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Highlights of This Month's Edition

Macro: Chinese government struggles to contain mortgage crisis, signifying systemic challenges.....	1
Data: China's property sector slides in 2022.....	2
Finance: Chinese policymakers agree to framework for regulatory inspections of Chinese auditors.....	2
Currency: Renminbi reaches two-year low against U.S. dollar in August.....	3
Energy: Extreme weather in southwest China strains national energy grid and disrupts local economies.....	3
Tech: Advances in semiconductors have not been enough to satisfy Beijing	3

Macro: Moves to Soothe Mortgage Boycotts Mark Systemic Challenges

The Chinese government has been vocally committed to addressing turmoil in the property sector, but its actions so far have failed to boost confidence in real estate. Beginning in late June, hundreds of households refused to send payments on mortgages for homes that were still under construction.¹ Many developers rely on funds from presale purchases to complete construction on already purchased properties, but a decline in presales has caused a funding crunch. In early August, reports indicated buyers had boycotted mortgage payments on nearly 320 projects across more than 100 cities.² In July, the China Banking and Insurance Regulatory Commission committed to stabilizing the market and began encouraging banks to lend to developers to help accelerate construction.³ Reuters reported that some banks have expressed reservations about creating additional exposure to a sector that has been plagued with repeated crises over the last two years.⁴

Chinese regulators hope to avoid replicating past excessive lending practices while ensuring presold housing units are delivered and containing the mortgage crisis.⁵ To give property developers cashflow to pay suppliers and finish construction on existing projects, local governments are in discussion with state-owned distressed debt asset managers to create bailout funds, with one such fund launched in Henan Province's capital Zhengzhou in early August.⁶ Estimates of total loans affected by the boycott vary, with S&P Global forecasting a worst case scenario of approximately \$350 billion (renminbi [RMB] 2.4 trillion), or 6.4 percent of mortgages, but Deutsche Bank AG suggesting at least 7percent of home loans will be impacted.⁷ Analysts do not expect that these overdue loans will escalate to a broader financial crisis, but the struggle for a sustainable policy response points to underlying weaknesses in the property sector and adds to other stress in the financial sector.⁸ Homebuyers' widespread mistrust and dissatisfaction will likely worsen the downward trend in real estate sales, dimming prospects for a sector that currently accounts for 20–30 percent of gross domestic product (GDP).⁹

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Data: China's Property Sector Slides in 2022

Indicator	July 2022		July 2021		July 2020	
	YoY Growth	Value	YoY Growth	Value	YoY Growth	Value
Loans to the Property Sector (YTD USD million)	-28.4%	163,553	-4.5%	228,371	4.9%	239,175
Newly Started Projects (YTD million sq ft)	-36.1%	8,188	-0.9%	12,803	-4.5%	12,920
Property Sales (YTD million sq ft)	-23.1%	8,415	21.5%	10,941	-5.8%	9,002
Housing Prices Shanghai (USD/sq ft)	7.2%	661	28.3%	617	6.6%	481
Housing Prices Guizhou (USD/sq ft)	-0.9%	74	-1.1%	74	1.1%	75

Source: National Bureau of Statistics via CEIC database.

Finance: China Agrees to Regulatory Inspections of Chinese Auditors

U.S. and Chinese regulators agreed to a framework that could resolve a decades-old dispute concerning U.S. audit requirements for U.S.-listed Chinese firms, but Chinese companies may keep delisting from U.S. exchanges. The U.S. Public Company Accounting Oversight Board (PCAOB) and the U.S. Securities and Exchange Commission do not have adequate access to perform regulatory inspections of the China-based or Hong Kong-based audit firms used by Chinese companies listed on U.S. exchanges. Under the 2020 Holding Foreign Companies Accountable Act (HFCAA), over 200 Chinese companies could be forced to delist from U.S. exchanges if the PCAOB is unable to inspect their auditors for three consecutive years.¹⁰ The first delisting actions under this law could take effect as early as 2024. On August 26, 2022, PCAOB, the China Securities Regulatory Commission, and China's Ministry of Finance signed a Statement of Protocol for U.S. inspections of auditors based in China and Hong Kong, which could create an avenue for Chinese issuers to remain listed in the United States.¹¹ Under the framework deal, as early as mid-September PCAOB inspectors will be able to travel to China or Hong Kong, where Chinese regulators have committed to providing them access to auditors' work papers and personnel.¹²

Despite the agreement, PCAOB investigators may still be unable to access the material they require to perform their oversight activities, potentially leading to more delistings. According to the Sarbanes-Oxley Act, the PCAOB must review complete audit papers of publicly traded U.S. companies. The China Securities Regulatory Commission indicated Chinese law may require it to use "specialized handling procedures" for sensitive data and personal identifiable information, however, potentially limiting the completeness of the PCAOB's inspection.¹³ Should the PCAOB determine it has not been granted full access in accordance with the deal, Chinese companies that remain noncompliant with the HFCAA will likely preemptively delist rather than face forced delisting under the HFCAA. Alibaba and several other U.S.-listed Chinese tech companies have already registered for dual listings on the Hong Kong Stock Exchange, providing them with a potential exit if they are removed from U.S. exchanges.¹⁴ Five Chinese state-owned companies announced plans to delist from the New York Stock Exchange in August 2022,* signaling that China's government may compel Chinese companies that control data and information deemed sensitive by the Chinese Communist Party (CCP) to delist by in spite of the audit deal.¹⁵

* The five Chinese SOEs are China Petroleum and Chemical Corporation (Sinopec), China Life Insurance, Aluminum Corporation of China (Chalco), PetroChina, and Shanghai Sinopec Petrochemical Company. Another SOE, Huaneng Power International, delisted in June 2022.

Currency: RMB Reaches Two-Year Low against U.S. Dollar

China's currency continued to weaken throughout August, surpassing RMB 6.9 per U.S. dollar (USD) for the first time since 2020.¹⁶ The RMB has seen its value decline against the U.S. dollar by more than 8 percent this year amid concerns over China's economic growth and divergent U.S. and Chinese monetary policies that have contributed to increased capital outflows from China throughout the year.¹⁷ This discrepancy continued in August, with Chinese policymakers unexpectedly cutting two key interest rates, while Federal Reserve Chair Jerome Powell has in contrast announced a series of recent interest rate hikes and signaled more to come, saying U.S. policymakers would continue to fight inflation with a tight monetary policy.¹⁸

Beijing has attempted to halt the RMB's depreciation, though analysts expect the currency's weakness to persist. While Chinese policymakers had largely avoided intervening earlier in the month, by late August they began taking unusually strong action to defend the RMB.¹⁹ On August 24, Reuters reported that China's State Administration of the Foreign Exchange had called several banks and warned them against "aggressively selling" the RMB.²⁰ Since August 25, the People's Bank of China has also set the daily exchange rate between the onshore RMB* and the U.S. dollar at unexpectedly strong levels compared with the market's expectations as measured by a Bloomberg survey of analysts and traders.²¹ Historically, however, efforts to fix the RMB at strong levels have only had short-term effects, and analysts predict that weakness in China's real estate market and the Chinese government's ongoing Zero-COVID policy could keep downward pressure on the RMB.²²

Energy: Drought and Heatwave Spur Second Energy Crisis in Two Years

A drought and a coinciding heatwave in China's southwestern provinces have caused energy shortages throughout the country, forcing major manufacturers like Toyota, Tesla, and Foxconn to halt production.²³ Throughout August 2022, the southwestern province of Sichuan experienced an energy crisis due to severe droughts that curtailed hydroelectric power, which provides over 80 percent of Sichuan's energy.²⁴ Excess hydroelectric power from Sichuan also provided about 30 percent of China's hydroelectric power, equivalent to about 2.43 percent of China's overall energy mix in 2020.²⁵ The droughts have caused the Yangtze River to fall to its lowest level on record, contributing to a nearly 14 percent year-on-year drop in Sichuan's hydropower output.²⁶ Meanwhile, a record heat wave drove temperatures up to 113 degrees in neighboring Chongqing, marking a 33 percent increase over average August temperatures.²⁷ Residential demand for air conditioning has skyrocketed throughout the region, further exacerbating the gap between energy supply and demand. To preserve power for residential use amid the heat wave, local officials in at least 19 provinces instituted a system of power rationing that cut power to factories, local small businesses, shopping malls, and city light displays.²⁸ Such power curbs impacted industrial output while snarling supply chains for key exports like vehicles and batteries.²⁹ China's energy crisis follows shortages in summer 2021, prompting policymakers to construct more coal-fired power plants despite China's emission reduction pledges.

Tech: Advances in Semiconductors Not Enough to Satisfy Beijing

China's largest integrated circuits foundry, Semiconductor Manufacturing International Corporation (SMIC), has reportedly been shipping 7 nanometer (nm) chips since September 2021, though producing at scale remains an obstacle.³⁰ SMIC's advance to 7 nm production, just a generation behind cutting edge, comes as a surprise to some, given the firm's inclusion on the U.S. Department of Commerce's Entity List.³¹ Currently, U.S. and some foreign semiconductor manufacturing equipment exporters attempting to export to SMIC face a presumption of denial on any license requests for equipment that is "uniquely required" for chip production at 10 nm or below.³² However, equipment intended for producing 14 nm chips, which the United States does not

* The onshore RMB (abbreviated as CNY) trades within mainland China, while the offshore RMB (abbreviated as CNH) trades elsewhere in the world. Unlike the offshore RMB, trading of the onshore RMB is highly restricted. The People's Bank of China sets a daily reference rate for the onshore RMB; the value of the onshore RMB can only fluctuate within 2 percent in either direction of the daily reference rate. Mizuho Bank, "China's Dual Exchange Rate System (CNY vs CNH)." <https://www.mizuhogroup.com/binaries/content/assets/pdf/mizuho-bank/insights/cndb/press/r525-0007-xf-0102.pdf>.

presumptively deny, has been used to produce down to at least the 7 nm scale, with both Intel and Taiwan’s TSMC having utilized such equipment for their own 7 nm chips.*³³

Critical questions remain regarding SMIC’s ability to scale production at 7 nm. The most important metric for scaling production is yield, or the proportion of functional integrated circuits successfully produced on a wafer following fabrication.³⁴ If yield is low, then scaling production is difficult, highly inefficient, and not cost competitive. According to Douglas Fuller, a professor at City University of Hong Kong and expert on the Chinese semiconductor industry, “It is understood that [SMIC’s] yield is terrible,” leading him to suggest that the “furor over SMIC’s progress is quite overblown.”³⁵ SMIC’s limitations today, however, cannot preclude the possibility the foundry will improve yield in the near future or create distortions in the global market by selling the 7 nm chips below cost.

China remains weakly positioned in most aspects of the semiconductor value chain, but there are some indicators of forward progress. Aside from SMIC’s breakthrough in producing 7 nm chips, China’s largest state-subsidized memory chip maker, Yangtze Memory Technology Corporation (YMTC), is now reportedly selling the world’s densest memory chips, acquiring roughly 5 percent of global market share, and may soon count Apple among its customers.[†] Bloomberg also reported that over the four quarters preceding June 2022, 19 of the world’s 20 fastest-growing semiconductor firms came from China, compared with just eight at the same point in 2021.³⁶ China’s limited success in semiconductor fabrication comes hundreds of billions of dollars in subsidies and despite decades of attempts to develop domestic industry.³⁷

The slow rate of progress in key areas of technological upgrading, particularly in semiconductors, may be triggering top-level investigations and disciplinary actions. Chinese Minister of Industry and Information Technology Xiao Yaqing, who oversees industrial policy initiatives in semiconductors and other high-technology areas, was removed from his post as minister in July 2022 and placed under investigation by the CCP for a “violation of discipline and law,” making him the highest-ranking official ensnared since 2018.[‡]³⁸ Between June and August 2022, the president and head of the National Integrated Circuit Industry Investment Fund—China’s largest semiconductor government guidance fund—and four other top executives were put under investigation.³⁹ These investigations send a strong signal to China’s bureaucracy and officials in charge of guiding technology upgrading that the center is not pleased with the progress.

* U.S. export controls limit SMIC’s access to Dutch firm ASML’s extreme ultraviolet lithography (EUV) technology. SMIC has likely utilized ASML’s less advanced deep ultraviolet (DUV) lithography immersion equipment, which the Biden Administration is now also reportedly pressuring the Dutch government to stop ASML from selling to China. Advances in the use of this technology, such as quadruple patterning, have been used to produce 7 nm chips outside of China for years and have been widely available to Chinese entities. Jillian Deutsch et al., “US Wants Dutch Supplier to Stop Selling Chipmaking Gear to China,” *Bloomberg*, July 5, 2022. <https://www.bloomberg.com/news/articles/2022-07-05/us-pushing-for-asml-to-stop-selling-key-chipmaking-gear-to-china?sref=mxblZFb4>.

† According to reporting from Reuters, as of early August 2022 the Biden Administration is considering prohibiting semiconductor equipment manufacturers from selling to YMTC and other Chinese companies manufacturing advanced memory—specifically NAND—chips. Alexandra Alper and Karen Freifeld, “U.S. Considers Crackdown on Memory Chip Makers in China,” *Reuters*, August 1, 2022. <https://www.reuters.com/technology/us-considers-crackdown-memory-chip-makers-china-2022-08-01/>.

‡ In Xiao’s case, the phrase “violation of discipline and law” was used rather than the typical phrase “serious violation of discipline and law.”

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