Financial Stability Review 2019

FSR Briefing
28 November 2019

Macroprudential Surveillance Department
Economic Policy Group

Summary

FSR 2019: Key Messages

Overall

- Global and domestic financial conditions have stayed accommodative.
- Overall level of financial vulnerability in the domestic financial system was unchanged over the past year.
- But risks to financial stability are rising against a still challenging macroeconomic backdrop.
  - Extended period of sluggish growth with risks skewed to downside due to trade and geo-political tensions.
  - Persistently low or negative interest rates amid elevated corporate debt levels.
  - Shifts in the profile of financial institutions' and investors' balance sheets in the search for yield and accompanying volatile capital flows.
- As financial participants navigate the uncertain environment, they should stay vigilant.
  - Sluggish revenue growth and reduced cash flows could impinge on near-term debt servicing abilities.
  - Segments with already elevated debt levels should be prudent in medium-term spending and financing decisions.
  - Importance of strengthening financial buffers against unexpected shocks.

FSR 2019: Key Messages

Corporates

- Corporate balance sheets resilient overall, amid stable but elevated debt levels.
  - Financial positions of firms in trade-related sectors have weakened due to slowing earnings growth.
  - Those in the domestic-oriented sectors have stayed relatively healthy.
- Corporate debt has built up against backdrop of conducive financial conditions.
  - But overall risk profile of debt has generally improved – maturity risk has subsided as firms reduced their short-term debt and foreign exchange risk stemming from currency mismatches remains manageable.
- Further uncertainty and weakness in the external environment could add pressure on corporates in the trade-related sectors and cause negative spillovers to the rest of the economy.
  - Highly leveraged firms should continue to remain vigilant and judiciously manage cash flow positions against downside risks to revenue growth.
- Property firms are generally financially sound, and have adequate financial buffers.
  - Those with high levels of leverage and hold large unsold inventory should take into account the significant increase in upcoming supply of private housing units over the near term in their business and financial planning.

FSR 2019: Key Messages

Households/Property

- Household balance sheets have continued to strengthen, alongside an increase in net wealth, with liquid assets such as cash and deposits exceeding total liabilities.
  - Vulnerabilities have declined with moderation in leverage.
  - Debt growth has slowed, in part due to the July 2018 property measures.

- Households that are already over-extended should be cautious in taking up new debt amid uncertain economic prospects.
  - Softening labour market could portend downside risks to income growth with implications for debt servicing among highly leveraged households.

- The July 2018 property cooling measures have brought property market prices closer to fundamentals.
  - Prospective property buyers should be mindful of their ability to service their mortgage obligations amid uncertainty in the economic outlook and further housing supply coming on stream.

FSR 2019: Key Messages

Banking

- Singapore’s banking system is healthy with ample capital and liquidity buffers.
  - Credit growth moderated while overall asset quality declined slightly, against the backdrop of slowing growth.
  - MAS’ annual industry-wide stress test (IWST) results show that banks in Singapore have the capacity to withstand severe shocks.

- The extended uncertain global operating environment could present challenges including pressures on profit margins. Unexpected tightening of global liquidity could accentuate banks’ short-term foreign currency liquidity conditions.

- Banks should continue to maintain strong underwriting standards and ensure adequate provisioning coverage.
  - MAS also encourages banks to continue efforts to strengthen their USD liquidity profile and develop liquidity contingency plans.

Global Financial and Economic Environment

Global financial stability risks have risen amid several headwinds.

Uncertain Outlook and Low Interest Rate Environment

- Global economy is still experiencing a synchronised slowdown and the outlook continues to be uncertain because of trade and other geopolitical tensions. Global financial conditions expected to remain easy as major central banks maintain accommodative policy stances.

Rising Corporate Indebtedness

- Continued easy financial conditions have fueled rising corporate indebtedness, and could encourage further borrowing by corporates amid weak revenue growth, leaving them more susceptible to an earnings or interest rate shock.

Search for Yield

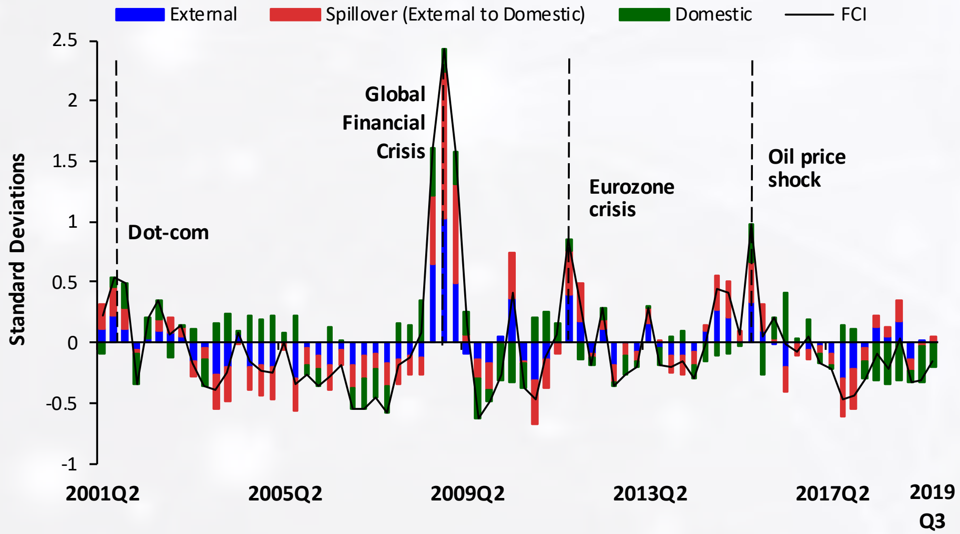
- Financial institutions and investors induced to take on higher risks to achieve target returns, boosting asset valuations amid weakening growth prospects. This increases risk of divergence between financial markets and economic fundamentals, raising possibility of disruptive adjustment in market pricing.
- Increase in capital inflows to EMEs, raising the sensitivity of their financial conditions to global shocks.

Financial Conditions Index (FCI), Financial Vulnerability Index (FVI) and Growth-at-Risk (GaR)

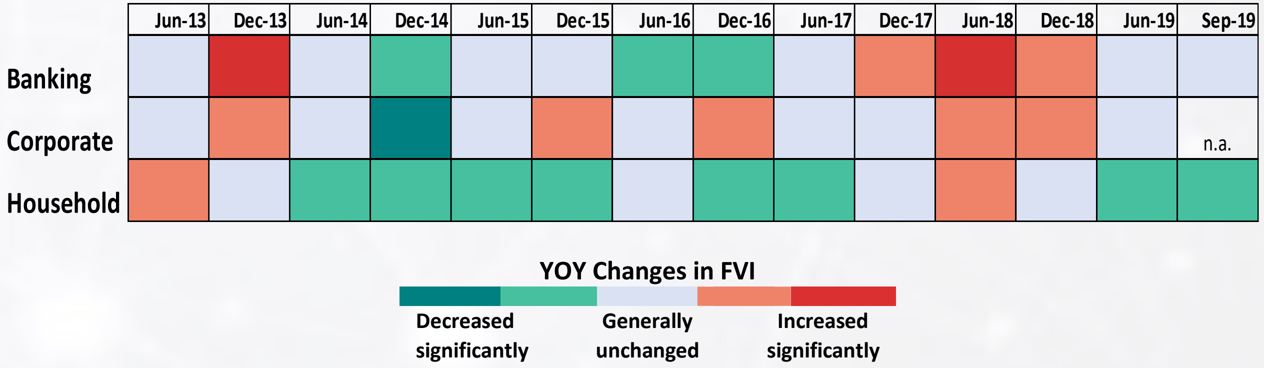
Special Study 1: Financial Conditions Index (FCI), Financial Vulnerability Index (FVI) and Growth-at-Risk (GaR) for Singapore

- Singapore's financial conditions are currently accommodative. However, FIs should be vigilant as past stress events were typically preceded by loose financial conditions before conditions tightened sharply.
  - FCI is a gauge of how easy or difficult it is to obtain financing, constructed from indicators with important signalling effects using Principal Component Analysis.
- Moderate to no change seen in domestic financial vulnerabilities in recent years. Corporate FVI has seen more increases than decreases (mainly red shades); opposite holds true for Household FVI (mainly green shades).
  - FVIs measure banking, corp. and household vulnerabilities, which may amplify impact of financial "shocks" on economy.
  - Based on four types of financial vulnerabilities (leverage, liquidity mismatch, maturity mismatch, forex mismatch). Calibrated to historical distributions and divided into five coloured bands (below), reflecting varying degrees of changes in FVIs.

Financial Conditions Index (FCI) by Sources



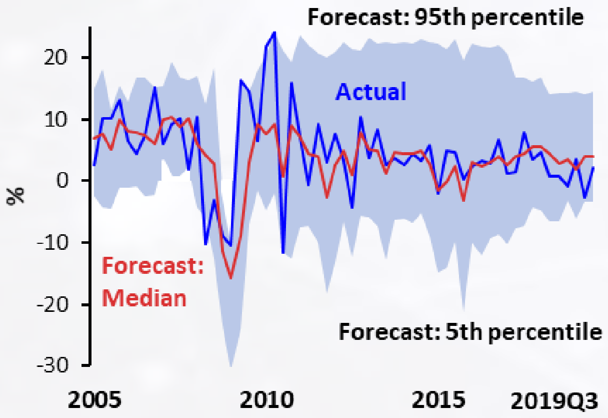
Heatmap of Changes in Financial Vulnerability Indices (FVIs)



Special Study 1: Financial Conditions Index (FCI), Financial Vulnerability Index (FVI) and Growth-at-Risk (GaR) for Singapore

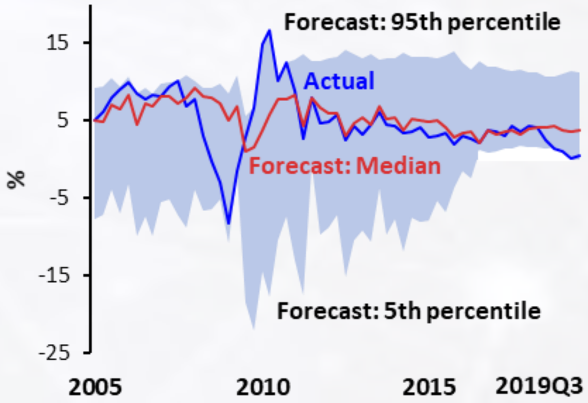
- GaR (left chart) suggests current financial risk would have only small effect on near-term economic outlook.
  - GaR measures the downside risk (lowest 5th percentile) to economic growth, estimated from quantile regressions.
- Financial conditions generally have short-lived effects on Singapore's GDP growth, reflecting the domestic financial system's capacity to absorb and reduce transmission of shocks to the real economy (with the forecast tracking the actual GDP growth more closely one-quarter ahead than one year ahead).

Actual & Forecasted GDP Growth (One-Quarter Ahead)



*GaR = 5th percentile forecast

Actual & Forecasted GDP Growth (One-Year Ahead)



*GaR = 5th percentile forecast

Domestic: Corporates, Households, and Property

Corporate balance sheets remain resilient overall, amid stable but elevated debt levels.

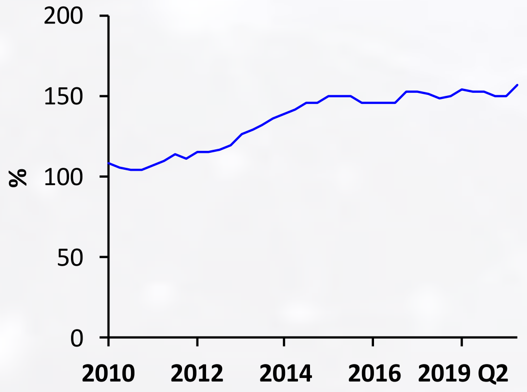
Corporate sector FVI (YOY Changes)	Q2 2018	Q2 2019
Overall Corporate FVI	↗	→
Leverage risk	↗	↗

YOY Changes in FVI

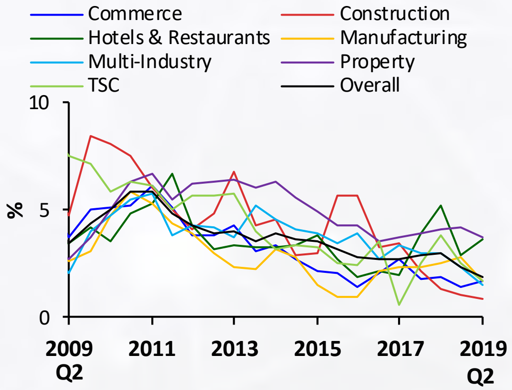
Decreased significantly — Generally unchanged — Increased significantly

- Corporate leverage is broadly stable but remains at an elevated level. Leverage risk increased over the past two years due to a build-up of corporate debt under easy domestic financial conditions.
- Corporate earnings have declined, weighing on firms' debt repayment ability. But median ICRs remain above two in Q2 2019, implying earnings provide a sufficient buffer to cover interest payments.
- Property firms have contributed to increase in corporate leverage post GFC, but are generally financially sound with higher ICRs compared to other firms.

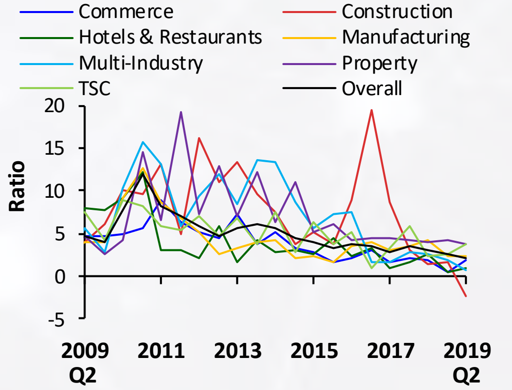
Singapore's Corporate Debt-to-GDP



Median ROA of SGX-listed firms



Median ICR of SGX-listed firms



Risk profile of corporate debt has generally improved, with maturity risk subsiding, while liquidity and foreign exchange risks remain unchanged.

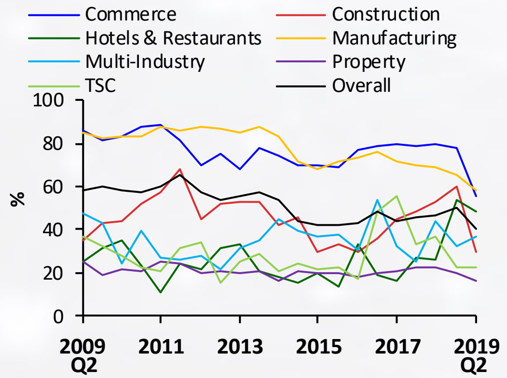
Corporate sector FVI (YOY Changes)	Q2 2018	Q2 2019
Overall Corporate FVI	↗	→
Liquidity risk	↗	→
Maturity risk	→	↘
Foreign Exchange risk	↗	→

YOY Changes in FVI

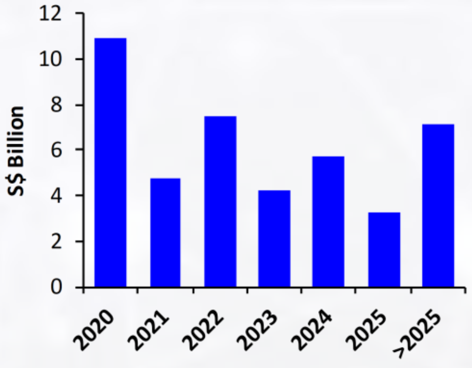
Decreased significantly — Generally unchanged — Increased significantly

- Median short-term debt to total debt ratio fell from 47% in Q2 2018 to 40% in Q2 2019, with the bond maturity profile of Singapore firms remaining well termed out.
- Median current ratio (measuring liquidity risk) remained stable, falling slightly from 1.6 in Q2 2018 to 1.5 in Q2 2019.
- Foreign currency bond issuance as a proportion of total bond issuance in Singapore has been declining from an average of 72% over Q3 2017 to Q2 2018, to 51% for Q3 2018 to Q2 2019.

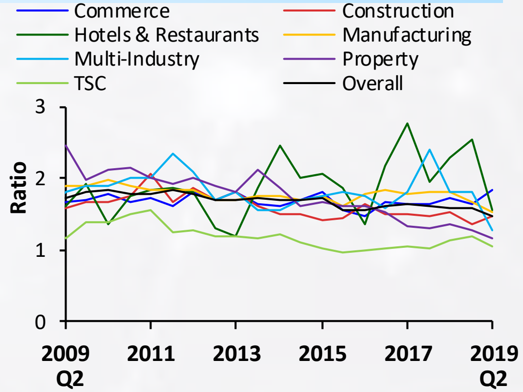
Median Short-term Debt to Total Debt Ratios of SGX-listed Firms



Maturity Schedule of SGD Bonds



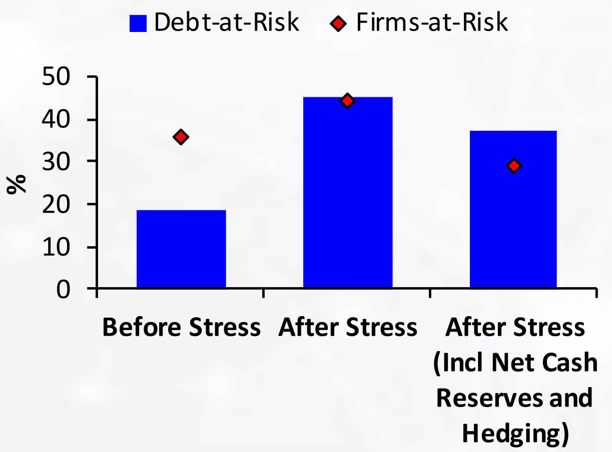
Median Current Ratios of SGX-Listed Firms



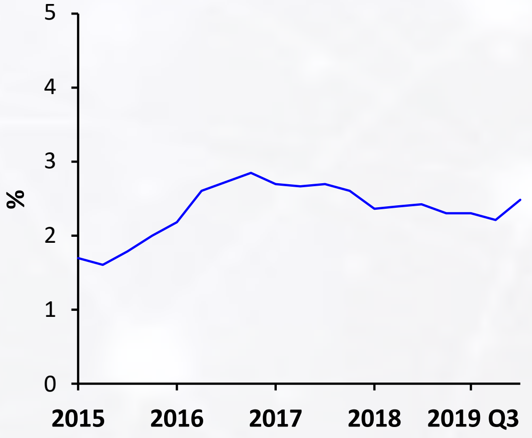
Singapore's corporate sector remains resilient against the backdrop of global uncertainties. However, corporates should remain vigilant against balance sheet vulnerabilities.

- MAS' stress test suggests Singapore's corporate sector would remain resilient to combined interest rate and earning shocks, with cash reserves providing additional buffers.
- Singapore banking system's corporate NPL ratio remained broadly stable at 2.5% in Q3 2019, compared to 2.4% in Q3 2018, although those for the trade-related sectors picked up slightly.
- Highly leveraged firms should continue to exercise financial prudence in their planning as well as credit decisions, and remain vigilant to downside risks to revenue growth which could extend over a prolonged period.

Share of Firms and Share of Corporate Debt Held by Firms with ICR below two



Singapore Banking System Corporate NPL Ratio



Special Study 2: Assessing corporate resilience in Emerging Asia

Background

- Prolonged low interest rate environment in the decade since the GFC has been accompanied by a steady build-up in Asian non-financial corporate debt, a significant portion of which is in foreign currency.
- This study examines Asian corporates' resilience to slowing growth and currency volatility.

Key findings

- Corporates’ debt-servicing ability has become more sensitive to earnings and interest rate shocks.
- Resilience against broad-based corporate distress from these shocks remains relatively high but has weakened in recent years.
- Corporates most sensitive to shocks are mostly in the Property, Commodities & Energy, and Industrial sectors.
- Asia's corporate sector could be more susceptible to currency volatility, with both bank- and capital market-intermediated foreign currency borrowing growing.

Household balance sheets have strengthened, alongside a moderation in leverage risks.

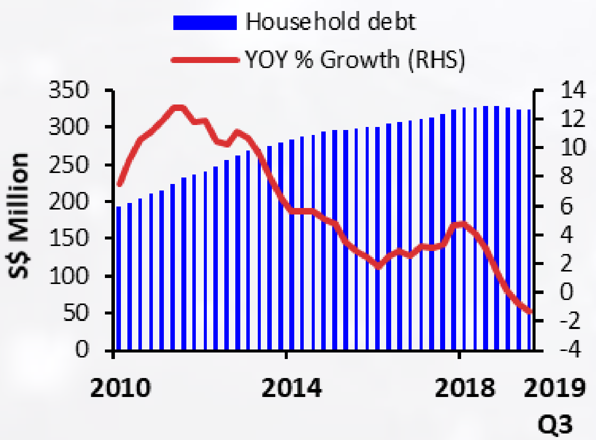
Household sector FVI (YOY Changes)	Q3 2018	Q3 2019
Overall Household FVI	→	↘
Leverage risk	→	↘

YOY Changes in FVI

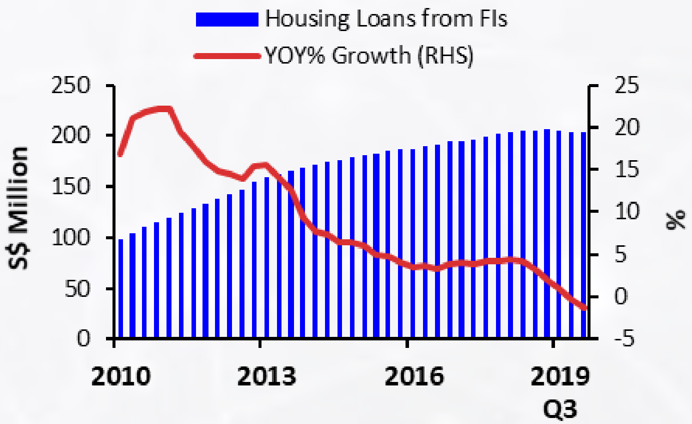
Decreased significantly · Generally unchanged · Increased significantly

- Household leverage risk has moderated, on the back of slower growth in aggregate household debt.
- Slower growth in property prices following the July 2018 cooling measures tempered housing loan growth, and contributed to improvement in overall indebtedness.
- Credit risk profile of household debt remains sound, with average LTV ratio of outstanding housing loans falling from about 54% on average in 2017 to 49% in Q3 2019.

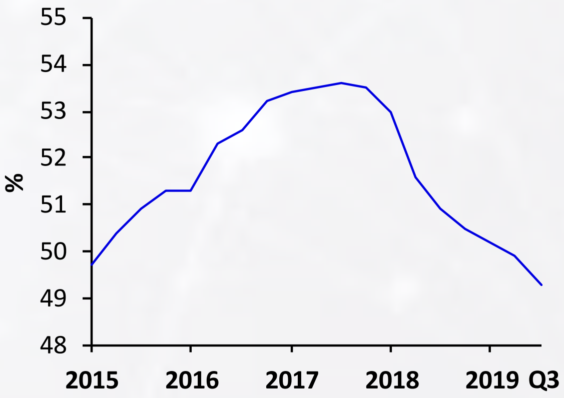
Household Debt



Outstanding Housing Loans



Average LTV Ratio



MAS

Household maturity risk is stable, as shorter-term liabilities, mainly in the form of unsecured credit, are contained.

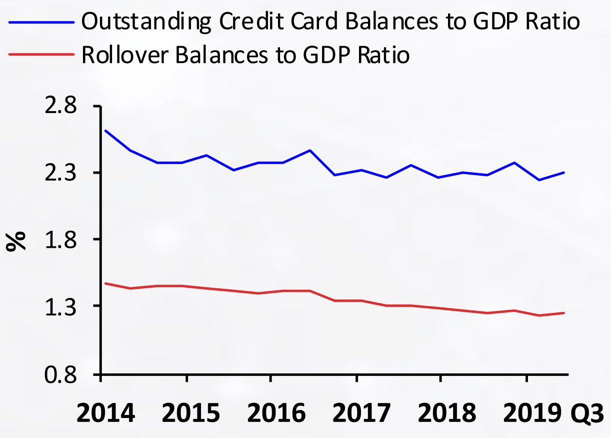
Household sector FVI (YOY Changes)	Q3 2018	Q3 2019
Overall Household FVI	→	↘
Maturity risk	→	→

YOY Changes in FVI

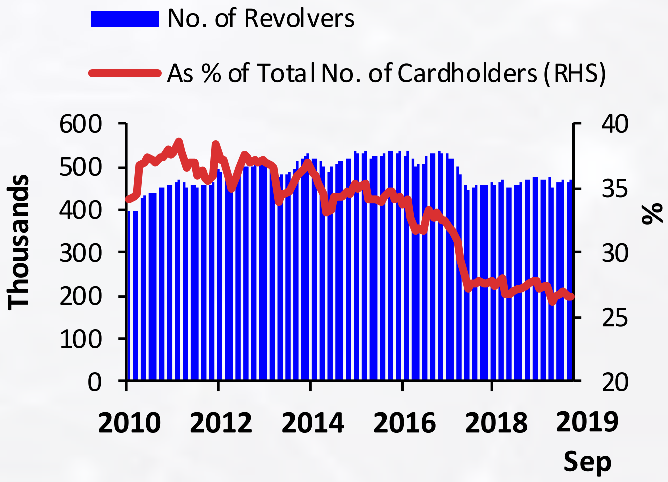
Decreased significantly | Generally unchanged | Increased significantly

- Strengthening of unsecured credit rules by MAS since June 2014 has encouraged financial prudence and enhanced FI's lending practices.
- The growth in credit card debt is in check, with ratio of outstanding credit card balances to GDP stabilising at 2.3% and ratio of rollover balances to GDP remaining low at about 1.3% as of Q2 2019.
- Credit quality of credit card debt has improved, with share of revolvers falling from 35% in Q1 2015 to about 27% in Q3 2019.

Credit Card Balances to GDP



Revolvers as % of total cardholder base



While household balance sheets indicate adequate financial buffers, over-extended households should be cautious in taking on new debt.

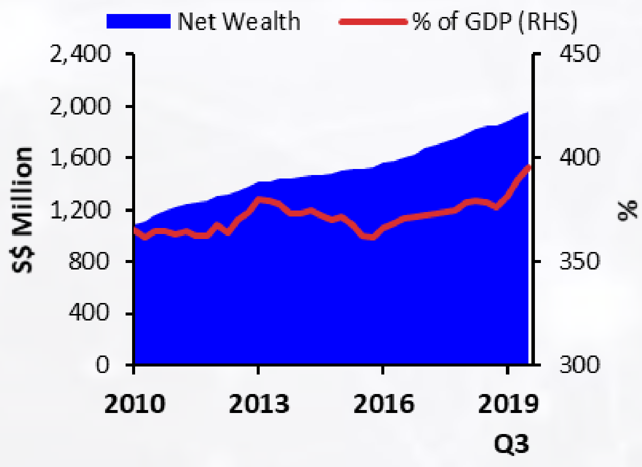
Household balance sheets have adequate financial buffers

- Household net wealth has continued to grow, reaching almost four times of GDP in Q3 2019, while liquid assets such as cash and deposits continue to exceed total liabilities
- MAS' simulations suggest that Singapore households' debt servicing burden remains manageable under stress.

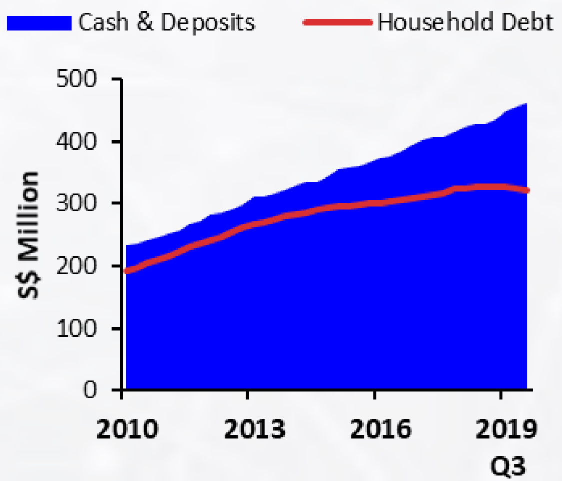
Nonetheless, over-extended households should be cautious

- Ongoing uncertainties in the economic outlook, softening labour market conditions, and slower income growth could weigh on households' financial positions.
- While property market measures in July 2018 have helped to bring prices closer to economic fundamentals, prospective buyers should be mindful of their ability to service their mortgage obligations given the uncertain economic outlook.

Household Net Wealth



Household Cash and Debt

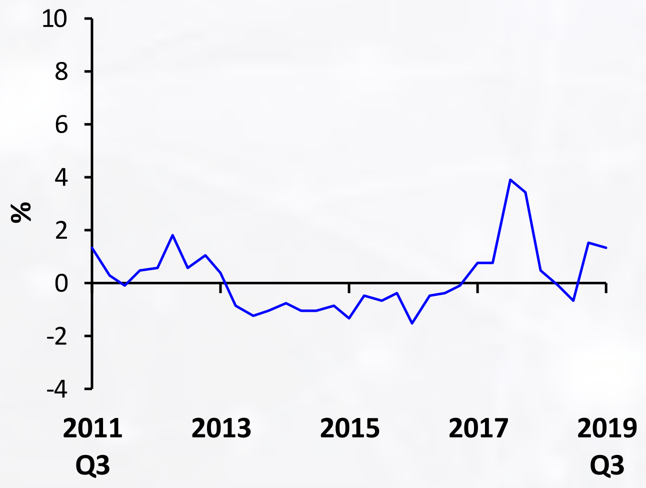


MAS

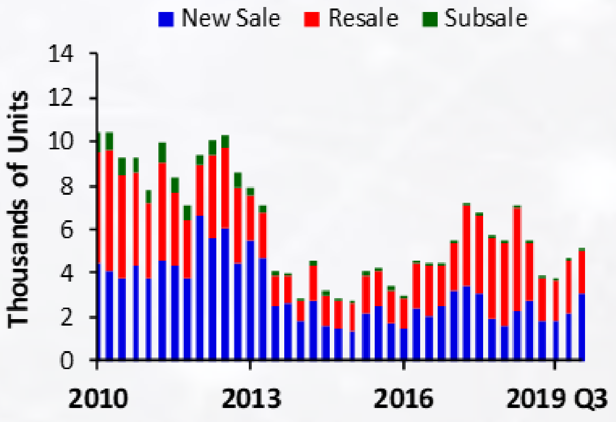
Private residential property market activity has moderated since the July 2018 cooling measures.

- Price movements have moderated in the quarters since July 2018 and remained modest in Q2 and Q3 2019.
- While selected new projects saw relatively healthy sales in the last two quarters, others experienced only a moderate response. Secondary market sales volume were modest compared to pre-cooling measures levels, and developers are more cautious in their bidding for land.
- Activity by foreigners and corporates have remained stable over the past year. The share of transactions by corporates and foreigners remained stable, accounting for 1-2% and 5-6% of total transactions respectively over the past three quarters.

QOQ Change in Private Property Price Index



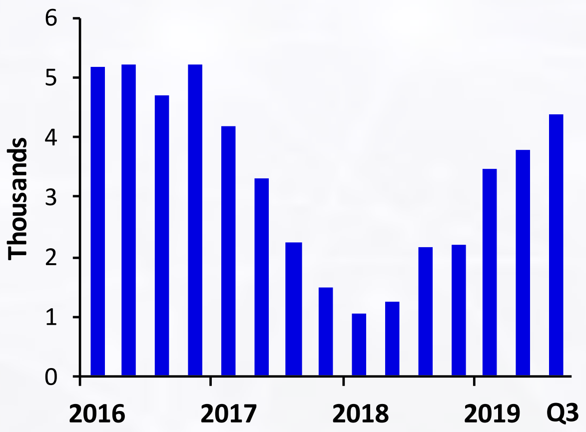
Number of Private Residential Property Transactions



Ongoing uncertainties in the economic outlook, softening labour market, and a large supply of unsold units in the medium term could weigh on the market.

- The number of unsold units from launched projects has doubled between Q3 2018 and Q3 2019, and the increase will likely be exacerbated as developers continue to redevelop and launch projects on sites.
- The increase in developers' unsold inventory could place downward pressure on prices in the medium term, if unaccompanied by a corresponding rise in demand.

Launched But Unsold Units



Special Study 3: The effects of speculative activity, and transaction types on private residential property prices in Singapore

This box summarises work done by the IMF during their Financial Sector Assessment Programme earlier this year, with the following messages:

- Pre-2013 price movements in Singapore's private residential property market appear to be partly driven by global factors. Macroprudential measures have reduced price growth, muting the build up of financial risk.

- Regression analysis confirm that price increases from 2010 to 2013 were related to speculative activity and to foreigners' and corporates' purchases, with foreigners having the largest impact on growth of prices.

- By targeting sources of risks including transactions of speculators, foreigners and corporates through stamp duties, property market-related measures limited excessive property price increases and contributed to improving the resilience of households and financial institutions against shocks.

MAS

Singapore Financial Sector

Singapore's banking system remains healthy amid stable leverage risks.

Banking sector FVI (YOY Changes)	Q3 2018	Q3 2019
Overall Banking FVI	↗	→
Resident Leverage risk	↗	→
Non-Resident Leverage risk	↗	→

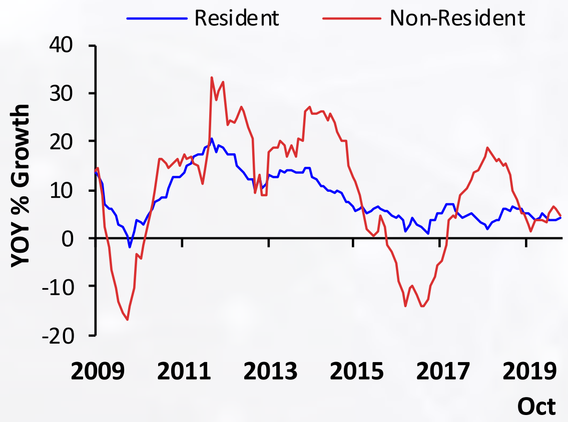
YOY Changes in FVI

Decreased significantly | Generally unchanged | Increased significantly

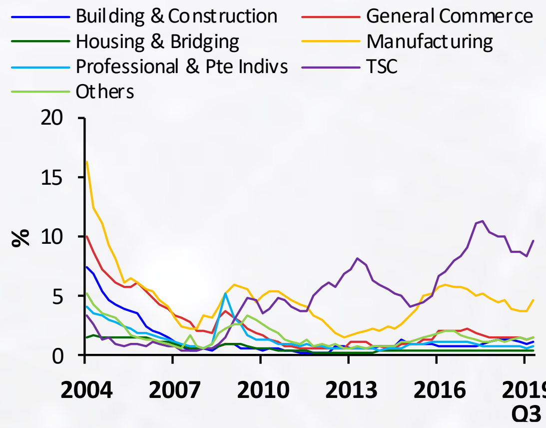
Vulnerabilities from leverage has remained stable, as credit growth moderated. Asset quality has slipped, particularly for trade-related sectors.

- Vulnerabilities arising from leverage in the banking sector has remained unchanged from its elevated level a year ago, as credit growth has slowed.
- With the difficult external demand conditions, the NPL ratios for trade-related sectors have increased in the recent quarter. Banking system's overall NPL ratio has shown a slight uptick to 2.0% in Q3 2019.

Non-bank Loan Growth by Residency



Banking System NPLs by sector



Banks' overall liquidity positions remain strong but foreign currency liquidity, particularly in USD, could see some pressures under stressed conditions.

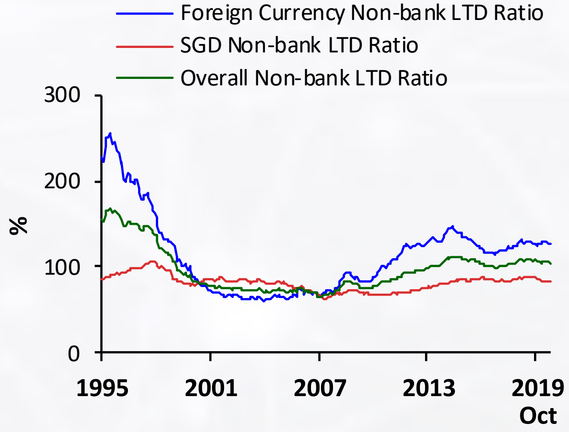
Banking sector FVI (YOY Changes)	Q3 2018	Q3 2019
Overall Banking FVI	↗	→
Liquidity	→	→
Maturity	→	→

YOY Changes in FVI

Decreased significantly | Generally unchanged | Increased significantly

- Foreign currency loan-to-deposit (LTD) ratio remains at an elevated level of 125.7% in October 2019.
- Liquidity stress tests conducted with the IMF suggested that the foreign currency liquidity position of banks in Singapore could also be vulnerable to severe stress scenarios. While D-SIBs maintained adequate SGD liquidity buffers, they could fall short of all-currency LCR regulatory requirements under severe stress conditions primarily due to USD funding activity.

Banking System's Non-bank LTD Ratios



Banks in Singapore have ample capital and liquidity buffers; However, banks should maintain strong underwriting standards and be vigilant against foreign currency liquidity risk.

Singapore's banking system is healthy with ample capital and liquidity buffers.

- MAS' annual industry-wide stress test (IWST) exercise showed that banks in Singapore have the capacity to withstand severe shocks. Stress test results showed that all banks would remain solvent, with their aggregate Capital Adequacy Ratio (CAR) remaining above MAS regulatory requirements.

However, the extended uncertain global operating environment could present challenges.

- Some pressures on profit margins may re-emerge as interest rates stay lower for longer. Banks should continue to maintain strong underwriting standards and ensure adequate provisioning coverage.
- An unexpected tightening of global liquidity could accentuate short-term foreign currency liquidity conditions in the banking system. Banks should be vigilant to continuing pressures on their foreign currency liquidity positions.

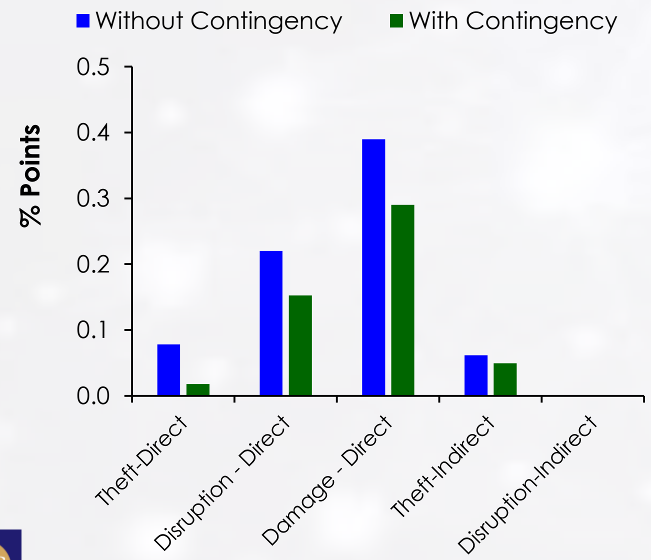
Special Study 4: Cyber risk stress tests for banks and insurers

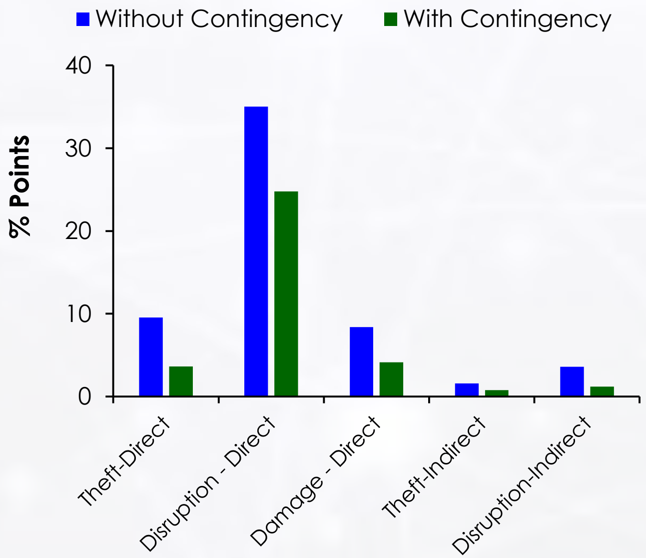
This box presents the methodology and results of the cyber stress tests that were conducted as part of the IMF Financial Sector Assessment Programme.

Key Messages:

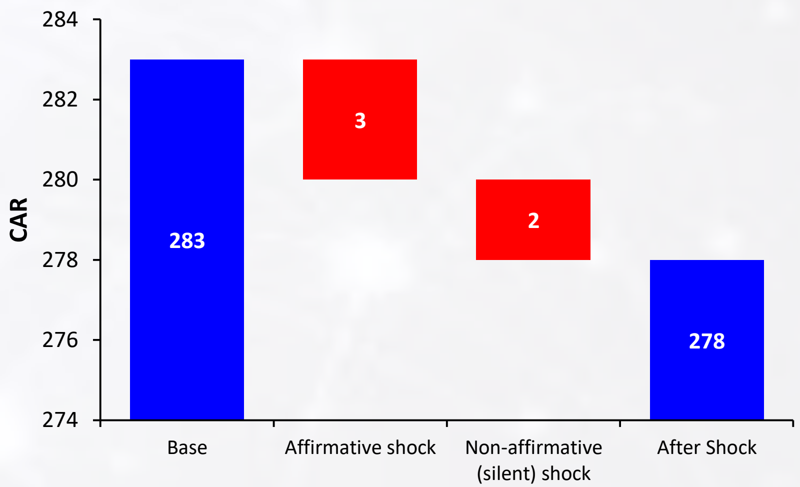
- Banks and insurers have **adequate buffers to weather the impact of cyber shocks.**
- The stress tests **increased understanding of the microprudential impact** of cyber risk events, and **future cyber stress tests will extend the framework to the systemic implications.**
- **Greater collaboration between regulators and industry** is required to develop better analytical approaches/tools to assess financial stability implications of cyber events.

Impact of Cyber Stress Scenario on DSIBs' Capital Adequacy Ratio and Liquidity Coverage Ratio





Impact of Cyber Stress Scenario on Insurers' Aggregate Capital Adequacy Ratio



Thank you