GLOBAL MARKETS ANALYSIS
Monetary and Capital Markets

China Monitor

MONDAY, JULY 10, 2023

CHINA MONITOR

The Monitor aims to provide a regular update on the policy setting, credit conditions and market trends in China. It also includes analytical features which offer more in-depth analyses of selected macrofinancial issues related to China.

KEY HIGHLIGHTS

Market trends. *China's markets have retreated since end-January as the 're-opening' trade ended abruptly* amid growing concerns that the economic recovery is relatively weak. While the consensus view is that the 5% growth target is still achievable, China's economic growth appears to be much weaker than expected potentially as a result of pandemic-induced scarring effects, the ongoing property sector downturn, growing strains on local government financing, and a more challenging external environment due to the global economic slowdown and rising geo-economic fragmentation. ***Chinese assets have been underperforming broader emerging market assets***, with declining equities and depreciating RMB. Central government bond (CGB) yields have also fallen on the prospects of weakening funding demand. However, ***portfolio investment outflows remain relatively limited year-to-date.*** Bond outflows appear to have stabilized despite the wide interest rate differentials, while the underperformance of Chinese equities does not translate into large equity outflows.

Policy setting. *The People's Bank of China (PBC) unexpectedly cut policy rates in June.* Both the 7-day reverse repo rate and the 1-year medium-term lending facility (MLF) rate were cut by 10 bps. Banks' 1-year and 5-year loan prime rates (LPRs) were also lowered by 10 bps. Ahead of the policy rate cuts, banks were guided to lower deposit rates to help maintain their net interest margins. Since late June, ***the PBC has stepped up its efforts to moderate the RMB depreciation pace*** by setting the daily RMB fixing stronger than expectations after RMB breached the level of 7.2 yuan per dollar. Before its recent stepped-up efforts, the PBC appeared to allow RMB to move flexibly. ***The authorities have not announced additional broad-based stimulus measures.*** While markets widely expect major policy support amid the weakening economic recovery, only targeted measures have been announced so far. Markets now looks for the outcome of the July Politburo meeting, which may discuss a comprehensive policy package.

Credit conditions. *Growth of total credit excluding government bond credit has decelerated in recent months* after some credit impulse in 2023Q1. Credit demand remains weak, particularly from households for home purchases. The public sector's net bond issuance has also tapered off; net bond issuance of local government financing vehicles (LGFVs) turned negative in May amid growing concerns about local governments' financial strains.

Property sector. *Financial stress of property developers continues.* Despite the rollout of policy support in late 2022, the property sector's recovery remains elusive, with still weak property transactions, falling house prices, and contracted real estate investment. The recovery is also uneven, with divergent housing market conditions across regions. The divergence across property developers also keeps growing. In particular, state-owned property developers are the main beneficiaries of the policy support as they see some recovery in their contracted sales.

LGFVs. *In some provinces, LGFVs are facing high funding costs* as markets increasingly scrutinize their own debt-servicing capacity as well as potential support from their local governments. Financial stress among LGFVs still remains largely selective. However, LGFVs' refinancing needs are substantial for the remainder of 2023, and many could struggle to raise market funding.

This Monitor was prepared by Phakawa Jeasakul and Hong Xiao (IMF Resident Representative Office in Hong Kong SAR).

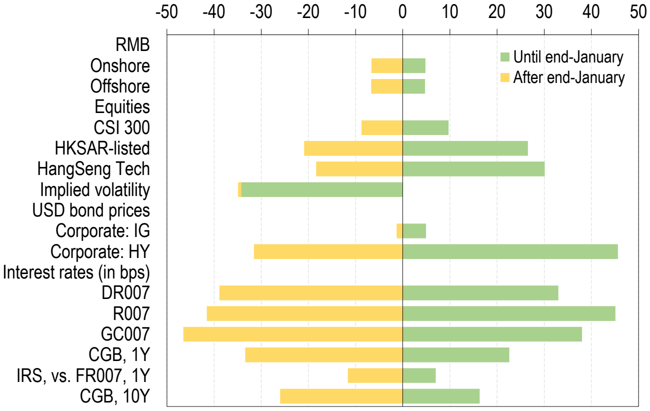
Analytical features. ***This monitor analyzes the property sector's uneven recovery and medium-term challenges.*** The regional divergence of housing markets is evident. House prices remain robust in tier-1 cities thanks to strong housing demand. Housing markets also appear stronger in eastern provinces, which enjoy better economic prospects. The policy support has not been successful in turning around the property sector downturn. The financial system remains unwilling to provide financing to property developers, while home-buying demand remains weak as reflected by the slowdown of mortgage lending. Financial stress of property developers remains evident, with many already under financial distress or at extreme risk. Meanwhile, the pre-sold, unfinished housing problem has not been addressed, undermining homebuyers' confidence. Furthermore, the property sector is facing structural adjustments. Real estate investment is expected to decline over the medium term, and some provinces may struggle with housing oversupply. A sustained property sector downturn could further exacerbate the growing divergence of macrofinancial conditions, which can in turn complicate the conduct of monetary and fiscal policies.

China's markets have been on a declining trend since end-January amid growing concerns about the relatively weak economic recovery

China's markets have retreated since end-January as the 're-opening' trade ended abruptly ...

1. Market Movements Since China's Zero COVID Policy Pivot

(In percent, unless indicated otherwise)



Sources: Bloomberg; and IMF staff calculations.

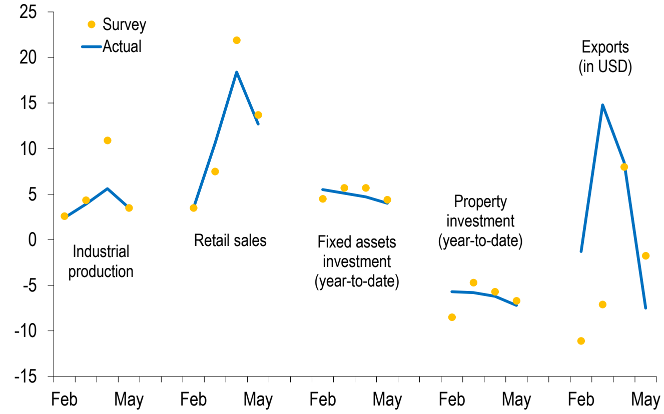
Note: November 11, 2022 marked the pivot of the zero COVID policy.

- During the re-opening trade, Chinese equities gained, and RMB appreciated. Interest rates also rose due to expectations for stronger funding demand.
- Since end-January, Chinese assets have been underperforming, with declining equities (CSI 300: -9%; HKSAR-listed: -21%), depreciating RMB (-7%), and falling CGB yields (10-year: -26 bps).

... amid growing concerns that the economic recovery does not look robust. Recent data disappointed markets.

2. Economic Activity

(In percent; based on year-on-year growth)



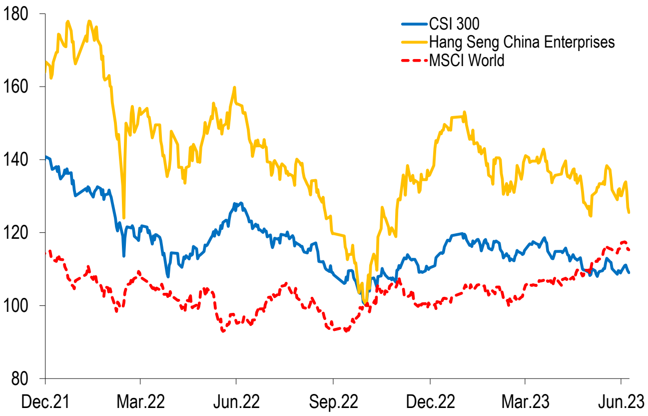
Sources: Bloomberg; and IMF staff calculations.

- China's Q1 economic growth was stronger than expected thanks to a swifter, smoother exit from the zero COVID policy.
- However, the economic recovery is losing its strength due to still weak confidence, pandemic-induced scarring effects, the ongoing property sector downturn, and growing strains on local government financing.

In June, Chinese equities enjoyed a brief rally thanks to the 'stimulus' trade, triggered by anticipated additional ...

3. Equity Prices

(End-October 2022 = 100)

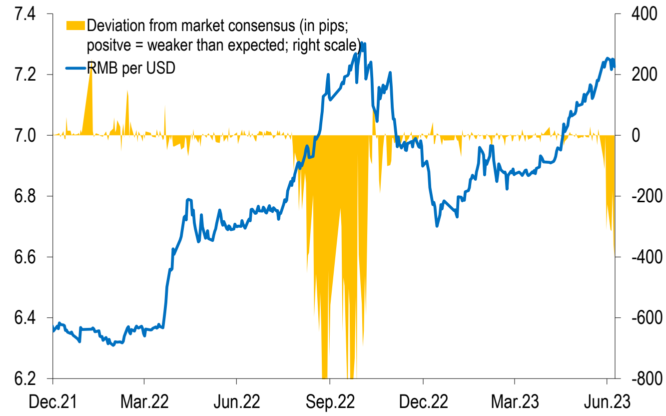


Sources: Bloomberg; and IMF staff calculations.

- During June 7-16, Chinese equities gained by about 5% amid speculation that additional stimulus measures will be rolled out. The temporary rally was also supported by the PBC's unexpected policy rate cuts.
- Chinese equities have declined by about 3.5% since then due to no major policy announcements and the smaller-than-expected 5-year LPR cut.

... stimulus to support the economy. Meanwhile, RMB is depreciating.

4. RMB and Daily RMB Fixing



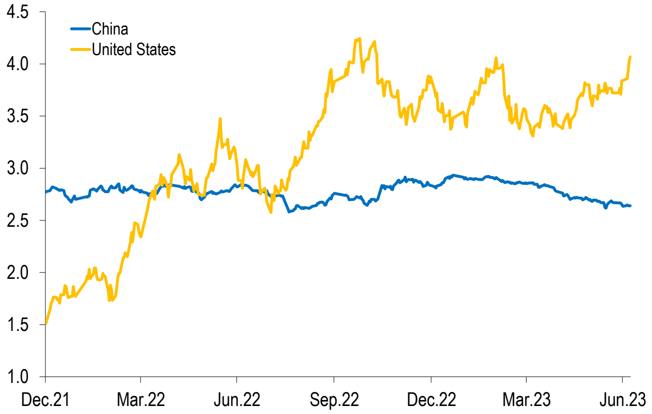
Sources: Bloomberg; and IMF staff calculations.

- Since end-April, RMB has depreciated by about 4.5% against USD and by about 2.7% against the CFETS basket. Recently, RMB touched 7.23 RMB per USD.
- Only in late June after RMB breached the 7.2 mark, the PBC stepped up efforts to moderate the RMB depreciation pace by setting the daily RMB fixing significantly stronger than expectations.

Capital outflows remain relatively limited despite widening interest rate differentials and continued equity sell-offs

The PBC's accommodative stance has led to wide differentials between USD and RMB interest rates, ...

5. Government Bond Yields, 10-year
(In percent)

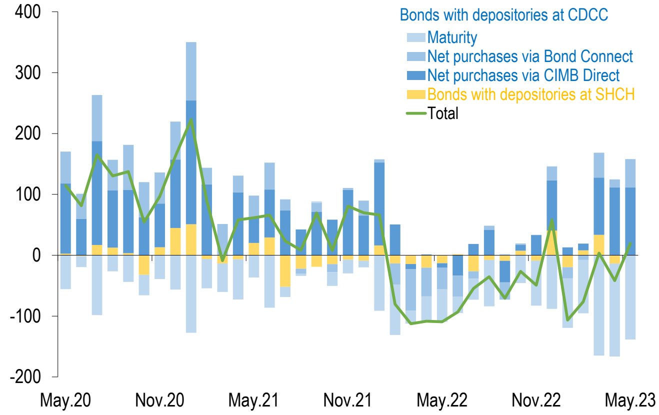


Sources: Bloomberg; and IMF staff calculations.

- In most major advanced economies, interest rates will likely stay higher for longer given stickier inflation.
- Meanwhile, China's relatively weak economic recovery implies a negative output gap (even if the 5% growth target is achieved), with limited inflationary pressures. In May, CPI inflation has decelerated to 0.2% y/y, while PPI deflation persisted at -4.6% y/y.

... which drove bond outflows last year, as well as in January-February this year.

6. Change in Foreign Holding of Bonds
(In billions of RMB)

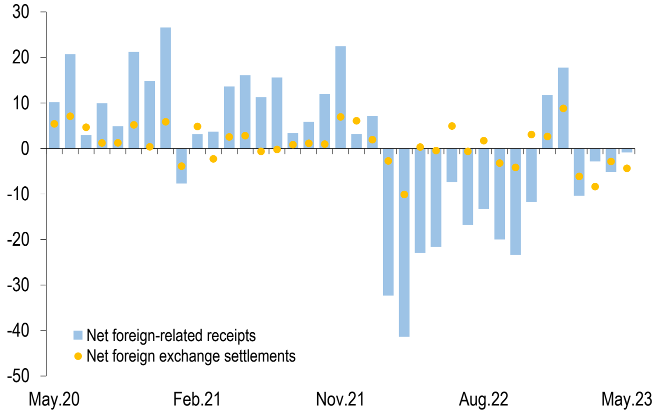


Sources: CEIC; and IMF staff calculations.

- China saw sizeable bond outflows in 2022 (around 600 billion RMB) when interest rate differentials were widening.
- In 2023, bond outflows amounted to 200 billion RMB year-to-date. Bond outflows appeared relatively limited in March-May; expectations for further monetary policy easing could help support balanced bond flows.

Portfolio investment outflows remain relatively limited this year despite Chinese equities' underperformance.

7. Net Foreign-related Receipts of Banks on Behalf of Clients: Securities Investment
(In billions of USD)

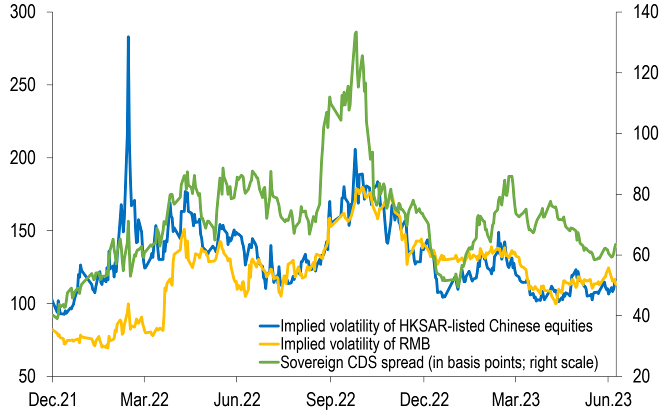


Sources: CEIC; and IMF staff calculations.

- In contrast to 2022, portfolio investment outflows have been more limited in 2023 for both bond and equity flows.
- The 're-opening' trade in December 2022 and January 2023 led to large portfolio investment inflows, which did not last long. Markets increasingly became concerned about the weakening economic recovery.

Overall market sentiment has improved from last year, with lower implied volatility for RMB and Chinese equities.

8. Implied Market Volatility
(2021 = 100)



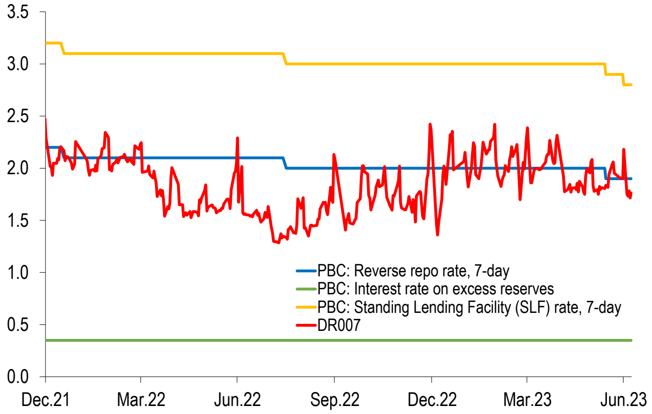
Sources: Bloomberg; and IMF staff calculations.

- Implied volatility for RMB and Chinese equities were relatively elevated last year amid economic uncertainty induced by the zero COVID policy.
- China's sovereign CDS spread has fallen from a peak of 133 bps in October 2022 to about 60 bps more recently.

The PBC unexpectedly cut policy rates in June after banks were guided to lower their deposit rates to ease pressures on their net interest margins

On June 13, the PBC lowered the 7-day reverse repo rate by 10 bps to 1.90%.

9. Short-term Policy and Market Rates
(In percent)

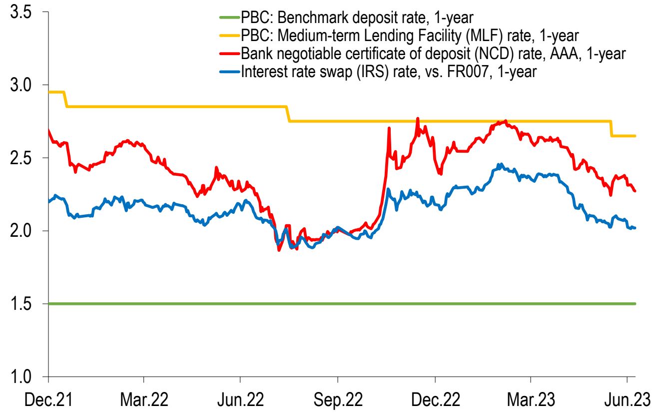


Sources: CEIC; and IMF staff calculations.

- In 2023, the PBC has managed liquidity to keep the key interbank repo rate (DR007) close to the policy rate.
- The policy rate cuts came as a surprise as the PBC's earlier communication hinted at no changes in policy rates. The 2023Q1 monetary policy report pledged to maintain monetary and credit aggregates at a reasonable amount, pointing to a possibility of RRR cuts and/or other form of liquidity injection.

On June 15, the PBC also cut the 1-year MLF rate by 10 bps to 2.65%.

10. Medium-term Policy and Market Rates
(In percent)

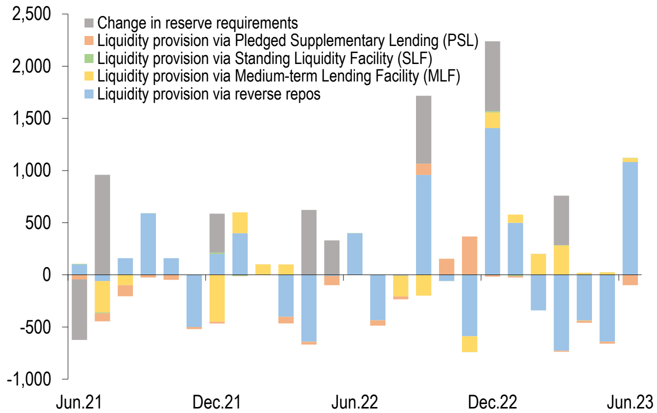


Sources: Bloomberg; and IMF staff calculations.

- In his speech in April, Governor Yi cited the 'attenuation' principle that central banks should respond less aggressively to shocks in the face of uncertainty around monetary policy transmission.
- Following the policy rate cuts, banks lowered the 1-year and 5-year LPRs by 10 bps each to 3.55% and 4.20%, respectively. Though, markets looked for a 15-bps cut for the 5-year LPR to support the property sector.

In March, the PBC lowered the RRR by 25 bps for large and mid-sized banks, releasing liquidity of about 470 billion RMB.

11. PBC's Selected Liquidity Measures
(In billions or RMB)

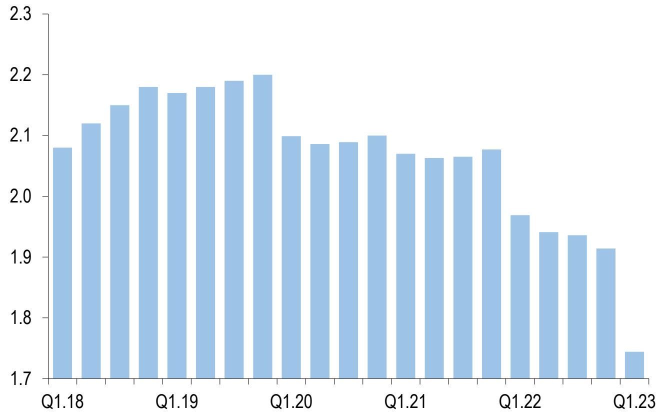


Sources: Bloomberg; CEIC; and IMF staff calculations.

- The RRR cut in March did not apply to small banks as their RRR already hit the floor at 5%. The RRR cut thus lowered the systemwide RRR by about 20 bps.
- In 2023, the PBC has withdrawn liquidity in an amount of 970 billion RMB in an effort to offset a large liquidity injection of 2.2 trillion RMB in December 2022 to ease liquidity stress partly induced by fund redemptions.

Ahead of the latest policy rate cuts, banks were guided to lower their deposit rates amid sharply reduced net interest margins.

12. Banks: Net Interest Margin
(In percent)



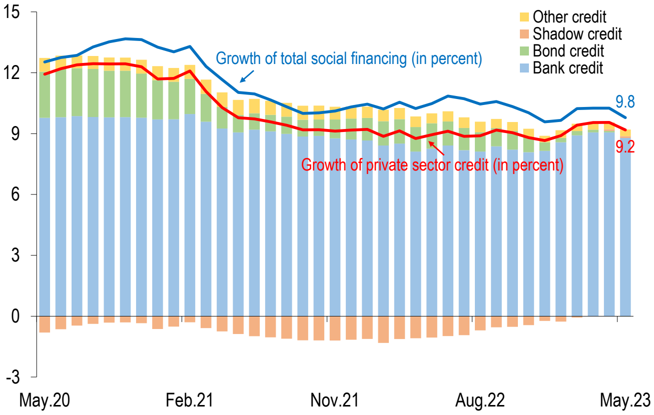
Sources: CEIC; and IMF staff estimates.

- In early June, banks were guided to lower their deposit rates under the interest rate self-regulatory mechanism, the first broad-based reduction since September 2022.
- The reduced net interest margins raised concerns for banks' profitability amid the need to clean up problem assets. Lowering banks' overall funding costs is seen as important for enabling policy rate cuts.

Credit growth has weakened, particularly driven by moderating mortgage lending

The growth of total social financing (TSF) has decelerated to 9.8% y/y in May after some credit impulse in Q1.

13. Contribution to Private Sector Credit Growth
(In percentage points; year-on-year)



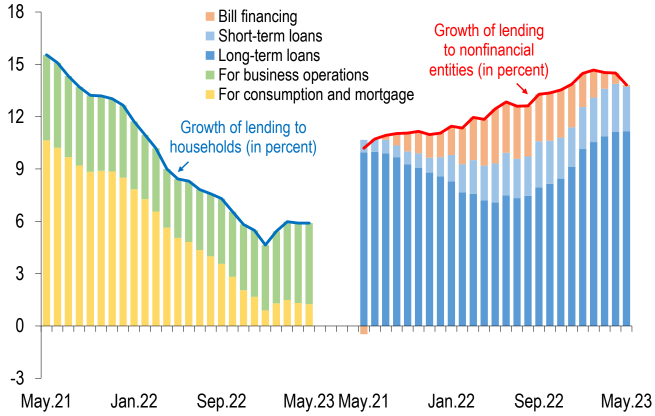
Sources: CEIC; and IMF staff calculations.

Note: Based on total social financing; private sector credit excludes government bond credit and equity financing. Hence, private sector credit include credit provided to state-owned enterprises and local government financing vehicles.

- The decelerating TSF growth was underpinned by sluggish household credit demand from and reduced bond issuance.
- Growth of shadow credit remains limited, though no longer being a drag on the overall credit growth.

Credit demand remains weak, particularly from households for home purchases.

14. Contribution to Bank Lending Growth
(In percentage points; year-on-year)



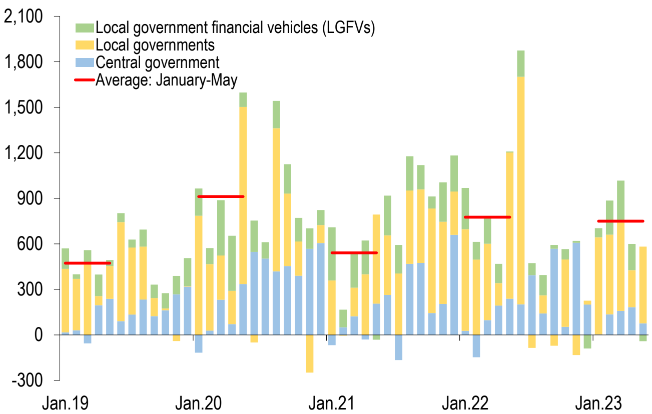
Sources: CEIC; and IMF staff estimates.

Note: Lending to nonfinancial entities, which would include government-linked entities such as state-owned enterprises and local government financial vehicles.

- The ongoing property sector downturn has limited the demand for mortgage financing, resulting in a moderating growth of bank lending to households.
- Growth of bill financing has slowed as banks have shifted to lend directly to corporates.

The public sector's net bond issuance has tapered off after strong activity in Q1. LGFVs' net bond issuance turned negative in May.

15. Public Sector: Net Bond Issuance
(In billions of RMB)

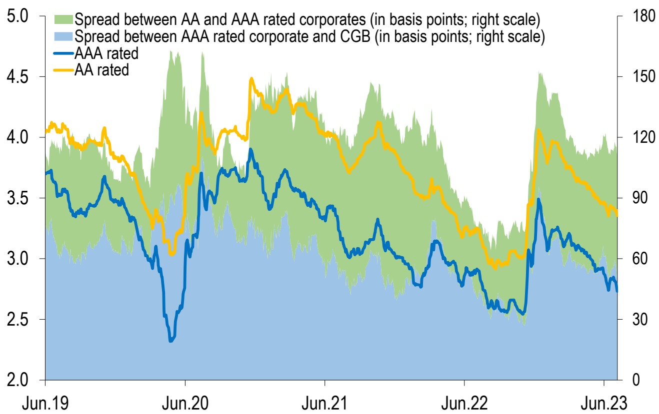


Sources: WIND; and IMF staff calculations.

- In the first five months, net issuance of CGBs, local government bonds (LGBs) and bonds issued by LGFVs amounted to about 0.6, 2.5 and 0.7 trillion RMB, respectively. Relative to last year, net public sector bond issuance was larger by about 0.8 trillion RMB.
- In May, greater market scrutiny slowed LGFVs' bond issuance. Concerns about LGFVs are largely selective, particularly in provinces with weak public finances.

Corporate bond yields have fallen, along with narrowing credit spreads, after a sharp rise in December 2022.

16. Nonfinancial Corporate Bond Yields, 3-year
(In percent)



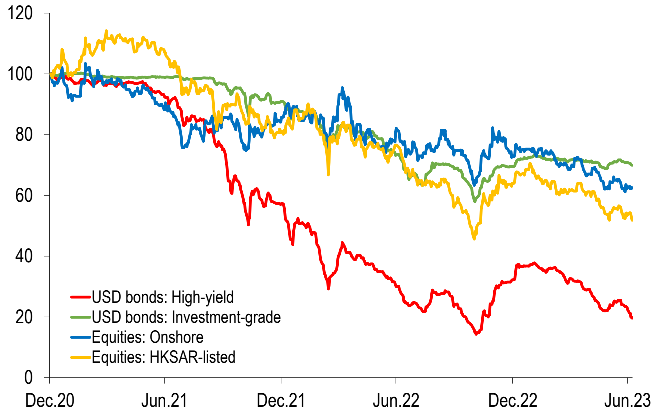
Sources: Bloomberg; and IMF staff estimates.

- Corporate credit spreads (relative to CGB) have compressed in recent months, reversing the sharp widening that occurred in December 2022 amid fund redemptions.
- Credit spreads of high-quality bonds (AAA rated) have narrowed as investors chase for high-quality assets. Meanwhile, credit spreads for low-quality bonds (AA-rated or below) are higher than historical levels.

Some property developers continue facing financial stress as the housing market's recovery remains elusive and uneven

Financial stress of property developers continues as the policy support rolled out in late 2022 has not been successful in turning around the property sector downturn.

17. Real Estate Firms: Equity and Offshore USD Bond Prices
(End-2020 100; based on prices in local currency)

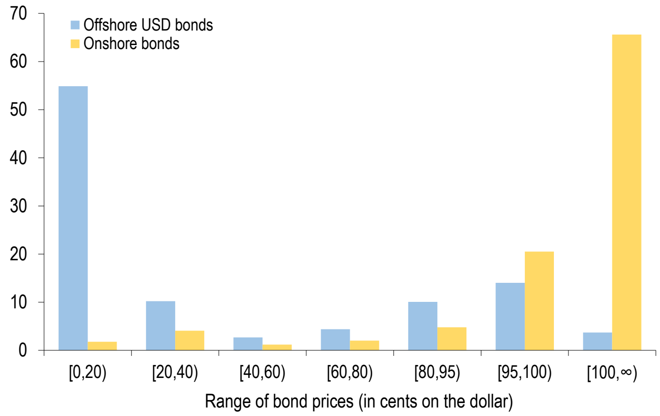


Sources: Bloomberg; and IMF staff calculations.

- Rounds of policy support generated optimism that drove up equity and bond prices of property developers. However, each rebound of asset prices was short-lived as the property sector downturn continues.
- Offshore USD bonds have been traded more actively than their onshore counterparts.

The share of distressed offshore USD bonds remains sizeable, while most of onshore bonds still do not face much downward pressures.

18. Real Estate Firms: Distribution of Onshore and Offshore Bond Prices
(In percent of total issuance amount)

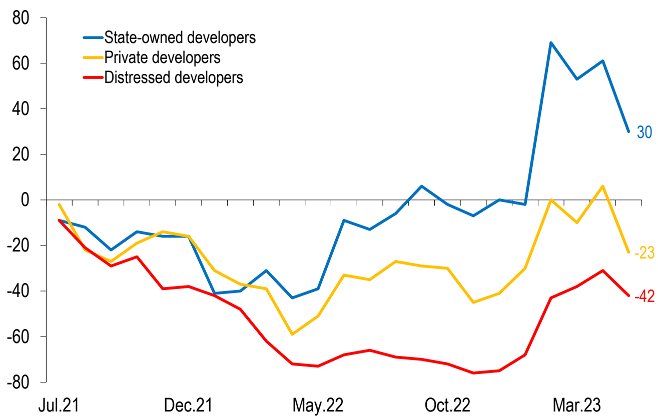


Sources: Bloomberg; WIND; and IMF staff estimates.

- Offshore USD bonds' distressed prices largely reflected widespread defaults. Meanwhile, onshore creditors have been guided to roll over maturing bonds.
- The stark pricing difference may also reflect the different creditor hierarchy. Offshore bonds are typically issued by overseas vehicles and with no formal guarantee from the onshore parents.

State-owned property developers, which are also financially stronger, have benefited more from the policy support, ...

19. Major Real Estate Firms: Contracted Sales Growth
(In percent; year-on-year)

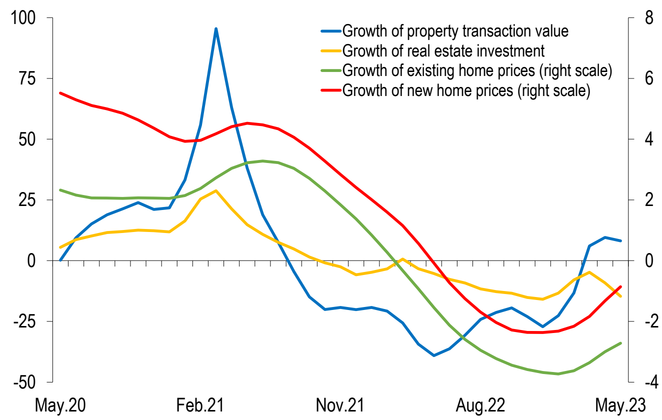


Sources: JP Morgan; and IMF staff calculations.

- The policy package largely aims at ensuring financing to financially strong property developers, supporting the completion of unfinished housing (albeit on a selective basis), and boosting home-buying demand.
- Financially weak property developers are unable to generate cash from presales.

... while the housing market's recovery remains elusive, with still weak property transactions, falling house prices, and contracted real estate investment.

20. Housing Activities
(In percent; year-on-year; 3-month moving average)



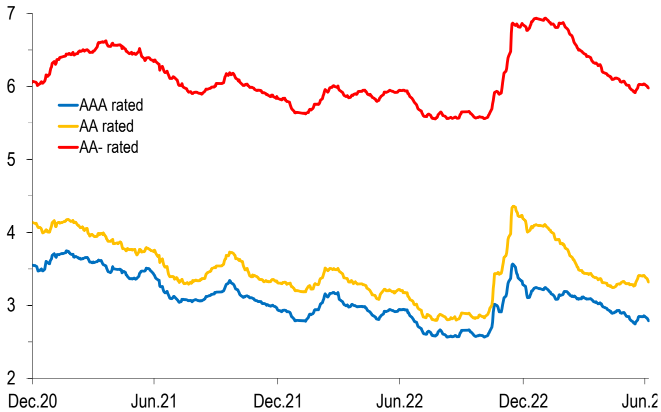
Sources: Bloomberg; and IMF staff calculations.

- The decline in existing home prices started to stabilize. Meanwhile, new home prices, which are heavily managed, have already bottomed out.
- While property transactions have recovered (+8% y/y), albeit remaining weak, real estate investment continues declining (-15% y/y).

LGFVs in some provinces face high funding costs as markets increasingly scrutinize their debt-serving capacity

LGFVs' bond yields have fallen in 2023, similar to corporate bonds. Though, AA- rated LGFV bond yields remain elevated.

21. LGFVs: Bond Yields
(In percent)

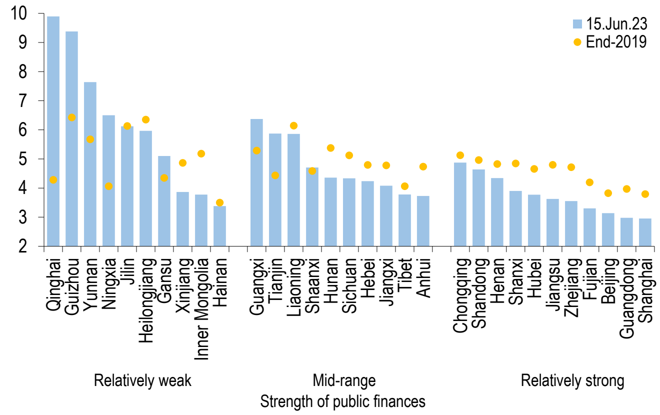


Sources: WIND; and IMF staff calculations.

- High-quality LGFV bonds enjoy more favorable pricing than corporate bonds (AA rated: -5 bps). On the other hand, riskier LGFV bonds face higher yields than non-LGFV entities (AA- rated: +39 bps).
- For most provinces, LGFVs now enjoy lower funding costs than pre-pandemic.

LGFVs in some provinces, particularly with weak public finances, see high funding costs. Such financial stress among LGFVs remains largely selective.

22. LGFVs: Average Bond Yields by Province, Mid-June 2023
(In percent; weighted by outstanding bonds)

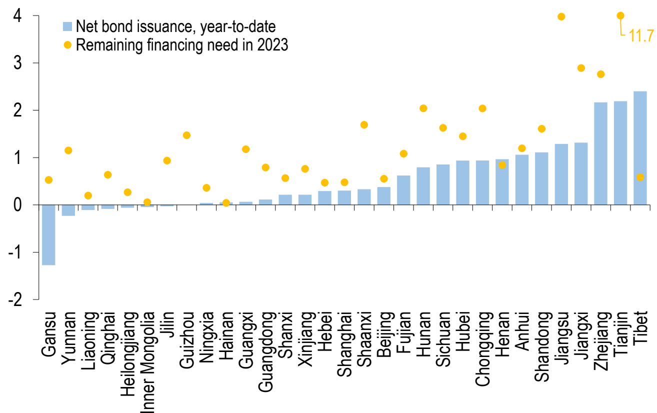


Sources: CEIC; WIND; and IMF staff calculations.

- LGFVs in Guizhou and Yunnan became under intense scrutiny following the debt restructuring event and the near-default incident.
- It is worth noting that onshore credit bonds may not be actively traded. Their estimated prices and yields are provided by ChinaBond and Shanghai Clearing House, which effectively function as dealers.

LGFVs in several provinces could not raise additional bond financing in 2023, as markets increasingly ...

23. LGFVs: Net Bond Issuance and Refinancing Needs, 2023
(In percent of regional GDP; as of mid-June)

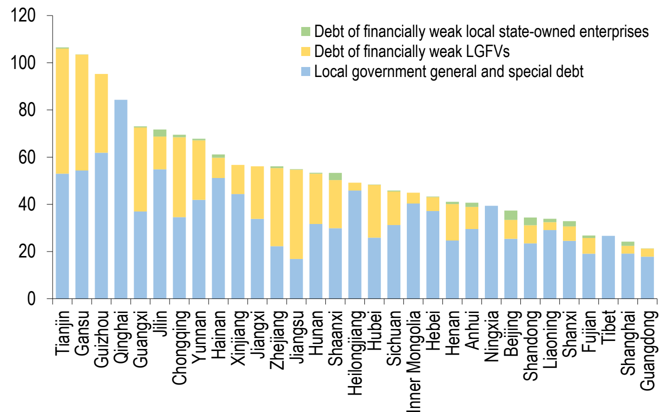


Sources: WIND; and IMF staff calculations.

- Total refinancing needs amount to 2 trillion RMB for the remaining 2023. For the six provinces in which LGFVs already experienced negative net bond issuance, their refinancing needs amount to 93 billion RMB.

... scrutinize LGFVs' own debt-servicing capacity as well as potential support from their local governments.

24. Public Debt and Risky Government-Related Debt, 2022
(In percent of regional GDP)



Sources: CEIC; S&P Capital IQ; WIND; and IMF staff estimates.

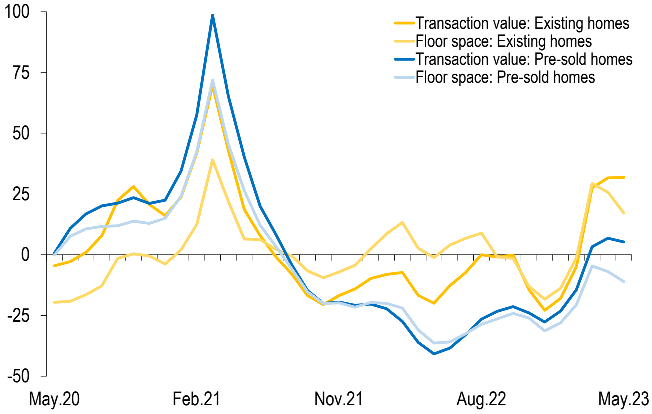
Note: Entities are considered financially weak if earnings before taxes and interest are not sufficient to cover net interest expense for three years.

- In some province, local government debt burden could increase substantially if contingent liabilities from risky government-related debt materialize.

Analytical Feature: Property Sector's Uneven Recovery and Medium-term Challenges

The recovery of home sales looks precarious and uneven, with still weak transactions of pre-sold housing, ...

25. Growth of Residential Property Transactions
(In percent; year-on-year; 3-month moving average)

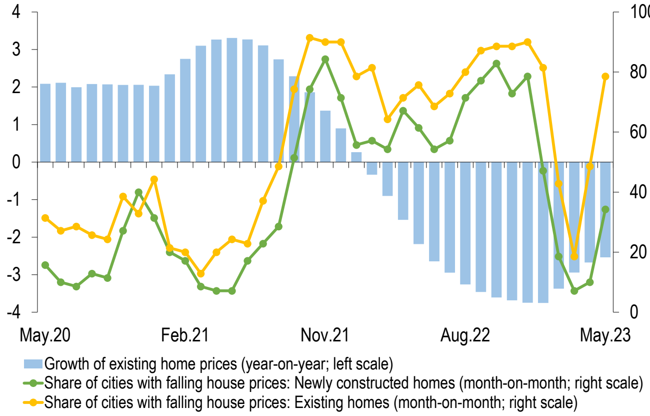


Sources: CEIC; and IMF staff calculations.

- The recovery in home sales is led by transactions of existing homes. The share of existing homes in residential property transactions has increased to 13%.
- The 12-month average of residential property transactions (in terms of both value and floor space) has stabilized. A stronger rebound of transaction value points to stronger performance of high-end properties.

... while house prices are still falling, for both existing homes (-2.5% y/y) and new homes (-0.5% y/y).

26. House Prices
(In percent)



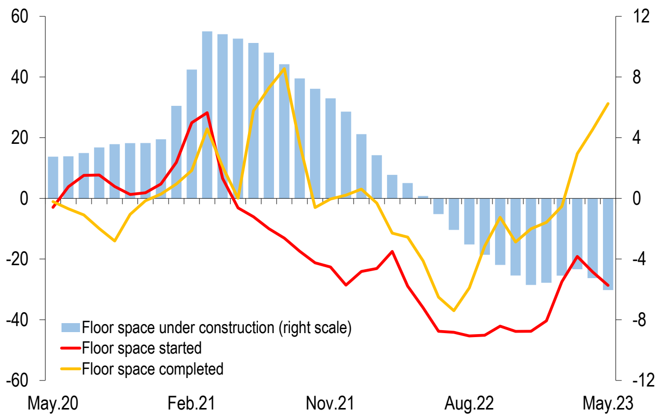
Sources: CEIC; and IMF staff calculations.

Note: House prices are based on house price indices published by China's National Bureau of Statistics.

- About 80% of 70 major cities still saw a m/m decline in existing home prices in May.
- While movements of new home prices tend to be more limited, the observed decline in new home prices in several cities highlights weak housing demand in those locations.

Normalized construction activity led to larger housing completion, while housing starts continued declining.

27. Growth of Housing Construction
(In percent; Year-on-year; 3-month moving average)

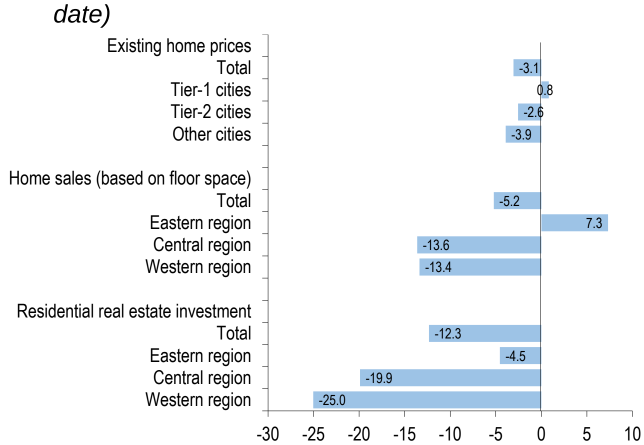


Sources: CEIC; and IMF staff calculations.

- Housing completion has accelerated as construction could resume more normally after the pandemic.
- The decline in floor space under construction reflected the construction completion, supported by the slowdown in housing starts—a healthy adjustment. However, floor space under construction remains substantial, reflecting the unfinished housing problem.

The housing recovery is uneven across regions, with tier-1 cities and eastern provinces outperforming.

28. Regional Divergence of Housing Markets, 2023
(In percent; based on year-on-year change; year-to-date)



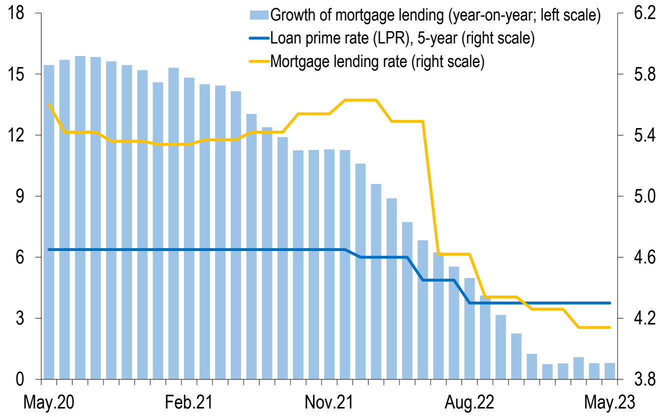
Sources: CEIC; and IMF staff calculations.

- House prices remain relatively robust in tier-1 cities given still strong housing demand. Meanwhile, lower-tier cities saw a larger decline in house prices.
- Housing markets appear stronger in eastern provinces, which enjoy better economic prospects. The decline in home sales and residential real estate investment was more pronounced in western and central provinces.

Analytical Feature: Property Sector's Uneven Recovery and Medium-term Challenges

Mortgage lending has declined despite the falling trend of mortgage rates.

29. Mortgage Lending
(In percent)

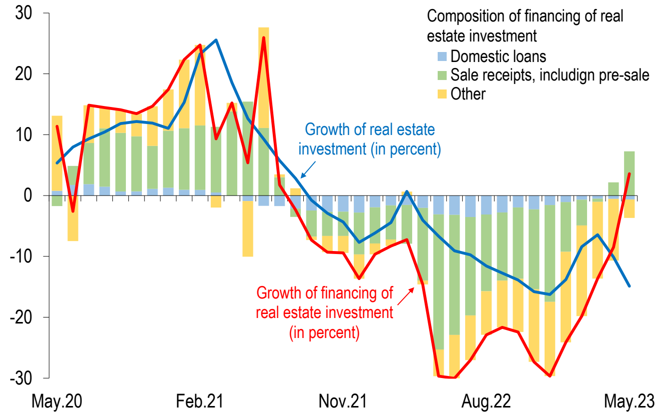


Sources: Bloomberg; CEIC; and IMF staff calculations.

- Mortgage lending growth slowed to 0.8% y/y in May, while the average mortgage rate has fallen to 4.1%.
- The floor of mortgage rates is set by local officials. According to rules, the floor for first-time homebuyers (previously, 20 bps below the 5-year LPR) could be removed in cities that experience a decline in house prices for three consecutive months.

Financing of real estate investment remains challenging, with financing from the financial system still negative.

30. Real Estate Investment and Contribution to Its Financing
(Year-on-year; 3-month moving average)

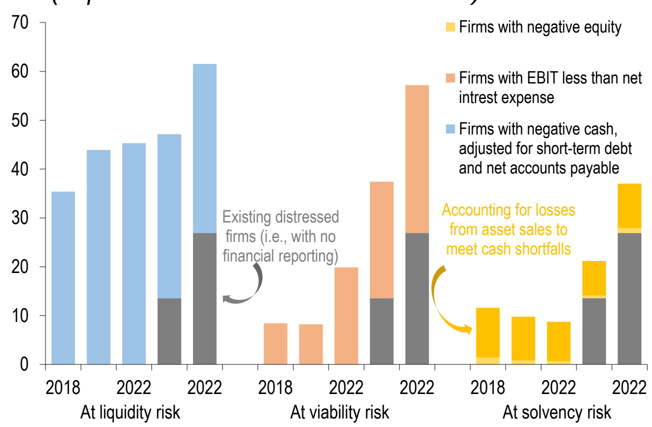


Sources: CEIC; and IMF staff calculations.

- Property developers typically rely on presale receipts and borrowings to finance real estate investment, including construction.
- The policy support rolled out in late 2022 aims to ensure adequate financing to financially strong property developers by encouraging bank lending, supporting bond issuance, and allowing equity fund-raising.

One challenge of addressing the property sector downturn is to resolve financially weak property developers and ...

31. Real Estate Firms: Share of Firms at Risk
(In percent of the sector's total assets)



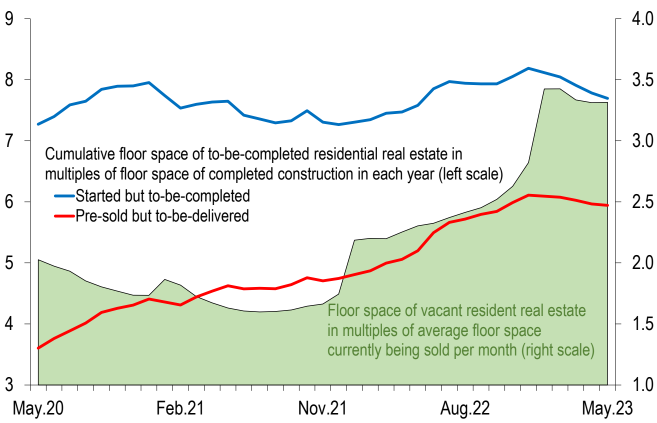
Sources: S&P Capital IQ; and IMF staff estimates.

Note: The analysis covers about 450 firms available from the Capital IQ database.

- The share of firms that do not report financial statements increased to 27% of the sector's total assets, reflecting their financial difficulty.
- The share of financially weak firms increased to 62% for liquidity risk (i.e., facing cash shortfalls), 57% for viability risk (i.e., lacking debt-servicing capacity), and 36% for solvency risk (i.e., facing negative equity).

... to complete the construction of unfinished housing. The amount of unfinished pre-sold housing remains large.

32. Uncompleted and Vacant Residential Real Estate



Sources: CEIC; and IMF staff estimates.

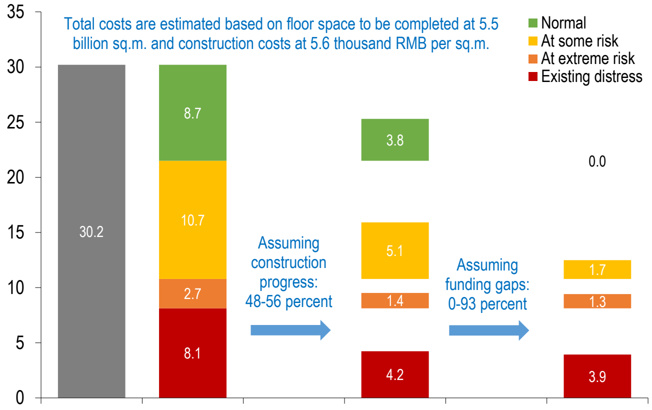
Note: Unfinished housing is estimated based on cumulative floor space (started, completed, and sold) over nine years.

- The stock of unfinished, pre-sold housing remains large. It would take about 8 years to complete the construction, assuming no new housing starts.
- Meanwhile, the level of housing inventory is relatively high in recent months by historical standards. It would take about 3.3 months to clear the existing inventory, assuming no new houses entering the market.

Analytical Feature: Property Sector's Uneven Recovery and Medium-term Challenges

Estimated costs for addressing unfinished housing amount to nearly 8 trillion RMB.

33. Costs for Addressing Unfinished Housing
(In trillions of RMB)

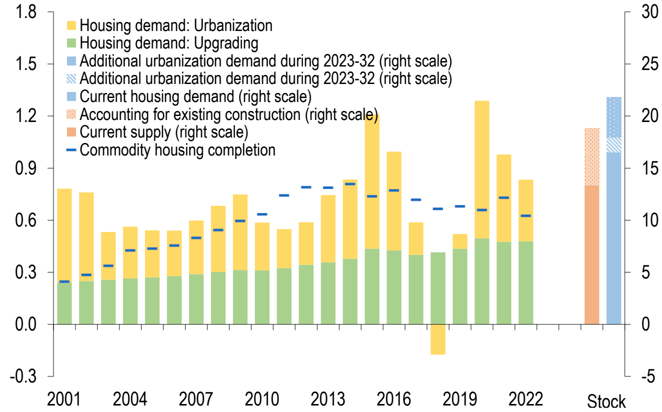


Sources: CEIC; S&P Capital IQ; and IMF staff estimates.

- Total construction costs to complete existing unfinished housing amount to about 30 trillion RMB. After accounting for construction progress and funding gaps, which vary on the degree of financial stress faced by property developers, such costs would drop to about 8 trillion RMB.
- The analysis suggests that the remaining balance of escrowed funding from presales would be close to zero if escrowed funds could be used to pay for the entire land cost of existing projects.

Overall, China may not face housing oversupply yet, supported by urbanization and upgrading demand, ...

34. Urban Housing Demand and Supply
(In billion sq.m.)

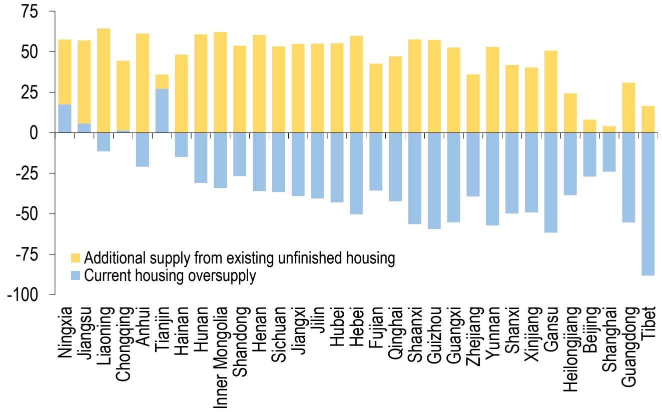


Sources: CEIC; and IMF staff estimates.

- Compared with cumulative housing demand based on upgrading (assuming 2% of urban households looking for new housing) and urbanization (assuming 50% of additional urban households requiring housing) needs, cumulative housing supply based on completion of commodity housing still shows a supply shortfall.
- However, if additional upgrading and urbanization demand continues, China may not face housing oversupply over the next ten years even after accounting for existing unfinished housing.

... but many provinces could see excess housing supply especially after accounting for existing construction.

35. China's Provinces: Housing Oversupply, 2022
(In percent of housing demand)

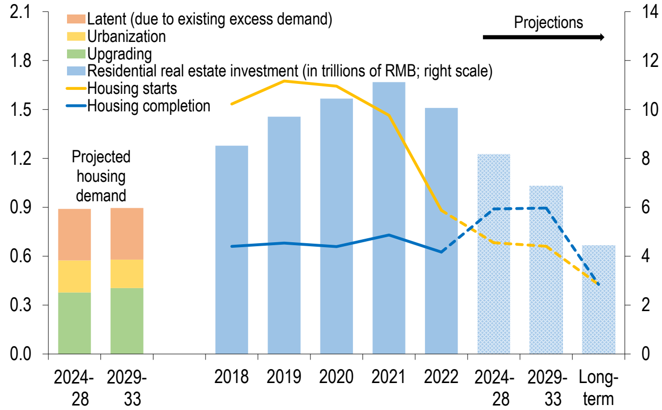


Sources: CEIC; and IMF staff estimates.

- Only three provinces may face housing oversupply based on the current housing stock. However, more than half of provinces would face housing oversupply once accounting for existing unfinished housing.

Real estate investment is expected to decline notably over the medium term.

36. Housing Demand and Real Estate Investment
(In billion sq.m.; annualized)



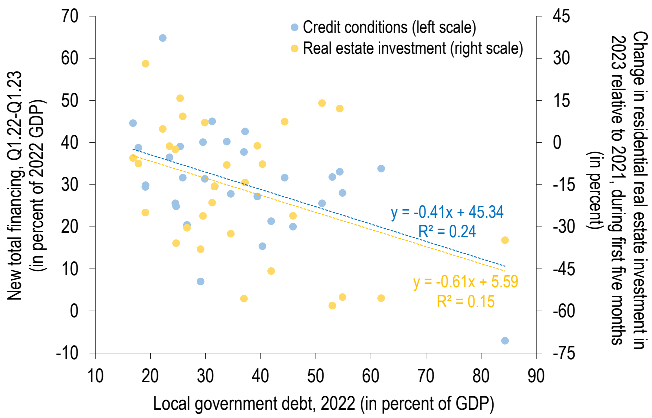
Sources: CEIC; and IMF staff estimates.

- China's long-term housing demand would be much lower due to the decline in population and the maturity of urbanization.
- Over the next five years, real estate investment could remain reasonably strong given existing unfinished housing and (latent) excess demand.

Analytical Feature: Property Sector's Uneven Recovery and Medium-term Challenges

Regions with weaker public finances see tighter credit conditions, a more severe property sector downturn, and stronger adverse macrofinancial effects.

37. China's Provinces: Credit Conditions, Real Estate Investment and Government Debt



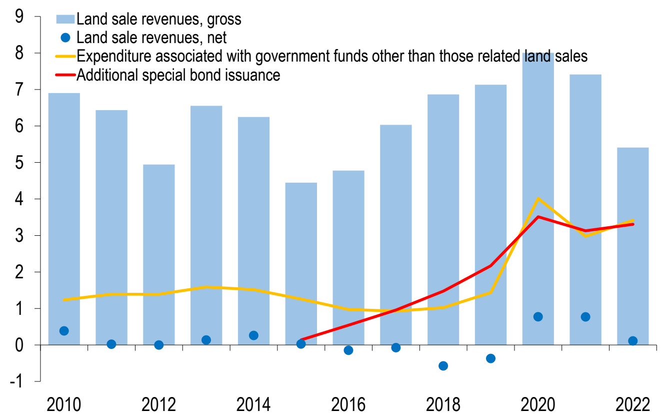
Sources: CEIC; and IMF staff calculations.

- Credit conditions have been tighter in regions with weaker public finances, partly because these regions face higher funding costs.
- Tightening credit conditions could dampen real estate transactions, construction activity and economic growth.
- Local banks are exposed to the local economic situation, including property markets and LGFVs. They could face rising credit losses, resulting in a further tightening of credit conditions.

The property sector downturn has also affected local governments' land sale revenues, potentially exacerbating their financial strains.

38. Local Government: Selected Public Finance Indicators

(In percent of GDP)



Sources: CEIC; and IMF staff estimates.

- Gross land sale revenues are large. However, local governments have spent almost similar amounts to prepare land for sales and support related development. Thus, net land sale revenues are smaller at no more than 1% of GDP.
- That said, net land sale revenues are still economically important in terms of local governments' financing resources at the margin.
- Local governments' expenditure associated with government funds other than those related to land sales has been largely financed by special government bond issuance.

Technical Annex: Estimation of Costs for Addressing Unfinished Housing

The estimation is based on the construction progress and the extent of funding gaps, which are assumed to vary based on the riskiness of housing projects. The portion of property developers at risk, as well as the severity of their risks, is used as proxied for the riskiness of housing projects.

The severity of property developers' risks is categorized into four levels—existing distress (based on firms that stopped their financial reporting), extreme risks (based on firms that face all liquidity, viability and solvency risks), some risks (based on firms that face one of the three risks), and normal (based on firms that do not face any risk).

Property developers are at liquidity risk if they have negative cash after accounting for short-term debt and net accounts payable. Property developers are at viability risk if their earnings before taxes and interest are not sufficient to cover net interest expense. Property developers are at solvency risk if they have negative equity, including due to potential losses arising from asset sales to meet cash shortfalls.

The construction progress is assumed to be at 56% for normal property developers, 52% for property developers at some risk, and 48% for property developers at extreme risk or currently under financial distress.

The extent of funding gaps is assumed to be at 0% for normal property developers, 33% for property developer at some risk, and 93% for property developers at extreme risk or currently under financial distress.

Technical Annex: Estimation of Urban Housing Demand and Supply

The urban housing supply is based on the amount of commodity housing completion.

The urban housing demand is assumed to be driven by two factors—upgrading demand and urbanization demand.

The upgrading demand assumes that 2% of urban households would seek new housing each year. This assumption, which implies that housing could be typically used for 50 years, appears relatively conservative.

The urbanization demand assumes that 75% of new urban households would require housing until 2010 and that 50% of new urban households would require housing after 2010. The assumption reflects that the urbanization involves the reclassification of certain rural areas to urban areas, implying that such new urban households would not need housing.

The estimation also assumes that the average floor space for each household is 72 sq.m., which is about 80% of the actual average floor space of urban households' housing.

Technical Annex: Projection of Real Estate Investment

The future housing demand comprises of three sources—latent demand due to existing excess demand, upgrading demand, and urbanization demand.

The latent demand due to existing excess demand arises as the estimation suggests that urban housing supply would still fall short of urban housing demand. The projection assumes that 50% of estimated existing excess housing demand would yield the latent demand for each 5-year period (i.e., 2023-27 and 2028-32).

The upgrading demand assumes that 1.5% of urban households would seek new housing each year. This is to reflect that the upgrading demand will decline over time.

The urbanization demand assumes that 50% of new urban households would require housing.

The projected real estate investment is based on land and construction costs, which would be at 2022 prices. The land costs are based on housing starts that reflect housing demand for the following 5-year period; for the 2023-27 period, housing starts also need to reflect residual housing demand after accounting for additional housing supply from the existing unfinished housing in that 5-year period. The construction costs are based on construction required to meet housing demand in that 5-year period and construction reflecting half of housing demand in the following 5-year period.