Arsenal" in Chapter 6, "Interlocking Innovation Flywheels: China's Manufacturing and Innovation Engine."

United States.[152] U.S. individuals will also control 6 out of 7 board seats, with ByteDance retaining the last seat.[153]

Cross-Border Financial Flows

Financial flows continue between the United States and China, albeit on a smaller scale and subject to more restrictions. Governments of both sides have taken steps to restrict investment for national security reasons, while companies are proactively hedging their own business risks by canceling previously planned investments. In the second quarter of 2025, investment manager Bridgewater Associates sold its approximately $1.5 billion holdings of U.S.-listed Chinese stocks and China-focused exchange-traded funds.[154] As the largest foreign hedge fund in China with onshore assets under management around RMB 60 billion ($8.8 billion), Bridgewater's divestment indicates a discrepancy between apparently bullish views of the country and the potential exposure of Chinese firms' overseas operations to geopolitical tensions.[155] Despite the slowdown in recent years, cross-border portfolio holdings remain high. Goldman Sachs and Bloomberg estimate that Chinese investors hold $370 billion of U.S. equities.[156] Likewise, U.S. investors hold $800 billion of Chinese equities, primarily through U.S.-listed or Hong Kong-listed mainland Chinese firms.[157]

Listings of Chinese firms on U.S. stock exchanges have declined due to scrutiny from regulators and officials in both the United States and China.* In 2021, Chinese regulators opened an investigation into Didi Chuxing's initial public offering (IPO) on the New York Stock Exchange (NYSE) after the company failed to respond to Chinese regulators' concerns over data privacy. Didi Chuxing ultimately delisted from the NYSE in 2022, and Chinese firms now must receive regulatory approval from China before an overseas IPO.† [158] All of China's SOEs have delisted from U.S. stock exchanges since the Public Company Accounting Oversight Board reached an agreement with Chinese regulators to allow for inspections of audit firms in mainland China and Hong Kong that audit Chinese firms listed in the United States.[159] Small-cap Chinese firms have continued to list on U.S. stock exchanges, and U.S. investors have accused some of these firms of deceiving investors through pump-and-dump schemes. Regulators are investigating a pattern of sudden drops in stock value that appears to be perpetrated by foreign investors.‡ [160]

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*FDI inflows from China have declined broadly since 2016 as the government cracked down on capital outflows in sectors like real estate and entertainment. Thilo Hanemann, Armand Meyer, and Danielle Goh, "Vanishing Act: The Shrinking Footprint of Chinese Companies in the US," *Rhodium Group*, September 7, 2023.

†Chinese regulators have tightened rules for Chinese firms regardless of the listing venue. In 2020, regulators blocked Ant Group's planned Shanghai and Hong Kong IPO after Ant's CEO Jack Ma critiqued financial regulation in a speech. The move sparked a greater tightening of government oversight of China's technology companies, leading to more formalized rules for overseas listings. Yang Yang, Naomi Ng, and K Oanh Ha, "How China Is Bringing Hong Kong's IPO Market Back to Life," *Bloomberg*, August 13, 2025; "In Just One Year, Beijing's Crackdown Has Changed Corporate China Forever," *Bloomberg*, November 2, 2021; Maximilian Karnfelt, "China's Fintech Giant Ant Financial Reined In by Politics," *Mercator Institute for China Studies*, November 12, 2020.

‡Nasdaq has introduced new rules this year that speed up the process of de-listing stocks that fall below $1 in value and requiring certain companies to raise at least $15 million for new IPOs. The U.S. Securities and Exchange Commission has also formed a task force to investigate U.S.-based financial market participants who have facilitated securities law violations. George Steer, "SEC Targets US Firms Tied to Suspected Chinese 'Pump and Dump' Scams," *Financial Times*,

The U.S. government has taken steps to limit investment by U.S. investors in China's high-technology industries to prevent technology transfer. U.S. Department of the Treasury restrictions to prohibit or require notification of transactions involving investment in sensitive technologies in China came into effect in January 2025.* [161] The Administration has since proposed expanding the restrictions to additional sectors.[162] Survey results from the American Chamber of Commerce in China indicate that China's attractiveness as an investment destination has declined due to both U.S.-China tensions and China's declining macroeconomic environment.[163] However, broad portfolio investment in China remains relatively unrestricted, and U.S. portfolio holdings in mainland-China listed securities rose an estimated $16 billion† in the first half of 2025 as Chinese markets saw record global inflows attributed to developments surrounding Chinese AI company DeepSeek.‡ [164]

Since government scrutiny of deals in both the United States and China brought Chinese FDI into the United States down from its 2016 peak, Chinese FDI in the United States has remained muted.[165] In 2023, flows of direct investment from China to the United States were $6.9 billion, a decrease of 5 percent over the prior year.[166] The U.S. government announced its intent to prevent Chinese purchases of U.S. farmland after previous proposed transactions that would have granted Chinese owners access to land near U.S. military sites raised alarms.§ [167] In addition, China's regulators have stalled approvals for new investments in the United States.[168] China's sovereign wealth fund is also reducing its less liquid U.S. holdings, while state-backed Chinese firms have limited their investments in U.S. private equity funds under pressure from the Chinese government.[169]

China's Technological Outlook—Progress, Obstacles, and Results

U.S.-China Tech Competition and Policy

Technological competition between the United States and China continues to be a major factor reshaping their economic and security relationships. Both sides now realize critical technologies—from advanced semiconductors to AI—are strategic assets tied to national resilience and geopolitical competition. This shift has seen the United States often trying to slow China's progress, while China

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September 10, 2025; Dave Michaels, "Obscure Chinese Stock Scams Dupe American Investors by the Thousands," *Wall Street Journal*, June 16, 2025; George Steer, "Surge in Chinese Listings Drives Boom for US Small-Cap IPO Market," *Financial Times*, May 13, 2025.

*These technologies, named in a 2023 executive order, include semiconductors and microelectronics, quantum information technologies, and AI. To date, Congress has not succeeded in enacting legislation restricting outbound investment to China. Cathleen Cimino-Isaacs and Karen Sutter, "Regulation of U.S. Outbound Investment to China," *Congressional Research Service* CRS IF12629, December 10, 2024; "Final US Outbound Investment Rules to Be Effective January 2, 2025: Key Questions Answered," *Latham & Watkins*, November 8, 2024.

†These estimates do not account for portfolio investment that flows through offshore tax havens such as the Cayman Islands and Bermuda.

‡Chinese government stimulus in September 2024 led to a resurgence in domestic equity valuations as individual Chinese investors rushed to take advantage of the rally. However, China's stock markets do not reflect underlying economic realities, and many investors view stock trading as a "casino" rather than one grounded in fundamentals. Li Yuan, "Why Chinese Are Rushing into a 'Casino' Stock Market," *New York Times*, October 21, 2024.

§It is not clear what steps have been taken or what authority has been used since the announcement to implement such a ban.

attempts to use industrial policy to keep up, using as leverage the desire of U.S. tech firms to access China's market and consumers.

The United States has tightened export controls on advanced semiconductors to stall China's progress in AI. In response, Chinese companies have sought ways to circumvent these obstacles and develop workarounds through both homegrown solutions and black market purchases.[170] The United States has also worked with allies to deter the smuggling of AI chips, with Malaysia announcing in July that it would closely track and require permits for any chips shipped into or out of the country.[171] China has responded to U.S. efforts by redoubling efforts to develop competitive domestic alternatives. Huawei's Ascend 910C chip*—touted as rivaling Nvidia's H100 in inference workloads for running AI models like DeepSeek—is now entering mass production via China's Semiconductor Manufacturing International Corporation's (SMIC) 7 nm process, with early shipments and usage already underway by Chinese AI firms.† [172] Meanwhile, SMIC is pursuing deeper integration with Huawei to boost production yields on chips (an estimated 20–40 percent for SMIC compared to 60–90 percent for Taiwan Semiconductor Manufacturing Company [TSMC], dependent on the chip) and achieve full domestic supply chain independence.‡ [173] In the long term, yields this low are unsustainable for the profitable operations of SMIC and must be subsidized at great cost by China's central and local governments.[174] While Chinese AI companies wait for Huawei and SMIC to meet local demand, they are buying less advanced chips that do not violate U.S. export controls, illicitly acquiring export-controlled semiconductors, or training their models at overseas data centers.§ [175]

Chinese regulators have also moved to restrict foreign companies' access to the Chinese market and push Chinese companies to buy local.[176] In August, Chinese authorities discouraged companies from purchasing Nvidia H20 chips (more on H20s below); then in September, the Cyberspace Administration of China effectively banned Nvidia's RTX Pro 6000D chips—another less advanced product the company had designed to be compliant with U.S. export control performance restrictions.[177]

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*Huawei designs chips through its internal "HiSilicon" fabless chip design firm. These chip designs are then shared with and produced by SMIC. However, Huawei is also now currently constructing at least five semiconductor fabs, meaning future chips may be designed by HiSilicon and then directly produced by Huawei with no third-party involvement. Antonia Hmaidi, "Huawei Is Quietly Dominating China's Semiconductor Supply Chain," *Mercator Institute for China Studies*, April 9, 2024.

†The 910C is being used in systems like Huawei's CloudMatrix 384 rack-scale systems (multiple servers working together), which deliver lesser performance than comparable Nvidia products but are reportedly increasingly serviceable for AI workloads like training or inference. Dylan Patel et al., "Huawei AI CloudMatrix 384—China's Answer to Nvidia GB200 NVL72," *SemiAnalysis*, April 16, 2025.

‡"Yield" is the share of usable chips from a wafer. High yields lower costs, while low yields raise them. Maximizing high-quality, defect-free yields is one of the hardest but most important goals in chipmaking. The Integrated Circuit Engineering Corporation identifies chip yield as "the single most important factor in overall wafer processing costs," since even modest gains in output can sharply reduce overall manufacturing expenses. Gregory Hale, "Hidden Costs and Tradeoffs in IC Quality," *Semiconductor Engineering*, February 8, 2024; Koen de Backer et al., "Taking the Next Leap Forward in Semiconductor Yield Improvement," *McKinsey and Company*, April 2018; "Yield," *Samsung*. *https://semiconductor.samsung.com/support/tools-resources/dictionary/semiconductor-glossary-yield/*.

§A *Financial Times* investigation published in July 2025 estimated that advanced Nvidia chips worth more than $1 billion were smuggled into China's thriving black market after the Trump Administration tightened controls on exports of advanced AI processors in April. Eleanor Olcott and Zijing Wu, "Nvidia AI Chips Worth $1bn Smuggled to China after Trump Export Controls," *Financial Times*, July 25, 2025.

To strengthen the effectiveness of export controls, the U.S. government is considering more aggressive ways to slow down Chinese firms' race to advanced capabilities. On May 13, the Commerce Department issued guidance that any firms—in the United States or globally—using Huawei's advanced AI chips could be subject to future enforcement actions, though it has yet to provide any follow-up on this issue.[178] Navigating between geopolitical strife and increasingly complex legal regimes, U.S. companies operating in China are often forced to choose between maintaining ties, losing market access, or facing even more severe retaliatory actions.

U.S. firms have begun to engineer products at or just below the legal threshold of export controls, though some production of these bespoke products has been paused after China's move to restrict imports.[179] U.S. export controls have prompted chipmakers like Nvidia and AMD to design chips that, while less capable than their most advanced products, are still more attractive to Chinese AI firms than domestically produced alternatives.[180] In April, Nvidia revealed that the U.S. Department of Commerce had blocked sales of its H20 chips after the company reported $17 billion in revenue from China in 2024; reports indicated Nvidia promptly planned a new, slightly less advanced version of the chip in order to get around the new limitation.[181] On July 14, Nvidia and AMD announced that the Commerce Department would allow the companies to resume sales of the H20 and MI308 (an AMD chip similar in performance to the H20), respectively.[182] Key Administration officials behind this decision believe that allowing lower-compute chips such as the H20 into China promotes U.S. market share dominance, disincentivizes China from exporting Huawei chips to third-party countries, and ensures China's leading AI companies remain "addicted to the American technology stack" two to three iterations behind that which is available to trusted customers.[183] However, leading national security experts* contend that allowing the export of Nvidia's H20 chips undermines the semiconductor export controls by enabling these advanced chips to fuel China's efforts to catch up and surpass the United States in AI, noting that the H20 performs better at certain tasks key to AI models than more advanced chips.† [184]

Given China's ability to access powerful AI chips through legal avenues of cloud compute and illegal avenues of chip smuggling, the U.S. under the previous administration also introduced the AI Diffusion Rule on January 15, 2025.[185] The rule created a three-tier country system: tier one partners had largely unhindered access to advanced graphics processing units (GPUs); tier two countries faced capped access designed to keep them behind the frontier; and tier

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*Twenty experts, including Former Deputy National Security Advisor Matt Pottinger, American Compass founder Oren Cass, and senior fellow at Center for New American Security Liza Tobin, signed a letter to Commerce Secretary Howard Lutnick on July 28, 2025, urging the Administration to reverse course and ban the sale of H20 chips to China. Brad Carson et al., "Letter to Secretary Lutnick on H20 restrictions," *Americans for Responsible Innovation*, July 28, 2025.

†A major concern with Nvidia's H20 GPU is its ability to support AI models' inference capabilities. Inference refers to an already trained model's ability to generate outputs such as answering queries, producing content, or analyzing data. Inference, rather than AI model training, is especially critical for Chinese models like DeepSeek's R1. While the H20 is not the most advanced GPU for training large AI models, it is particularly well suited for high-performance inference workloads. Arushi Gupta, Tao Burga, and Tim Fist, "The H20 Problem: Inference, Supercomputers, and US Export Control Gaps," *Institute for Progress*, April 15, 2025; Brad Carson et al., "Letter to Secretary Lutnick on H20 restrictions," *Americans for Responsible Innovation*, July 28, 2025.

three destinations (e.g., China and other arms-embargoed states) were denied leading-edge chips.[186] The framework imposed security and auditing requirements to prevent diversion (including conditions tied to data centers and cloud use) and, for the first time, required licenses for exporting certain unpublished AI model weights, treating them as controlled technology.[187] However, in May 2025, the Commerce Department under the current Administration announced a rescission of the AI Diffusion Rule, raising concerns about the rule's regulatory burden, effect on innovation, and diplomatic impact and indicating it would issue a replacement rule in the future.* [188] At the same time, Commerce issued new guidance intending to strengthen other semiconductor-related export controls.[189] In August 2025, Commerce announced it would end foreign companies' ability to export semiconductor manufacturing equipment to facilities in China without a license under the Validated End-User (VEU) program.[190] The Department's Bureau of Industry and Security (BIS) stipulated that licenses would be granted for existing operations but not for future expansion or upgrades to facilities based in China.[191] Reports indicate that this change will affect numerous foreign firms with operations in China's semiconductor industry, including TSMC, SK Hynix, and Samsung.[192] On September 29, BIS adopted a version of Treasury's "50 percent rule" for sanctioned entities, extending export control restrictions to affiliates owned 50 percent or more by another entity that is already subject to certain controls under BIS and Treasury's Office of Foreign Assets Control.[193] Export control experts have characterized this move as a significant expansion to the coverage of these lists to prevent evasion.[194]

Despite U.S. efforts to restrict China's access to advanced technologies and chips, the results have been uneven. U.S. firms continue to shape China's technology landscape in different ways, with some deepening their cooperation with China even as others pull back. Chinese AI companies have also managed to keep pace with U.S. counterparts, continuing to put out advanced AI models despite barriers to obtaining the most advanced hardware needed for training or inference. Below are related developments summarizing this complex picture:

- *U.S. corporate investment into China's tech ecosystem:* On May 16, Nvidia announced it was investing in a new Shanghai research center, exemplifying a longstanding trend of U.S. tech companies directly bolstering Chinese research and development (R&D) into advanced technologies.[195] While Nvidia's facility will not handle core chip design work, it will focus on adapting existing technologies for local clients, navigating around the most sensitive areas restricted by export controls.[196] Nvidia's actions follow those of Apple, which in 2024 announced that Shenzhen would host its largest R&D lab outside the United States.[197]

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*In place of the AI Diffusion Rule, experts at RAND and the Carnegie Endowment for International Peace have argued for a range of potential alternatives—from renting cloud compute (rather than exporting chips) to tier three countries like China or tying the export of chips into trade-based concessions. Alasdair Phillips-Robins and Sam Winter-Levy, "The Trump Administration May Be About to Repeal the AI Diffusion Rule. Here's What It Should Do Next," *Carnegie Endowment for International Peace*, May 8, 2025; Janet Egan and Lennart Heim, "America Should Rent, Not Sell, AI Chips to China," *RAND*, August 15, 2025.

- *Commercial pullback from China:* Nvidia and Apple's actions run in stark contrast to other major U.S. tech companies that are choosing to decouple or decommission Chinese research facilities dedicated to advanced technology. In July, Amazon announced it was shutting down its Shanghai-based AI lab.[198] This pullback mirrors similar actions from IBM and Microsoft, which in recent years have also closed R&D centers throughout China.[199] These actions show that leading U.S. technology companies are choosing different paths for engagement with China depending on their perceptions and the risks versus benefits of market access.
- *China's AI progress:* China has proven it can still produce world-class AI models with less computing power. In December 2024, DeepSeek released its V3 open source large language model, followed by its R1 reasoning model in January.[200] DeepSeek models had comparable performance to leading U.S. AI firms despite using far less compute for training and at the same time achieving far lower costs for running inference.[201] Since DeepSeek's release of V3 and R1, other groundbreaking Chinese AI models—all of them open source, trained on less compute, and typically less expensive than U.S. counterparts—have continued to emerge from both established and upstart Chinese commercial firms, showing that China's innovative capabilities and competitiveness with U.S. AI companies will continue for the foreseeable future.[202] In August 2025, the State Council released the "AI Plus" strategy outlining goals to promote widespread adoption of AI throughout the economy and society in the coming years. Modeled on the "Internet Plus" strategy in 2015 that aimed to connect real-world activity to users and customers online, the AI Plus policy sets out to "empower" people with AI agents and applications across six key industries, with goals of 70 percent adoption by 2027 and 90 percent by 2030.[203]

China's Tech Competition Challenges

In February, General Secretary Xi hosted a meeting with Chinese technology leaders as part of a broader effort to support investment, regulatory stability, and domestic innovation. The firms in attendance included longstanding national champions involved in mature technologies like BYD and Huawei, dynamic startups in emerging technologies like DeepSeek and Unitree Robotics, and the return of previously shunned tech titan Jack Ma, founder of Alibaba.[*][204] To outside observers, Xi's presence at the February meeting signaled that China's "tech crackdown" has passed, with some analysts anticipating looser restrictions on private tech firms but many others noting policy would still guide entrepreneurs toward contributing to Beijing's long-term goal of technological self-sufficiency.[205]

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*Ma's return was symbolic, as he had previously been punished and had seemingly fled China after challenging local regulations and policies related to his technology companies (notably Alibaba and Ant Group). His reappearance with Xi at the February meeting was intended to be a signal of the Party's support for the technology sector and of renewed regulatory leeway for private tech firms. John Liu, "In from the Cold? Alibaba Co-founder Jack Ma Spotted among Top Tech Bosses Who Met China's Xi," *CNN,* February 17, 2025, "China Invites Jack Ma, DeepSeek Founder to Meet Top Leaders," *Bloomberg*, February 14, 2025.

In April, several ministries jointly issued a directive to the financial industry to support domestic tech firms involved in AI, quantum, biotech, and other strategic sectors by expanding bank credit and extending loans.[206] In May, China unveiled a national venture capital fund to encourage investment in technology firms.[207] Other notable measures of support have focused on applying AI to legacy industries like manufacturing, using AI to identify patentable technology, and building pools of intellectual property to encourage research commercialization.[208] While these efforts are still nascent, China's ability to more quickly identify and patent technology via AI could further contribute to problems of "patent thickets" that strategically block U.S. technology firms from accessing or commercializing intellectual property without facing litigation and other legal complications.[209]

Alongside policy support for critical technologies, China uses Party-led "lawfare" to pressure U.S companies, using their desire for market access as a point of leverage to punish them for compliance with U.S. export controls.[210] Last December, China launched an antitrust investigation that threatens to unwind Nvidia's 2019 acquisition of computer networking firm Mellanox, potentially denying Nvidia access to innovative technology critical for GPUs and networking equipment.[*][211] In February, China's market regulator launched an investigation into anticompetitive practices related to Google's Android operating system, which runs on roughly two-thirds of the smartphone market in China and competes with Huawei's domestically developed Harmony OS.[212] Regulators dropped the case in September as they shifted scrutiny to Nvidia during trade talks with U.S. officials in Madrid.[213] Chinese regulators also delayed approval of U.S. electronic design automation (EDA) firm Synopsys's merger with U.S. software developer Ansys after the Trump Administration tightened controls on the sale of advanced chip design software to China, though the deal was subsequently approved.[†][214]

Alongside legal weapons to retaliate against the United States, China also seeks to unravel the international partnerships underpinning U.S. export controls by pressuring foreign companies and governments. In May, China's Foreign Minister Wang Yi directly lobbied his Dutch counterpart to loosen the Netherlands' export controls surrounding ASML's photolithography machines, though this effort was unsuccessful.[215] China is now using its own export controls to retaliate against countries partnering with the United States. In July, Japanese Foreign Minister Takeshi Iwaya requested that Foreign Minister Wang Yi ease rare earth element and magnet export licenses to Japan.[216]

Future of U.S.-China Tech Competition

Ultimately, the technological competition between the United States and China may lead to a bifurcated ecosystem for advanced

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* Nvidia's acquisition of Mellanox was originally approved by China's regulators in April 2020. "NVIDIA Receives Approval to Proceed with Mellanox Acquisition from China's Antitrust Authority," *Nvidia*, April 16, 2020.

† China's State Administration for Market Regulation conditional approval requires the merged entity to honor current customer relationships and continue supplying EDA software to China. "China Gives Conditional Nod to Synopsys-Ansys deal, Removing Last Major Hurdle," *Reuters*, July 14, 2025.

semiconductors and AI, along with other emerging technologies. For advanced semiconductors, the split is at the company level, with Huawei and SMIC poised to overtake Nvidia's spot as the top supplier of AI chips in China after the Chinese government pressured domestic firms not to buy Nvidia chips during the summer of 2025.[217] According to reporting from the *Financial Times*, the Cyberspace Administration of China instructed Chinese firms to cancel orders of Nvidia chips designed for the Chinese market in September.[218] For AI, the split is more pronounced, with the United States heavily tilting toward closed-weight and proprietary models like those of OpenAI, xAI, DeepMind, or Anthropic, while China's most advanced models by DeepSeek, Alibaba, and others are explicitly open-weight, less expensive, and freely downloadable for users.[219]

Since the intelligence community highlighted to U.S. lawmakers the cybersecurity risks posed by using Huawei and ZTE equipment in telecommunications networks, there has been growing awareness surrounding the security risks linked to Chinese-connected products.[220] This awareness has led to a series of import restrictions and heightened scrutiny across multiple sectors. From Chinese electric vehicles (EVs) and drones to energy infrastructure and defense systems, U.S. officials have raised concerns about embedded hardware, remote access capabilities, and the potential for espionage. These measures have created increased uncertainty for Chinese firms seeking to operate in U.S. markets tied to critical infrastructure, transportation, and national defense.

- *Chinese EVs:* Over the past four years, U.S. policymakers effectively blocked the import and domestic production of Chinese-made EVs through steep tariffs and the denial of federal tax credits. More recently, based on national security concerns, BIS's Office of Information and Communications Technology Services (OICTS) effectively restricted imports of "connected vehicles" produced in or including key systems from various countries, including China.[221] The moves are in part intended to address concerns that China could gather information and even disrupt U.S. transportation networks through these technologies.[222]

- *Chinese drones and other connected technology:* In December 2023, the American Security Drone Act was passed as part of the 2024 National Defense Authorization Act, prohibiting federal government purchases of drones from entities domiciled in China or entities subject to China's influence or control.[223] In July 2025, the Commerce Department opened a Section 232 national security investigation into imported drones.[224] The executive action follow an advanced notice of proposed rulemaking by OICTS in January 2025 seeking comment on risks associated with the use of drones or key drone systems produced in various countries, including China.[225] With Chinese firms like DJI dominating U.S. commercial drone imports, these investigations could become a major point of tension between the United States and China.[226] The Commerce Department also opened a Section 232 investigation into imported robotics and industrial machinery in September, citing concerns over the security of supply chains for components as well as the ability of foreign persons to weaponize these technologies.* [227]

- *Chinese IT equipment and digital platforms:* In December 2024, the *Wall Street Journal* reported that Commerce Department investigators subpoenaed TP-Link for details on its corporate structure, following concerns raised by the House CCP Select Committee on TP-Link's corporate location in China, cybersecurity vulnerabilities, and TP-Link's obligation to share U.S. user data with China's government upon request by CCP officials.[228] The investigation has continued under the Trump Administration, with Bloomberg reporting in April 2025 that the U.S. Department of Justice's antitrust division was probing the company for potential predatory pricing and related practices.[229] Adding to the pressure, in May, 17 lawmakers led by Senate Intelligence Committee Chair Tom Cotton raised national security concerns about TP-Link's role in U.S. supply chains in a letter to Commerce Secretary Howard Lutnik.[230] Moving forward, Federal Government actions and congressional legislation suggest continuing scrutiny of—and likely further tightening of restrictions against—Chinese IT equipment makers, Chinese digital platforms, and Chinese-origin products that are internet connected.[231]
- *U.S. Department of Defense (DOD) bans on Chinese companies:* In its 2025 update of the Section 1260H List, DOD added 66 companies as well as several affiliates of companies already on the list and expanded prohibitions on procurements containing Chinese-origin components, restricting them from entering into or renewing DOD contracts.† [232] These actions continue a longer trend of identifying and removing Chinese suppliers from U.S. defense supply chains.

China's External Economic Relations

China has sought to capitalize on recent concern on the part of many countries about the direction of U.S. trade policies, offering itself as a stable and reliable alternative to the United States while threatening retaliatory measures against countries that negotiate deals with Washington it finds "unfavorable." Chinese outbound direct investment has begun to recover from pandemic lows, though it is marked by major shifts in composition and geographic destination. Merger and acquisition activity continues to decline, offset by greenfield investment by established companies looking to expand overseas manufacturing capacity. In 2025, Beijing has also contin-

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*In April 2025, BIS also initiated Section 232 investigations into imports of semiconductors and pharmaceuticals. As of October 10, the reports have not been published; the 270-day statutory deadline for the investigations to close is December 27, 2025. U.S. Department of Commerce, Bureau of Industry and Security, *Section 232 Investigations: The Effect of Imports on the National Security*.

†Section 1260H of the Fiscal Year 2021 National Defense Authorization Act requires the Secretary of Defense to publish an annual list of "Chinese military companies," including entities working as agents of the People's Liberation Army or Central Military Commission or contributing to China's military-civil fusion program and operating directly or indirectly in the United States or its territories. DOD first published the Section 1260H List in June 2021. "US Department of Defense Issues Updated Section 1260H Chinese Military Companies List," *Hogan Lovells*, January 17, 2025.

ued its multiyear push to promote the use of the RMB internationally, making marginal gains.

China Touts Itself as a Reliable Trade Partner despite Distortive Practices

China has presented itself as a "responsible great power" and partner of choice for U.S. friends and foes alike.[233] In response to the Administration's reciprocal tariff announcement on April 2, 2025, Chinese officials said the proposed tariff policy "severely infringes upon the legitimate rights and interests of all countries, severely violates WTO rules, severely undermines the rules-based multilateral trading system, and severely disrupts the global economic order."[234] Despite China espousing itself as a champion of free and open international trade, numerous countries have continued to enact their own measures to protect their markets in recognition of the potentially harmful distortions that China's mercantilist system poses to their domestic industries. In 2024, 149 countries registered a goods trade deficit with China—deficits poised to deepen as China continues to prioritize goods exports as its principal growth strategy.[235]

China Uses Both Charm and Threats against Countries Engaged in U.S. Trade Talks

China has threatened "resolute countermeasures" against countries that negotiate deals with the United States it determines go against its national interests while also trying to appeal to countries unhappy with current U.S. trade policies.[236] Chinese officials prioritized high-profile meetings with Asian neighbors and promoted Beijing's narrative farther afield.

- Japan, China, and South Korea held their first trilateral economic dialogue in five years on March 30, 2025. The three East Asian countries began talks on a trilateral free trade agreement in 2012, but negotiations stalled in recent years amid heightened tension between China and its two East Asian neighbors.[237] While the three countries agreed to restart trilateral free trade agreement talks in their March meeting, the prospects of achieving such an agreement remain highly unlikely.
- In the weeks after President Trump's "Liberation Day" reciprocal tariff announcements, General Secretary Xi visited three Southeast Asian countries: Vietnam, Malaysia, and Cambodia. Though the trip had been planned months in advance, visiting these countries against the backdrop of the proposed tariff rates from the United States provided an opportunity for Xi to reiterate China's intentions to support neighboring countries in resisting "unilateral bullying."[238]
- In May, Chinese officials touted growing trade and investment relations with key Latin American countries during a regional forum, with Xi promising in a keynote address to boost development and promote multipolarity in the face of "bullying" and "unilateralism."[239]
- In June, Xi announced that the 53 African countries with which China has formal diplomatic relations would be afforded duty-free access to the Chinese market, lowering tariffs across the

board to zero just before many countries in Africa lost duty-free access to U.S. markets under the African Growth and Opportunity Act (AGOA), which expired on September 30, 2025.[240] China has spent years situating its firms on the continent to benefit from expanding trade, including under preferential tariff rates to the U.S. market.[241] Textile exporters in AGOA beneficiary countries tended to expand their use of the third country fabric (3CF) provision after investment by Chinese firms.[242] Benefiting from years of Belt and Road Initiative(BRI) investment, Chinese companies pervade mining and construction industries in many African countries, accruing much of the benefit of related trade.[243] Through September, total two-way goods trade between China and Africa is up 18.2 percent from the first nine months of 2024, reaching $254.9 billion, though the trade is becoming more unbalanced—Chinese exports are up 27.9 percent, while its imports from Africa have risen only 4 percent.[244]

Despite Beijing's charm offensive, developing countries—even those trending toward warmer relations with China—have stepped up their use of trade measures to shield their economies from China's export tidal wave. In January, Turkey increased its tariff rate on Chinese gas and hybrid car imports from 40 to 50 percent while keeping the 40 percent rate for EVs set in 2024 constant.[245] Brazil is reportedly considering accelerating tariff hikes on Chinese EV imports flooding its market, currently set to reach 35 percent by 2026.[246] Even Russia, one of China's closest allies, imposed a significant tax on imported vehicles that came into effect at the start of 2025.[247] Lastly, the Gulf Cooperation Council independent trade investigation body imposed antidumping duties on Chinese aluminum products and electrical components after multiyear investigations.[248] In sum, 28 of China's trade partners initiated a combined 160 trade investigations against China in 2024, a stark increase from 69 total cases brought by 18 countries in 2023.[249]

Trade tensions between China and the EU have also intensified in 2025. European Commission President Ursula von der Leyen told Xi at a July summit in Beijing that China-EU relations had reached an "inflection point" and that relations would further deteriorate unless the CCP takes concrete steps toward addressing European concerns regarding overcapacity and market access.[250] China extended an antidumping probe into EU pork imports, an action seen largely as a retaliatory measure for the EU's 2024 imposition of tariffs up to 45 percent on EVs.[251] The move is part of an escalating tit-for-tat between Brussels and Beijing, where in June 2025 the EU placed restrictions on Chinese medical device equipment in public contracts, citing market barriers for similar European-manufactured products.[252]

In late 2023, the EU's Anti-Coercion Instrument entered into force after passage by the European Parliament.[253] This new legal framework empowers the European Commission to implement a range of economic countermeasures to be taken collectively by the EU against another country using economic coercion against an EU member state.[254] The Anti-Coercion Instrument was first proposed in 2021 after China used punitive trade measures to punish Lithuania for strengthening ties with Taiwan.[255] The Anti-Coercion Instrument has yet to be used, and though its primary function is as a deterrent, it can be viewed as part of Europe's strategy to create new and more flexible trade remedy tools to better counter China.[256]

In digital services trade, EU regulators have taken steps to enact stricter penalties on Chinese technology companies. On May 2, 2025, an Irish regulatory body tasked with overseeing data protection of foreign companies in the European Economic Area (EEA) levied a 530 million euro ($600 million) fine against TikTok for failing to secure EEA user data by allowing China-based employees to access it remotely.[257] The regulator stated that during the course of the investigation, TikTok provided false information to regulators.[258] In July, the same regulatory body opened another probe into the company's transfer of EU user data to Chinese servers.[259]

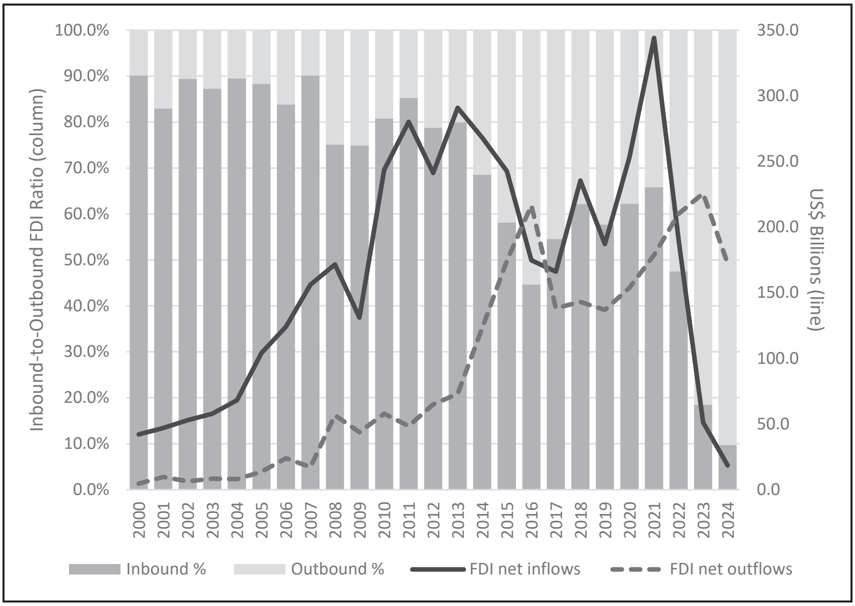
Outbound Direct Investment Shifts to Greenfield in Concentrated Sectors

As Chinese companies face domestic competition and intensifying trade tensions with the United States and the EU, they are seeking to expand operations into new third country markets, a trend apparent in overseas investment patterns. After slowing during the height of the pandemic, China's outbound FDI has seen a resurgence, while inbound investment has dropped off dramatically. This has moved China from a net recipient of investment to a net provider (see Figure 6).[260]

In 2024, Chinese investors made $143.9 billion worth of non-financial direct investments in over 151 countries, up 10.5 percent year-over-year.[261] Non-financial enterprise investment in BRI member countries rose 5.9 percent to $33.7 billion in 2024 and is up 28.2 percent through the first eight months of 2025 compared to the same period the year before.[262] Chinese investment in both the Middle East and Africa reached record levels in 2024, while China's FDI into Europe and the United States combined was the lowest level since 2010.[263] Unlike the 2014–2017 wave of Chinese outbound investment that was primarily focused on high-profile acquisitions for prestige and advancing strategic policy objectives—such as those in Made in China 2025 and BRI—the current wave has been fueled by manufacturers investing in greenfield facilities.* Greenfield investment has accounted for over 80 percent of China's announced outbound FDI every year since 2022.[264]

*This subsection primarily discusses Chinese FDI in countries other than the United States. A discussion of U.S.-Chinese investment trends is found under the "Cross-Border Financial Flows" section. Should China increase greenfield investment in the United States, many such investments may not be subject to Committee on Foreign Investment in the United States (CFIUS) review. Most transactions subject to review by CFIUS pertain to acquisitions in the United States by foreign persons, while greenfield investments typically are not considered covered transactions unless they involve purchase of real estate close to sensitive government and military installations. The Commission previously recommended that Congress consider expanding CFIUS review to cover Chinese investment in U.S.-based greenfield investment. For more, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, "Chinese Investments in the United States" in *2017 Annual Report*, November 2017, 72. Brian J. Egan et al., "'America First Investment Policy' Aims to Reshape CFIUS and 'Reverse CFIUS,'" *Skadden, Arps, Slate, Meagher & Flom LLP and Affiliates*, February 24, 2025.

Figure 6: China's Flows of Inbound and Outbound FDI, 2000–2024



Note: Chinese official statistics on FDI net outflows are likely overrepresented due to inclusion of retained earnings, debt, and intra-company transfers in the balance of payments calculations. According to Rhodium Group, this "phantom FDI" could be responsible for over two-thirds of official outbound FDI flows from 2018 to 2023. Thilo Hanemann, Armand Meyer, and Danielle Goh, "The Next Generation of China's Outbound Investment," *Rhodium Group*, September 16, 2024.
Source: World Bank.

Announced FDI projects by Chinese companies since 2021 have been highly concentrated in three industries: automotive, energy, and basic materials. Together, these three sectors accounted for 77 percent of total outbound FDI in 2024.[265] Investment in renewable energy equipment manufacturing rose 45 percent year-on-year between 2023 and 2024.[266] (For more on China's efforts to build supply chains through "connector countries," see Chapter 8, "China Shock 2.0".)

China's Incremental Progress on RMB Internationalization

Chinese policymakers in 2025 sought to capitalize on worries over the U.S. dollar by more aggressively promoting RMB use internationally. China has sought to promote the RMB's use in cross-border payments and settlements as well as a store of value with expanded issuance of RMB-denominated assets. While the volume of RMB used in cross-border payments and in foreign exchange reserve vaults around the world increased in 2025, uptake of the RMB remains muted given China's strict currency controls. For now, Chinese policymakers have shown little desire to repeal restrictions on free-flowing capital that would be a precondition for any widespread adoption of the RMB as a reserve currency. Instead, Beijing sees strategic benefits to segmenting a portion of trade outside the dollar-based financial system, which increases leverage vis-à-vis developing countries, degrades the efficacy of U.S. sanctions, and over time mitigates China's exposure to a main lever of U.S. economic power.

China Considers RMB-Linked Stablecoin

Cryptocurrency trading has flourished in China through unofficial gray markets despite strict regulations banning most cryptocurrency activity. By 2021, China had banned cryptocurrency mining, exchanges, and trading on the Mainland.[267] Official justification for the regulations cited crypto's lack of national backing, the heightened risks of money laundering, the potential for speculation and asset bubbles, and the intense energy requirements associated with mining, although regulators' motivations most likely included the desire to maintain control over the financial and business sectors and prevent capital flight.[268] However, China's efforts to prevent access to cryptocurrency within its borders have failed to stem its popularity as both an alternative investment and a pathway for moving capital out of China.[269] Individuals use virtual private networks and other indirect methods to exchange RMB for cryptocurrencies, which can then be converted into foreign currencies or other assets in excess of the $50,000 annual foreign exchange limit set by the State Administration of Foreign Exchange.[270]

Unlike the Mainland, China has allowed a global cryptocurrency hub to emerge in Hong Kong.[271] New regulations in Hong Kong over the past few years have standardized processes for registering crypto exchanges and issuing stablecoins—a type of cryptocurrency that derives its value from a peg to an external asset—in the city.[272] At the Tenth Belt and Road Summit in Hong Kong in September, a Central Asia-based issuer became the first to launch a licensed offshore-yuan-backed stablecoin.* [273] The stablecoin is designed to help facilitate payments between offshore Chinese organizations and partners in BRI countries, and usage is currently limited to professional organizations.[274] Mainland Chinese tech firms are also reportedly among those that plan to apply for a stablecoin license in Hong Kong.[275] Regulations require exchanges registered in Hong Kong to prevent mainland Chinese users from accessing them, but some of the most popular exchanges globally have failed to register in Hong Kong or have withdrawn their applications while continuing to provide workarounds that allow Mainlanders to access the platforms.[276] It is notable, however, that the volume of illegal digital asset trading in mainland China for the 12 months to July 2023 reached $86 billion, surpassing Hong Kong's $64 billion in legal activity.[277]

Despite stringent restrictions on cryptocurrencies on the Mainland to prevent capital flight, China appears eager to embrace blockchain technologies and became the first major economy to implement a central bank digital currency (CBDC). China's efforts to promote its CBDC at home have encountered issues, including technical challenges and low uptake compared with other popular digital payment systems.[278] Officials are reportedly considering the possibility of an RMB-linked stablecoin. However, it is not

*Approval to issue the coins was granted by Kazakhstan's financial regulator. Hong Kong itself has yet to issue stablecoin licenses, with the first licenses anticipated in early 2026. Wang Xiaoqing, "Hong Kong on Track to Issue First Stablecoin Licenses in Early 2026," *Caixin Global*, September 30, 2025; "China's Yuan Stablecoin Debut in Kazakhstan Signals Blockchain Ambition," *Reuters*, September 29, 2025.

China Considers RMB-Linked Stablecoin—*Continued*

clear how such a stablecoin pegged to the onshore yuan could work in practice, considering China's closed capital account and nonconvertible currency. As U.S. dollar-linked stablecoins grow in popularity, China could consider shifting tack from CBDC to an RMB-pegged stablecoin to better compete abroad, although mainland regulators recently sought to curb speculation and discussion of this possibility, according to reporting from Bloomberg.[279] Such a stablecoin would require notable departures from China's current treatment of domestic currency assets held outside China as well as a serious rethinking of the centralized nature of China's current CBDC.[280]

China has expanded its efforts to promote RMB use internationally, including via alternative cross-border payment systems, currency swap agreements, and payment platforms. In May 2025, the PBOC raised the floor ratio—a tool to incentivize banks to promote cross-border RMB settlement—from 25 percent to 40 percent.[281] In 2024, 30 percent of China's trade was settled in RMB, though globally the RMB comprised a mere 3.8 percent of cross-border payments conducted using the SWIFT messaging system.[282] The RMB's use in cross-border trade is still dwarfed by the dollar's 49.1 percent share, but is trending up from only 2.2 percent of SWIFT payments made in RMB at the end of 2022.[283] UnionPay, China's main card payment network, continues to expand outside the Mainland, with Vietnam and Cambodia establishing QR payment systems that allow tourists and small businesses to carry out cross-border transactions without dollars.[284] As a store of value, 2.2 percent of foreign exchange reserves were held in RMB-denominated assets, compared to 57.8 percent in dollar assets (for more background on China's efforts to internationalize the RMB, see U.S.-China Economic and Security Review Commission, Chapter 7, "China's New Measures for Control, Mobilization, and Resilience," in *2024 Annual Report to Congress*, November 2024, 468–513).[285] The Central Bank of Russia has built up large RMB reserves to dull the impact of sanctions; as of 2023, it held more RMB than dollars.[286]

China's expanded use of currency swap lines raises transparency concerns about predatory lending practices toward heavily indebted countries. As of early 2025, the PBOC had established currency swap agreements with 40 countries.[287] The currency agreements allow partner countries to convert a portion of their local currency to RMB, up to an agreed-upon limit. China states that swap agreements are intended to promote bilateral trade in one another's currency. However, RMB swap agreements have been used by more than three-quarters of partner countries to address short-term liquidity issues related to debt solvency.[288] Developing countries are increasingly relying on swap agreements as a revolving line of credit, with a growing volume of outstanding balances that remain open. This diverges from U.S. Federal Reserve swap agreements that are intended primarily to smooth transactions between large financial institutions and are quickly settled.[289]

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