Trends in financial intermediation: Implications for central bank policy

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Abstract

Accommodative global liquidity conditions post-crisis have translated into low domestic borrowing costs and strong domestic credit growth, with household and corporate leverage trending upwards. Bank lending remains the predominant source of financing in Singapore, with cross-border and foreign currency exposures growing as the domestic banking system channels funds to emerging Asia. The Monetary Authority of Singapore (MAS) closely monitors the potential financial stability implications of such trends in financial intermediation. With monetary policy directed at securing medium-term price stability for the overall economy, MAS employs macroprudential tools and complementary policies to address specific financial stability risks.

Keywords: Financial intermediation, monetary policy, exchange rate framework, financial stability, macroprudential policy

JEL classification: E44, E52, E58, G21

1. Financial intermediation in Singapore – recent trends

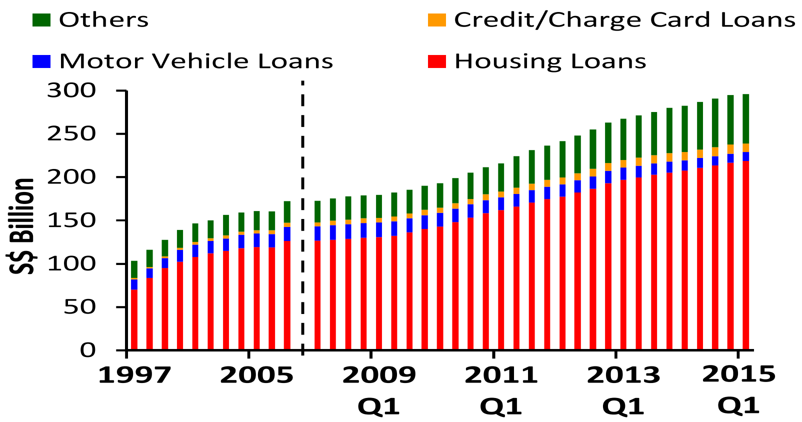
The prolonged low interest rate environment post-crisis has contributed to strong domestic credit growth. Singapore's monetary policy centres on the management of the exchange rate rather than domestic interest rates and, as its financial markets are internationally integrated, interest rates in Singapore are largely driven by global developments and investor expectations of future movements in the Singapore dollar. Consequently, accommodative global liquidity conditions have translated into low domestic borrowing costs. Since end-2006, domestic interest rates have declined significantly, with the three-month SGD interbank offered rate (SGD SIBOR) falling from 3.4% p.a. at end-2006 to around 0.4% in 2011, and remaining relatively unchanged until end-2014.[1]

Household and corporate leverage has trended upwards on the back of low interest rates and easy financing conditions:

- Households. The household debt-to-income ratio increased from 1.9 times in 2008 to 2.2 times in 2014 . MAS has taken measures to encourage financial prudence, including tighter rules on housing loans and unsecured credit, and the pace of growth in household debt has since slowed markedly. In Q1 2015, the growth of household liabilities moderated to 4.8% year on year, compared to an average of 9.2% year on year over the last five years. The composition of household debt has remained broadly constant, with housing loans continuing to account for a large share of household sector liabilities (74% as at Q1 2015, see Graph 1).

Household debt

Graph 1



Source: Singapore Department of Statistics.

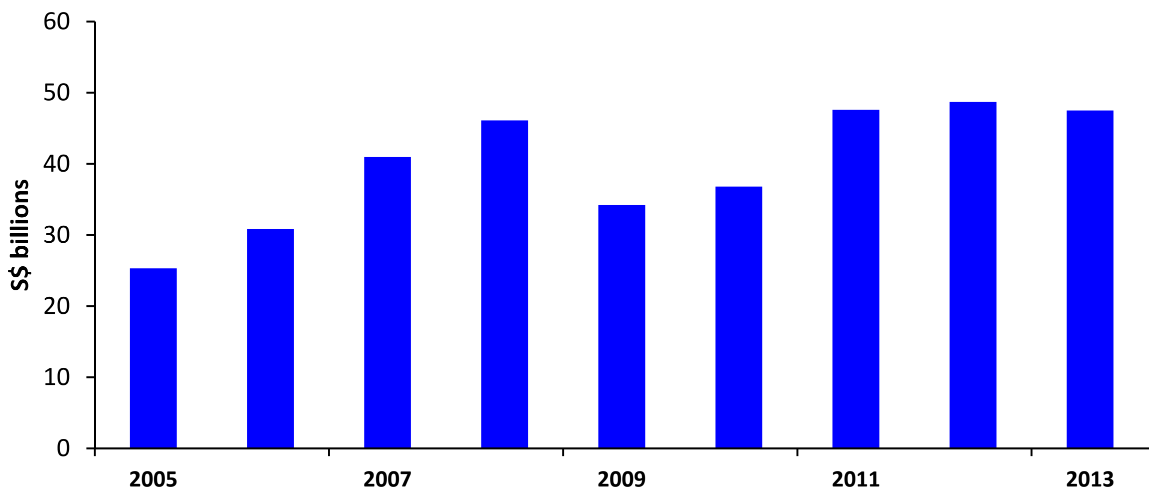
Note: Data for 1997–2007 are as at Q4.

- *Non-financial corporates (NFCs).* The prolonged low interest rate environment has seen corporate debt rising, with the debt-to-GDP ratio for listed corporates

[1] As at end-January 2015, three-month SGD SIBOR was about 0.65%.

moving up from 52% in Q2 2008 to 81% in Q3 2014, and has since stabilised at 75% since Q4 2014. Corporates may have taken advantage of low borrowing costs to bring forward capital expenditure or restructuring plans (Graph 2). Indeed, there are some indications that low borrowing costs have led to a shift in the capital structure of corporates from equity to debt. The median debt-to-equity ratio of listed corporates rose from 33% in Q4 2008 to 41% in Q1 2015.

Capital expenditure by corporates — Graph 2



Source: Thomson Financial.

Capital markets activity has increased, although bank lending remains the predominant source of financing.

- The Singapore corporate bond market has grown steadily. The outstanding volume of Singapore corporate bonds continued to grow, increasing at a CAGR of 9.9% from 2008 to 2013, to reach SGD 272.4 billion as at end-2013. Market-based financing can be beneficial as it allows corporates to diversify their investor base and lock in lower interest rates. In comparison, bank lending remains the predominant source of financing in Singapore, with outstanding total non-bank corporate loans at SGD 870 billion as of Q1 2015.
- "Shadow banking" risks in Singapore remain small. Non-bank, non-insurer financial intermediaries such as real estate investment trusts, broker-dealers and investment funds had assets comprising only 5.5% of total financial system assets as at end-2013.[2] These intermediaries do not perform significant credit intermediation or significant maturity and liquidity transformation, and are not highly leveraged.

[2] Monitoring Universe of Non-bank Financial Intermediation (MUNFI) estimates from FSB Shadow Banking Report 2014.

In recent years, there has been an increase in cross-border and foreign currency credit intermediation to emerging Asia, reflecting the ongoing search for yield and robust growth in emerging economies.

- The Singapore banking system intermediates funds between advanced economies and emerging Asia, to support growth and trade in the region. Since 2008, a growing number of local and international corporates have used Singapore as a funding hub to expand across Asia. Accordingly, the Singapore banking system's role has evolved from being a net lender to advanced economies, to being a conduit of funds to emerging Asia.

2. Interaction between monetary and macroprudential *policy*

Singapore's monetary policy framework does not utilise interest rates or any monetary aggregate to influence key economic variables. Instead, the instrument of monetary policy is the trade-weighted exchange rate, known as the Singapore dollar nominal effective exchange rate (SGD NEER). The SGD NEER is managed against a basket of currencies[3] of Singapore's major trading partners and competitors, and is allowed to fluctuate within a prescribed policy band.[4]

The exchange rate transmission mechanism operates independently of financial intermediation. Instead, the exchange rate policy is directly transmitted to economic variables through its influence on import prices and on derived demand for Singapore's exports.

- *Import price channel*. As Singapore imports much of what it consumes, domestic prices are determined to a large extent by world prices. The exchange rate acts as a filter for imported prices, directly influencing the price of goods and services expressed in terms of domestic currency.
- *Derived demand channel*. Due to the export-oriented nature of the Singapore economy, an appreciation of the exchange rate will moderate external demand for Singapore's exports, decreasing demand for domestic factor inputs and factor prices. This, in turn, reduces the domestic demand for non-tradable goods and services, and puts downward pressure on prices. Conversely, a depreciation of the currency will help to boost exports and exert upward pressure on aggregate demand and prices.

[3] The currencies used and the weight each currency is given reflect the level of Singapore's dependence on that particular country for trade. MAS reviews and revises the composition of the basket from time to time, to take into account changes in Singapore's trade patterns. A basket of currencies is used, rather than pegging the Singapore dollar against a single currency, because of the diversity of Singapore's trading partners and sources of imported inflation.

[4] As far as possible, MAS allows market forces to determine the level of the SGD NEER within the prescribed band. By establishing a ceiling and floor for the SGD NEER, the SGD NEER is allowed to absorb short-term market volatility, providing more flexibility in managing the exchange rate and limiting any spillover that this volatility may have on the real economy.

In Singapore, the design of macroprudential policies complements the exchange rate-based monetary policy.[5]

- Monetary policy in Singapore is directed at securing medium-term price stability for the overall economy, and is not aimed directly at addressing risks associated with the asset markets.
- As monetary policy centres on the exchange rate, interest rates are essentially imported from abroad. Under this framework, macroprudential policy is required in a complementary fashion to secure macroeconomic and financial stability. For example, there is a central role for some form of macroprudential instruments to ensure that credit growth is not excessive.

Monetary and macroprudential policy can affect both of the twin objectives of price and financial stability. ***The critical question is how to take into account the spillover effects and obtain an optimal mix of the two policies.*** Conceptually there would be an iterative process to arrive at the optimal mix of monetary and macroprudential policies. The optimal mix would be based on ***an assessment of the different elasticities of response to monetary and macroprudential policies across the goods and credit/asset markets.***

- In reality, this iterative process works through close coordination and information exchange among policymakers, so that the desired objectives of price and financial stability can be achieved more efficiently.

3. Potential risks from financial intermediation

MAS closely monitors the trends in financial intermediation as they have implications for financial stability. MAS will take measures as necessary, including the use of macroprudential tools, to address financial stability risks.

Risks to banks

In acting as an intermediary of fund flows to the region, banks in Singapore are exposed to credit, funding and liquidity risks.

- Cross-border credit exposures to particular markets could pose risks in the event of external economic shocks, as a rising number of distressed corporate borrowers would translate into credit losses and higher NPLs. Emerging Asia

[5] MAS is of the view that monetary policy should be directed at securing medium-term price stability for the overall economy and the design of macroprudential policies continues to complement its exchange rate-based monetary policy. This means that:

(i). Monetary policy takes into account both CPI All-Items Inflation and MAS Core Inflation.

(ii). To the extent that asset prices affect the medium-term trajectory of prices and output (eg through second-round effects on Core Inflation and its persistence), monetary policy should remain on a tightening bias to signal to economic agents that the central bank stands ready to anchor inflation expectations and dampen economic activity.

(iii). However, monetary policy will not seek to directly offset the asset price cycle. To the extent that low domestic borrowing costs (which reflect the abnormally low global interest rates) fuel increases in asset prices, it is preferable to deal with asset price inflation through macroprudential tools.

now accounts for more than half of Singapore's banking system's cross-border exposures. Amidst a more uncertain outlook for Asia, banks in Singapore would need to carefully monitor the risks from their increased exposures to the region.

- Loans by foreign banks in Singapore are often funded through intragroup deposits from their head office or related banks. While intragroup funding reduces counterparty risk, a bank would be vulnerable to liquidity risk if it were unable to access head office funding in times of stress.
- Loan-to-deposit (LTD) ratios have fallen from their recent peak in Q2 2014, with the overall LTD ratio easing to 108% in Q1 2015. This trend has been driven by the foreign currency LTD ratio falling to 133% in Q1 2015, as foreign currency loan growth moderated even as foreign currency deposits continued to grow; meanwhile, the SGD LTD ratio remained below 100%. The higher foreign currency LTD ratio is a consequence of Singapore's role as an international financial centre since cross-border loans from Singapore, including trade finance, are mostly foreign currency-denominated.

MAS closely supervises banks to ensure that their risk management processes and controls are sound.

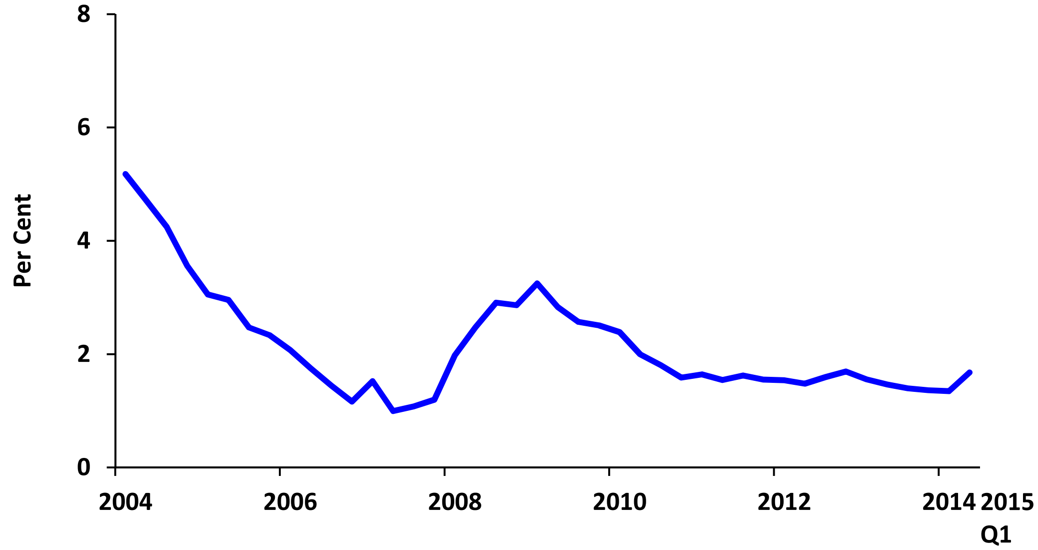
- MAS conducts annual industry-wide stress tests to assess banks' resilience to a range of external and domestic shocks. Stress scenarios used in MAS stress tests have included interest rate shocks and a severe property market downturn, and adverse economic growth scenarios affecting banks' NPLs. The results of the 2014 industry-wide stress tests indicate that banks in Singapore are resilient, with CAR levels remaining above regulatory requirements in stress scenarios.
- MAS assesses banks' liquidity risks through regular reviews of banks' funding and liquidity profiles, and ongoing interactions with home regulators of foreign banks to assess the level of head office support in times of stress. In addition, MAS regularly stress tests banks' liquidity positions as part of the annual industry-wide stress test.

Risks to corporates and households

Despite the increase in borrowing, corporate and household balance sheets have remained healthy. The debt-servicing ability of listed corporates remains strong, with the median interest coverage ratio standing at 4.3 times in Q1 2015. The asset quality of banks' corporate and household loan portfolios remains high, with the non-performing loan (NPL) ratio for non-financial corporate loans remaining low at 1.7% in Q1 2015 (Graph 3). Likewise for households, the NPL ratio for housing loans has stayed below 0.5% (Graph 4), and credit card charge-off rates have been largely stable at 4–5% since 2010.

Corporate NPL ratios

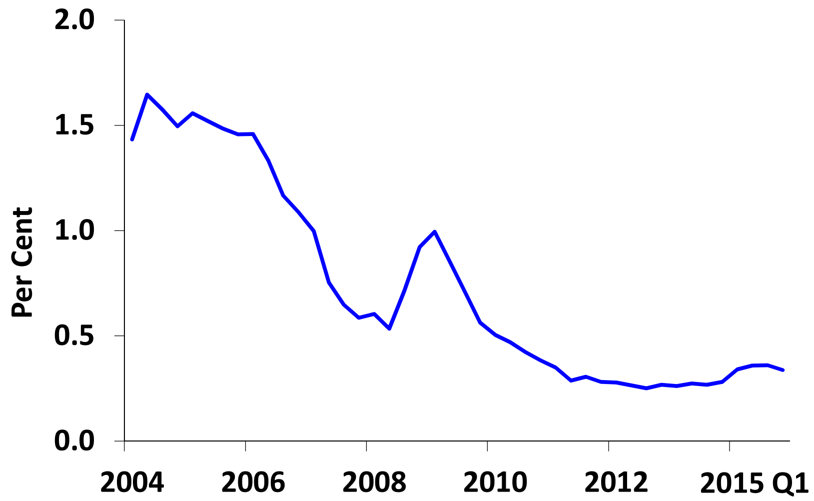
Graph 3



Source: MAS.

Housing loan NPL ratios

Graph 4



Source: MAS.

MAS closely monitors household and corporate balance sheets to detect emerging financial stability risks. Should the benign macroeconomic and financing environment deteriorate, highly leveraged corporates and households may face financing risks and find debt repayment burdens unsustainable.

MAS stress tests of corporate balance sheets suggest that the corporate sector is generally robust. While the proportion of firms with high debt-to-equity and debt-to-EBITDA ratios has crept up, they do not pose systemic risk. The majority of corporates have sufficient solvency buffers to service interest expenses, and a significant number of the highly leveraged corporates hedge against interest rate and currency risks.

MAS will continue to encourage financial prudence and put in place measures to keep household debt at a manageable level.

- *Housing market measures.* The combination of low borrowing costs and a buoyant property market could result in some households over-extending themselves in the housing market. The banking system also has significant loan exposure to property (26% of total non-bank loans as at Mar 2015). MAS has deployed a range of macroprudential tools to encourage financial prudence and to pre-empt financial stability risks from a disorderly correction in the property market. These include loan-to-value (LTV) limits, loan tenure caps, and a prohibition on interest-only loans for housing loans, and a Total Debt Servicing Ratio (TDSR) framework for property-related loans. These policies, combined with other fiscal and administrative measures,[6] have helped to stabilise property prices.
- *Motor loans and consumer credit.* To encourage prudence with regard to motor loans and consumer credit, MAS has reintroduced financing restrictions on motor vehicle loans[7] and strengthened rules on unsecured credit facilities and credit cards.[8] These measures have led to an improvement in the credit profile of borrowers in Singapore and slowed the pace of growth in household debt. MAS will continue to monitor lending and borrowing activities, and take further measures where necessary to keep household debt at a manageable level.

Emerging risks

While banks remain the dominant source of credit in Singapore, the growth of market-based financing, while providing a useful alternative to traditional bank lending in Asia, will bring new risks.

Risks may arise as more corporates source funding from capital markets. MAS is aware that corporate bond market disruptions could have a knock-on effect

6 Singapore has taken a whole-of-government approach to coordinate property market agencies across different agencies. Besides the credit-based measures listed above, Singapore also imposed fiscal measures such as seller stamp duties and additional buyer's stamp duty to discourage speculative activity in the housing market, and it has also used supply side policies and government land sales to help meet housing demand.

7 MAS reintroduced financing restrictions on motor vehicle loans in February 2013. The maximum LTV is 60% for a motor vehicle with open market value (OMV) that does not exceed $20,000 and 50% for a motor vehicle with OMV of more than $20,000. The term of a motor vehicle loan is capped at five years.

8 Since June 2014, financial institutions (FI) have been required to conduct checks with credit bureaus and take into account the total credit limits and total outstanding debt balances of a borrower before they can grant a borrower a new credit card, a new unsecured credit facility or an increase in credit limit.

In addition, with effect from June 2015, an FI will not be allowed to grant additional unsecured credit to a borrower who is 60 days or more past due on any credit card or unsecured credit facility. FIs will also be prohibited from granting further unsecured credit to a borrower whose outstanding unsecured debt aggregated across all FIs exceeds his annual income for three consecutive months or more.

on corporates' ability to raise further debt financing and the cost of re-financing. MAS continues to monitor the liquidity and volatility in secondary markets given concerns over a withdrawal by banks from market-making activities, and industry initiatives to enhance secondary liquidity of bond markets.[9]

MAS will continue to monitor developments in shadow banking activities in Singapore. Shadow banking activities are assessed to pose minimal risk to Singapore's financial system at this point. However, an increase in non-bank intermediation involving significant maturity transformation, liquidity transformation credit risk transfer or leverage could create systemic concerns and would bear watching.

[9] For instance, a number of dealer banks have set up internal crossing networks to match client orders so as to pool liquidity. In addition, technology has been developed to facilitate the sharing of information on bond inventories across different liquidity pools. A number of industry players have also called for buy-side firms to step in to provide secondary market liquidity, and for secondary transactions to be shifted onto electronic trading platforms. This could help diversify the pool of liquidity providers and would make the corporate bond market more resilient to shocks.