

MONETARY AUTHORITY OF SINGAPORE

FINANCIAL STABILITY REVIEW



MACROPRUDENTIAL SURVEILLANCE DEPARTMENT
ECONOMIC POLICY GROUP

November 2024



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Global Macrofinancial Environment

Heightened uncertainty and latent financial imbalances pose a moderate risk to the global financial system



Macroeconomic, monetary policy and geopolitical uncertainties are elevated

- Heightened uncertainty increases probability of adverse shocks
- Impact on growth and inflation could induce a shift from monetary easing



Fiscal and credit risks add to financial imbalances

- Persistent fiscal deficits could widen further
- Debt servicing abilities of corporates have weakened globally



Global markets remain vulnerable to unanticipated shocks

- Markets are increasingly hypersensitive to surprises
- Stretched asset valuations and leveraged positions may amplify market reactions



Emerging market economies may face currency and capital flow volatility

- Trade tensions may weigh on prospects for trade-dependent EMEs
- EM Asia is in a relatively stronger position to manage such risks

Macroeconomic uncertainty and geopolitical risk are top-of-mind of CROs in the MAS Systemic Risk Survey

Fls' perception of risks to Singapore's financial system

Risk categories	% citations		Impact ranking	
	April 2024	October 2024 (Δ)	April 2024	October 2024 (Δ)
Macroeconomic uncertainty	67	62 (-5)	1	1 (-)
Geopolitical risk	51	54 (+3)	2	2 (-)
Technology and cyber risk	51	46 (-5)	3	3 (-)
Money laundering and terrorism financing risks	25	27 (+2)	4	4 (-)
Transition and physical risks due to climate change	16	16	5	6 (↓1)
AI developments	13	11 (-2)	6	5 (↑1)

Source: MAS estimates

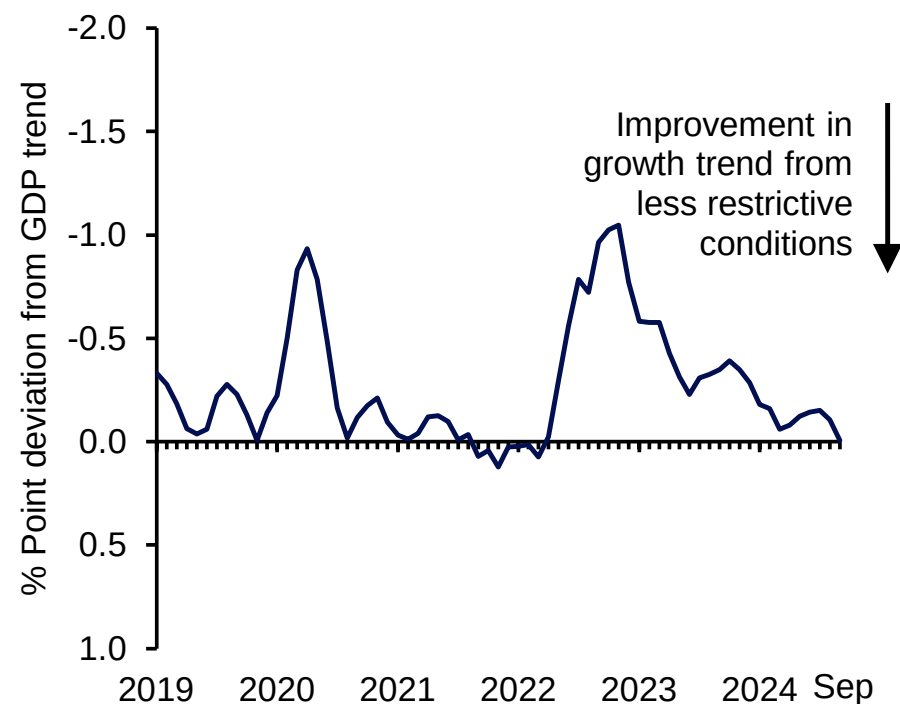
Note: (i) Impact ranking is the aggregate of all respondents' ranking of each risk by potential impact. (ii) Both runs of the survey had response rates of 98% from 57 Fls.



Singapore Corporate Sector

Domestic financial conditions have turned less restrictive

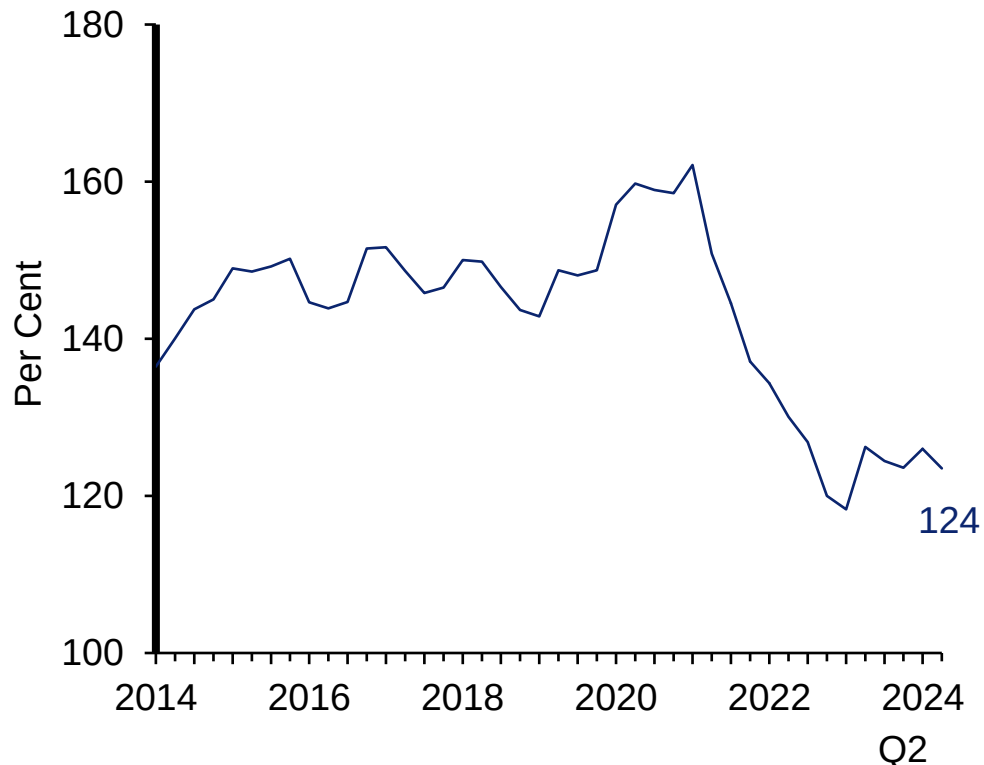
Domestic Financial Conditions Index (FCI)



Source: Bloomberg, DOS, URA, MAS estimates

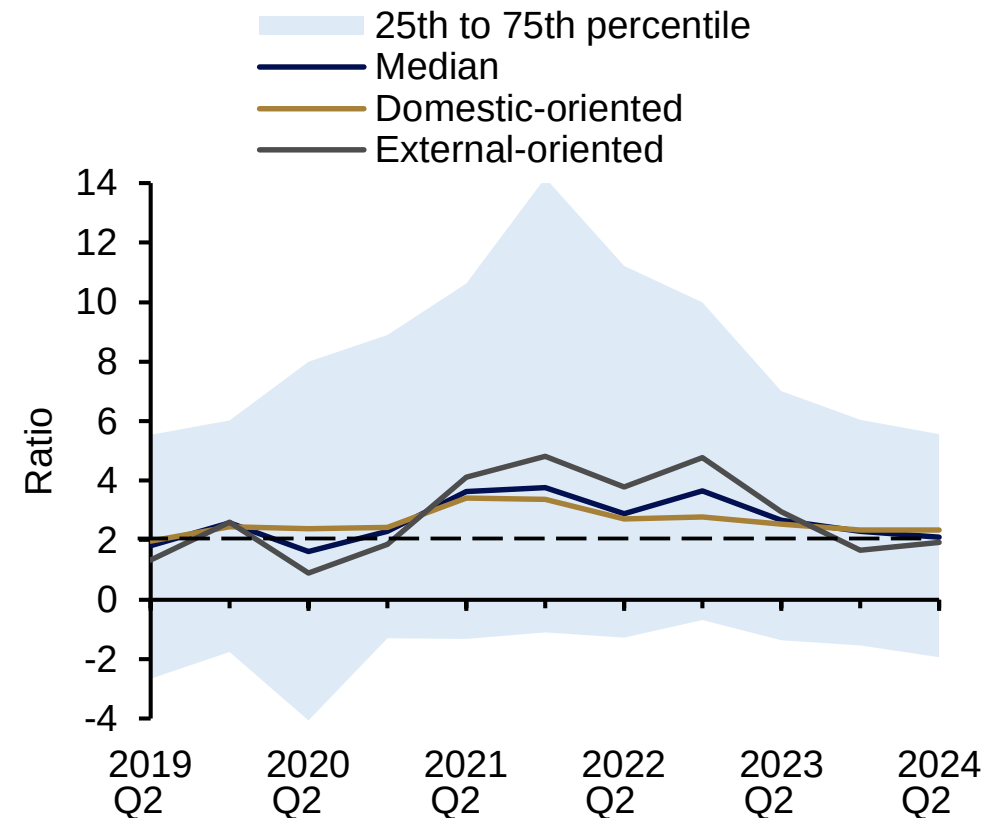
Firms' debt levels and debt servicing are manageable

Singapore's Corporate Debt, % of GDP



Source: BIS, Dealogic, MAS estimates

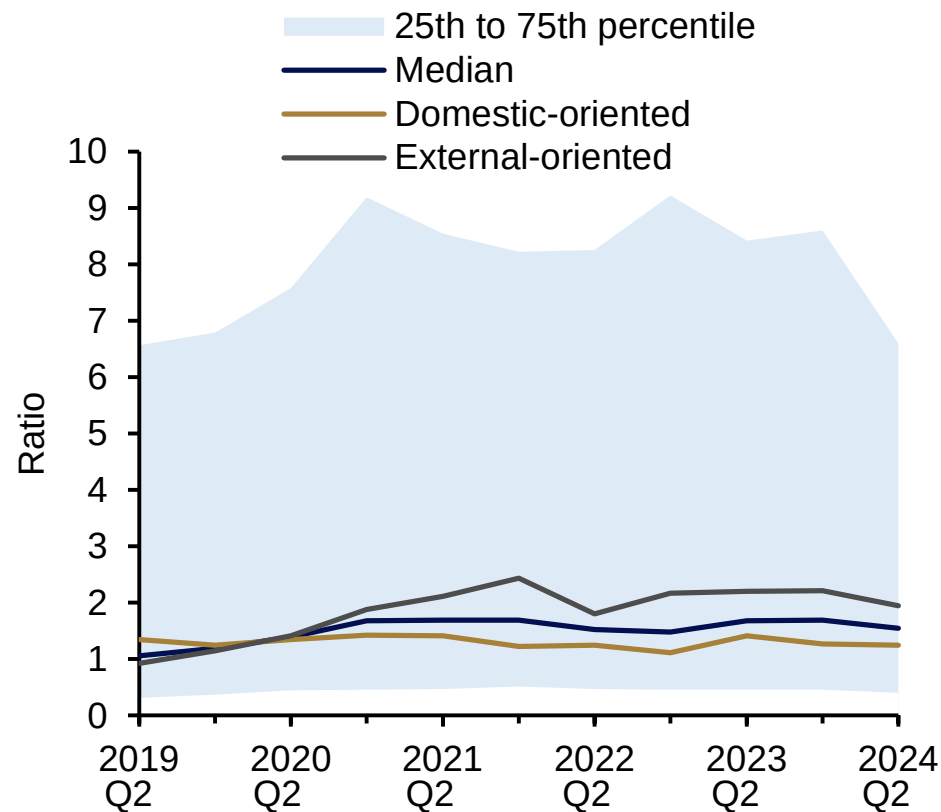
ICR of SGX-listed Firms



Source: Refinitiv Eikon, MAS estimates

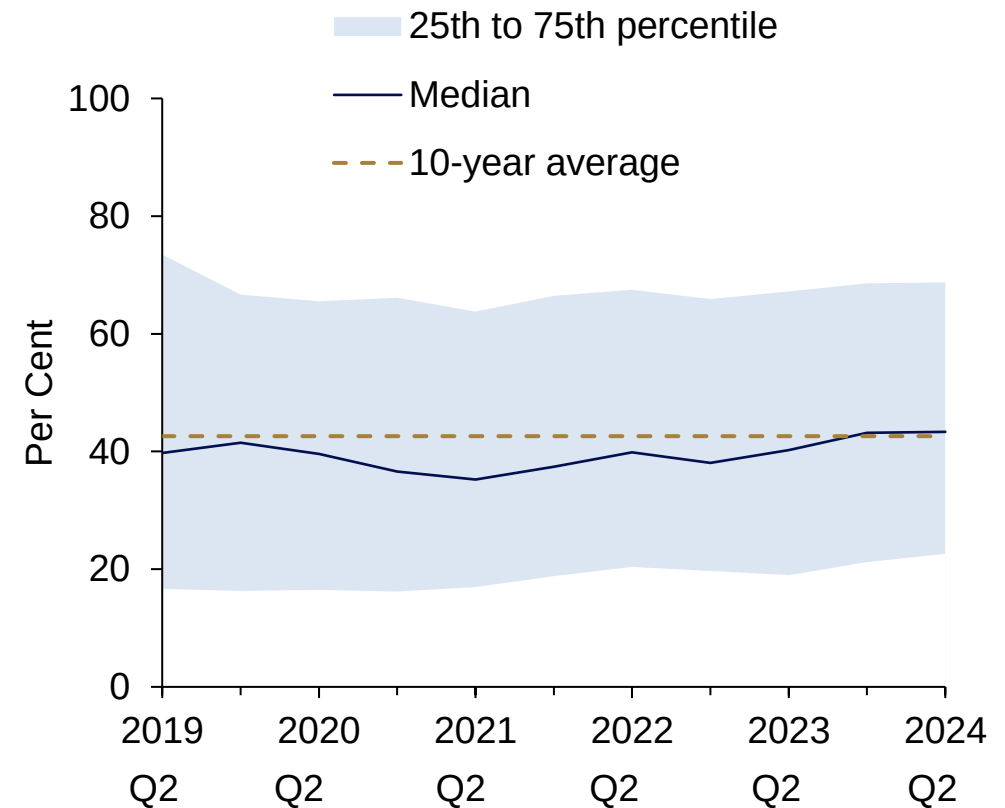
Refinancing risk is mitigated by firms' healthy liquidity buffers and debt maturity profiles

Cash to Short-term Debt of SGX-listed Firms



Source: BIS, Dealogic, MAS estimates

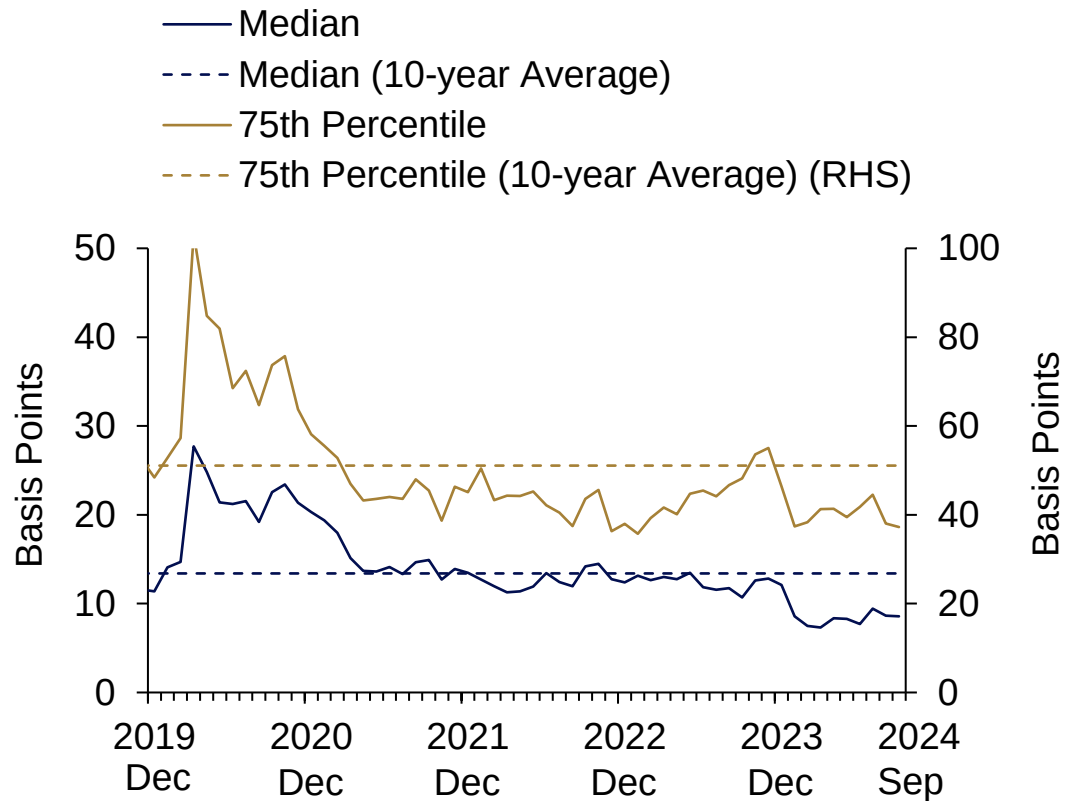
Short-term Debt to Total Debt Ratios of SGX-listed Firms



Source: Refinitiv Eikon, MAS estimates

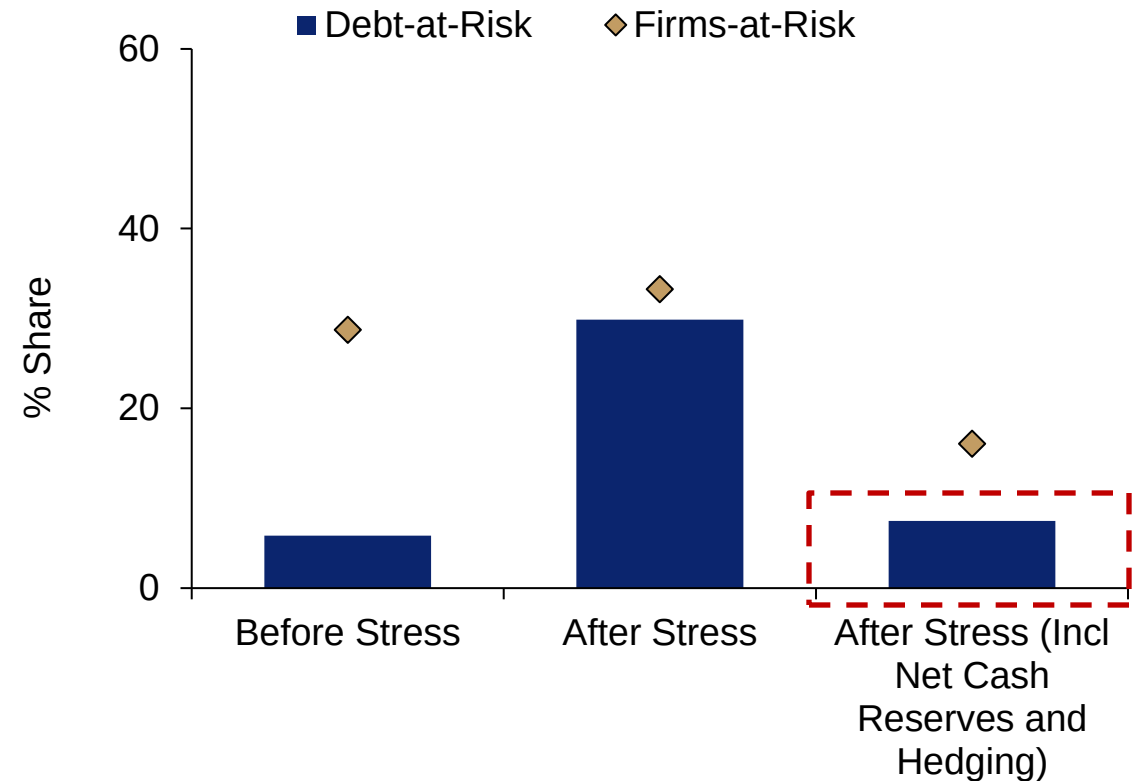
Firms are expected to remain resilient to further shocks but should be vigilant to downside risks

Probability of Default of Non-financial Corporates in Singapore



Source: NUS-CRI, MAS estimates

Firms with ICR Below One, as Share of Total Corporate Debt and Total Firms



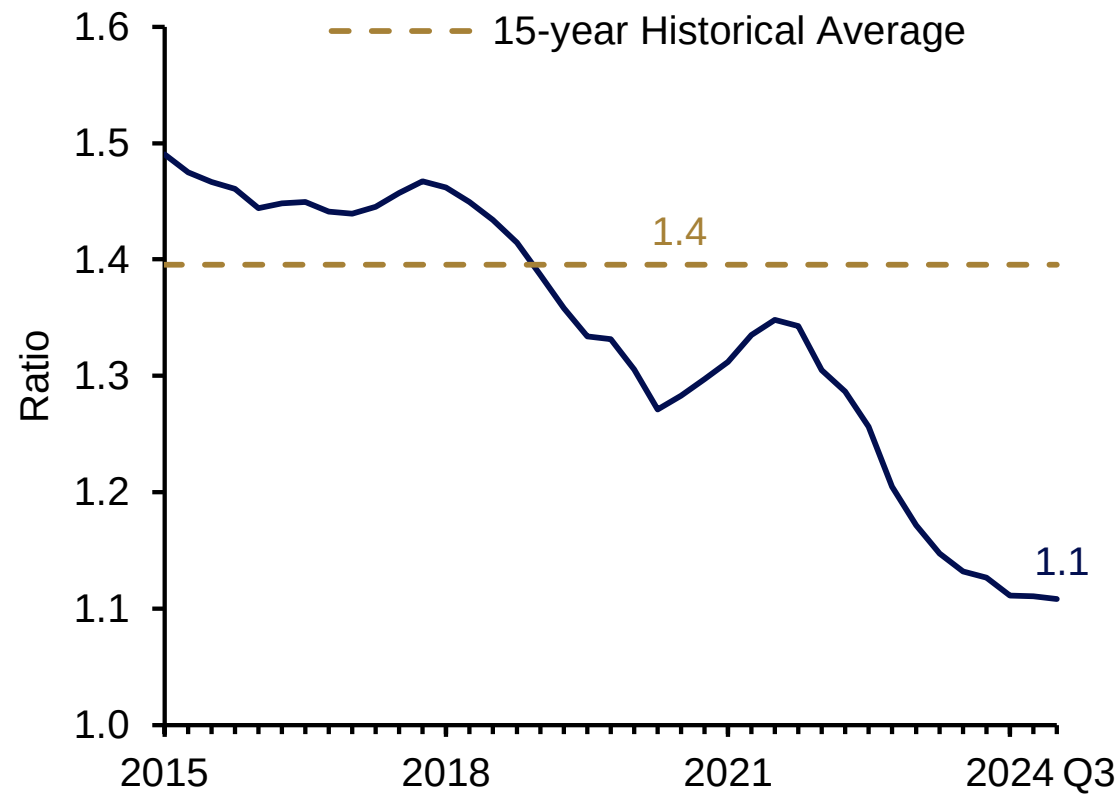
Source: Refinitiv Eikon, MAS estimates



Singapore Household Sector

Growth in household debt was outpaced by asset and income growth

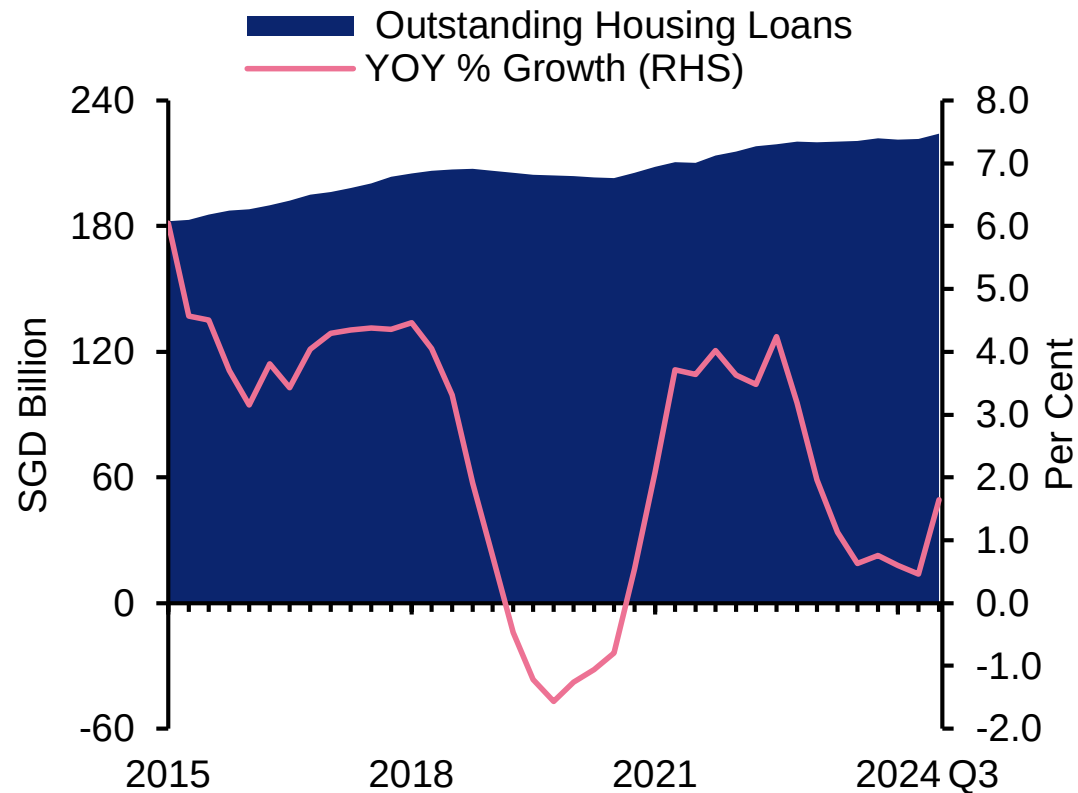
Household debt-to-PDI in Singapore



Source: DOS, MAS estimates₁₂

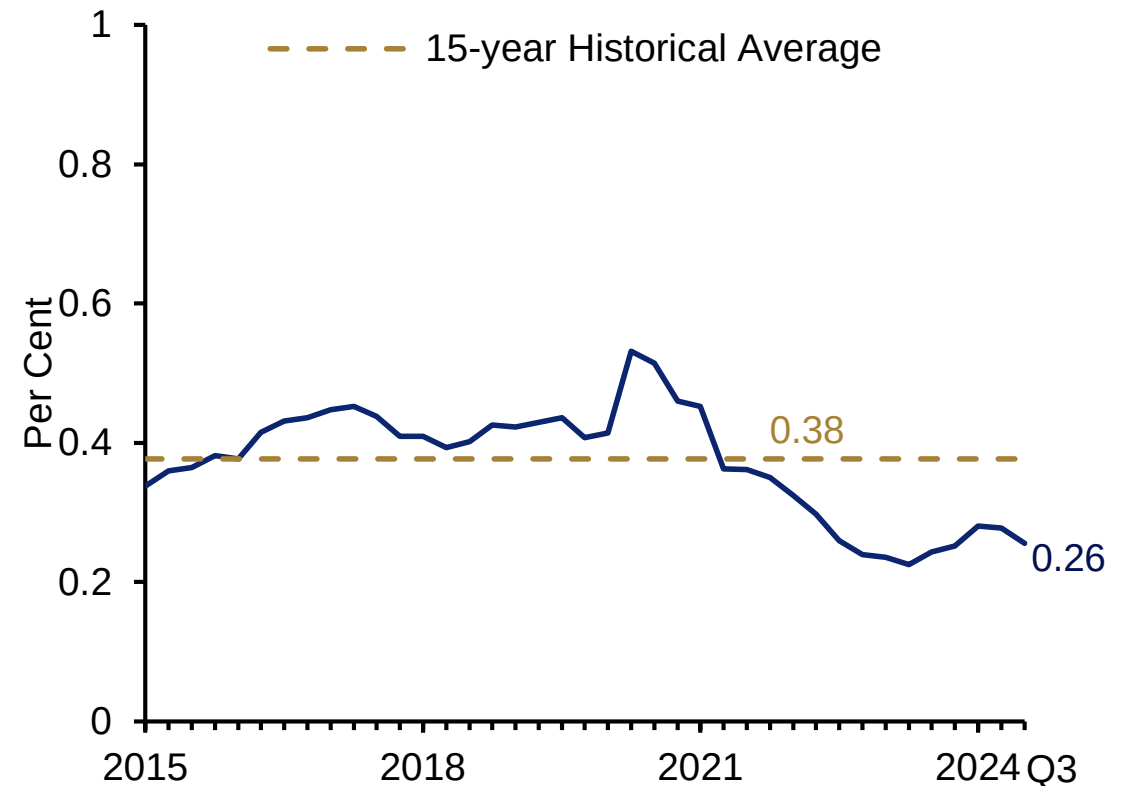
Credit quality of housing loans remains strong despite most borrowers bearing higher interest rates

Outstanding housing loan



Source: MAS estimates

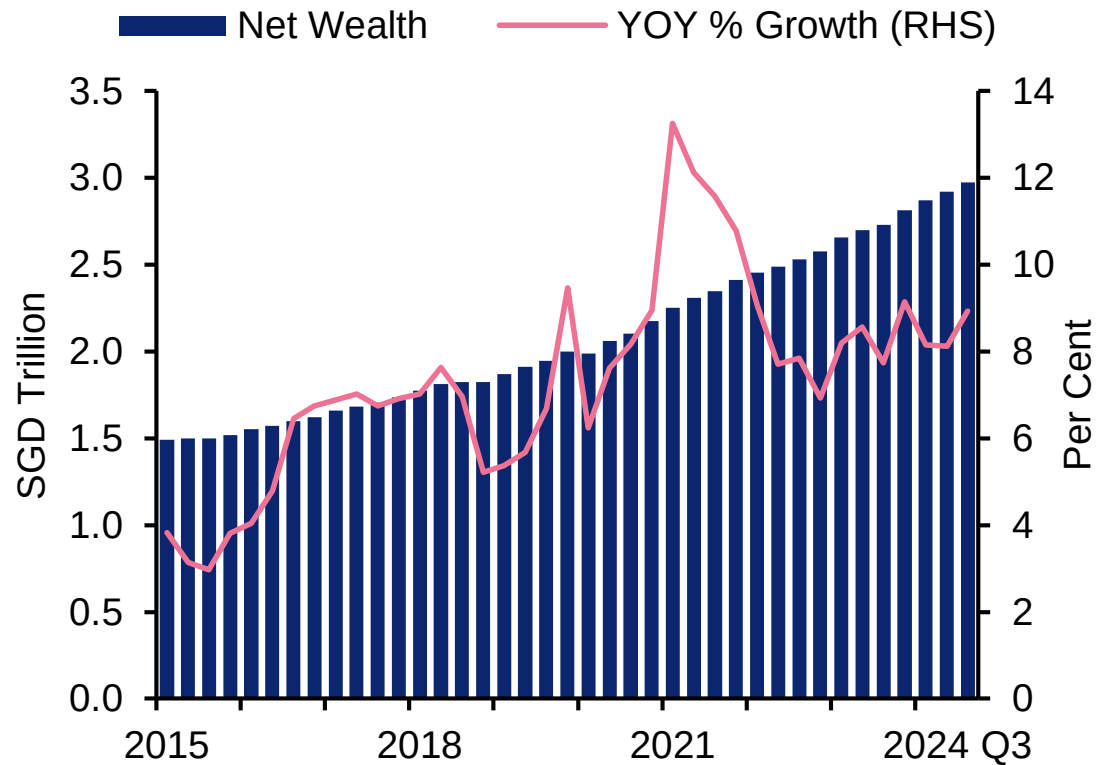
Housing non-performing loan (NPL) ratio



Source: MAS estimates

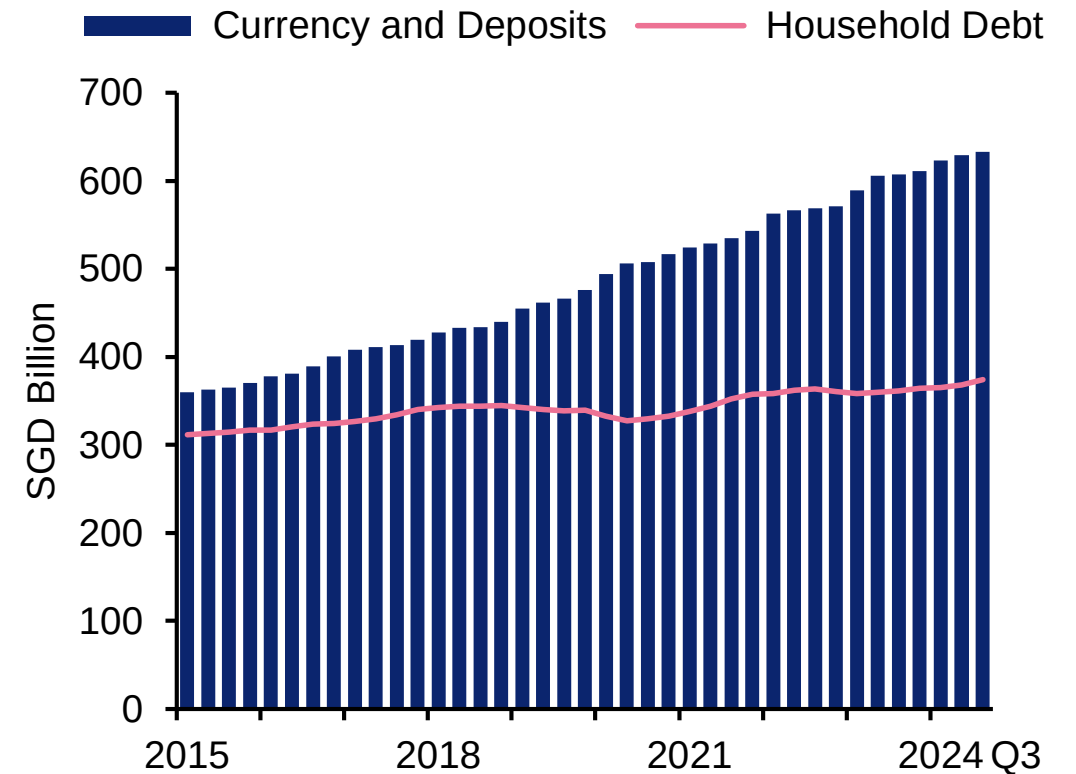
Sustained growth in liquid assets buffers against repayment risks

Household net wealth



Source: DOS, MAS estimates

Household cash and debt



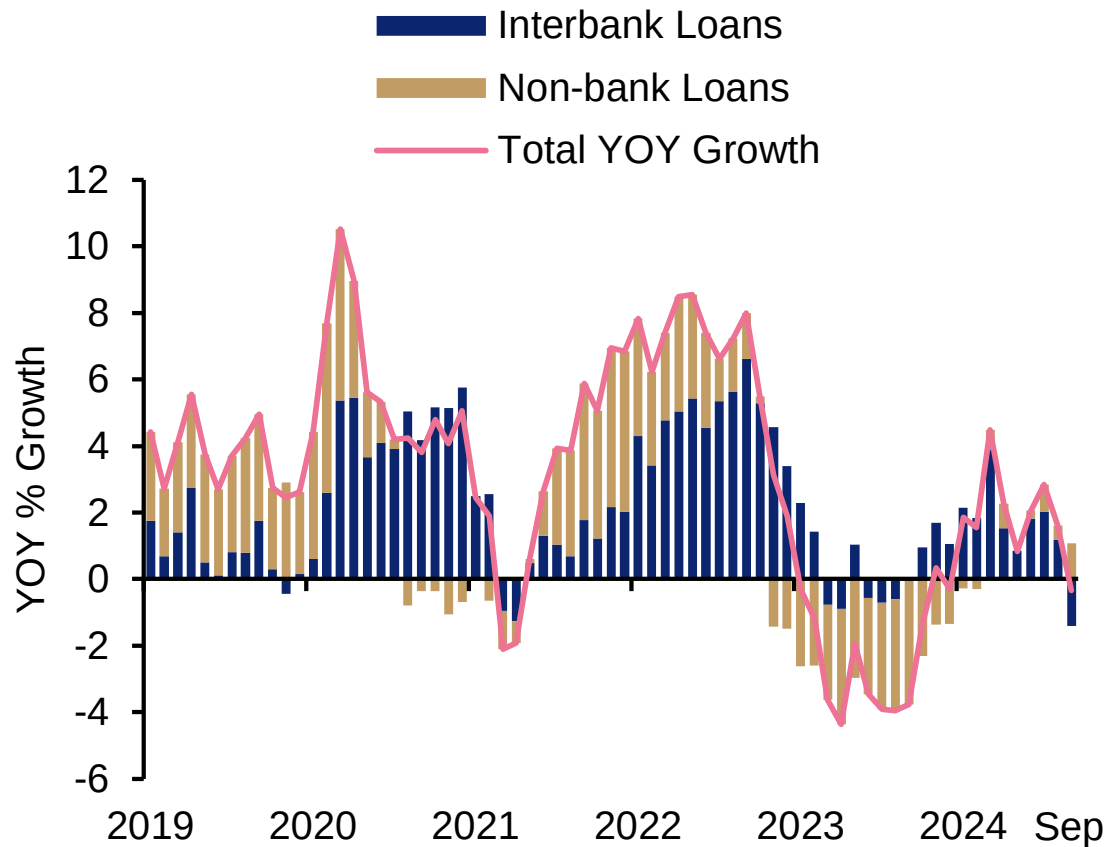
Source: DOS, MAS estimates



Singapore Financial Sector

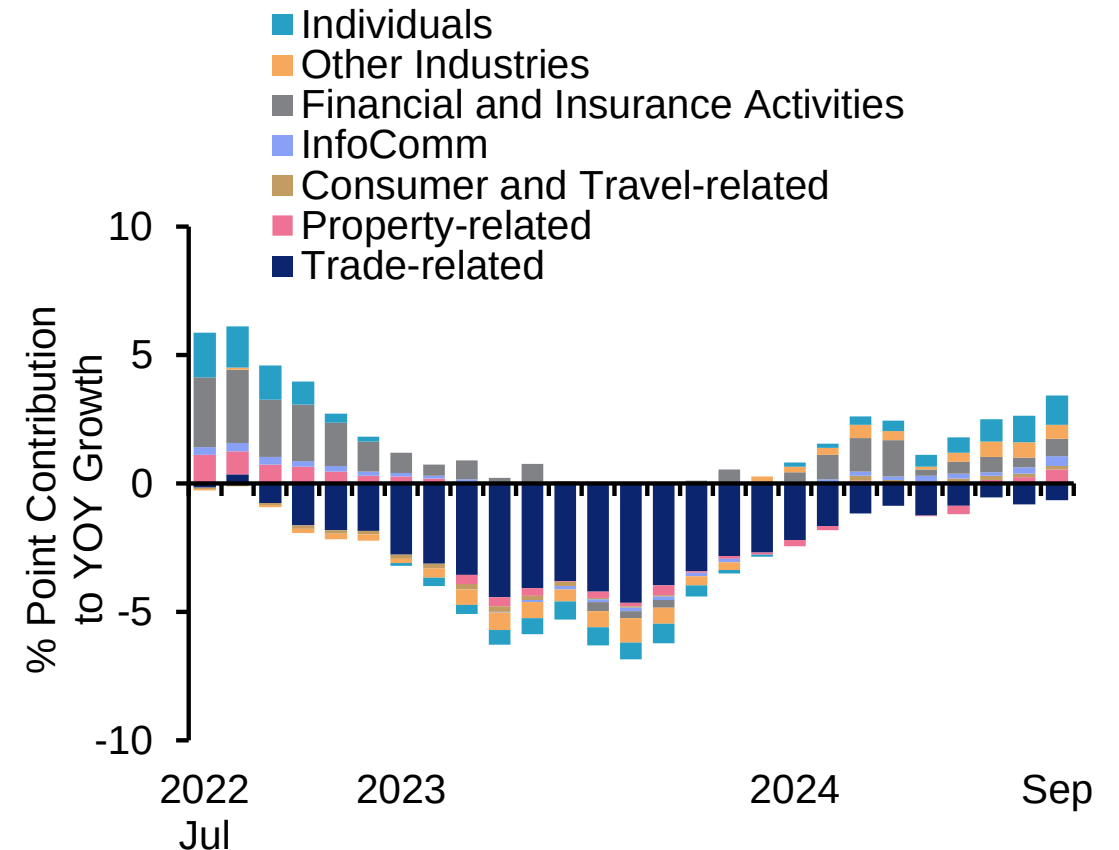
Overall loans were supported by resident non-bank lending

Overall Loan Growth



Source: MAS

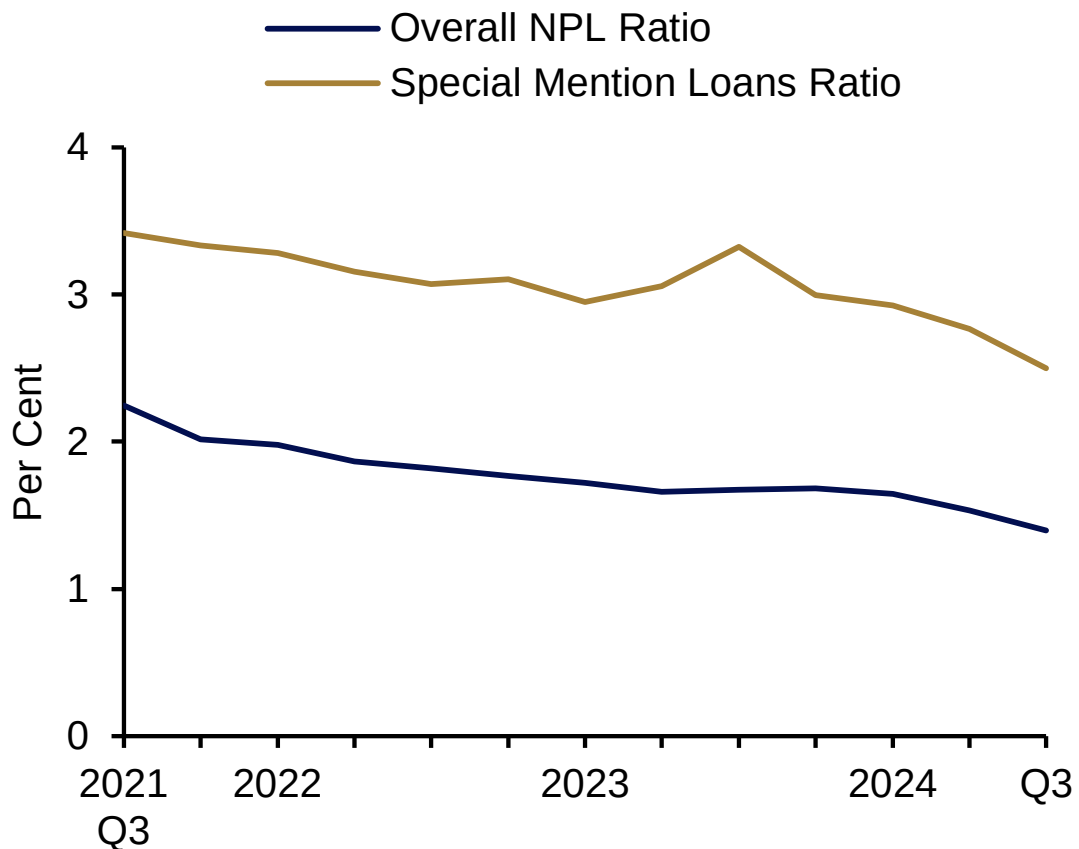
Resident Non-bank Loans by Sector



Source: MAS

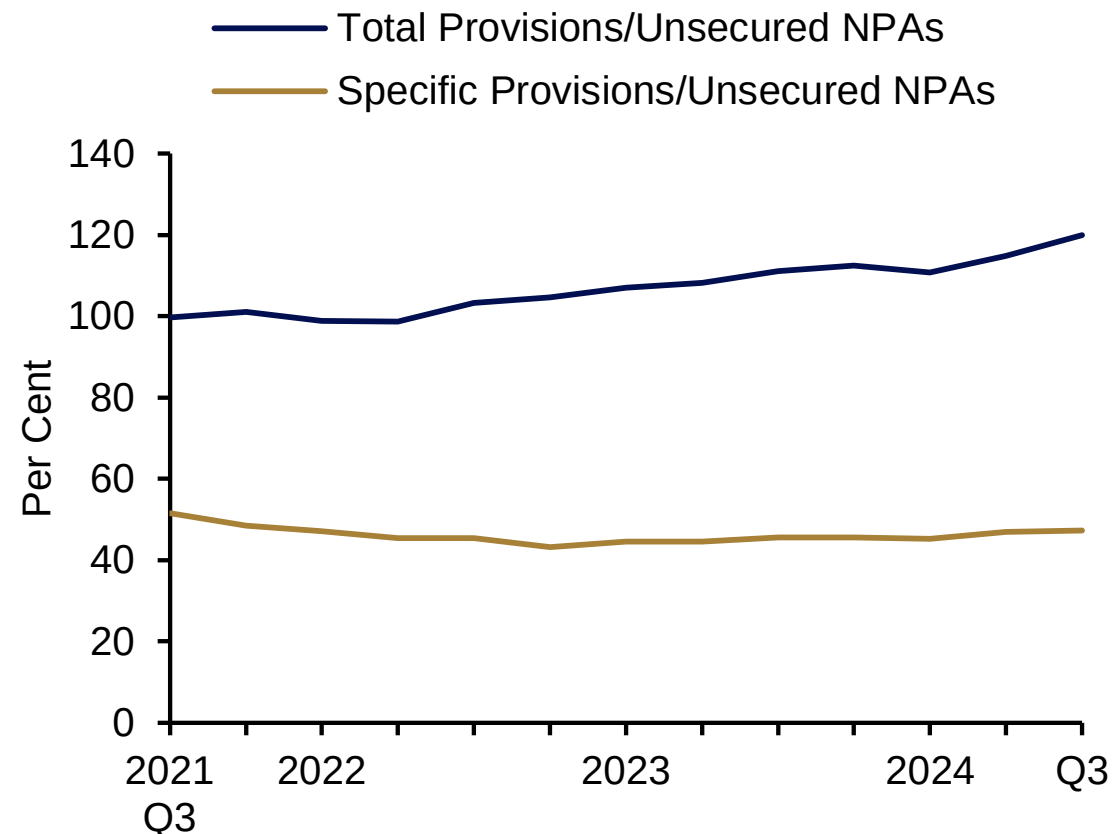
Asset quality remains healthy and banks maintained adequate provisioning and capital buffers

Banking System's Asset Quality



Source: MAS

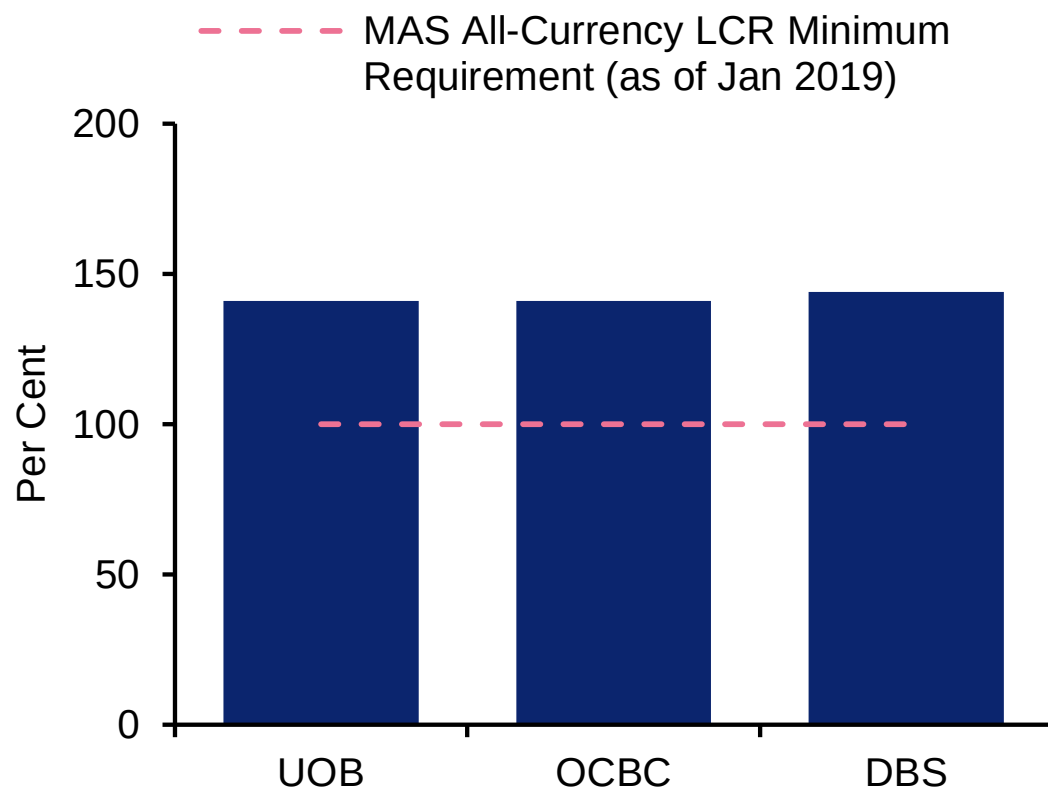
Banking System's Provisioning Coverage



Source: MAS

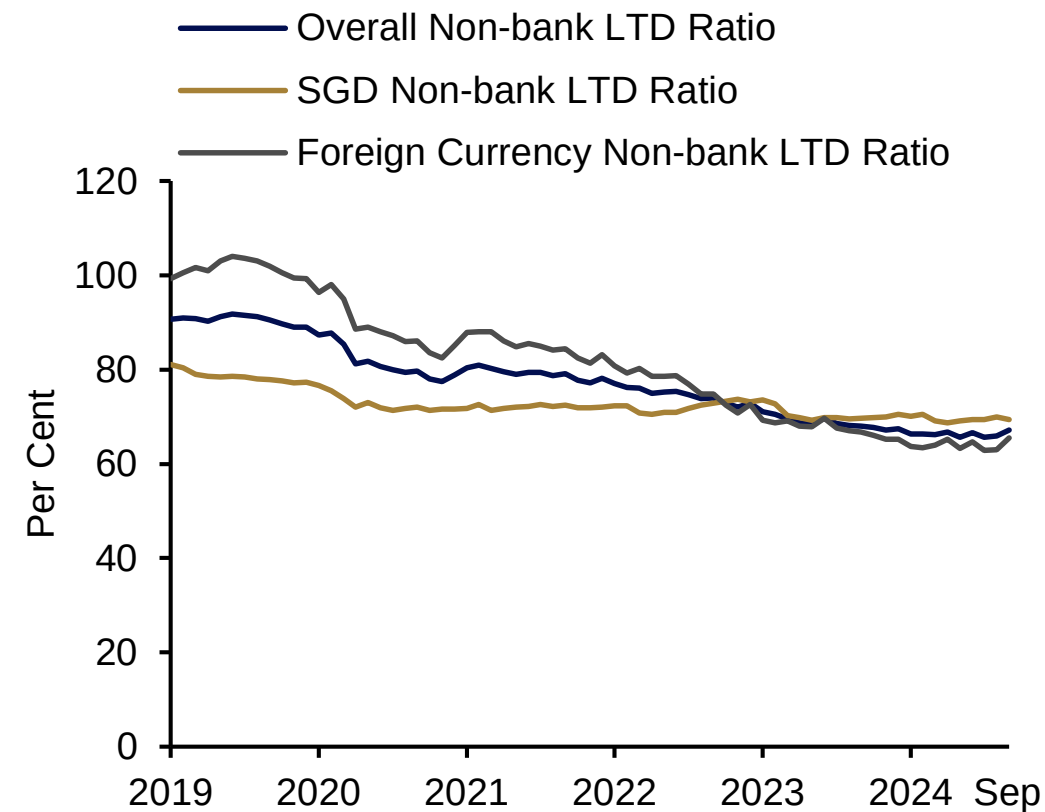
Liquidity positions remain strong

Local Banking Groups' All-Currency LCRs



Source: MAS

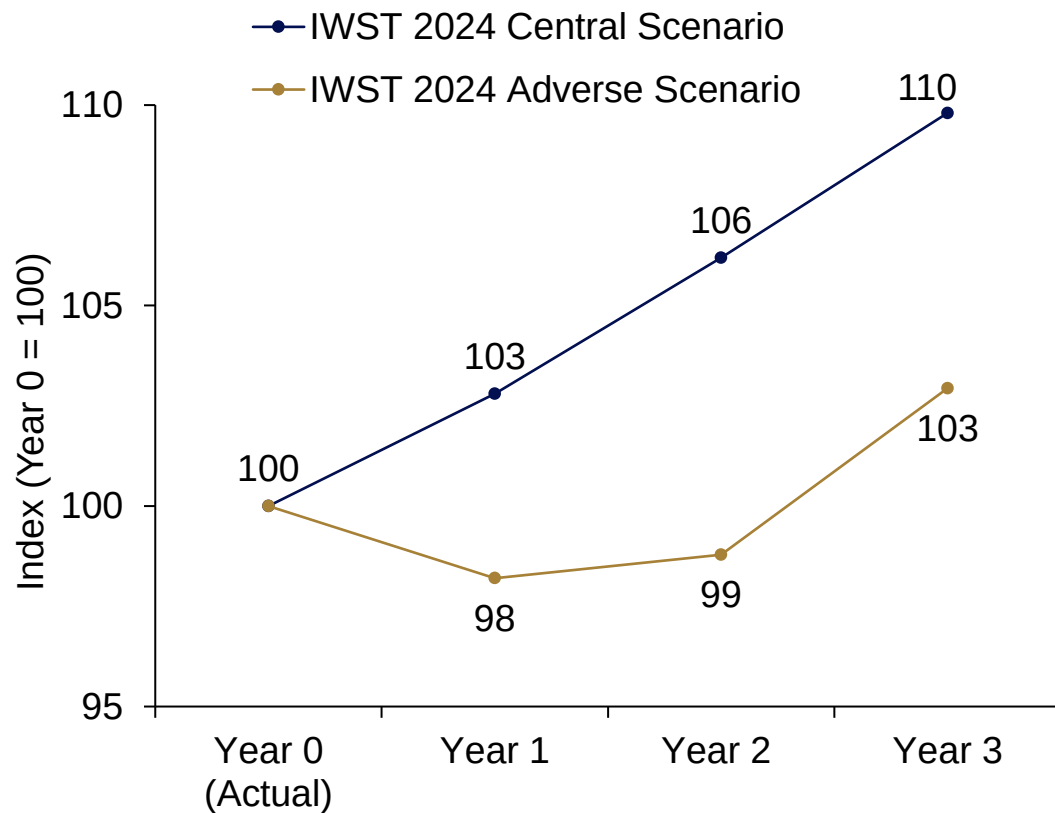
Banking System's Non-bank LTD Ratios



Source: MAS

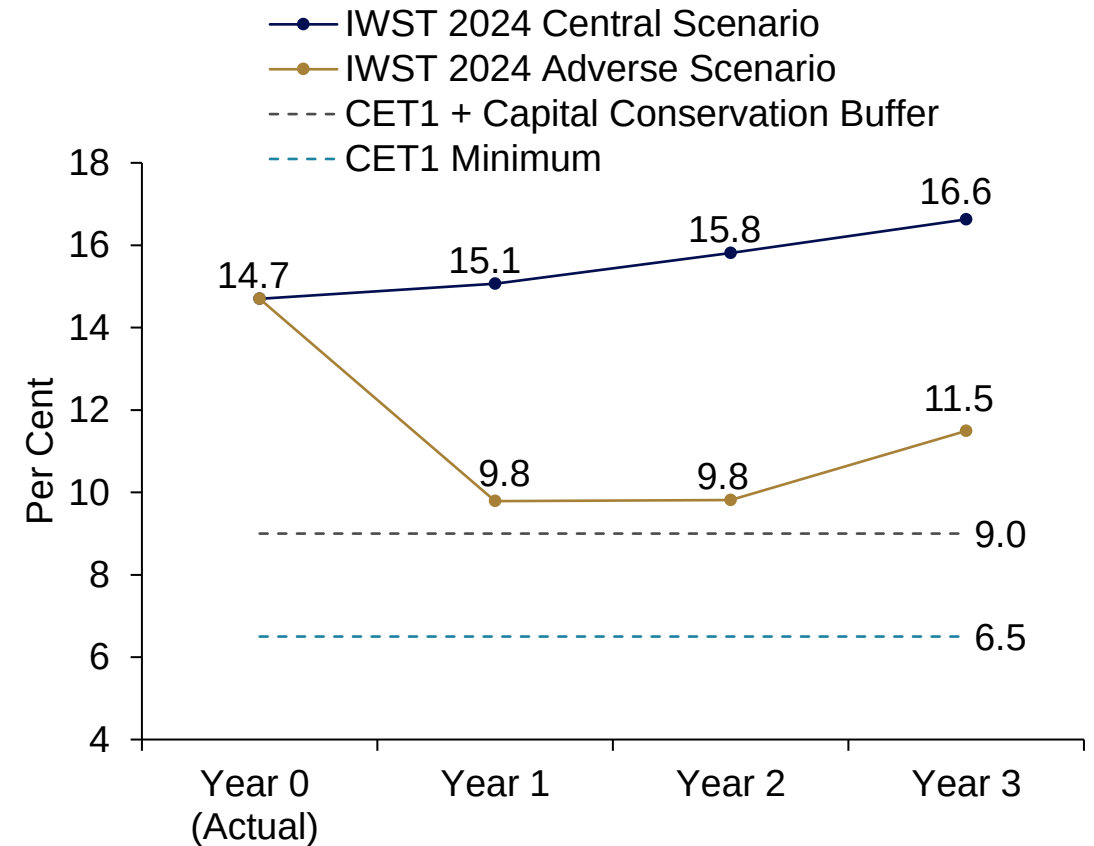
MAS' stress test confirms that banks have adequate capital buffers to weather potential downside risks

Global Real GDP Levels under IWSST Scenarios



Source: D-SIBs' submissions, MAS estimates

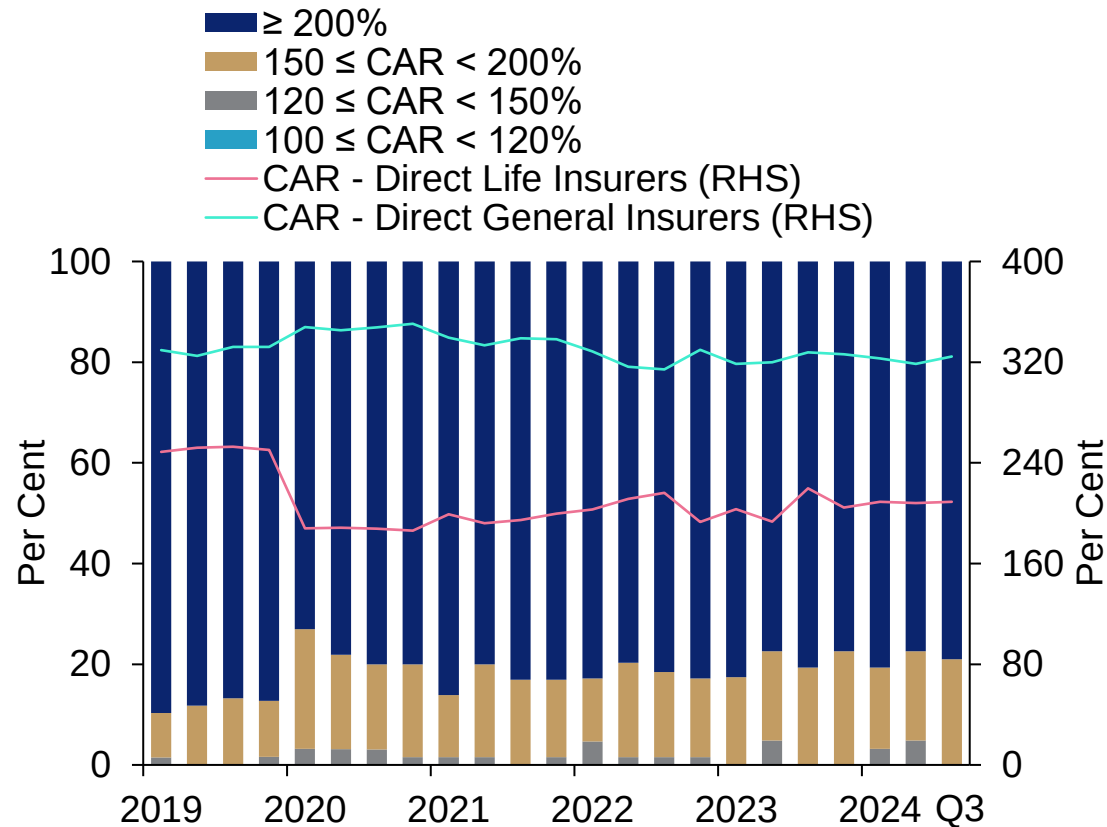
D-SIBs' Aggregate CET1 Capital Adequacy Ratio under IWSST Scenarios



Source: D-SIBs' submissions, MAS estimates

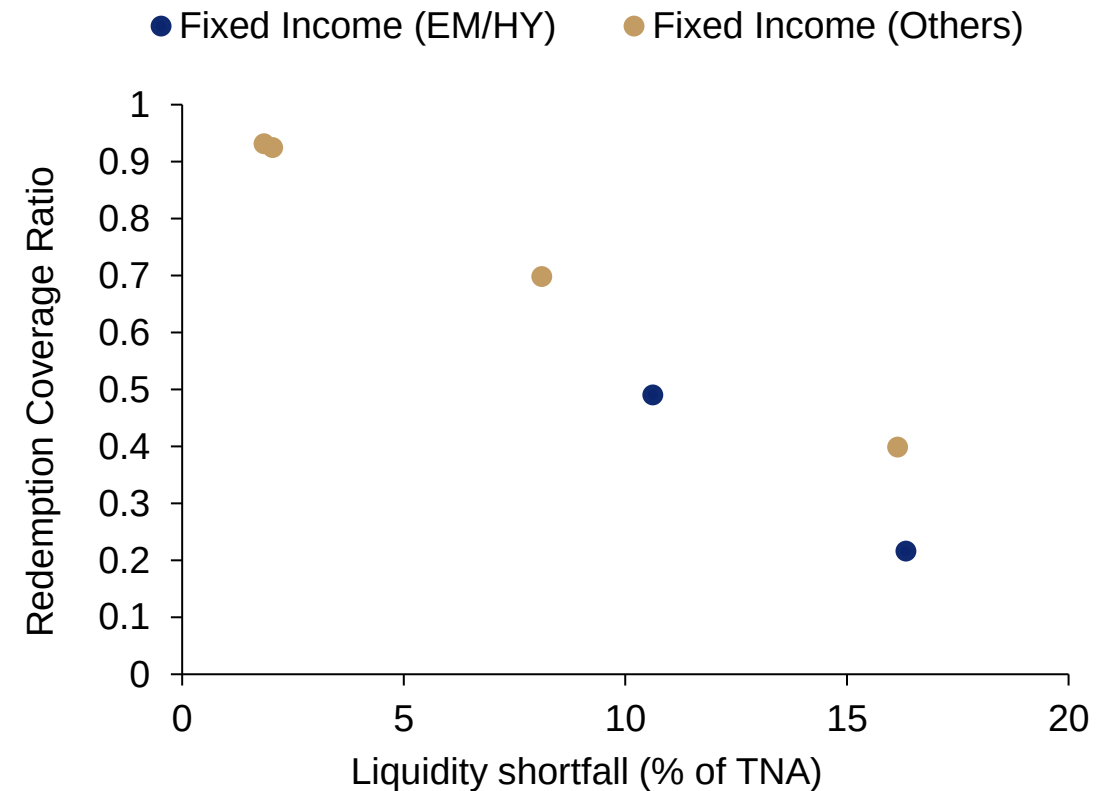
Stress tests of insurers and investment funds affirm their sound financial positions

Capital adequacy ratios of direct life and direct general insurers



Source: MAS estimates

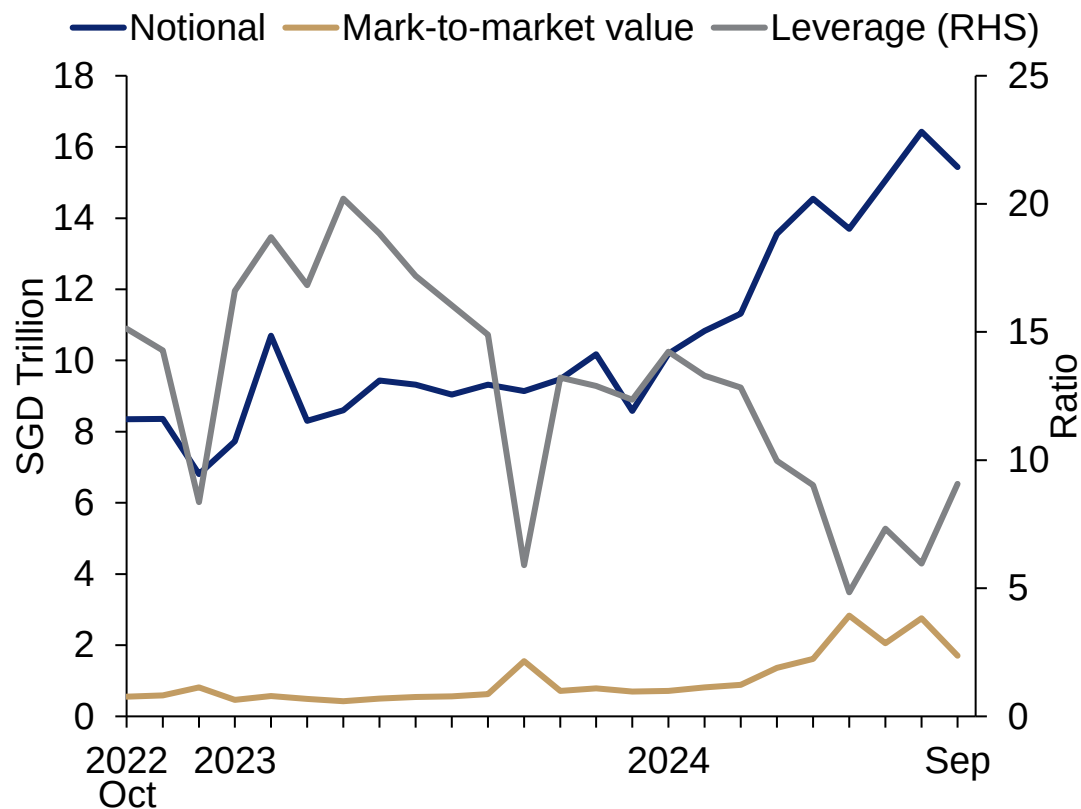
Fund redemption coverage ratio and liquidity shortfall



Source: MAS estimates

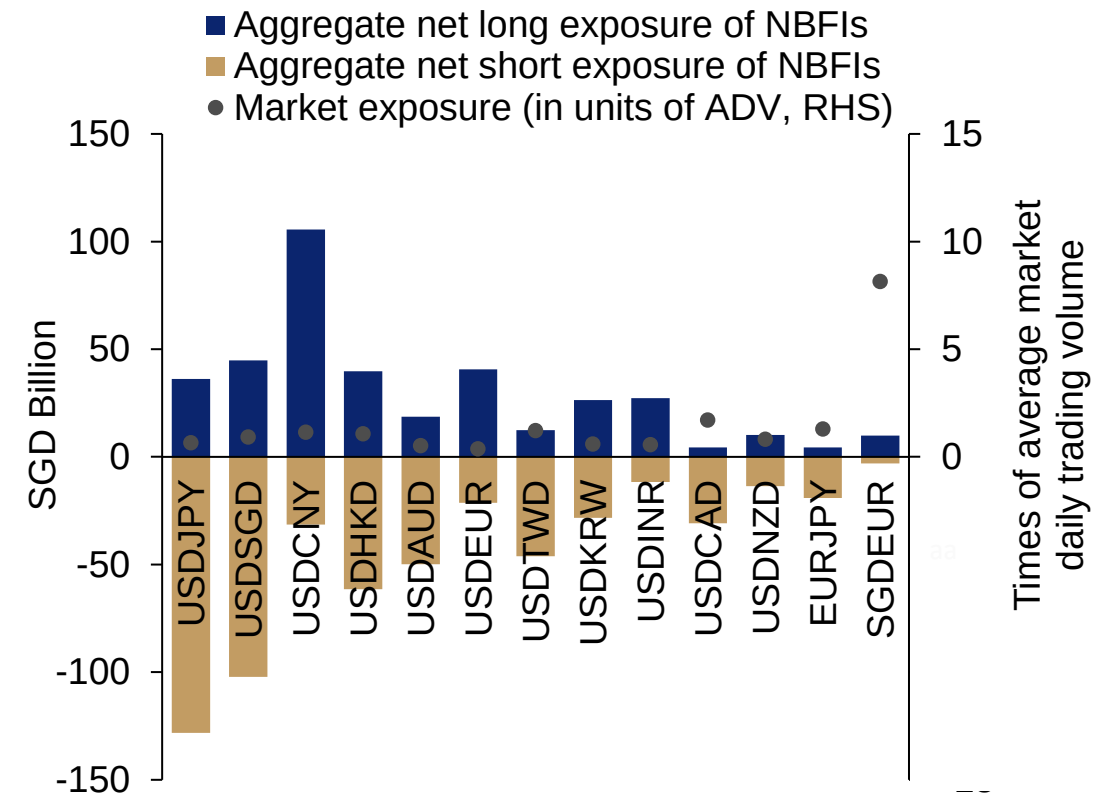
Leverage in OTC derivatives declined over the year, with crowded trades mostly in deep and liquid markets

NBFIs' OTC derivatives positions



Source: DDRS, MAS estimates

Crowded FX currency pairs



Source: DDRS, MAS estimates



Special Feature 1: Asian Capital Flows and the Global Financial Cycle

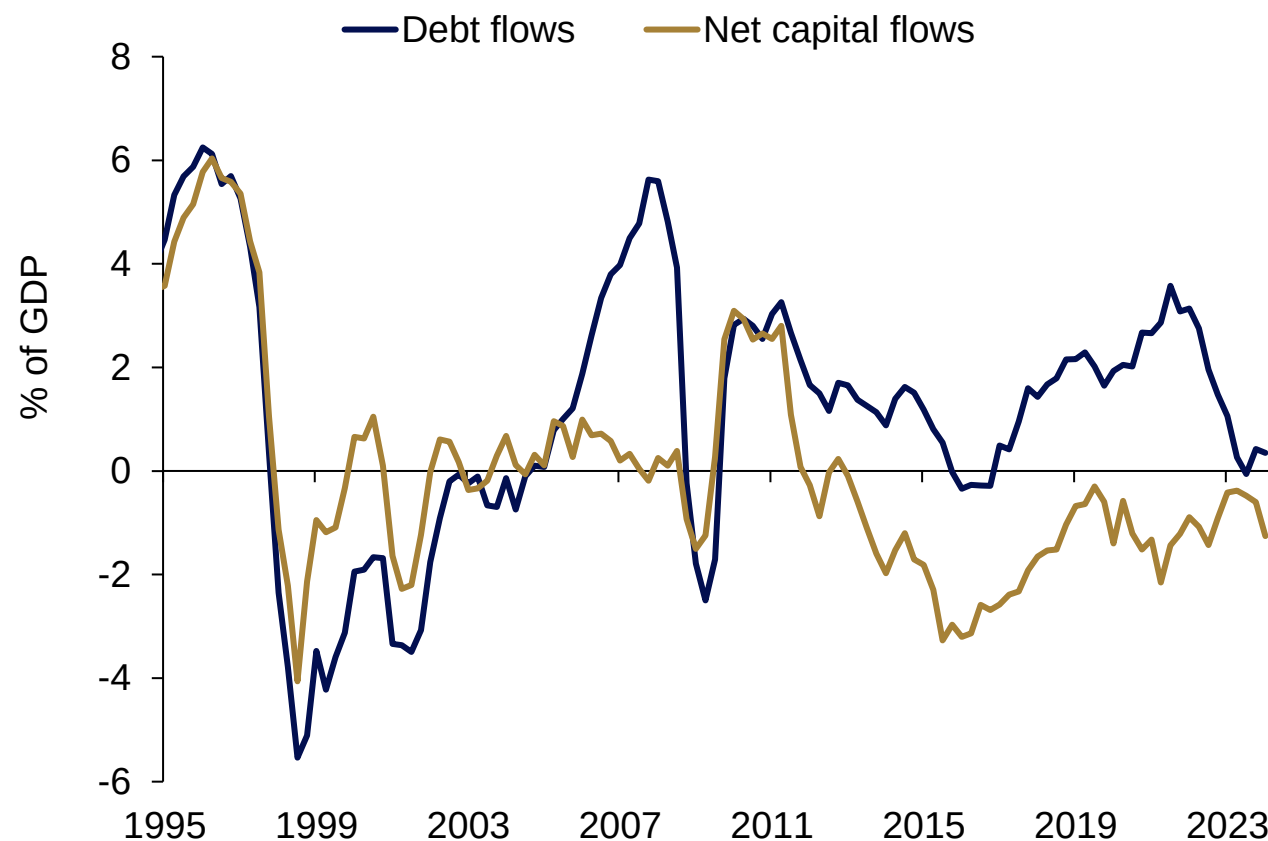
Capital flows to Asia: how important are global factors?

- AFC: Asian EMs overwhelmed by capital inflows then outflows
- GFC, Euro Crisis, Taper Tantrum: EMs at the mercy of global capital flows
- Rey – Dilemma not Trilemma: EMs with open capital markets have limited policy autonomy, even with floating rates
- Obstfeld, IMF: Policy still matters
- Has the impact of global factors on capital flows and on domestic macro variables in Asian EMs changed over time?
- Have Asian central banks managed to create more policy space?

Amplitude of some Asian capital flows has diminished

- Net debt flows and net capital flows to Asia have diminished over time
- Fed rate increase from 0% to 5.5% in 2022-23 did not appear to lead to large outflows
- Do global factors have less impact on Asian capital flows?

Debt Flows and Net Capital Flows as a Share of GDP



Source: IMF, Haver Analytics, MAS estimates

Impact of global factors on Asian capital flows declined

- Impact of global factors on Asian capital flows estimated in 2 periods
- PCA used to find global factors: economic cycle, financial volatility, G7 yields, US yields
- Used VARs and OLS, focusing on variance decomposition, R-squared
- Panel regression (right) illustrates drop in R-squared from .24 to .11
- Other tests support this result

Panel Regression of Debt Flows on Global Factors

	1995 to 2010	2011 to 2024
Constant Term	1.007 (0.598)*	3.351 (0.905)***
Global Economic Cycle (1 st PC)	2.511 (0.923)***	-1.396 (0.453)***
Financial Volatility	1.678 (0.493)***	1.419 (0.552)**
US Yield Curve	-5.447 (1.23)***	1.426 (1.31)
Global Economic Cycle (2 nd PC)	-1.551 (0.788)*	1.922 (1.027)*
G7 Rates	2.892 (1.093)***	1.524 (1.096)
Adjusted R-squared	0.237	0.110

Source: EPG, MAS estimates

*, ** and *** indicate statistical significance at 10%, 5% and 1% level respectively.

Note: Chow Breakpoint Test confirms the presence of a breakpoint (F(6,555) statistic of 13.15 against the 1% critical value of 3.06) between periods 1 and 2.

Interest rates still strongly linked to global cycle

- Unlike capital flows, dependence of GDP, domestic interest rates on global cycle does not decline
- Dependence of policy rates on Fed Funds *increased* in 2018-24
- With more macroprudential measures, other transmission channels (e.g. derivatives) may be substituting for capital flows
- Other possibilities: common shock
- Possibly more policy space, but global cycle still important

Regression of Local Policy Rates on Fed Funds Rate

	Adjusted R-Squared	
	Full Sample	2018Q1-2024Q1
Indonesia	0.08	0.51
South Korea	0.31	0.87
Malaysia	0.15	0.57
Philippines	0.40	0.73
Thailand	0.20	0.65

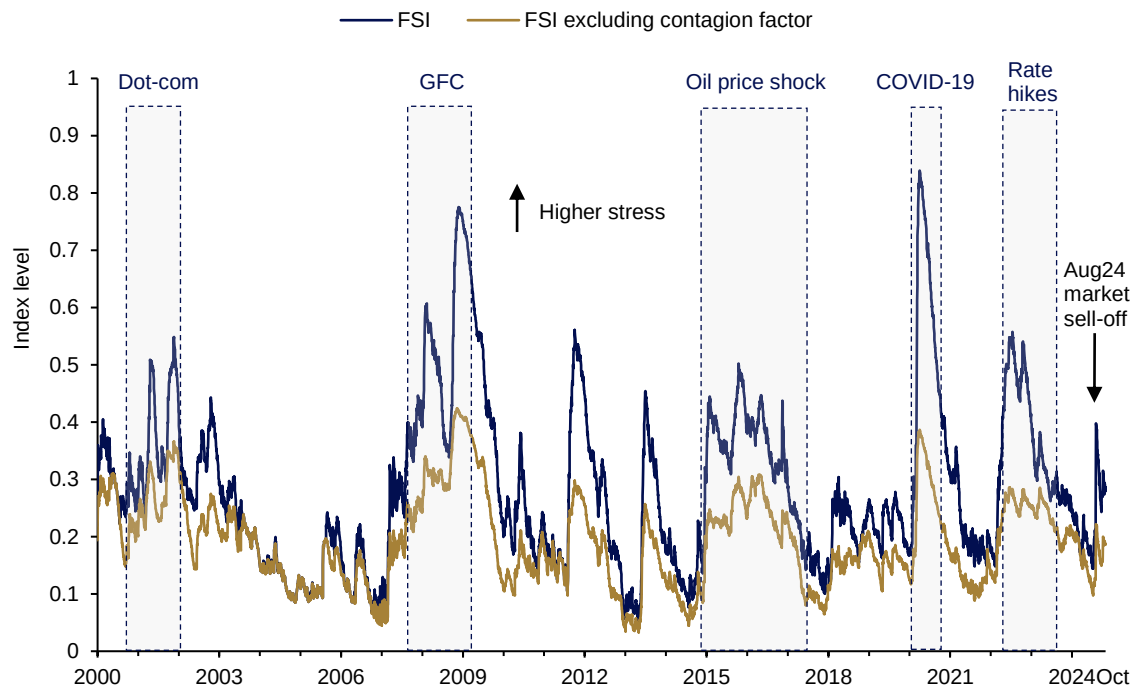
Source: EPG, MAS estimates



Special Feature 2: Expanding the Toolkit for Macroprudential Surveillance

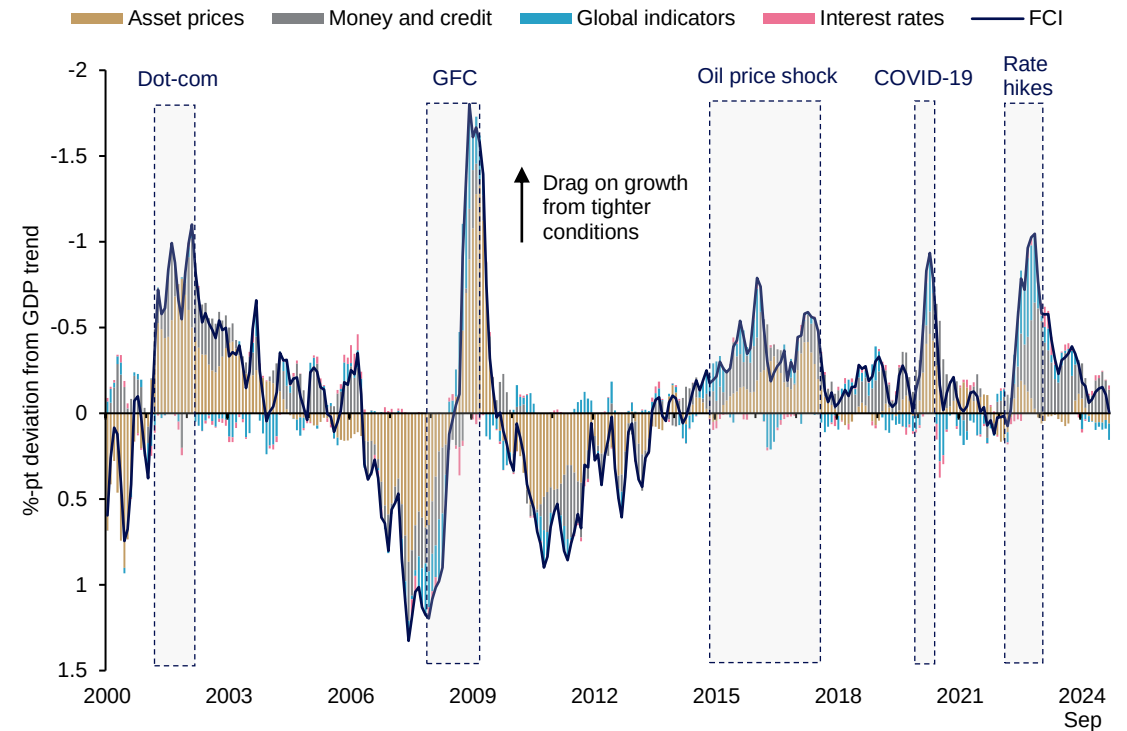
The FCI, FSI and FVI improve monitoring of systemic financial stability risks

Financial Stress Index (FSI)



Source: Bloomberg, MAS estimates

Financial Conditions Index (FCI)



Source: Bloomberg, DOS, URA, US FRED, MAS estimates

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