China Economics and Trade Bulletin

Prepared by the research staff of the U.S.-China Economic and Security Review Commission (USCC.gov)

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In Brief

- People's Bank of China (PBOC) tries to halt RMB depreciation: After the RMB fell below 7 RMB per US dollar (USD) in September (see Figure 1), the PBOC introduced a reserve requirement of 20 percent for forward foreign exchange contracts. As the latest of several measures the PBOC has employed attempting to slow the RMB's depreciation, the reserve requirement makes it costlier for Chinese banks and their clients to hedge against a decline in the value of the RMB, which reduces the volume of RMB-USD trades. The PBOC has not employed such a step since the RMB fell sharply in August 2018.
- Digital RMB pilots expand domestically: The PBOC announced in September that trials for China's central bank digital currency would be expanded provincewide in Guangdong, Jiangsu, Hebei, and Sichuan provinces, though no timeline was provided. In July, the PBOC indicated the digital currency pilots, first launched in 2019, had extended to 23 cities and regions in China, with 4.5 million merchants accepting digital currency payments as of the end of May 2022.²
- Hong Kong initial product offerings (IPOs) tank: The latest two IPOs to list in September on the Hong Kong Stock Exchange underperformed, falling from their initial listing price by as much as 33.5 percent on their first day public. The poor performance follows a difficult year for the exchange, which has seen an 80 percent decline in the number of new listings from the same period in 2021.³
- Supply chain disruptions hit China, too: Global supply chain disruptions and Chinese port lockdowns have led to critical shortages of medical equipment at Chinese hospitals during the pandemic, according to state-owned media outlet Sixth Tone. ⁴ Chinese heart surgeons have warned that aortic grafts and cardiac stents, which China imports, are in dangerously short supply.

This issue of the China Economics and Trade Bulletin was prepared by Daniel Blaugher, Leyton Nelson, Emma Rafaelof, Jon Sine, and Charles Horne. You may reach us at contact@uscc.gov.

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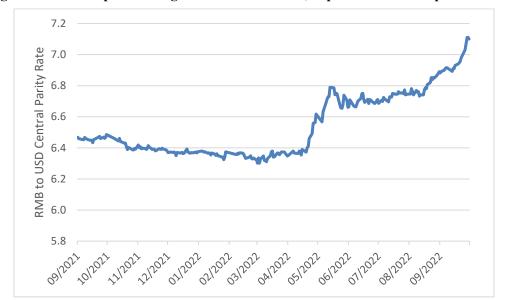


Figure 1: RMB Depreciates against the U.S. Dollar, September 2021–September 2022

Note: China maintains a "managed float" in which the government plays a fundamental role in setting the exchange rate. Specifically, the PBOC establishes a daily trading midpoint, called the central parity rate, and permits the RMB to fluctuate within a 2 percent intraday band from that point. In attempt to reduce RMB depreciation, the PBOC may set the central parity rate to value the RMB stronger than market expectations based on fundamentals and the previous day's close value.

Source: China Foreign Exchange Trading Center via CEIC database.

U.S. Policy: New Executive Order Refines Investment Screening Process

A new executive order (EO) outlining how agencies should screen inbound foreign investment will likely increase scrutiny of prospective Chinese transactions. On September 15, 2022, the Biden Administration released an EO that codified specific elements of national security that the Committee on Foreign Investment in the United States (CFIUS) must include in its review process. This is the first time in the committee's five-decade history that an EO has explicitly addressed the CFIUS process. Among other guidance, the EO directs CFIUS to consider the national security impact of prospective transactions in the context of overall foreign investment in a given sector.⁵ In particular, the EO emphasizes reviewing incremental investments that might contribute, part by party, to ceding key technological capabilities to a potential adversary, even if an individual case appeared not to present a threat by itself. Examining aggregate trends in a sector could help address systemic vulnerability from incremental patterns of Chinese acquisitions, such as those related to China's military-civil fusion strategy.* ⁶

The EO also included an explicit list of technologies considered fundamental to national security, many of which are also in strategic areas susceptible to Chinese intellectual property (IP) theft and cyberespionage. Aside from aggregate trends in investment, the EO identified four areas for CFIUS to consider when assessing transactions: (1) the impact on the resilience of critical U.S. supply chains; (2) the effect on U.S. technological leadership in key areas; (3) cybersecurity risks; and (4) risks to sensitive U.S. data. While the EO does not expand existing CFIUS authorities, outside observers speculate that implementing the new EO would likely increase the scope of transactions CFIUS sought to review. Senior Administration officials note that CFIUS had already been incorporating these national security concerns into its review process, however, and the order was intended not only to codify existing practice but also to send "a very clear message, a public message, to the private sector on the process and better inform private sector stakeholders and firms." 10

^{*} For more on China's military-industrial complex and its evolving technology acquisition strategy, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 4, "U.S.-China Financial Connectivity and Risks to U.S. National Security," in 2021 Annual Report to Congress, November 2021.

Property Sector Becomes Latest State-Funded Bailout

Numerous local governments and financial institutions across China have launched bailout schemes for China's embattled property sector. The funds primarily seek to complete a backlog of presold but unfinished housing units, as cash-strapped property developers have missed delivery deadlines and a growing number of mortgagees have halted payments in protest. S&P estimates that developers have paused construction on some two million units due to funding gaps of \$98 billion to \$112 billion (renminbi [RMB] 700 billion to 800 billion), while investment firm CLSA projects that local government bailout funds could collectively reach \$501 billion with central government support. In focusing on completing purchased units, the multipronged efforts stop short of walking back Beijing's informal restrictions on excess lending to the sector, which precipitated the slowdown in construction after their introduction in late 2020. Resuming construction on stalled housing projects could cause a moderate boost for China's slowing economy but is unlikely to offset the broader decline in economic activity related to property development, as land sales and new starts have fallen precipitously during 2022. In the contraction of the sector of the sector

The property developer bailout schemes continue a pattern of government interventions to stabilize markets by buying up nonstate assets, reinforcing an "implicit guarantee" the state will backstop risky investments. Following China's market crash starting in June 2015, two state-owned investment firms spent an estimated \$273.7 billion (RMB 1.8 trillion) between June and November buying shares to prop up valuations, according to Goldman Sachs.* ¹⁴ Similarly, between July 2019 and April 2020, Chinese financial regulators and provincial governments coordinated a series of acquisitions of at least six distressed regional banks by other state financial institutions and state-owned enterprises in which no creditors to the banks suffered losses. ^{† 15} China's government had experimented with instilling market discipline earlier in 2019, forcing creditors to Baoshang Bank to accept up to 30 percent losses after it took over the failing bank in May. ¹⁶ It quickly walked back the experiment after short-term borrowing costs shot up for other regional banks with less than stellar credit ratings. ^{‡ 17}

Development Finance: China, Ecuador Reach Debt Restructuring Deal

On September 19, the Ecuadorian government announced it had reached a deal to restructure \$4.4 billion in debt owed to China. The deal reduces debt payments over the next three years to China Development Bank and the Export-Import Bank of China by \$745 million and \$680 million, respectively, providing Ecuador's government with more fiscal leeway to increase social spending in response to protests over rising food and fuel prices earlier this year. As is typical with Chinese debt relief, however, the deal does not reduce the overall amount due to China. Rather, the maturities of loans to China Development Bank and the Export-Import Bank of China have been extended to 2027 and 2032, respectively. Export-Import Bank of China have been extended to 2027 and 2032, respectively.

The debt restructuring comes at a time when many countries borrowing from China have come under increasing debt pressure. In addition to the deal with Ecuador, the Chinese government is negotiating debt relief talks with other countries, including Zambia and Sri Lanka.²¹ According to economists Sebastian Horn, Carmen Reinhart, and Christoph Trebesch, 60 percent of China's cumulative overseas lending as of 2022 is to countries in

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^{*} These two firms are China Securities Finance Corp., a lender under China Securities Regulatory Commission, and Central Huijin Investment, the domestic investment arm of China's sovereign wealth fund. Both form the core of China's "national team," a group of shareholding firms that buy stocks to shore up share prices. For more on state intervention in the stock market, see Chapter 2, Section 3: "The Chinese Government's Evolving Control of the Nonstate Sector" in U.S.-China Economic and Security Review Commission, 2021 Annual Report to Congress, November 17, 2021, 223–224. https://www.uscc.gov/sites/default/files/2021-11/Chapter 2_Section_3--Chinese_Governments_Evolving_Control_of_the_Nonstate_Sector.pdf; Shen Hong, "The Quiet Side of Market Intervention," Wall Street Journal, January 13, 2016. https://www.wsj.com/articles/chinas-national-team-plays-defense-when-stocks-decline-1452686207.

[†] These banks included Bank of Jilin, Bank of Jinzhou, Hengfeng Bank, Harbin Bank, Chengdu Rural Commercial Bank, and Bank of Gansu. Chapter 2, Section 2: "Vulnerabilities in China's Financial System and Risks for the United States" in U.S.-China Economic and Security Review Commission, 2020 Annual Report to Congress, December 1, 2020, 278-279.

https://www.uscc.gov/sites/default/files/2020-12/Chapter_2_Section_2-Vulnerabilities in Chinas Financial System and Risks for the United States.pdf.

For more on implicit guarantees in China's banking sector, see Chapter 2, Section 2: "Vulnerabilities in China's Financial System and Risks for the United States" in U.S.-China Economic and Security Review Commission, 2020 Annual Report to Congress, December 1, 2020, 253–254. https://www.uscc.gov/sites/default/files/2020-12/Chapter_2_Section_2--Vulnerabilities_in_Chinas_Financial_System_and_Risks_for_the_United_States.pdf.

distress,* compared to approximately 5 percent in 2010 (see Figure 2).²² Difficult economic conditions in many developing countries, as well as slowing economic growth in China, have led policymakers in Beijing to reconsider the scope of China's Belt and Road Initiative. According to a recent report by the *Wall Street Journal*, policymakers in China have been discussing a "Belt and Road 2.0" with more stringent lending standards.²³

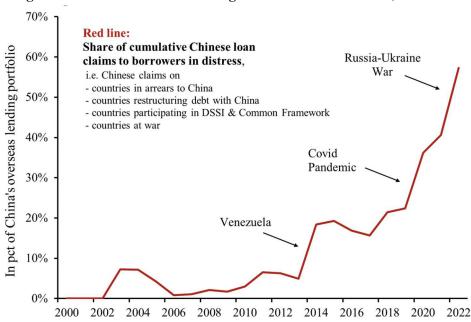


Figure 2: Share of Chinese Lending to Borrowers in Distress, 2000–2022

Source: Sebastian Horn, Carmen Reinhart, and Christoph Trebesch, "China's Overseas Lending and the War in Ukraine," VoxEU, April 11, 2022. https://cepr.org/voxeu/columns/chinas-overseas-lending-and-war-ukraine.

Energy: China's Weak Energy Demand Eases Global Prices, for Now

China has reduced imports of oil, natural gas, and coal as its COVID-restrictions and economic slowdown have weakened energy demand. Across the board, China's major energy users have eased consumption in 2022: the energy-intensive construction sector has used far less power due to the slump in the property market; sporadic factory closures and stalled operations mandated by Zero-COVID policies have softened demand for industrial power; and travel restrictions have lowered fuel consumption from transportation.²⁴ With elevated global energy prices, China has substituted domestic coal for energy imports, aided by efforts to ramp up domestic coal-fired power plant development and coal mining[†] after a shortage caused rolling blackouts in 2021.²⁵

^{*}The study defines "borrowers in distress" as countries that are at war, in arrears to China, restructuring debt with China, or participating in the Debt Service Suspension Initiative or G20 Common Framework. The Debt Service Suspension Initiative is a debt-deferral program established by the World Bank, International Monetary Fund, and G20 in 2020 in the wake of the COVID-19 pandemic. The Common Framework, launched by the G20, aims to provide further debt relief beyond the debt deferrals in the Debt Service Suspension Initiative. Sebastian Horn, Carmen Reinhart, and Christoph Trebesch, "China's Overseas Lending and the War in Ukraine," *VoxEU*, April 11, 2022. https://cepr.org/voxeu/columns/chinas-overseas-lending-and-war-ukraine; World Bank, "Debt Service Suspension Initiative," March 10, 2022. https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative; Chris Suckling, "The G20's Common Framework," https://ihsmarkit.com/research-analysis/g20s-common-framework.html.

[†] China continues to construct coal-fired power plants and coal mines domestically, thereby locking in coal-based infrastructure for years to come despite its climate targets, which include reaching peak carbon emissions by 2030 and achieving net zero carbon emissions by 2060. In 2022, China accounted for 52 percent of globally operational coal-fired power capacity and 66 percent of newly announced and permitted coal projects. China has also increased its support for domestic coal mining to feed its growing coal-fired power fleet, with domestic coal production reaching a new peak in March 2022 at 395.79 million tons. Global Energy Monitor, "Coal-Fired Power Capacity by Country (MW)," *Global Coal Plant Tracker*, July 2022. https://globalenergymonitor.org/projects/global-coal-plant-tracker/summary-tables/; China's National Bureau of Statistics via CEIC Database.

Table 1: China's Fossil Fuel Imports Declined in 2022

Fossil Fuel	YoY Change by Volume: January to August 2022
Liquified Natural Gas	-10.9 percent
Crude Oil	-15.2 percent
Coal	-4.7 percent

Source: Various. 26

China's major petrochemical companies have also turned to exporting stockpiles of liquified natural gas (LNG), which have been boosted by discount purchases from Russia.²⁷ Russian LNG imports between April and July have increased 50 percent over the same period in 2021 as European countries scaled back purchases from Russia.²⁸ With an increase in LNG imports from Russia, China has reexported LNG from terminals for receiving seaborne LNG imports from countries, including the United States, Australia, and Malaysia, which have long-term contracts to export LNG to China.²⁹ China's exports of LNG for the first eight months of a year reached an all-time high, amounting to \$454 million through August 2022.³⁰ According to multiple media reports, China's Ministry of Commerce increased the export quota for petroleum products to 15 million tons, which could precipitate a sharp increase in Chinese refined fuel sales to the rest of the world in the colder winter months.³¹

Subdued Chinese energy demand and China's rising LNG exports may ease pressure on global energy prices, provided China's economic slump continues. Though insufficient to offset the drop in European LNG imports from Russia, Chinese LNG exports to Europe have mitigated surging energy prices.* U.S. LNG exporters have also been redirecting exports to Europe as Chinese demand softened in 2022.³² The trend may reverse, however, if China increases its LNG imports sharply due to a cold winter or its economy picks up in 2023.³³ At a meeting of the Oil and Petroleum Exporting Countries (OPEC) on October 4, 2022, Saudi Aramco's CEO Amin Nasser stated that oil producers are producing near maximum levels and cautioned that "if China opens up [from its Zero-COVID strategy] a little bit you will find out that spare capacity will be eroded completely."³⁴

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^{*} LNG prices surged due to (1) the EU's efforts to cut dependency on Russian gas producers; (2) Russia restricting gas flows through the Nord Stream 1 Pipeline; and (3) most recently, the damage to the Nord Stream pipelines in late September. These challenges compounded high energy prices due to supply chain disruptions and high shipping costs from the pandemic. Ann Koh and Chloe Lo, "Global Gas Scramble Intensifies after Europe Pipeline Blasts," Bloomberg, September 28, 2022.

https://www.bloomberg.com/news/articles/2022-09-28/global-gas-scramble-to-intensify-after-european-pipeline-blasts; European Commission, REPowerEU: A Plan to Rapidly Reduce Dependence on Russian Fossil Fuels and Fast Forward the Green Transition, May 18, 2022. https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131; Max Seddon, David Sheppard, and Henry Foy, "Russia Switches Off Europe's Main Gas Pipeline until Sanctions Are Lifted," Financial Times, September 5, 2022. https://www.ft.com/content/2624cc0f-57b9-4142-8bc1-4141833a73dd.

- 1 Rebecca Feng, "China's Central Bank Moves Further to Bolster Yuan," Wall Street Journal, September 26, 2022.

 https://www.wsj.com/articles/chinas-central-bank-moves-further-to-bolster-the-yuan-11664190159; Trivium China, "The Private Sector Retreats," September 26, 2022; People's Bank of China, The People's Bank of China Decided to Adjust the Foreign Exchange Risk

 Passenta Patio for Forward Exchange Sales Business to 20% [中国 人民组行为中国 使用的。
- Reserve Ratio for Forward Exchange Sales Business to 20% [中国人民银行决定将远期售汇业务的外汇风险准备金率调整为 20%], September 26, 2022. Translation.
- http://webcache.googleusercontent.com/search?q=cache:eFnQDYnfE98J:www.pbc.gov.cn/WZWSREL2dvdXRvbmdqaWFvbGl1LzExMzQ1Ni8xMTM0NjkvNDY2NjMzNC9pbmRleC5odG1s&cd=2&hl=en&ct=clnk&gl=us; People's Bank of China, The People's Bank of China Spokesperson Answers Reporters' Questions on the Adjustment of the Foreign Exchange Risk Reserve Ratio for Forward Exchange Sales Business to 20 Percent [中国人民银行新闻发言人就远期售汇业务的外汇风险准备金率调整为 20%有关问题答记者问], August 4, 2018. https://web.archive.org/web/20220307213651/http://www.gov.cn/zhengce/2018-08/04/content 5311713.htm.
- ² Liu Ran and Kelsey Cheng, "PBOC to Expand Digital Yuan Trial to Four Whole Provinces," *Caixin Global*, September 20, 2022. https://www.caixinglobal.com/2022-09-20/pboc-to-expand-digital-yuan-trial-to-four-whole-provinces-101942508.html; Wu Yu, "Digital RMB Pilots Expand to 23 Areas in 15 Provinces" (数字人民币试点已拓展到 15 个省市的 23 个地区), Xinhua, July 13, 2022. Translation. http://webcache.googleusercontent.com/search?q=cache:eSYUYDsN7SUJ:www.gov.cn/xinwen/2022-07/13/content 5700838.htm&cd=5&hl=en&ct=clnk&gl=us.
- ³ Echo Wong, "Hong Kong's Two Biggest IPOs This Year Sink on Trading Debuts," *Nikkei Asia*, September 29, 2022. https://asia.nikkei.com/Business/Markets/IPO/Hong-Kong-s-two-biggest-IPOs-this-year-sink-on-trading-debuts.
- ⁴ Tang Yucheng, "On the Operating Table, Supply Chain Issues Can Be Life or Death," Sixth Tone, September 20, 2022. https://www.sixthtone.com/news/1011259/on-the-operating-table%2C-supply-chain-issues-can-be-life-or-death.
- ⁵ Harry G. Broadman, "Biden's CFIUS Has Become Tougher in the Latter Half of His First Term," Forbes, September 30, 2022. https://www.forbes.com/sites/harrybroadman/2022/09/30/bidens-cfius-has-become-tougher-in-the-latter-half-of-his-first-term/?sh=7d1845046136.
- ⁶ Demetri Sevastopulo, "White House Sounds Alert on Inbound Chinese Investment," *Financial Times*, September 15, 2022. https://www.ft.com/content/2a19f0be-ec24-4123-b035-cb48273f2542.
- White House, Executive Order on Ensuring Robust Consideration of Evolving National Security Risks by the Committee on Foreign Investment in the United States, September 15, 2022. https://www.whitehouse.gov/briefing-room/presidentialactions/2022/09/15/executive-order-on-ensuring-robust-consideration-of-evolving-national-security-risks-by-the-committee-on-foreigninvestment-in-the-united-states/.
- 8 White House, FACT SHEET: President Biden Signs Executive Order to Ensure Robust Reviews of Evolving National Security Risks by the Committee on Foreign Investment in the United States, September 15, 2022. https://www.whitehouse.gov/briefing-room/statementsreleases/2022/09/15/fact-sheet-president-biden-signs-executive-order-to-ensure-robust-reviews-of-evolving-national-security-risks-bythe-committee-on-foreign-investment-in-the-united-states/.
- ⁹ Harry G. Broadman, "Biden's CFIUS Has Become Tougher in the Latter Half of His First Term," Forbes, September 30, 2022. https://www.forbes.com/sites/harrybroadman/2022/09/30/bidens-cfius-has-become-tougher-in-the-latter-half-of-his-first-term/?sh=7d1845046136.
- White House, Background Press Call on President Biden's Executive Order on Screening Inbound Foreign Investments, September 15, 2022. https://www.whitehouse.gov/briefing-room/press-briefings/2022/09/15/background-press-call-on-president-bidens-executive-order-on-screening-inbound-foreign-investments/.
- ¹¹ Nurin Sofia, "China Has \$501 Billion Bailout Ammunition for Property Mess," *Bloomberg*, September 23, 2022. https://www.bloomberg.com/news/articles/2022-09-23/china-has-501-billion-bail-out-ammunition-for-property-mess.
- ¹² Li Tong and Gu Lexiao, "What about the Unfinished Houses? 36 Localities Have These 'Guaranteed Handover' Trends" (烂尾房怎么办? 36 地出台"保交楼"政策有这些趋势), *Huxiu*, August 25, 2022. Translation. https://finance.sina.com.cn/jjxw/2022-08-25/doc-imizmscv7663440.shtml.
- ¹³ Logan Wright, Allen Feng, and Endeavor Tian, "Property Market Chartbook, September 2022," *Rhodium Group*, September 21, 2022, 4–5.
- 14 Shen Hong, "The Quiet Side of Market Intervention," Wall Street Journal, January 13, 2016. https://www.wsj.com/articles/chinas-national-team-plays-defense-when-stocks-decline-1452686207.
- ¹⁵ U.S.-China Economic and Security Review Commission, 2020 Annual Report to Congress, December 1, 2020, 253–254. https://www.uscc.gov/sites/default/files/2020-12/Chapter_2_Section_2--Vulnerabilities in Chinas Financial System and Risks for the United States.pdf.
- ¹⁶ Orange Wang, "China's Control over Its Entire Economy Weakened as Baoshang Bank Failure Starts Domino Effect," South China Morning Post, July 31, 2019. https://www.scmp.com/economy/china-economy/article/3020603/chinas-control-over-its-entire-economy-weakened-haoshang-hank
- ¹⁷ Orange Wang, "China's Control over Its Entire Economy Weakened as Baoshang Bank Failure Starts Domino Effect," South China Morning Post, July 31, 2019. https://www.scmp.com/economy/china-economy/article/3020603/chinas-control-over-its-entire-economy-weakened-baoshang-bank.
- ¹⁸ Sara Schafer Muñoz and Ryan Dube, "Ecuador Reaches Deal with China to Restructure Debt," Wall Street Journal, September 19, 2022. https://www.wsj.com/articles/ecuador-reaches-deal-with-china-to-restructure-debt-11663604453.
- ¹⁹ Dialogue, "On the Ecuador-China Debt Deal: Q&A with Augusto de la Torre," September 23, 2022. https://www.thedialogue.org/analysis/on-the-ecuador-china-debt-deal-qa-with-augusto-de-la-torre/; Joe Parkin Daniels, "Ecuador

- Reaches \$1.4bn Debt Restructuring Deal with China," Financial Times, September 20, 2022. https://www.ft.com/content/34f5a690-639d-4d70-a742-e088ee74bd62.
- ²⁰ Dialogue, "On the Ecuador-China Debt Deal: Q&A with Augusto de la Torre," September 23, 2022. https://www.thedialogue.org/analysis/on-the-ecuador-china-debt-deal-ga-with-augusto-de-la-torre/.
- ²¹ Benjamin Parkin, "Sri Lanka Aims for Rapid Progress in Talks with Creditors," *Financial Times*, September 23, 2022. https://www.ft.com/content/7875e3c6-abd6-4839-ac11-5428fdb3aae9; Rachel Savage et al., "Analysis: China Debt Restructuring Policy under Scrutiny as More Countries Demand Relief," *Reuters*, September 8, 2022.
- ²² Sebastian Horn, Carmen Reinhart, and Christoph Trebesch, "China's Overseas Lending and the War in Ukraine," *VoxEU*, April 11, 2022. https://cepr.org/voxeu/columns/chinas-overseas-lending-and-war-ukraine.
- ²³ Lingling Wei, "China Reins In Its Belt and Road Program, \$1 Trillion Later," Wall Street Journal, September 26, 2022. https://www.wsj.com/articles/china-belt-road-debt-11663961638.
- ²⁴ Economist, "China's Plunging Energy Import Confound Expectations," September 15, 2022. https://www.economist.com/finance-and-economics/2022/09/15/chinas-plunging-energy-imports-confound-expectations; Bloomberg, "COVID Zero Throttle Chinese Oil Demand before Key Congress," September 6, 2022. https://www.bloomberg.com/news/articles/2022-09-06/covid-zero-throttles-chinas-oil-demand-ahead-of-key-congress; Lauri Myllyvirta, "China's CO2 Emissions Fall by Record 8% in Second Quarter of 2022," Carbon Brief, September 1, 2022. https://www.carbonbrief.org/analysis-chinas-co2-emissions-fall-by-record-8-in-second-quarter-of-2022/; Michal Meidan et al., "Asian Energy Markets Following the Russian Invasion of Ukraine," Oxford Institute for Energy Studies, August 2022, 11. https://www.oxfordenergy.org/publications/asian-energy-markets-following-the-russian-invasion-of-ukraine/.
- ²⁵ Lauri Myllyvirta, "China's CO2 Emissions Fall by Record 8% in Second Quarter of 2022," *Carbon Brief*, September 1, 2022. https://www.carbonbrief.org/analysis-chinas-co2-emissions-fall-by-record-8-in-second-quarter-of-2022/; Michal Meidan et al., "Asian Energy Markets Following the Russian Invasion of Ukraine," *Oxford Institute for Energy Studies*, August 2022, 7–8. https://www.oxfordenergy.org/publications/asian-energy-markets-following-the-russian-invasion-of-ukraine/.
- ²⁶ Grant Smith, "IEA Sees Biggest China Oil Demand Drop in Over Three Decades," *Bloomberg*, September 14, 2022. https://www.bloomberg.com/news/articles/2022-09-14/iea-trims-oil-demand-estimates-as-lockdowns-deepen-china-slide; China General Administration of Customs via CEIC database.
- 27 Bloomberg, "China Is Poised to Export a Lot More Fuel to an Energy-Starved World," September 22, 2022. https://www.bloomberg.com/news/articles/2022-09-23/flood-of-chinese-fuel-exports-to-hit-energy-starved-markets; Reuters, "China Reaps Energy Windfall as West Shuns Russian Supplies," September 13, 2022. https://www.reuters.com/business/energy/china-reaps-energy-windfall-west-shuns-russian-supplies-2022-09-14/; Bloomberg, "China's Energy Giants Sell Gas to World Scrambling for Supply," September 5, 2022. https://www.bloomberg.com/news/articles/2022-09-06/china-s-energy-giants-sell-gas-to-world-scrambling-for-supply; Misa Hama, "China Throws Europe an Energy Lifeline with LNG Resales," Nikkei Asia, August 24, 2022. https://asia.nikkei.com/Politics/International-relations/Indo-Pacific/China-throws-Europe-an-energy-lifeline-with-LNG-resales.
- ²⁸ Muyu Xu and Emily Chow, "China Reaps Energy Windfall as West Shuns Russian Supplies," *Reuters*, September 13, 2022. https://www.reuters.com/business/energy/china-reaps-energy-windfall-west-shuns-russian-supplies-2022-09-14/.
- ²⁹ Sha Hua, "China Is Rerouting U.S. Liquefied Natural Gas to Europe at a Big Profit," Wall Street Journal, October 3, 2022.
 https://www.wsj.com/articles/china-is-rerouting-u-s-liquefied-natural-gas-to-europe-at-a-big-profit-11664772384; Bloomberg, "China Runs Down Oil Stockpiles as Market Eyes Big Export Quotas," September 20, 2022. https://www.bloomberg.com/news/articles/2022-09-21/china-runs-down-oil-stockpiles-as-market-eyes-big-export-quotas; Ji Siqi, "China's Russian Gas Imports Jump in First Eight Months, while LNG Exports Hit Record Levels amid Supply Diversions," South China Morning Post, September 20, 2022.
 https://scmp.com/economy/global-economy/article/3193137/chinas-russian-gas-imports-jump-first-8-months-while-lng; Reuters,
 "China's August Gasoline Exports Nearly Double from a Year Ago," September 18, 2022. https://www.reuters.com/world/china/chinas-august-gasoline-exports-nearly-double-year-ago-2022-09-18/; China General Administration of Customs via CEIC database.
- 30 Sha Hua, "China Is Rerouting U.S. Liquefied Natural Gas to Europe at a Big Profit," Wall Street Journal, October 3, 2022. https://www.wsj.com/articles/china-is-rerouting-u-s-liquefied-natural-gas-to-europe-at-a-big-profit-11664772384; Bloomberg, "China Runs Down Oil Stockpiles as Market Eyes Big Export Quotas," September 20, 2022. https://www.bloomberg.com/news/articles/2022-09-21/china-runs-down-oil-stockpiles-as-market-eyes-big-export-quotas; Ji Siqi, "China's Russian Gas Imports Jump in First Eight Months, while LNG Exports Hit Record Levels amid Supply Diversions," South China Morning Post, September 20, 2022. https://scmp.com/economy/global-economy/article/3193137/chinas-russian-gas-imports-jump-first-8-months-while-lng; Reuters, "China's August Gasoline Exports Nearly Double from a Year Ago," September 18, 2022. https://www.reuters.com/world/china/chinas-august-gasoline-exports-nearly-double-year-ago-2022-09-18/; China General Administration of Customs via CEIC database.
- 31 Reuters, "China Sets Oil Products Export Quotas at About 15 Million Tonnes," October 2, 2022.

 https://www.reuters.com/business/energy/china-sets-oil-products-export-quotas-about-15-mln-t-sources-2022-09-30/; Li Rongqian and Guo Yingzhe, "China May Raise Refined Oil Exports to Meet Europe's Soaring Winter Demand," Caixin Global, September 29, 2022.

 https://www.caixinglobal.com/2022-09-29/china-may-raise-refined-oil-exports-to-meet-europes-soaring-winter-demand-101946582.html; Bloomberg, "China Is Poised to Export a Lot More Fuel to an Energy-Starved World," September 22, 2022.

 https://www.bloomberg.com/news/articles/2022-09-23/flood-of-chinese-fuel-exports-to-hit-energy-starved-markets.
- 32 Chad P. Bown, "First Trade War, Now Russia's Real War. Why U.S. Export to China Continue to Suffer," Peterson Institute for International Economics, September 12, 2022. https://www.piie.com/blogs/blog/first-trade-war-now-russias-real-war-why-us-exportschina-continue-suffer; Michal Meidan et al., "Asian Energy Markets Following the Russian Invasion of Ukraine," Oxford Institute for Energy Studies, August 2022, 10–11. https://www.oxfordenergy.org/publications/asian-energy-markets-following-the-russian-invasionof-ukraine/.

³³ Alfred Cang, Sharon Cho, and Anthony Di Paola, "Oil Traders Seeking China Intel Stumped by Low-Profile Delegates," Bloomberg, September 29, 2022. https://www.bloomberg.com/news/articles/2022-09-29/oil-traders-seeking-china-intel-stumped-by-low-profile-delegates; Economist, "China's Plunging Energy Import Confound Expectations," September 15, 2022. https://www.economist.com/finance-and-economics/2022/09/15/chinas-plunging-energy-imports-confound-expectations; Christel Goh, "High LNG Prices Dampen China's Buying Interest; Winter Could Be Swing Factor," S&P Global, September 9, 2022. https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/lng/090922-high-lng-prices-dampen-chinas-buying-interest-winter-could-be-swing-factor.

³⁴ Will Mathis, "Aramco Says Global Oil Spare Buffers to Slump when China Reopens," *Bloomberg*, October 4, 2022. https://www.bloomberg.com/news/articles/2022-10-04/aramco-says-global-oil-spare-buffers-to-slump-when-china-reopens.