MOODY'S
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Is China at Risk of Financial Crisis?

MICHAEL TAYLOR, MANAGING DIRECTOR – CHIEF CREDIT OFFICER FOR ASIA PACIFIC

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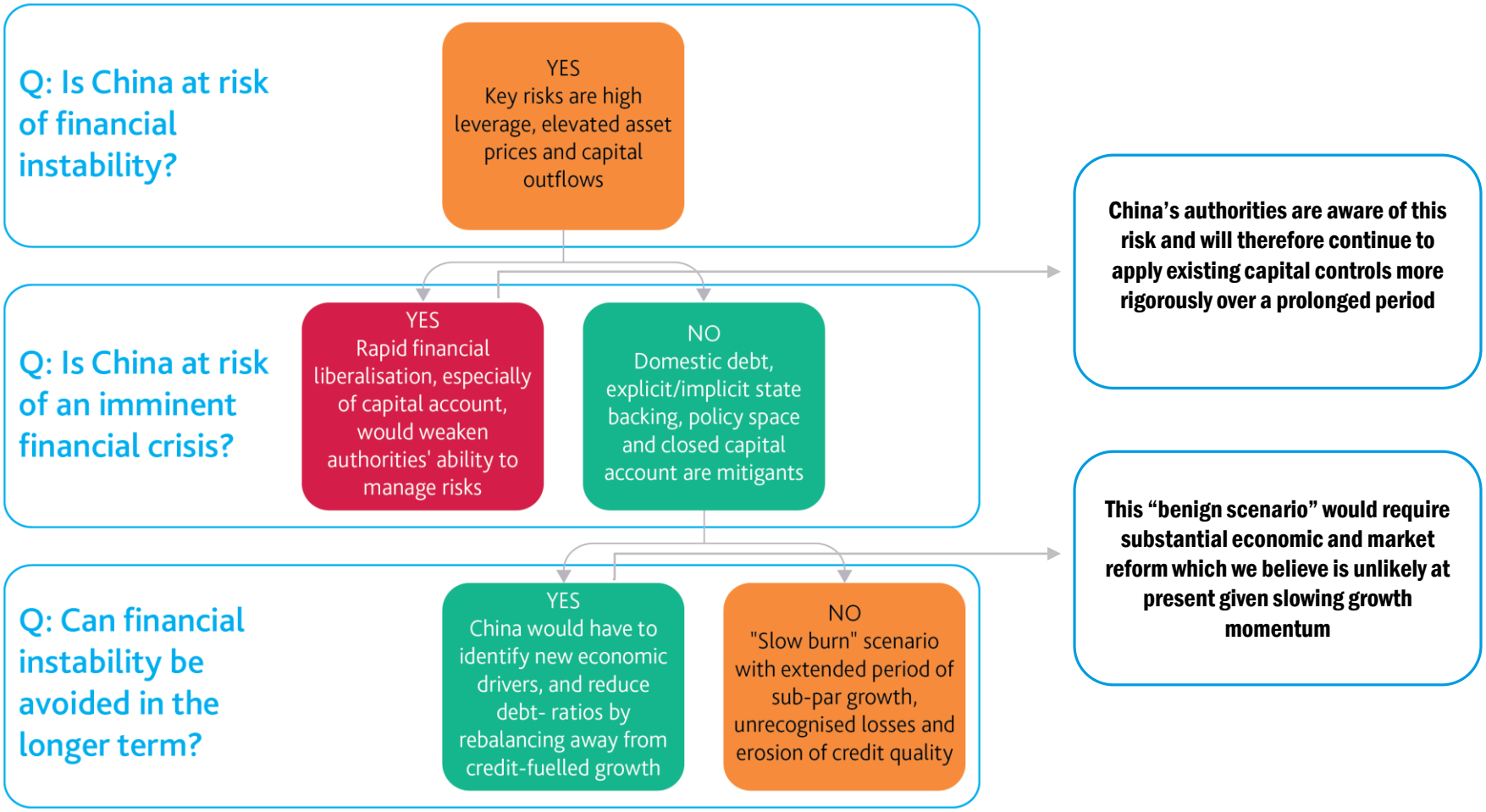
Key Messages

1	China's government has policy tools and willingness to prevent an imminent financial crisis
2	Rapid financial liberalisation would weaken the authorities' ability to manage systemic risks
3	Major imbalances created by rapid debt build-up are likely to corrode credit quality over time

Abrupt Crisis Unlikely, "Slow-Burn" Scenario A Clear Risk



Source: Moody's Investors Service

1 Is there evidence of a looming crisis?

Common Pattern In Financial Crises

Financial crises result from "the growing fragility of private sector balance sheets during benign economic conditions…. These financial imbalances, associated with aggressive risk-taking, are driven by, but also feed, an unsustainable economic expansion. At some point, however, they unwind, potentially causing widespread financial strains."

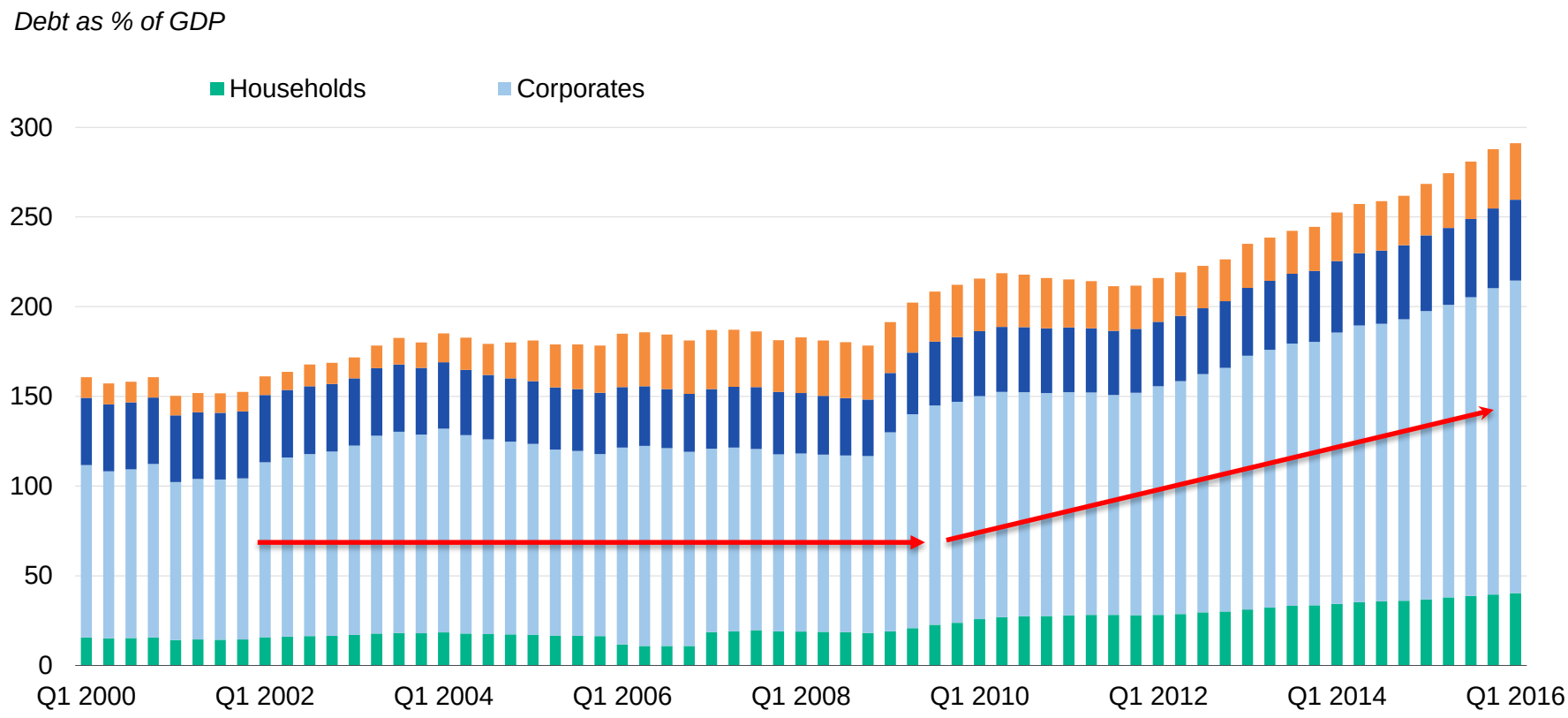
- Borio and Drehmann (2009), *Towards an operational framework for financial stability: "fuzzy" measurement and its consequences*. Bank for International Settlements.

Two closely related factors are involved in the formation of financial imbalances:

(a) rapid debt accumulation, particularly when funded from international financial markets; and

(b) the formation – and subsequent bursting – of asset price bubbles, especially in real estate.

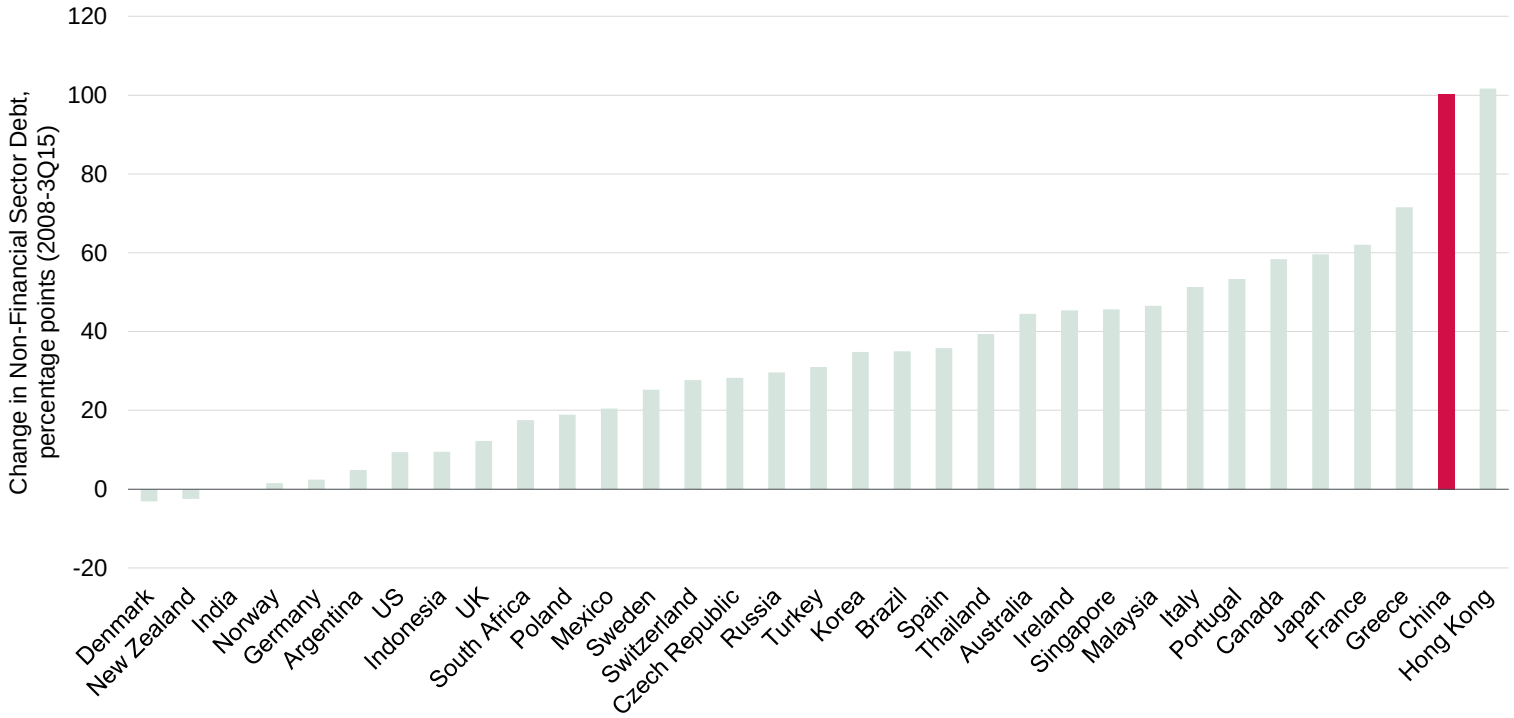
Total Debt Climbs to 280% of GDP Driven by the Corporate Sector



Source: Institute of International Finance

China's Debt Increase in International Context

Change in Non-Financial Sector Debt-to-GDP (2008-3Q 2015), percentage points

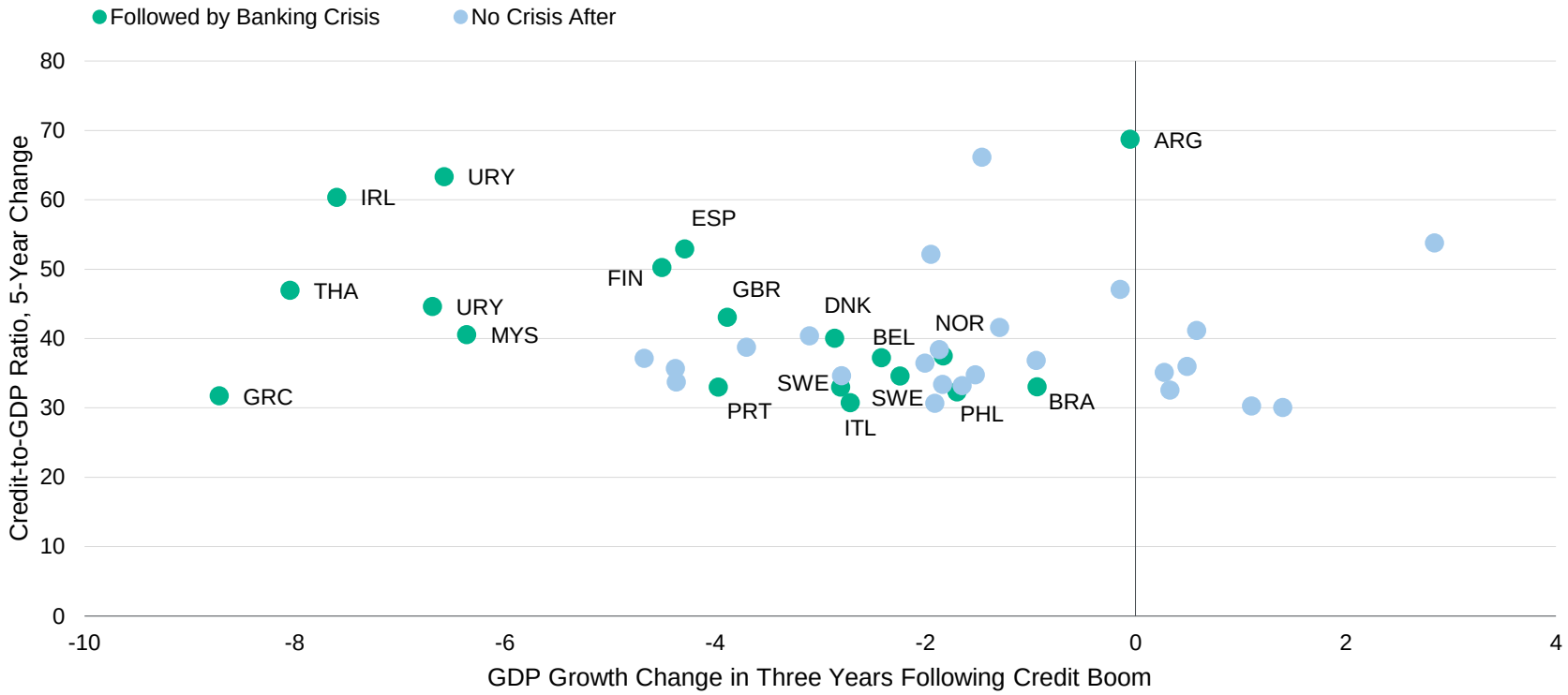


Sources: Moody's Investors Service, Bank for International Settlements

Debt Run-Ups Often End in Financial Instability

» Four countries over the past 50 years have experienced a similar scale of credit growth to China, and all four suffered banking crises within three years of the boom period (IMF)

Change in Credit and GDP Growth, percentage points

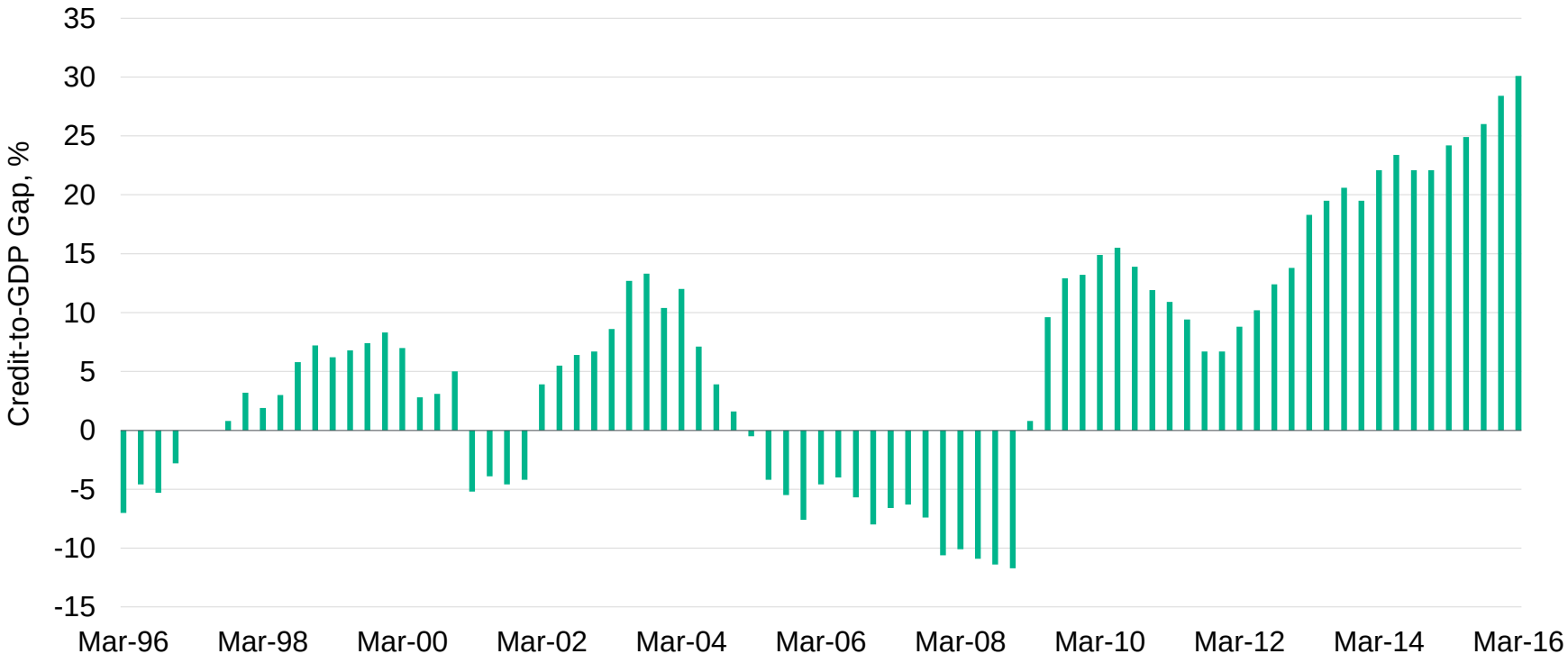


Source: IMF Staff Estimates and Calculations

Rapid Build-Up of Debt Fueled by Excessive Credit

China's Credit-to-GDP Gap Climbs to the Record High

% of GDP



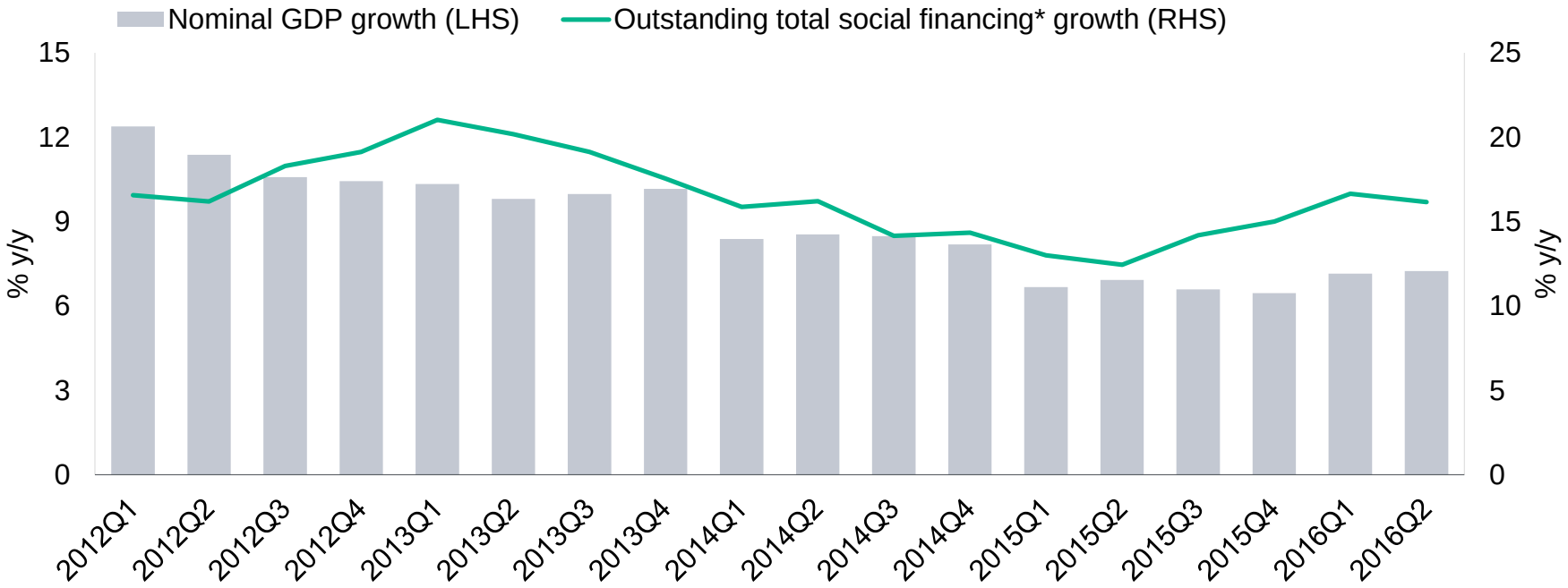
Note: The credit-to-GDP gap is defined as the difference between the credit-to-GDP ratio and its long-run trend. Readings above 10 percent signal elevated risks of banking strains, according to the BIS.

Source: Bank for International Settlements

Deleveraging Has Not Yet Begun

» Overall credit growth (total social financing - TSF) is still growing faster than nominal GDP, leading to rising leverage. TSF may even understate the extent of the buildup in leverage, as it excludes various forms of non-core shadow banking.

Annual % change



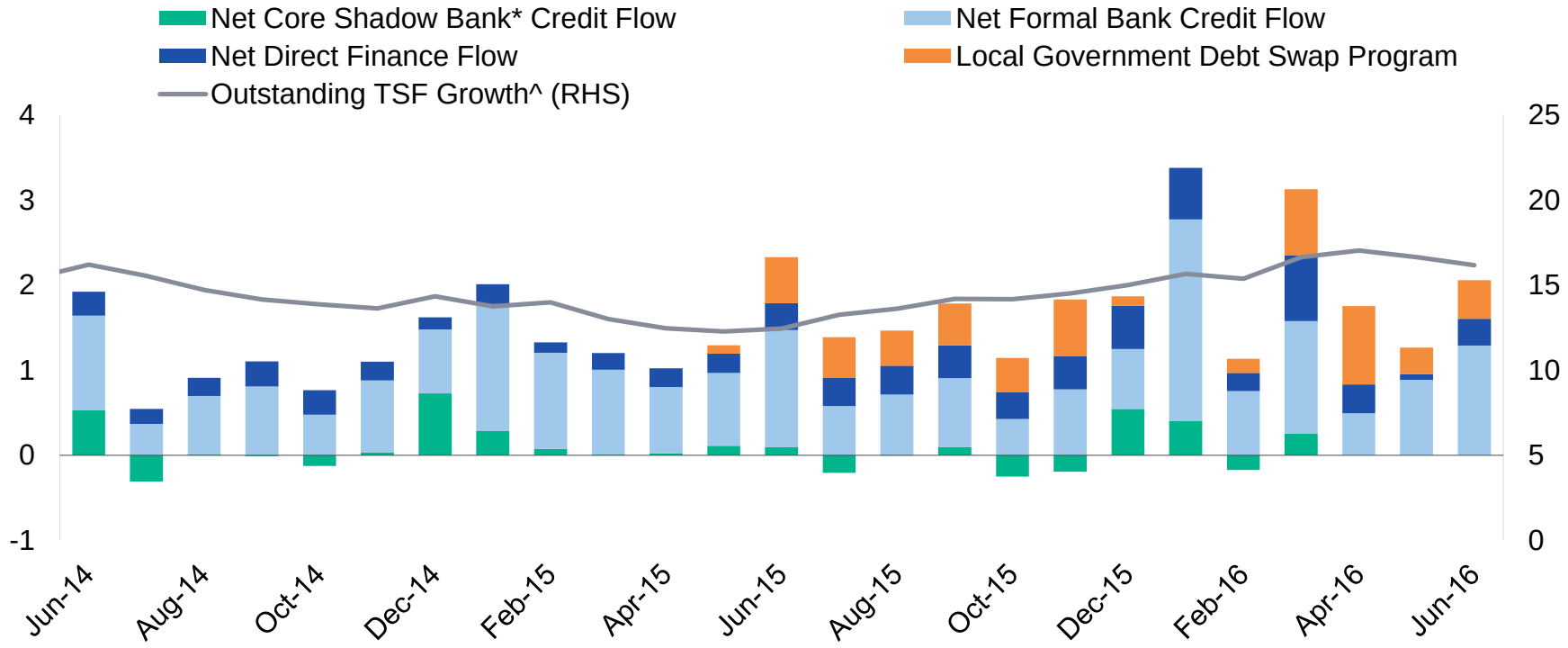
** Total social financing (TSF) is an official measure of broad credit in the financial system: formal bank loans, shadow banking activities, direct financing (bond and equity issuance) and others (e.g. microcredit). The series shown above has been adjusted from May 2015 onwards to account for distortions from the local government debt swap program.*

Sources: Moody's Investors Service, PBOC, WIND

Accommodative Monetary Policy Sustains Credit Flows

Total Social Finance (TSF) Net Flows and Growth

RMB Trillion, Annual % change



* Core shadow banking components comprise entrusted loans, trust loans and undiscounted bankers' acceptances in TSF.

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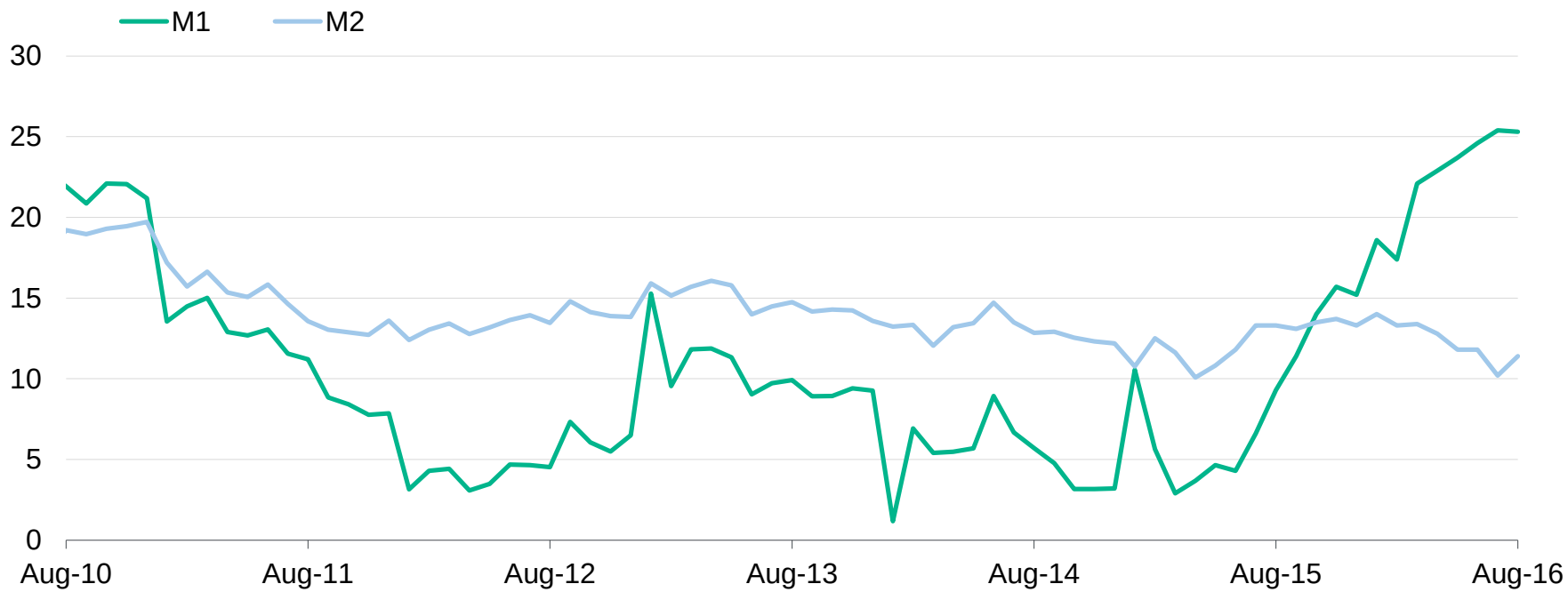
Sources: Moody's Investors Service and PBOC

Widening Gap between M1 and M2 Growth

» Gap could point to declining monetary policy effectiveness or to M2 failing to track credit growth (e.g. due to growing role of WMPs or ongoing local government debt swaps)

Monetary Aggregates

Annual % change

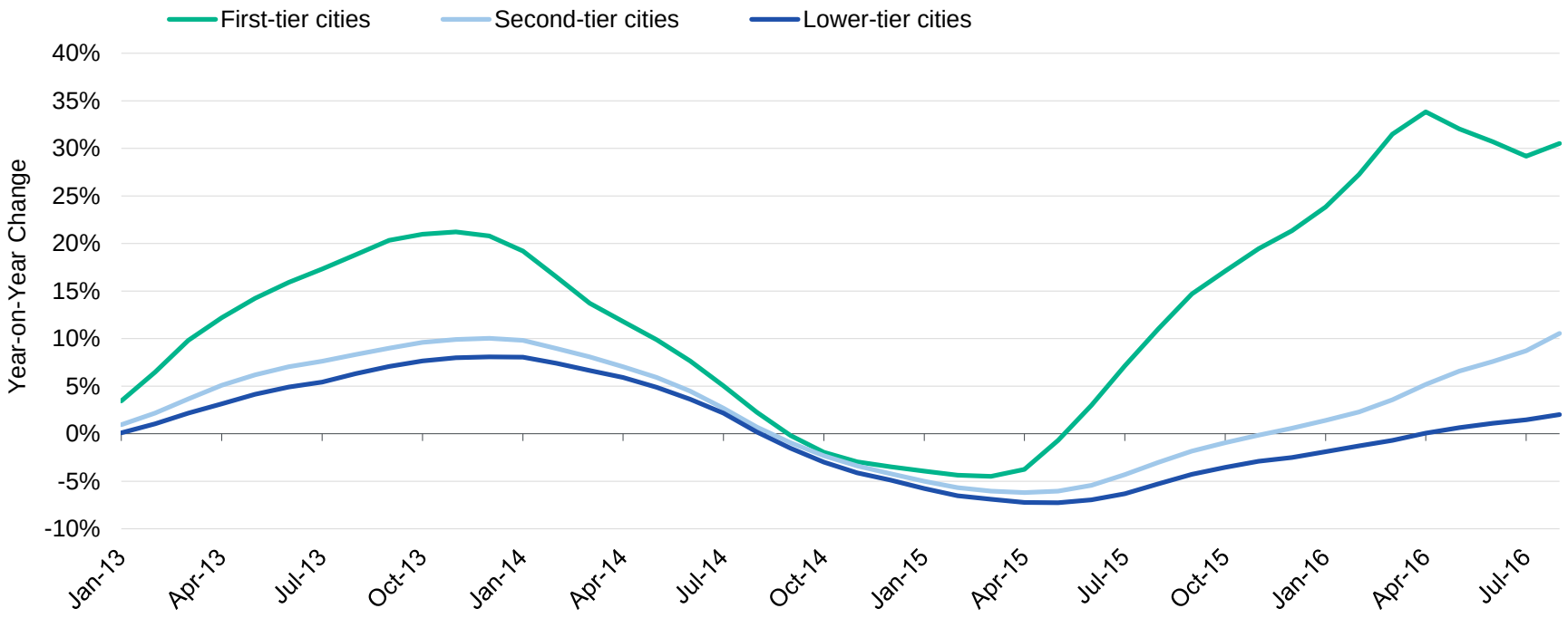


Sources: Moody's Investors Service, National Bureau of Statistics, Haver Analytics

Property Market: Prices Continue to Accelerate

Prices in First-Tier Cities Continue to Rise Rapidly

Annual % change



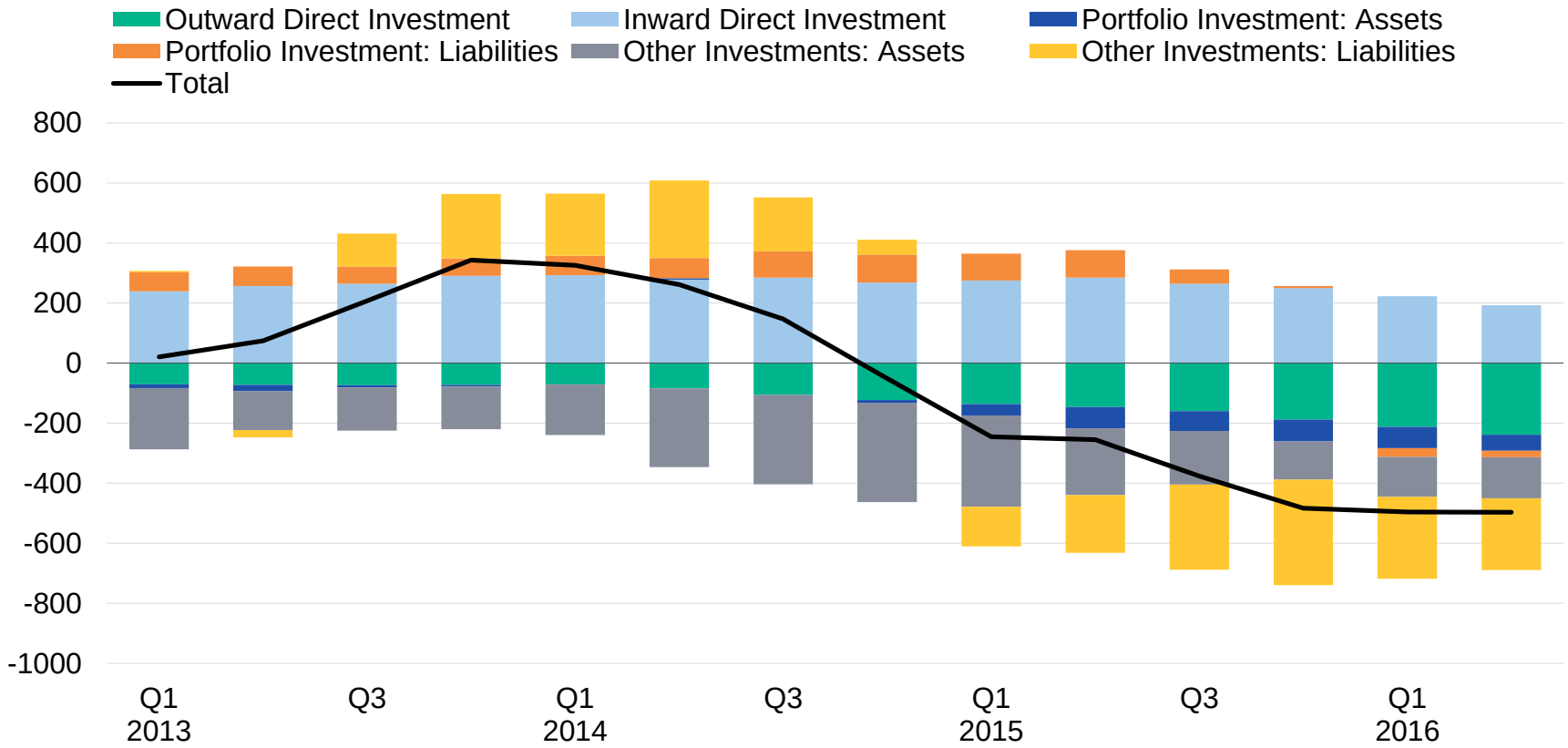
Note: First-tier cities consist of: Beijing, Guangzhou, Shanghai, and Shenzhen. Second-tier cities comprise: Tianjin, Shijiazhuang, Taiyuan, Shenyang, Dalian, Changchun, Harbin, Nanjing, Hangzhou, Ningbo, Hefei, Fuzhou, Xiamen, Nanchang, Jinan, Qingdao, Zhengzhou, Wuhan, Changsha, Nanning, Haikou, Chongqing, Chengdu, Guiyang, Kunming, Xi'an, Lanzhou, Xining, Yinchuan, Urumqi, Wuxi, and Sanya. Lower-tier cities are any of the 70 major cities other than the first- and second-tier cities mentioned above.).

Sources: Moody's Investors Service, National Bureau of Statistics

Risk from Capital Outflows Persists

China's Capital Account

USD Billion



Sources: SAFE, Haver Analytics

2

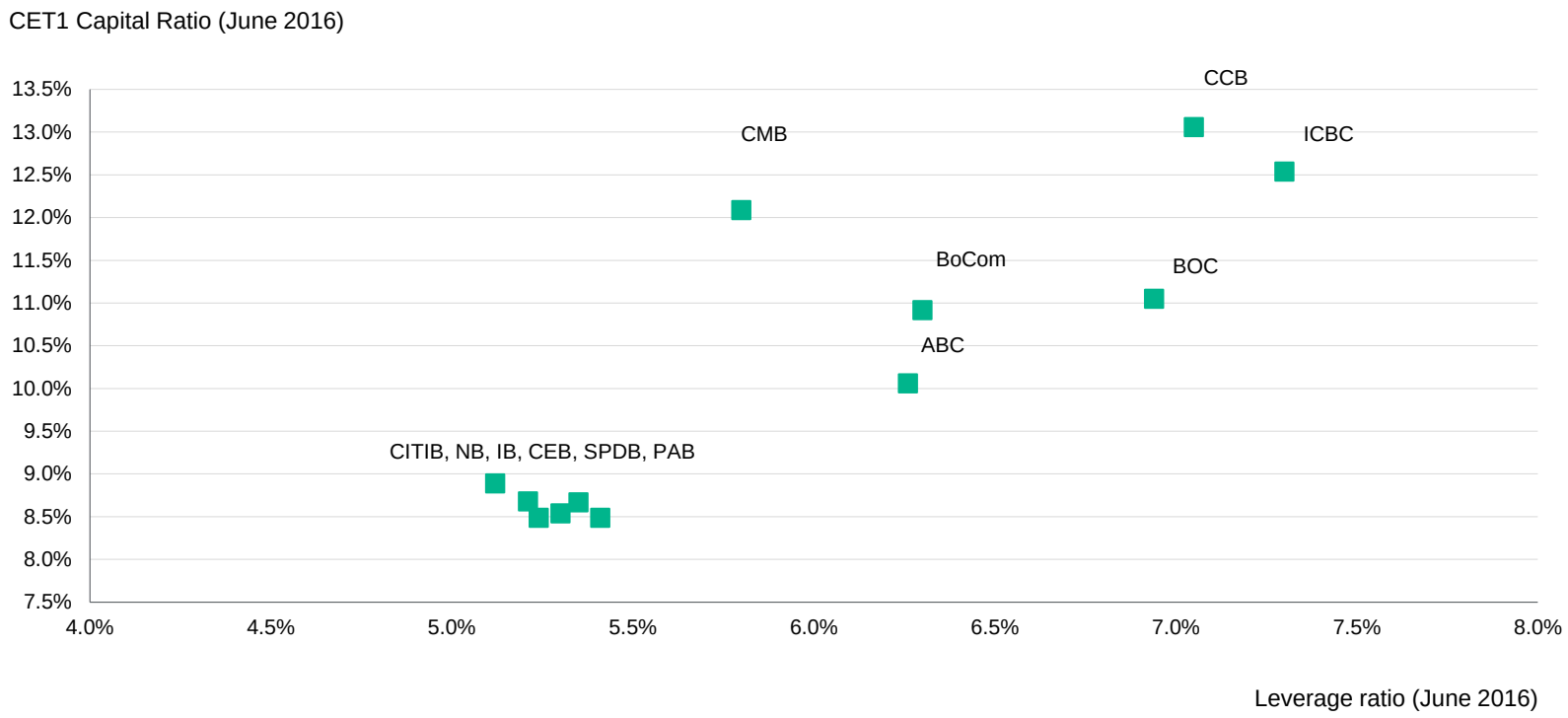
China's government has policy tools and willingness to prevent an imminent financial crisis

Channels For Transmission Of Financial Shocks

1. Credit growth that exceeds the long-run trend in an economy, especially if funded by borrowing from international markets. In the late stages of a credit boom funding increasingly takes the form of lending granted directly to non-financial borrowers by banks located abroad and by domestic banks' borrowing abroad which is in turn on-lent to non-financial borrowers. This leaves the economy vulnerable to a "Sudden Stop"
2. Rapid asset price appreciation, especially in real estate: a credit boom leads to the growth of asset values above their historical trends. This can be subject to rapid reversal in the event that the credit growth that has fueled it goes into reverse
3. Minsky's "financial instability hypothesis" posits that financing structures tend to become riskier during periods of relative stability, eventually leading to an inflection point – the "Minsky Moment"
4. So-called "twin crises" in which a currency crisis is associated with a full-fledged domestic banking crisis around the same time. Stress in the financial sector undermines the currency and capital flows out of the economy. In turn, large depreciations and capital outflows raise banks' funding costs and have a negative impact on banks' profitability, exacerbating the sector's financial stress.

Major Banks Have Solid Capitalization…

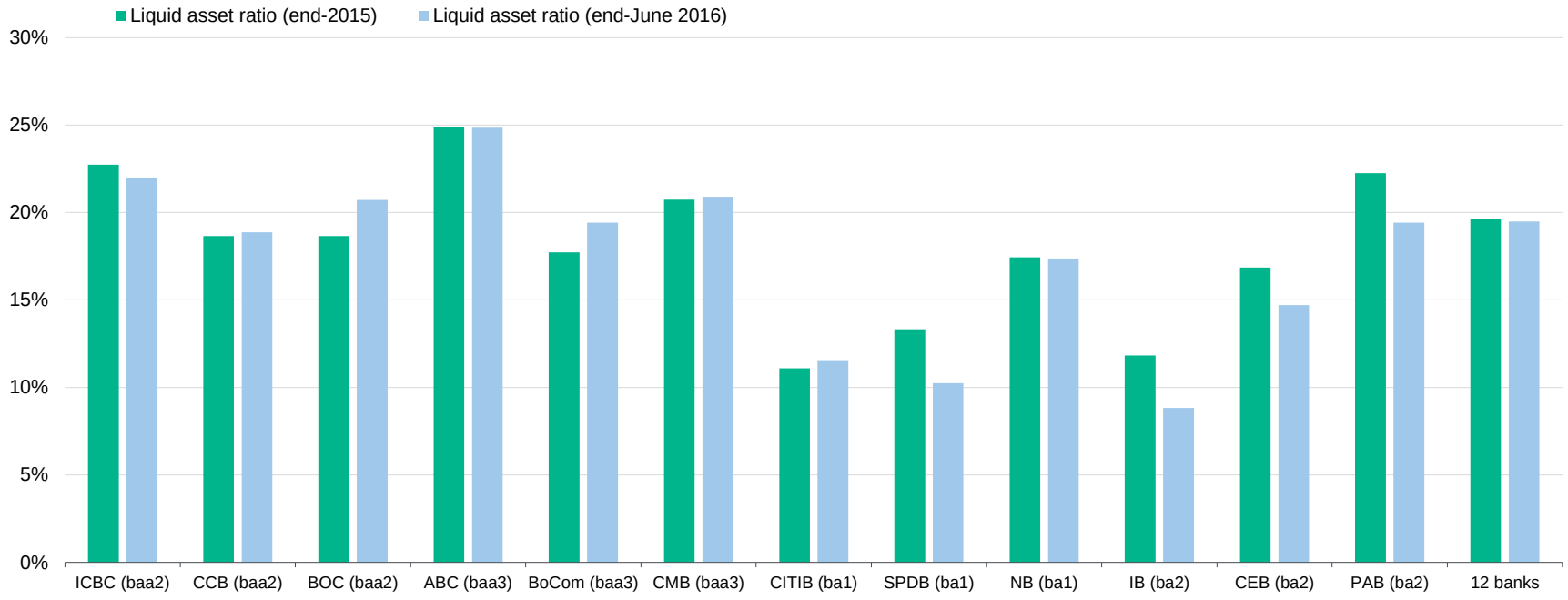
Common equity Tier 1 (CET1) capital ratios and leverage ratios (end- June 2016)



Source: Company reports

…And Liquidity

Liquid assets as a percentage of total assets (end-2015 vs. end-June 2016)



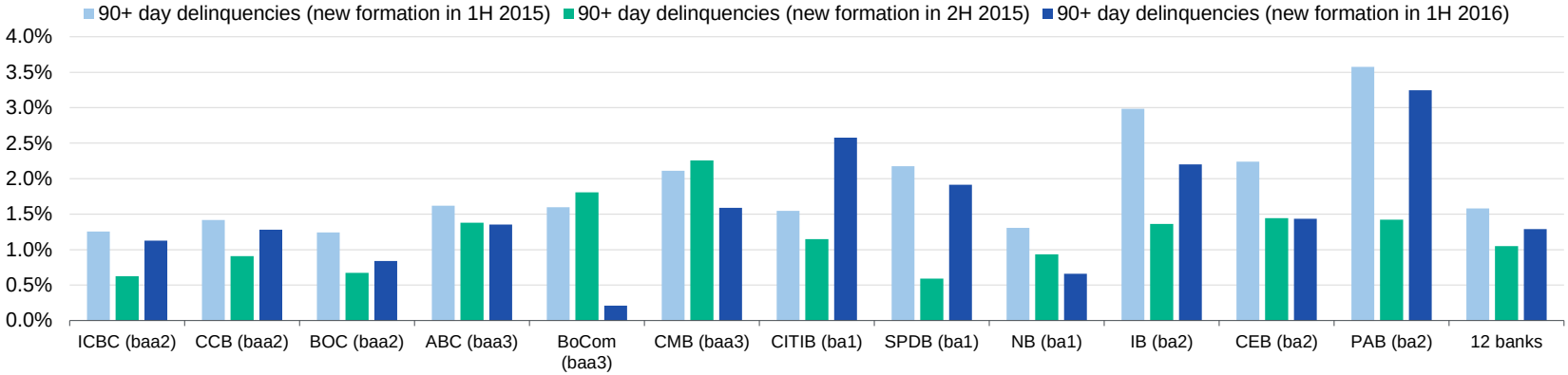
Liquid assets in this context include interbank assets, government bonds and policy bank bonds. The ratios for the 12 banks are weighted average ratios.

Source: Company reports

Asset Quality: Reported NPLs Remain Manageable

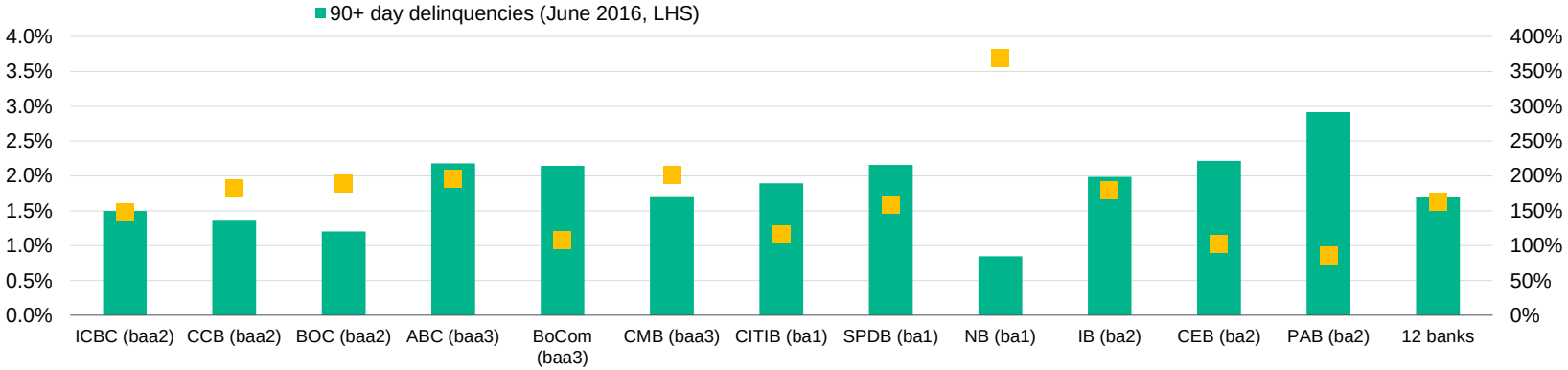
New problem loan formation dropped from a year ago, but higher than 2H2015

New 90+ day delinquencies as a percentage of average loans (1H2015, 2H2015 & 1H2016)



Low outstanding 90+ day delinquencies benefited from NPL write-off and sales

90+ day delinquencies as a percentage of total loans and loan loss reserves coverage (June 2016)

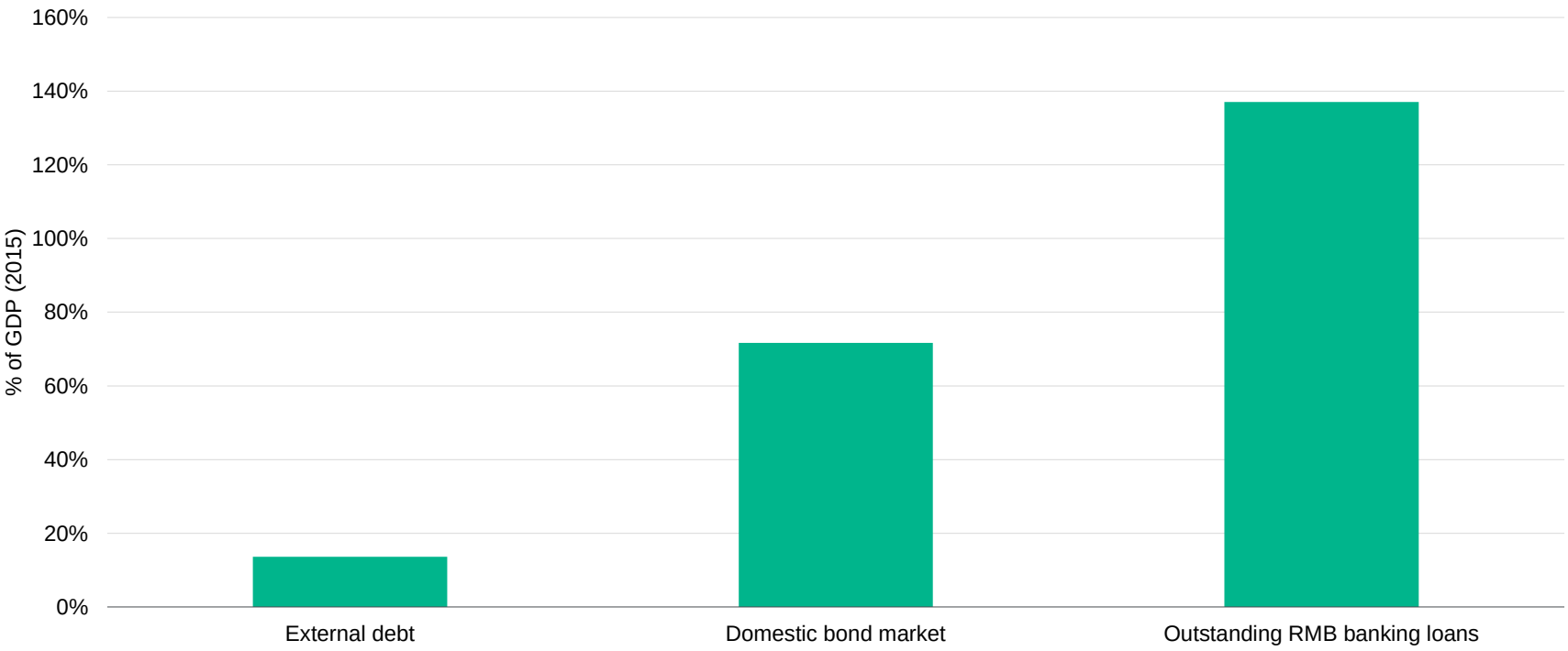


Source: Company reports

China's Debt Boom Has Been Domestically Funded with Relatively Small External Debt Exposure

» Furthermore, both large borrowers (SOEs, RLGs) and lenders (state banks) are explicitly or implicitly backed by the government, which makes lenders more willing to refinance maturing debt and facilitates the exercise of moral suasion by the government.

External Debt, Domestic Bond Market, and Outstanding Renminbi Bank Loans, % of GDP (2015)

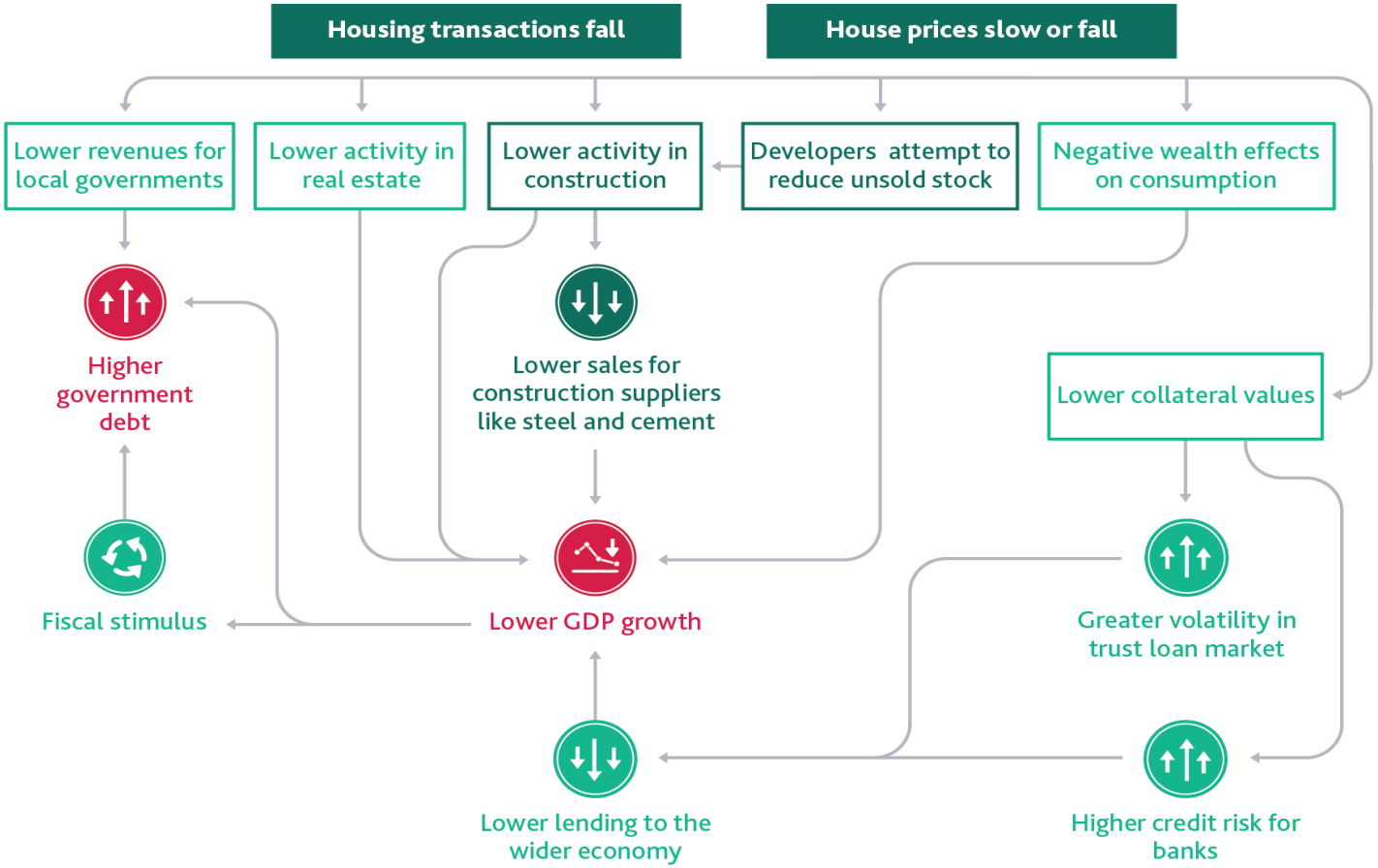


Sources: Moody's Investors Service, SAFE, WIND

A “Minsky Moment” Remains Unlikely

- A Minsky Moment remains unlikely in China because
  - Large banks are state-owned, increasing the effectiveness of “moral suasion”
  - Government has willingness and capacity to inject additional liquidity
  - Capital and liquidity buffers provide reasonable robust first line of defence
- Policy support will help mitigate the impact of a sharp asset price correction in real estate
  - Household sector has low leverage
  - Fiscal and monetary support is likely from central government in the event of price reversals

Policies would mitigate impact of real estate downturn



Source: Moody's Investors Service

China's External Position Remains Healthy

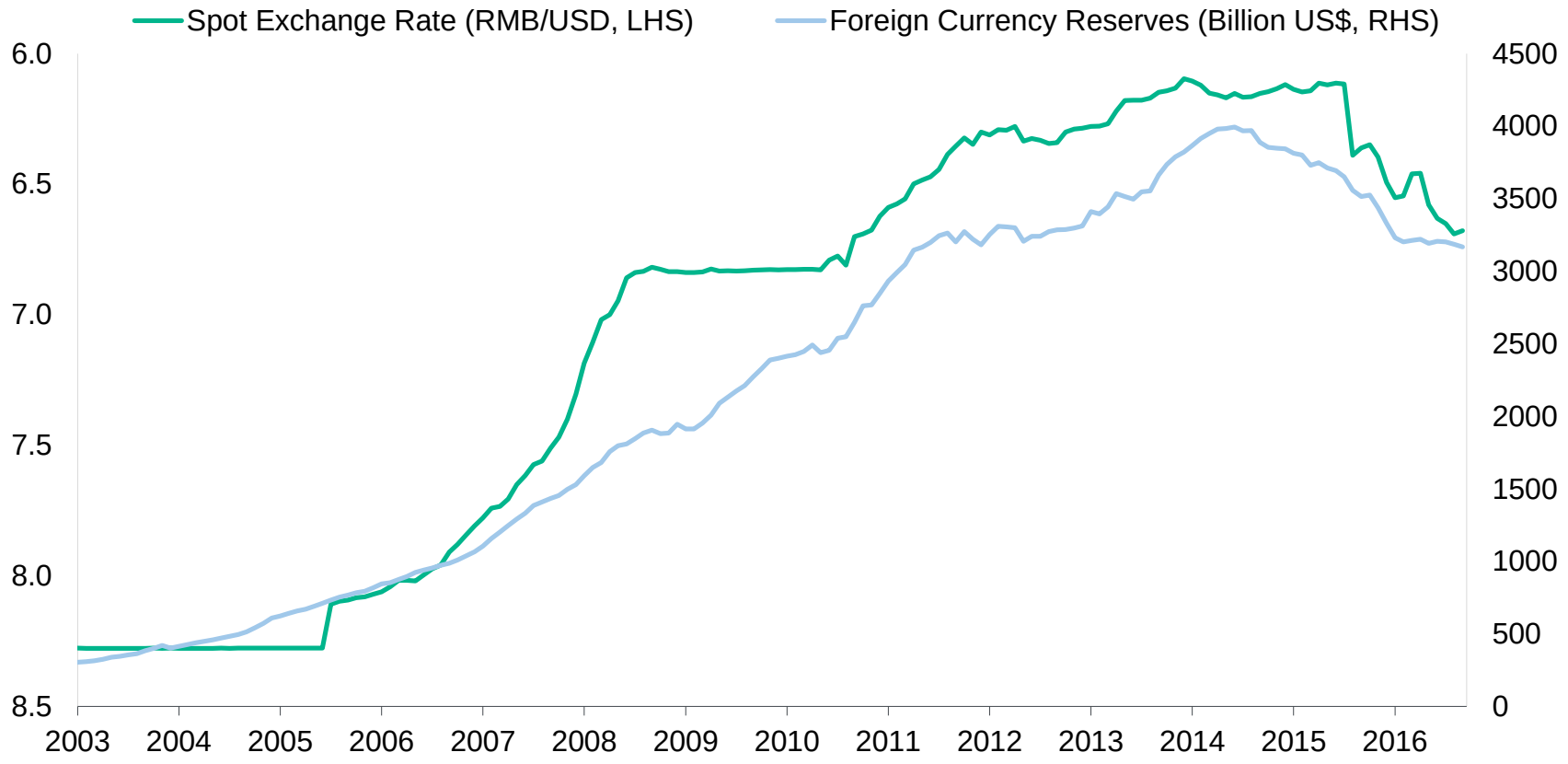
Adequate Reserves Are Estimated to Stand Between $1.5 - $2.5 Trillion Using the IMF's Framework

Exchange Rate Regime	Short-Term Debt	Other Liabilities	Broad Money	Exports	Recommended Reserve Levels
Without Capital Controls ($ Billion)					
Fixed	161	91	2110	241	**2603**
Float	161	68	1055	120	**1405**
With Capital Controls ($ Billion)					
Fixed	161	91	1055	241	**1548**
Float	161	68	527	120	**878**

Sources: Moody's Investors Service, International Monetary Fund

Still Ample Reserve Cushion

China's Exchange Rate and Foreign Exchange Reserves



Sources: Moody's Investors Service, Haver Analytics

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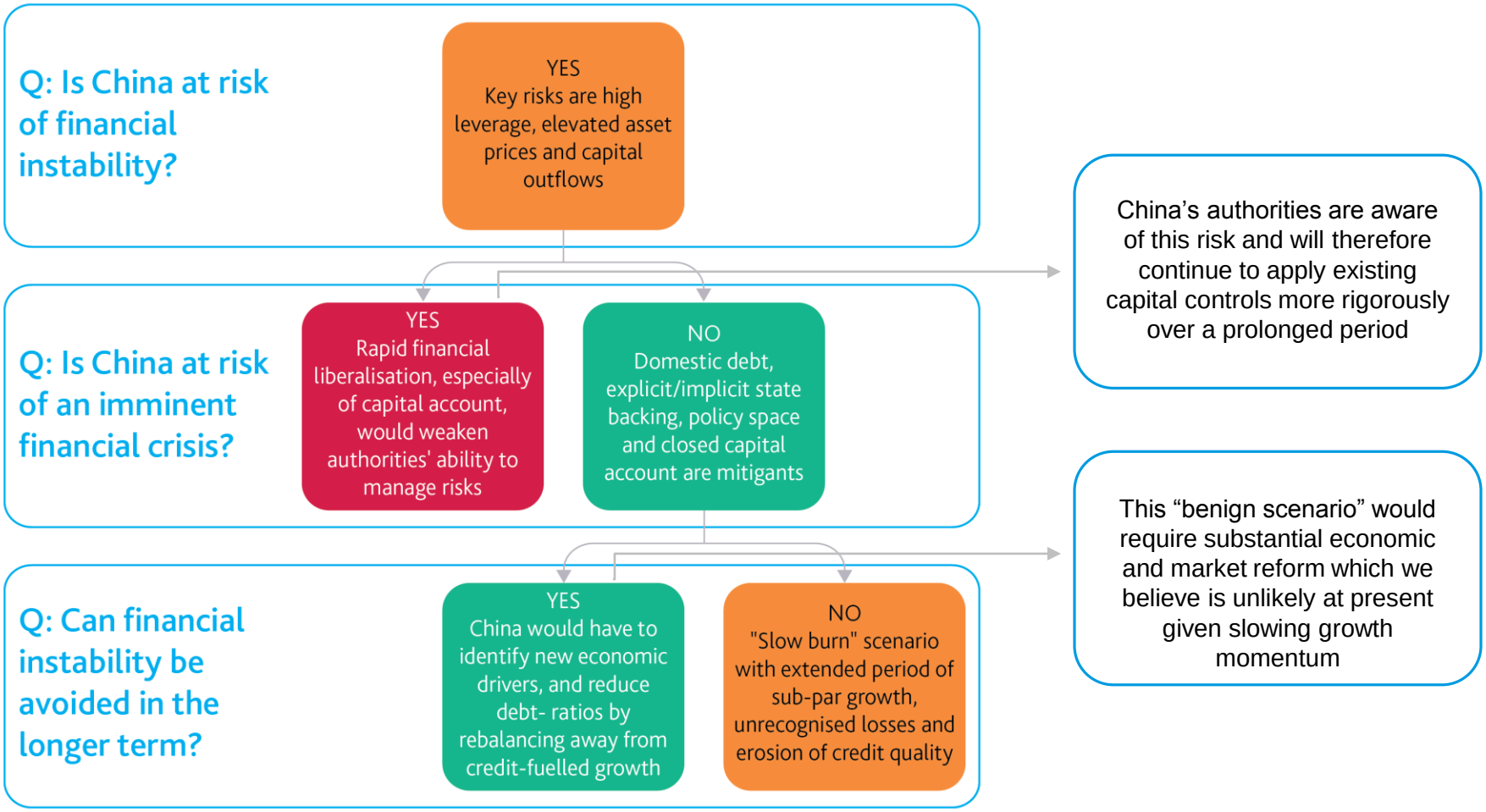
Where are the vulnerabilities in the authorities' ability to manage systemic risks?

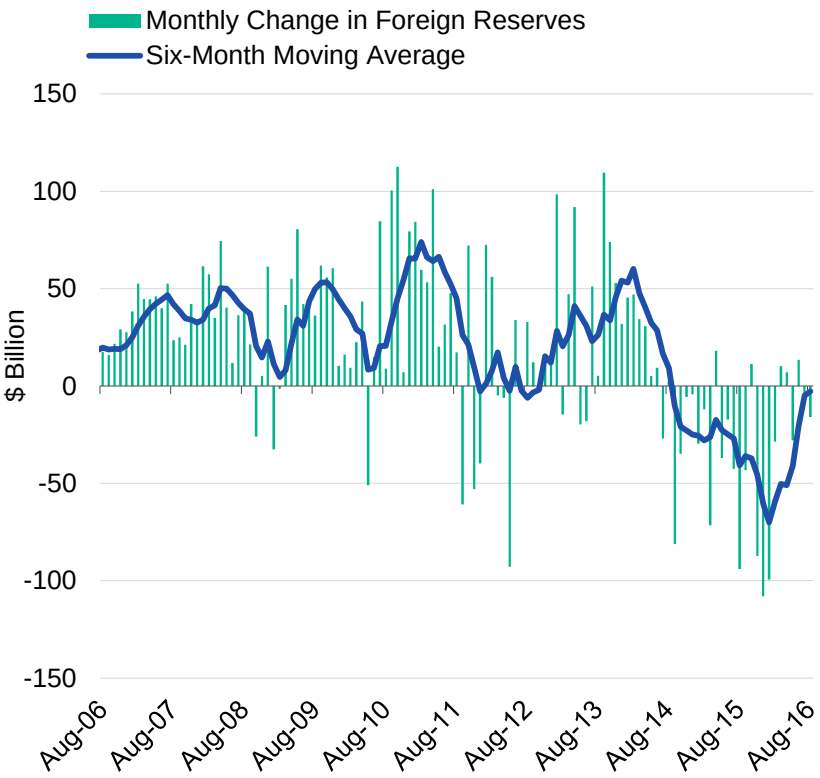
Abrupt Crisis Unlikely, "Slow-Burn" Scenario A Clear Risk



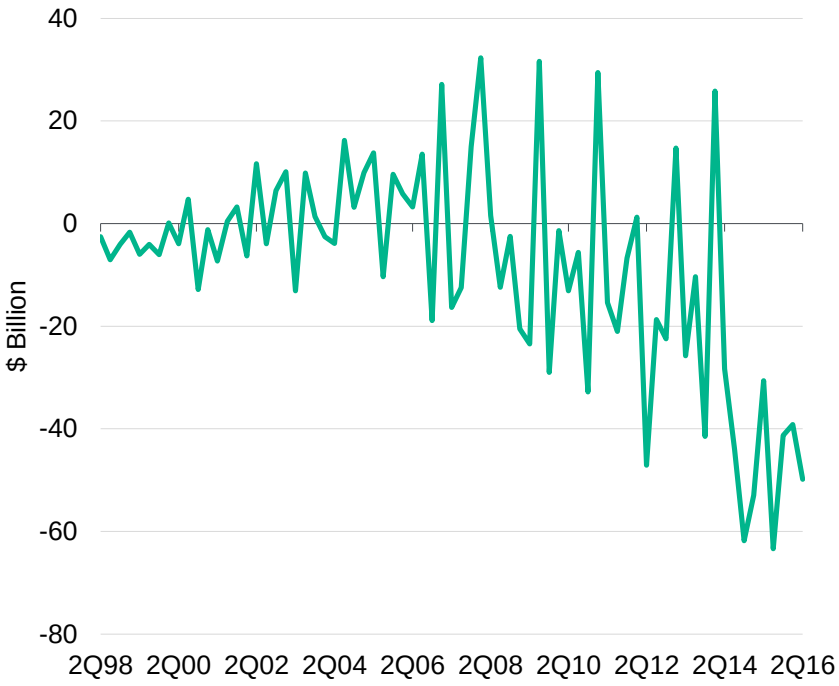
Source: Moody's Investors Service

Capital Controls Have Proven Porous Over the Past 18 Months

Monthly Change in Foreign Reserves, $ Billion



Balance of Payments Errors and Omissions, $ Billion

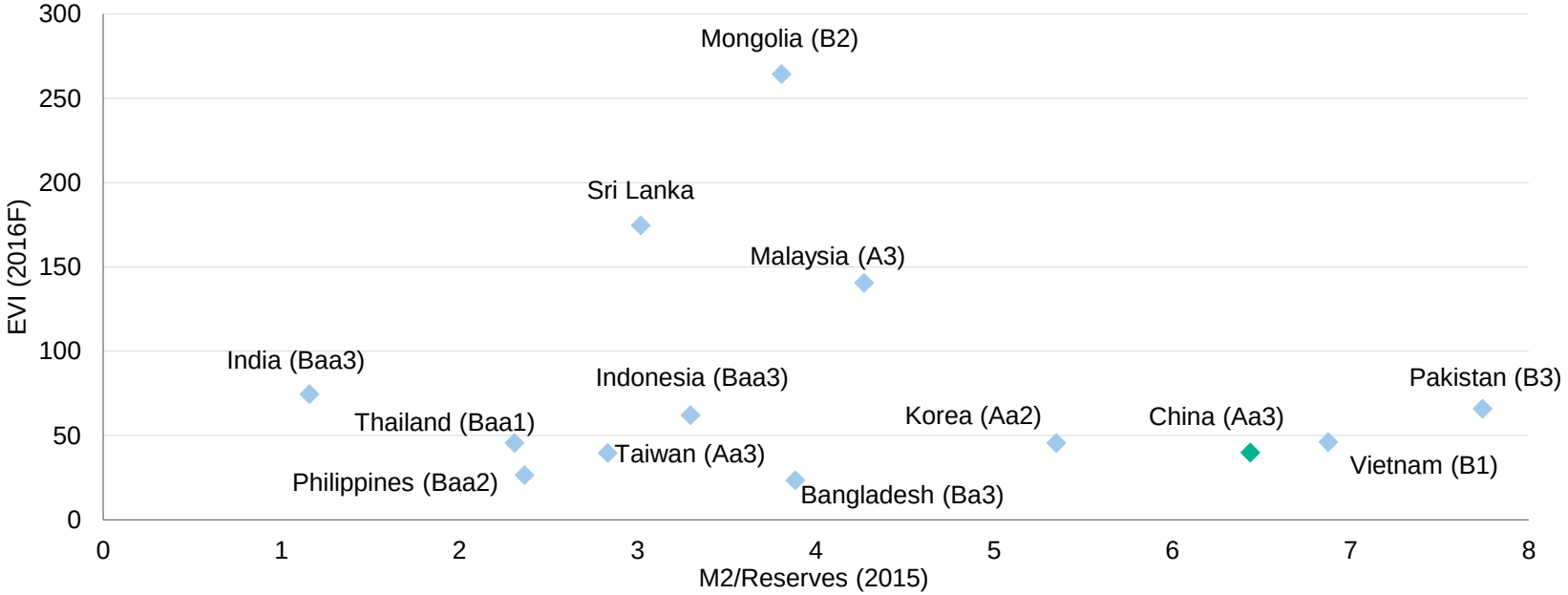


Sources: Moody's Investors Service, Haver Analytics

Financial Liberalisation Could Weaken the Authorities' Ability to Manage Systemic Risks

» Rapid opening of the capital account would increase the likelihood of banking sector liquidity stress given relatively low M2/FX Reserves coverage, reduce the effectiveness of policy stimulus and increase risk of a material currency devaluation

External Vulnerability Indicator and M2 Money Supply/Foreign Reserves



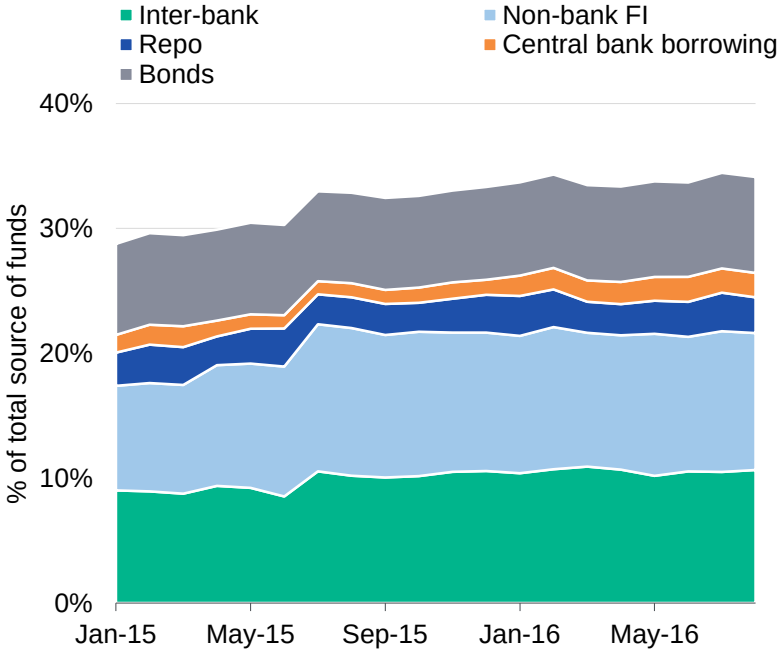
Note: External Vulnerability Indicator (EVI) = (Short-term External Debt + Currently Maturing Long-Term Debt + Nonresident Deposits Over One Year)/ Official Foreign Exchange Reserves.

Source: Moody's Investors Service

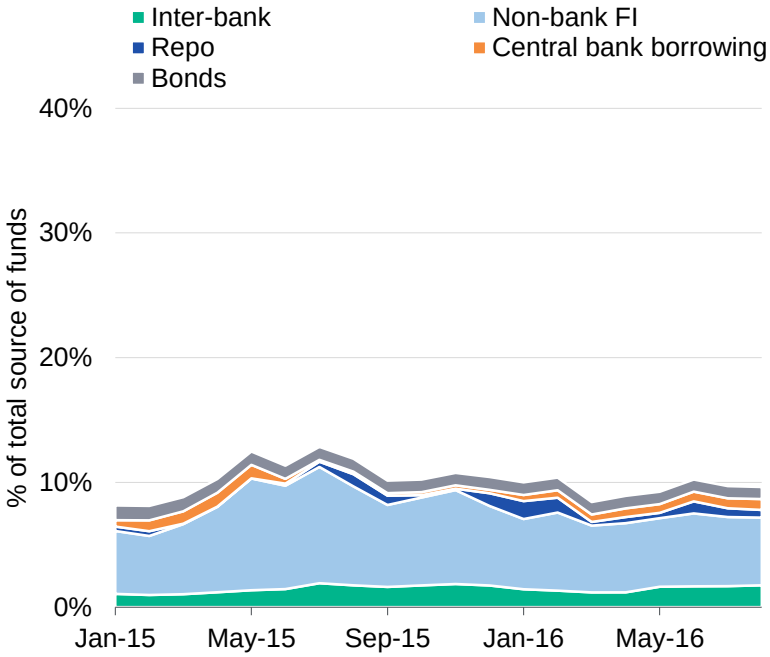
Changing Structure of Financial System Balance Sheet

- Many mid- and small-sized Chinese banks are increasingly reliant on wholesale funding. These banks fund themselves in the interbank market and then invest the funds in higher-yielding "Shadow Banking" instruments such as Wealth Management Products. They thereby boost their assets and earnings by taking higher risk.
- In contrast, biggest state-owned banks are net lenders in the interbank market.

Midsize and Small Banks*



Big 4 State-Owned Banks^

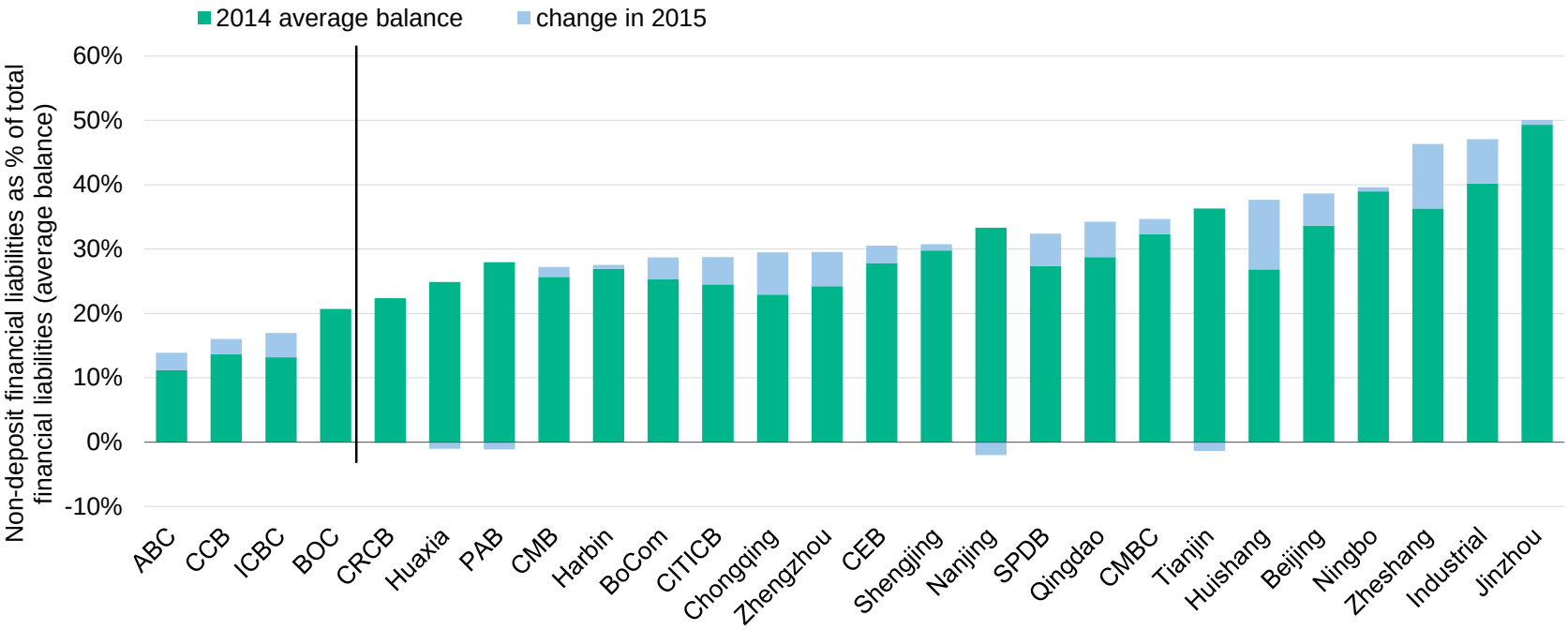


** Midsize and small banks include banks whose total assets are less than 2 trillion Yuan (as of year-end 2008 demonstrated in both RMB and foreign currencies).*
^ Big 4 State-owned banks include ICBC, CCB, ABC and BOC.

Sources: PBOC, Moody's Investors Service

Role of Wholesale Funding Increased Throughout 2015

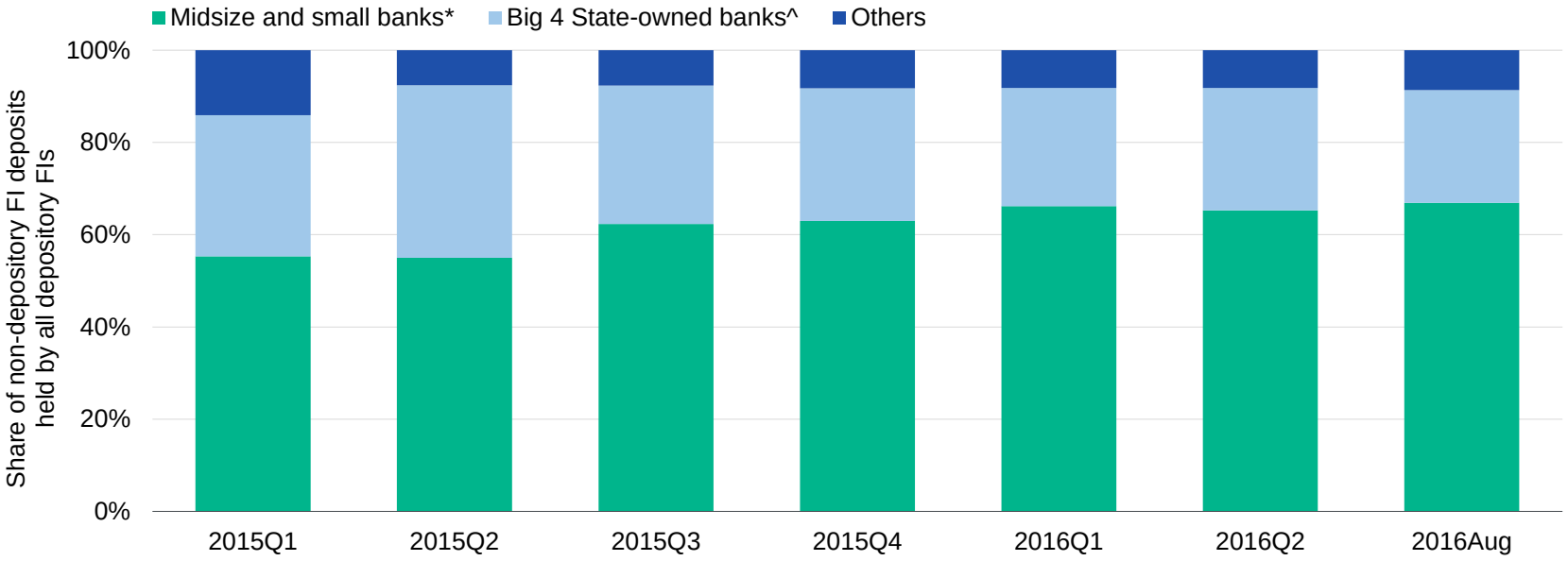
- Company level data also suggests most listed Chinese commercial banks have increased their use of wholesale funds in 2015.
- Our concern is exacerbated by the risk that many banks channel these short-term, confidence-sensitive funds to support growth in their illiquid assets, include some shadow banking lending and investment activities booked as "investment in loans and receivables" on the balance sheet.



Source: Moody's calculation based on company reports

Rising Interconnectedness Increases Systemic Risks

- With more banks now actively engaged in the interbank financial product business, they have become more sensitive to the risk of potential counterparty failure.
- An increasing use of wholesale funds constitutes a systemic risk as it raises interconnectedness in the financial system, which might amplify collective reaction to negative news and trigger liquidity crunch.



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Sources: PBOC, Moody's Investors Service

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Major imbalances created by rapid debt build-up are likely to corrode credit quality over time

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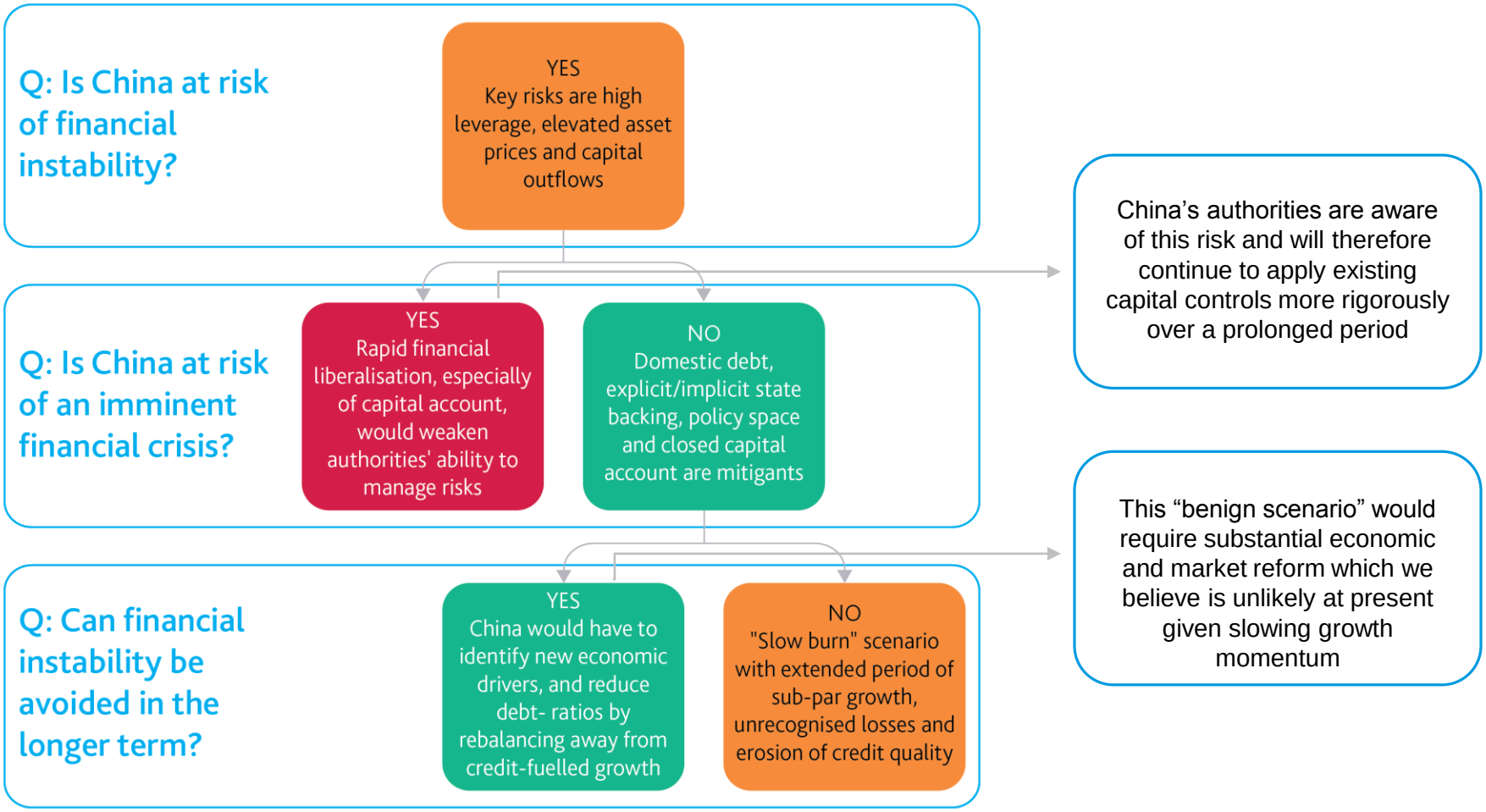
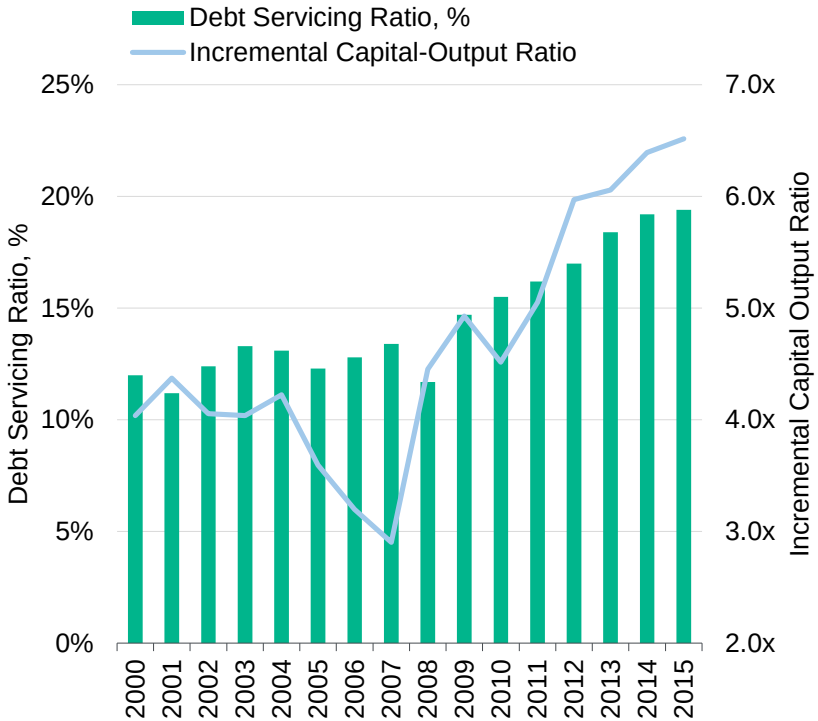


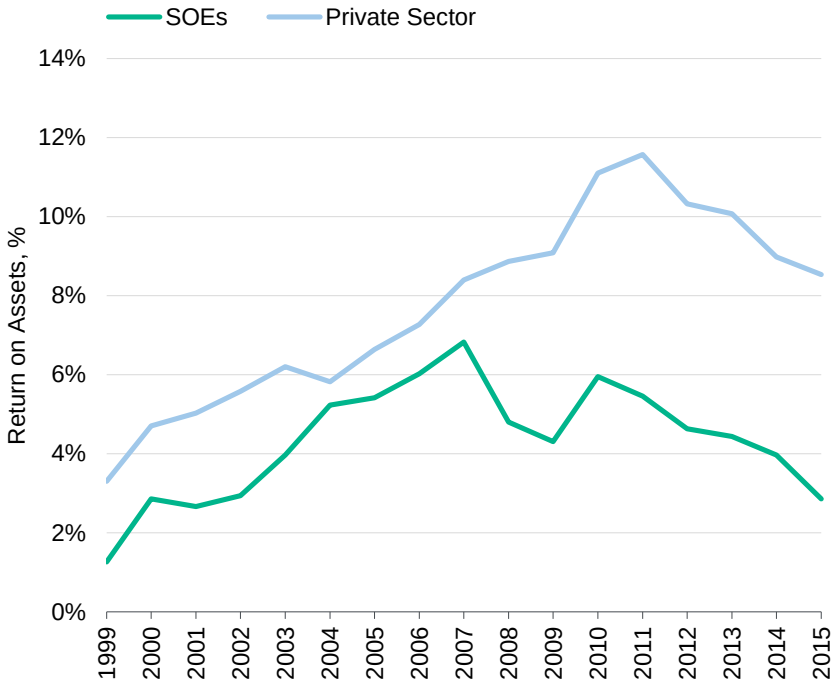
Source: Moody's Investors Service

Challenges Derived from Rapid Debt Accumulation Will Weigh on Growth and Corrode Credit Quality Over Time

Incremental Capital-Output Ratio and Debt-Servicing Ratio



Return on Assets for Industrial Corporates, %



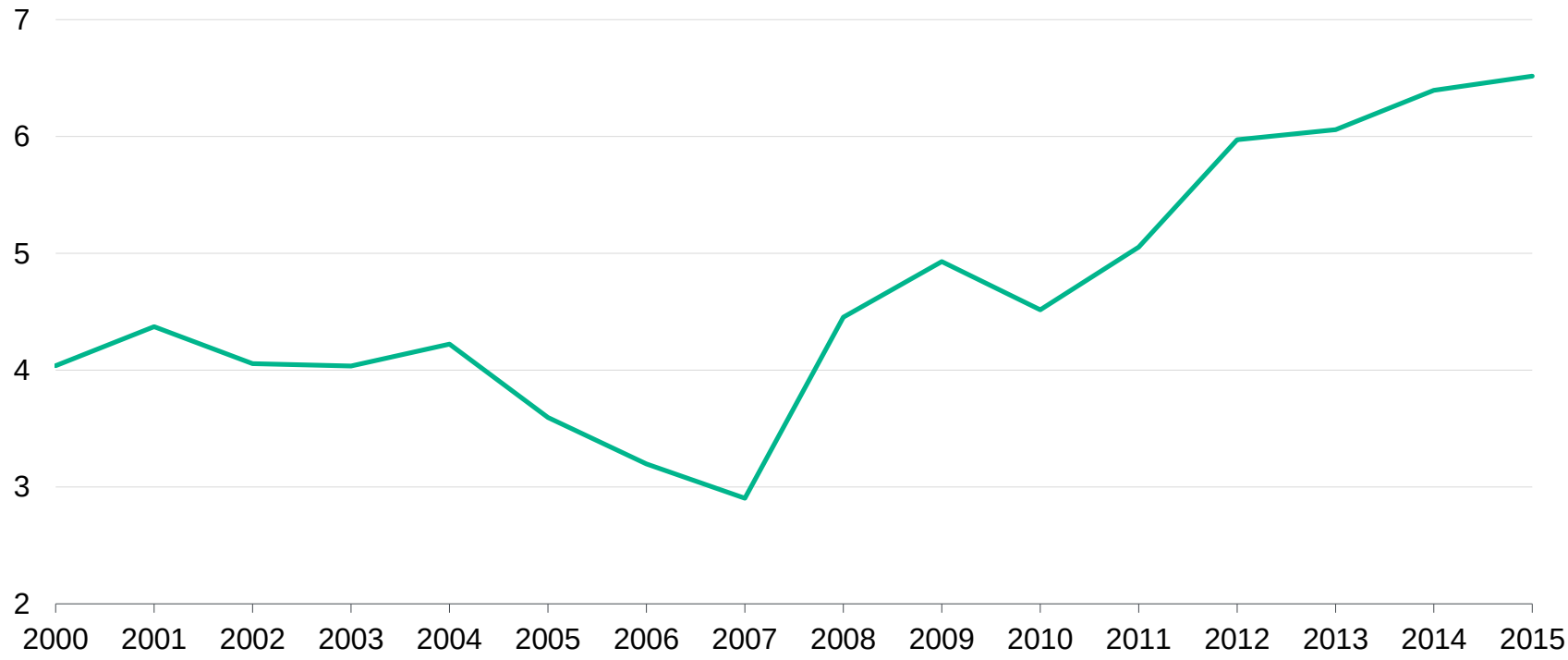
Note: ICOR calculated as gross capital formation divided by the annual increase in real GDP. A higher value represents a lower productivity of capital.

Sources: Moody's Investors Service, Institute of International Finance, Haver Analytics

Misallocation of Resources Reduces Growth Efficiency

China's Capital Productivity is Decreasing

Incremental Capital-output ratio, %



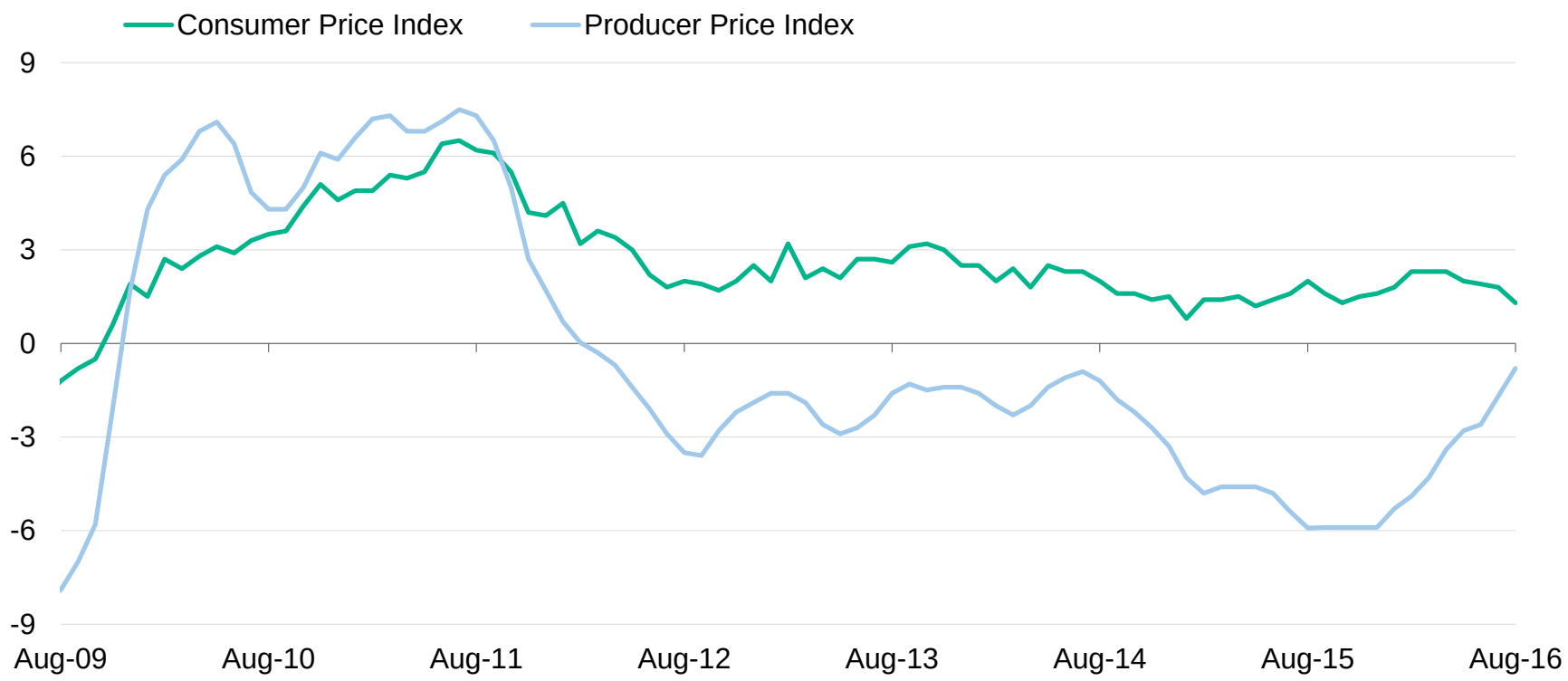
Note: The Incremental Capital-Output Ratio is calculated as gross capital formation divided by the annual increase in real GDP. A higher the value represents a lower productivity of capital.

Sources: Moody's Investors Service, Haver Analytics

Deflationary Pressures Reflect Overcapacity and Weak Domestic Demand

Prolonged PPI Deflation and Subdued CPI Inflation

Annual % change



Sources: Moody's Investors Service, Haver Analytics

SOE Reform Key to Economic Rebalancing

Reform Tracker				
Broad Reform Initiative	**Detailed Objective**	**Date**	**Policy Issuer**	**Action/Progress**
SOE Reform	Reduce overcapacity	2016.07	State Council	Publishes "Suggestions on pushing forward central SOE corporate structure adjustment and M&A"
	Open state sectors for greater competition	2016.07	State Council	Publishes "Suggestions on deepening investment and financing system reform"
	Monitor trading activities	2016.07	SASAC and MOF	Publishes "state owned asset trading and monitoring administration method", with the purpose to standardize state owned asset trading activities and increase monitor to prevent state owned asset loss.
	Open state sectors for greater competition	2016.07	SASAC	Plans to expand the pilot scope of the 10 SOE reforms, such as to select 3-5 SOEs as state-owned asset investment pilot companies and select 2 as state-owned asset operation pilot companies. Pushes forward asset securitization. RMB 30 trillion state owned asset is estimated to enter the stock market in near future.
	Reduce overcapacity	2016.04	PBPC, CBRC, CSRC, CIRC	Releases guideline on lending to steel and coal industries
	Open state sectors for greater competition	2016.03	MOF	Launches RMB 180 billion PPP fund
	Open state sectors for greater competition	2016.03	State Council, NDRC	Issue a circular to facilitate various reform initiatives, including the mixed-ownership reform of SOEs
	Open state sectors for greater competition	2016.02	State Council	Launches 10 pilot programs to deepen SOEs reforms
	Reduce overcapacity	2016.02	MOF, State Council	Sets up fund (RMB 100 billion) for unemployment focus on the steel and coal sectors
	Reduce overcapacity	2016.01	State Council	Unveils guideline to address overcapacity in the steel industry
Financial Liberalisation	Capital account liberalisation	2016.02	PBOC	Removes quotas for most overseas financial institutions to invest in onshore interbank bond market
Fiscal System	VAT	2016.03	MOF	VAT reforms are fully implemented in May 2016, expanding to the construction, real estate, financial and consumer services industries
	Individual tax	2016.03	MOF, SAT	Work out a reform plan on individual income tax
	RLG tax	2016.01	MOF	Introduces guideline to enhance management of special transfer payments
Social	Hukou/Urbanization	2016.04	NDRC	Sets tasks for urbanization in 2016, including helping more rural migrants settle in cities
	Education	2016.03	State Council	Plans to raise the average number of years of education that Chinese working-age population receives by 0.57 years to 10.8 years in five years, according to the draft outline of the 13th Five-Year Plan (2016-2020)
	R&D	2016.03	State Council	Plans to boost R&D investment to reach 2.5% of GDP by 2020 according to the draft outline of the 13th Five-Year Plan (2016-2020)
	Environment	2016.03	State Council	Sets caps for consumption of water, energy and carbon emissions, according to the draft outline of the 13th Five-Year Plan (2016-2020)
Market	Resource pricing	2016.05	MOF, SAT	Expands reform of resource taxes nationwide since July 1
	Resource pricing	2016.01	NDRC	Modifies retail fuel price mechanism
Government Administration	Organization structure change	2016.05	State Council	Vows to further cut red tape

Debt Burden Will Impose Substantial Cost on Economy, Which Will Need to be Allocated Between State, Banking System, and Corporate and Household Sectors

- Rising interest burden from elevated debt levels could eventually crowd out productive investment, reducing the economy's long-run growth potential. This outcome would be credit negative for the sovereign and RLGs, as they would be likely to engage in additional borrowing to support growth
- Delays to SOE restructuring would result in further resource misallocation at the expensive of more productive companies. Direct government debt or contingent liabilities related to rising SOE leverage would increase
- For the banking sector, the price is likely to be large unrecognised losses and the associated impairment of sector profitability. In the absence of major debt restructuring, banks may be under pressure to extend further loans to already highly indebted borrowers, further impairing their performance and raising their recapitalisation needs
- Current policy mix, with credit growth continuing to outpace GDP expansion, a cautious approach to restructuring highly indebted SOEs in overcapacity industries, and a renewed emphasis on investment as a growth driver, make the above scenario more, rather than less, likely in the medium term.

4 Key Takeaways

Key Messages

1	China's government has policy tools and willingness to prevent an imminent financial crisis
2	Rapid financial liberalisation would weaken the authorities' ability to manage systemic risks
3	Major imbalances created by rapid debt build-up are likely to corrode credit quality over time

Questions & Answers

MOODY'S
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moodys.com

Michael Taylor
Managing Director, Chief Credit Officer for Asia Pacific
Credit Strategy and Research
+852.3758.1327
michael.w.taylor@moodys.com

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