Financial Stability Review

OCTOBER 2023

RESERVE BANK OF AUSTRALIA

Financial Stability Review

OCTOBER 2023

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The material in this *Financial Stability Review* was finalised on 5 October 2023 and uses data through to 5 October 2023.

The *Review* is published semiannually and is available on the Reserve Bank's website (www.rba.gov.au). The next *Review* is due for release on 22 March 2024. For copyright and disclaimer notices relating to data in the *Review*, see page 71 and the Bank's website.

The graphs in this publication were generated using Mathematica.

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ISSN 1449–3896 (Print)
ISSN 1449–5260 (Online)

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Financial Stability Assessment

Global financial stability risks are elevated, reflecting challenging macroeconomic conditions.

The increase in inflation and interest rates since 2021 has put pressure on household and business finances in Australia and around the world. It has also exposed vulnerabilities in parts of the international banking system, in some non-bank financial institutions (NBFIs) and in segments of global financial markets. Periodic episodes of stress in some economies, including the banking stress in the United States and Switzerland in March 2023, have required intervention by policymakers to support financial stability.

Households and businesses in advanced economies have been largely resilient to date, despite a challenging set of economic conditions that includes high inflation, restrictive monetary policy settings and slowing growth. Low levels of loan arrears and high levels of capital and liquidity continue to support stability in the global banking system. However, global financial stability risks remain elevated.

Key global risks include:

- **The interaction of property sector stress in China with other long-running imbalances there that could spread to the rest of the Chinese economy and financial system and reverberate globally.** The property sector is a key part of the Chinese economy and could negatively interact with long-running macro-financial imbalances in China through interlinkages with local government financing, shadow banking activities and banks.
- **A further substantial tightening in global financial conditions and disorderly repricing in financial asset markets.** Inflation and interest rates remaining high for an extended period could lead to a significant deterioration in credit quality that could lead to lenders cutting back on the provision of credit. There could also be declines in asset prices that are sufficiently disorderly to disrupt financial system functioning. Vulnerabilities in NBFIs in key global financial markets, including shortcomings in the risk management of leverage and liquidity mismatches, could significantly amplify these abrupt adjustments in financial markets.
- **A sharp increase in unemployment and a slowdown in advanced economies.** While most banks are well placed to withstand a sharp economic slowdown, higher-than-anticipated loan losses resulting from rising unemployment could lead to a tightening in lending standards, amplifying the downturn. In some jurisdictions, weak conditions in commercial real estate (CRE) markets are likely to exacerbate banks' losses and impair credit provision. This is especially true for smaller US banks whose exposure to CRE loans is particularly large (around one-quarter of assets).

If these risks come to pass, their transmission to the Australian financial system could occur mainly through two channels:

1. A substantial tightening in global financial conditions and disorderly adjustments in asset prices could affect domestic funding costs and access to credit, and strain balance sheets of financial institutions, households and businesses in Australia.
2. A sharp slowdown in global growth would impact Australia's growth via trade linkages, adding to difficulties for Australian households and businesses, some of which are already financially stretched. The nature of the underlying shock to global growth would determine the speed and magnitude of adjustment in Australia (which could play out unevenly for different sectors of the economy), though overall it is likely that nominal incomes would be lower and unemployment higher. This would challenge the debt-servicing capacity of the more vulnerable borrowers among Australian households and businesses.

While stress in overseas CRE markets could also spill over to Australia – reflecting an increase in foreign ownership over the past decade or so – the systemic risks to the domestic financial system arising from CRE developments are limited due to Australian banks' low exposure and conservative lending practices.

Most Australian households and businesses remain well placed to adapt to the challenging set of economic conditions, though some are vulnerable to further shocks.

A strong labour market and sizeable savings buffers have played a key role in Australian households' ability to adapt to a difficult economic environment. Most borrowers have been able to make adjustments to their finances as required, including by restraining their discretionary consumption, reducing their savings rates or even drawing down their stock of savings, and increasing hours worked. Incidences of severe financial stress are expected to increase but remain limited to a small share of housing borrowers.

Like households, businesses also benefited from the strong recovery from the pandemic. However, over the past year or so, the effects of inflation and higher interest rates have fallen unevenly. Ongoing cost pressures coupled with a recent softening in demand are putting pressure on some businesses' profits and liquid reserves, particularly in the construction, and arts and hospitality sectors. Corporate insolvencies have increased to around pre-pandemic levels, though most have tended to be small firms with little debt, limiting their broader impact on the economy and financial system.

The ongoing pressure on many households' and businesses' incomes and balance sheets has made them vulnerable to further shocks. In an adverse scenario where growth slows and unemployment rises more sharply than expected, loan losses for banks would increase. However, their provisioning and capital levels leave banks well placed to manage the increase in arrears, limiting the impact on credit provision in the economy and overall stability of the financial system.

Risks to financial stability are elevated but the Australian financial system remains strong.

Banks are at the core of the Australian financial system and remain well positioned to continue supplying credit to the economy despite elevated global and domestic risks; they are profitable and hold capital and liquid assets well in excess of regulatory requirements. Overall, Australian banks are in a strong position to raise provisions and absorb loan losses if economic conditions worsen more than expected. The very low share of borrowers in negative equity on their loans further protects banks against credit losses. Banks' funding sources are relatively stable, with a large share of domestic

deposits, which are less susceptible to flight risk. This would leave them well placed if there were to be disruptions to international funding market conditions. Furthermore, the risk of higher interest rates adversely impacting banks' balance sheets is proactively managed under the Australian Prudential Regulation Authority's regulatory regime.

In contrast to some advanced economies, systemic risks posed by non-bank financial institutions remain low in Australia. The financial stability risks arising from higher interest rates are more limited for domestic superannuation funds and insurers, compared with some peers abroad. The defined contribution superannuation funds that dominate the market for retirement savings in Australia pass asset price risk directly through to end investors (i.e. members), while domestic insurance companies tend to have little net exposure to interest rate risk due to the composition of their balance sheets and hedging of residual risk. Many non-bank lenders are experiencing a challenging environment for funding and/or asset quality; in aggregate, however, they pose limited systemic risk to the financial system owing to their small share of overall housing and business credit in Australia.

Strengthening institutions' financial and operational resilience to threats emanating from outside the financial system remains a regulatory priority.

There are several ongoing risks to financial stability originating from outside the financial system. These include the increasing intensity of cyber-attacks on financial institutions, the potential for an escalation in geopolitical tensions that results in severe disruptions to trade and international capital flows, and the effects of and responses to climate change (including disruptions to energy markets). These risks may also interact, adding to the uncertainty around how they might transmit through the financial system.

In response to this escalating threat environment, Australia's regulatory agencies have increased the intensity of their supervision of operational resilience among key financial institutions. It is important that Australian financial institutions continue to invest the time and resources required to enhance their operational defence and recovery plans in light of the heightened risk environment.

1. The Global and Macro-financial Environment

Summary

The increase in inflation and interest rates since 2021 has put pressure on household and business finances in Australia and around the globe. It has also exposed vulnerabilities in some overseas banks, financial markets and non-bank financial institutions (NBFIs). However, in the face of a more challenging macroeconomic environment, households and businesses have been largely resilient to date, which has kept loan arrears low, and the global banking system continues to be supported by high levels of capital and liquidity.

Global financial stability risks remain elevated and include the following:

- **The spread of property sector stress in China to the rest of its economy and financial system**, which has other longstanding vulnerabilities. While direct links between China's financial system and the global financial system (including Australia) are generally limited, financial stress in China could spread to the rest of the world via its effect on global economic activity and associated changes in risk aversion (see 5.1 Focus Topic: Vulnerabilities in China's Financial System).
- **A sharp tightening in financial conditions and disorderly asset repricing** caused by, for example, a severe global economic downturn or a reassessment of the interest rate outlook if inflation stays high for longer than expected. A tightening in global financial conditions could transmit to Australia via linkages in funding markets and risk aversion.
- **NBFIs in key financial centres could amplify abrupt adjustments in global financial conditions**, as seen in episodes of stress in the global financial system in 2022.
- **A further weakening of conditions in commercial real estate (CRE).** Current challenges – including higher interest rates, declining incomes and falling prices – are weighing on the ability of borrowers in this market to service and roll over their debt; as a result, stress in the sector could intensify. However, banks in most overseas markets and in Australia should generally be more resilient to CRE stress than in past, owing to conservative lending practices implemented in recent years. Banks in some economies,

including Australia, are also less exposed to the CRE sector compared with previous periods of high inflation and interest rates, such as in the early 1990s.

- **A sharp increase in unemployment and a slowdown in economic growth.** While most banks are well placed to withstand a sharp economic slowdown, higher-than-anticipated loan losses resulting from high unemployment could lead to a tightening in lending standards, which would in turn amplify that downturn.
- **Renewed pressure on smaller banks, especially in the United States**, due to a significant increase in their cost of funding and the potential for a rise in non-performing loans (NPLs), including from CRE exposures. This could lead to a broad-based tightening in financial conditions, because these banks account for a large share of loans outstanding.
- **Ongoing threats to global financial stability generated from outside the financial system continue to build**, including those related to cyber-attacks, geopolitical tensions and risks associated with climate change.

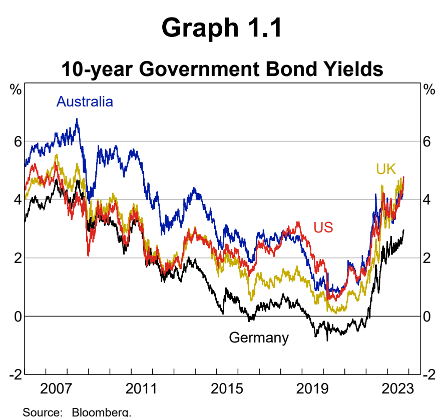
1.1 Global financial markets and non-bank financial institutions

Higher interest rates and high inflation have exposed vulnerabilities in some parts of the global financial system and put pressure on households and businesses.

Global interest rates have increased substantially since late 2021, after a prolonged period of historically low rates (Graph 1.1). This increase has exposed vulnerabilities in some banking systems, and stresses experienced by NBFIs have disrupted functioning in parts of the global financial system. Such events – including liquidity stress in commodity and energy markets in 2022, stress in UK government bond markets caused by pension funds in September 2022, and banking stress in the United States and Switzerland in March 2023 – have required interventions by authorities to ensure broader system stability.[1]

By contrast, households and businesses, both overseas and in Australia, have (to date) largely been resilient to high inflation and rising interest rates. Continued low unemployment and savings buffers built up during the pandemic have supported household finances. However, increased pressure on household budgets has led some to cut back on consumption, and the combination of slowing sales and high costs is affecting the cash flows of many businesses. Lending standards have tightened significantly overseas, making it more difficult for some households and businesses to obtain or roll over financing.

Markets appear to be pricing in a soft landing for the global economy. Spreads on



high-risk bonds remain around historical averages in major overseas markets (despite an increase in defaults to above pre-pandemic levels), valuations in equity markets (including in Australia) have increased over the past year, and analyst expectations of corporate earnings over the next 12 months continue to be strong (Graph 1.2). These higher valuations partly reflect positive sentiment in the IT sector related to developments in artificial intelligence. Nonetheless, yield curves have been persistently inverted in many economies, which point to expectations for substantially weaker growth and policy easing in the period ahead.

A large and disorderly adjustment in asset prices remains a risk to global financial stability.

Two possible triggers include:

- a sharp downturn in China and/or the global economy
- persistently high inflation, which requires interest rates to be increased further or held higher for longer than is currently expected.

Further increases in the cost of borrowing in advanced economies or disruptions in key international funding markets would likely tighten financial conditions in Australia.

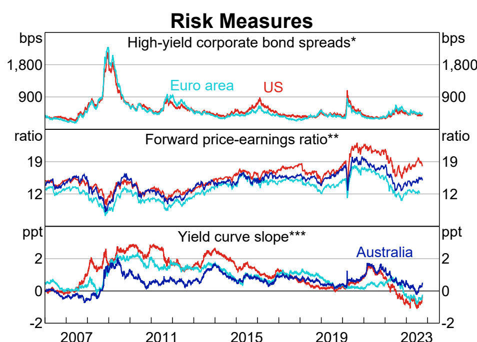
A related international risk is posed by the strong growth in assets managed by NBFIs in key global financial centres. These entities now account for around half of global financial system assets (Graph 1.3). Vulnerabilities in NBFIs, particularly investment funds, include high levels of leverage, liquidity mismatches and risk management practices that are generally less well developed compared with banks. These vulnerabilities have significantly amplified stresses in global financial markets over the past few years (see above).[2]

Addressing vulnerabilities in NBFIs remains one of the key priorities of global regulatory bodies, including the Financial Stability Board, with particular emphasis on the following areas:

- strengthening the resilience of money market funds and repo markets to shocks
- improving liquidity risk management practices in open-ended investment funds
- enhancing the monitoring of, and addressing financial stability risks from, leverage in NBFIs.

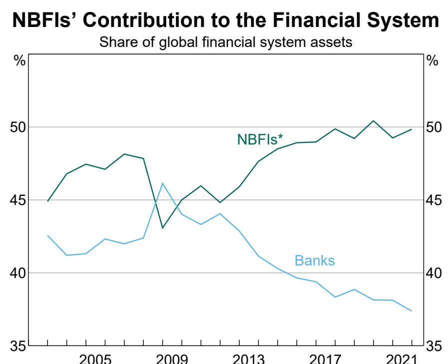
The Bank of England (BoE) also announced plans to create its first lending facility for insurance companies, pension funds and liability-driven investment managers. This is the first step of a

Graph 1.2



* There is no equivalent high-yield corporate bond measure for Australia.
** Total market capitalisation divided by aggregate 12-month forward earnings.
*** Calculated as the spread between the 10-year and 2-year government bond yields.
Sources: Bloomberg; ICE Data is used with permission; Refinitiv.

Graph 1.3



* NBFIs comprise insurers, pension funds, financial auxiliaries, and other financial intermediaries.
Sources: FSB; RBA.

much broader effort to develop an effective backstop lending tool for NBFIs.

Important differences in the composition of the financial system mean these vulnerabilities are not as prevalent in Australia. The Australian NBFI sector is largely comprised of superannuation funds that do not guarantee member returns, use little leverage, and have a lower risk of redemptions that could spark unforeseen liquidity calls. Outside of superannuation funds, credit intermediation from non-banks (including from hedge funds) is also limited in Australia compared with other economies, comprising 4 per cent of outstanding housing credit and 9 per cent of business credit.

1.2 Global commercial real estate markets

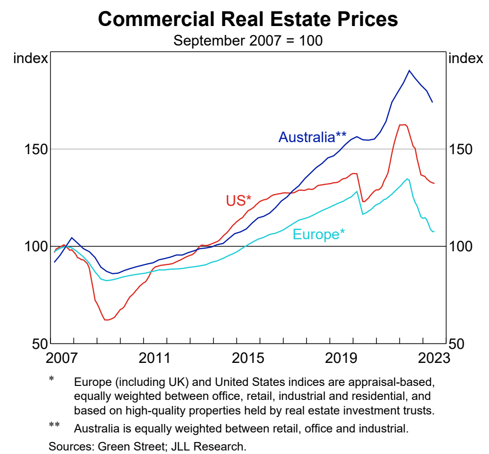
Weak conditions in CRE markets pose risks to global financial stability, although banking systems should be more resilient than in the past.

Conditions in global CRE markets continue to deteriorate.[3] Higher interest rates and weaker demand have weighed heavily on CRE prices, and further falls are likely given the lag in how commercial property prices tend to adjust to negative conditions. Prices have fallen by around 10–20 per cent since mid-2022 in Europe (including in the United Kingdom) and in the United States; price declines in Australia to date have been toward the lower end of this range (Graph 1.4). Price falls have been even larger for offices, where weak demand due to a shift towards working from home and a preference for higher quality office space has led to a significant increase in vacancy rates and a drop in landlord income (see Chapter 2: Resilience of Australian Households and Businesses).

Higher interest rates are also contributing to growing debt-servicing difficulties for some CRE borrowers. Loan arrears and defaults have increased in the (largely US-based) commercial mortgage-backed security market. US banks' CRE loan quality is also worsening, though from a strong starting point (Graph 1.5).

Weaknesses in CRE markets pose risks to the global financial system through links to banks and NBFIs in some economies. In the United States, smaller banks' exposure remains a concern as CRE loans represent around one-quarter of their assets (and a much larger share for some small banks), compared with 5 per cent of larger banks' assets. In Norway and Sweden, authorities are drawing attention to some banks' large exposures to CRE. For most economies, the

Graph 1.4

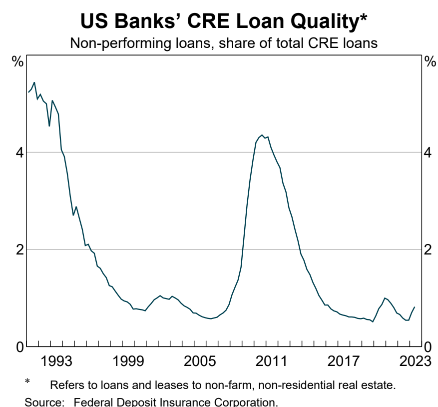


* Europe (including UK) and United States indices are appraisal-based, equally weighted between office, retail, industrial and residential, and based on high-quality properties held by real estate investment trusts.

** Australia is equally weighted between retail, office and industrial.

Sources: Green Street; JLL Research.

Graph 1.5



* Refers to loans and leases to non-farm, non-residential real estate.

Source: Federal Deposit Insurance Corporation.

strong starting point for underlying credit quality, improvements in lending standards over the past decade and high levels of capital should enable most banks to withstand any further deterioration in CRE market conditions. However, there are rising concerns regarding liquidity mismatches in funds that invest in CRE (as noted recently by the European Systemic Risk Board and the European Central Bank); in the event of large, unexpected redemption requests, these funds may be forced to sell their CRE assets at large discounts, contributing to steeper price falls.[4]

1.3 Households and businesses

Household debt levels are high in a number of economies, and resilience will be tested if unemployment increases sharply.

In Australia and elsewhere, most households have been resilient to high inflation and the significant tightening in monetary policy, supported by strong labour markets and the large liquid savings buffers accumulated during the pandemic. Mortgage arrears rates remain near historical lows in many economies (Graph 1.6).

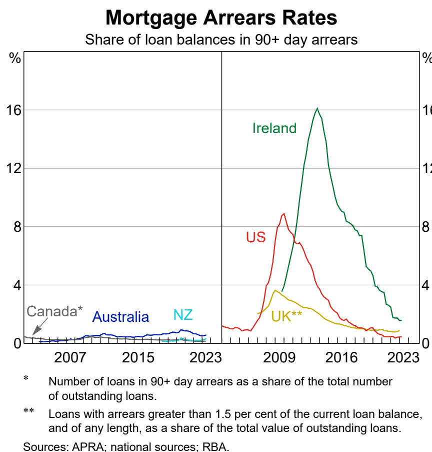
However, the experience across households has been uneven, and signs of early-stage financial stress are beginning to appear in some economies. Consumer loan arrears rates have increased in Canada and the United States, albeit from low levels, and households are relying more on credit cards to sustain spending in Canada, the United Kingdom and the United States.

Many borrowers face substantially higher required mortgage repayments than a year ago, particularly in economies with predominantly variable-rate and shorter term fixed-rate mortgages (Graph 1.7). Regulators generally expect that most borrowers will be able to continue to service their mortgages. However, more recent borrowers who took out loans near the peak of the housing price cycle when interest rates were at their lowest tend to be more vulnerable. Household debt levels are high in a number of economies; a greater-than-expected increase in unemployment or interest rates staying high for a prolonged period due to persistent inflation would pose significant challenges for household debt serviceability (and, in turn, present upside risks to banks' loan arrears).

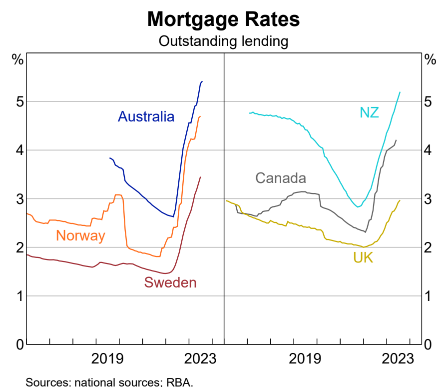
Stabilising housing prices are providing support to household balance sheets.

Housing prices have stabilised or increased recently in many advanced economies

Graph 1.6



Graph 1.7

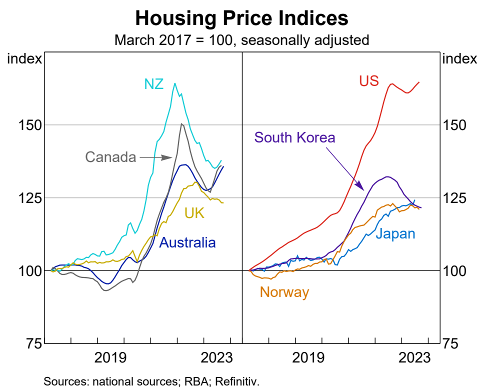


(Graph 1.8). Prices have risen by 7 per cent in Canada since their recent trough, 6 per cent in Australia, and 2 per cent in the United States and New Zealand.[5] Housing prices in several economies, including Australia, have been supported by:

- strong labour market conditions
- expectations that interest rates are approaching their peak for the cycle
- solid increases in population relative to housing supply.

Sustainable increases in housing prices can contribute to financial stability by supporting households' net wealth and reducing losses to lenders in the event of default (by reducing the share of borrowers in negative equity and the extent to which such loans are 'underwater').

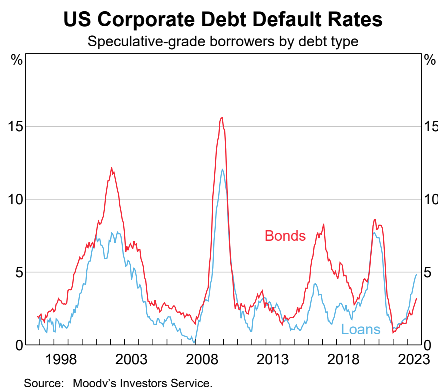
In June 2023, the Reserve Bank of New Zealand (RBNZ) eased macroprudential loan-to-valuation (LVR) requirements for investor and owner-occupier mortgages. The RBNZ judged that risks to financial stability posed by high-LVR lending have fallen because housing prices are now more consistent with medium-term fundamentals.



Corporations could come under pressure if there is a sharp slowdown in economic growth.

Corporations both in Australia and overseas have generally been resilient to higher interest rates, and indicators of financial stress are low. Arrears rates on bank loans to corporations remain near historical lows in many advanced economies, and corporate earnings have generally held up well. However, firms in advanced economies have started drawing upon the large cash balances established during the pandemic. Furthermore, after a period of fewer business failures, bankruptcies have risen in a range of economies, including Australia, Europe and the United States. While the increase has generally only seen a return to pre-pandemic levels of bankruptcies, a sharp economic slowdown would amplify this trend.

Consistent with rising bankruptcies and tighter credit conditions, default rates have increased for market-based corporate debt, with vulnerabilities more pronounced for lower grade corporations (Graph 1.9). Lower grade corporate debt is characterised by more variable-rate lending, including for leveraged loans in Europe and the United States, and is dominated by sectors exposed to cyclical trends, such as consumer products, real estate, and media and entertainment. Default rates on speculative-grade debt have increased to be above pre-pandemic levels in Europe and the United States, and default rates are higher for variable-rate borrowers. Refinancing risks for lower grade borrowers appear limited in the near term; however, this risk rises sharply over coming years with a peak in expected maturities around 2026. Financial conditions and the state of the economy at that time will be decisive in determining whether this refinancing profile proves problematic.



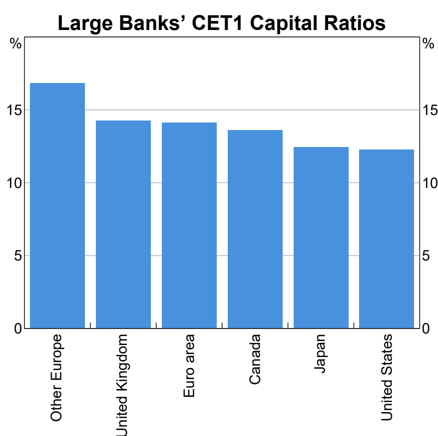
1.4 Banking sector

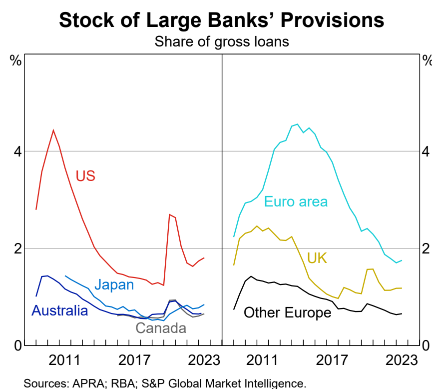
Large global banks remain liquid and well capitalised, and should be resilient to large shocks to economic activity …

Large banks in advanced economies remain well capitalised and hold large buffers of liquid assets (Graph 1.10). Increases in interest rates have supported banks' profits through higher net interest margins (NIMs), as lending rates have increased faster than deposit rates. However, this effect is slowing and in recent times has begun to reverse in some economies, including in Australia, the United Kingdom and the United States. Revenue from investment banking has also fallen sharply over the past year due to reduced demand for mergers and acquisitions and initial public offers by companies.

Higher interest rates have had a limited effect on credit quality for advanced economy banks so far this cycle, including in Australia. NPLs remain very low as a share of total loans. Banks in advanced economies have increased provisions in response to the uncertain macroeconomic outlook and vulnerabilities in CRE (Graph 1.11). However, provisions remain historically low and might need to be increased further in the period ahead if economic conditions were to become materially worse than expected.

Recent stress tests conducted by authorities indicate that large banks in advanced economies would be resilient to a significant economic downturn, supported by strong starting positions for capital and liquidity. In the United States, unrealised losses on banks' securities holdings (which was one of the causes of the banking stress in March 2023) declined by around one-fifth between their peak in the September quarter of 2022 and the June quarter of 2023. Similarly, the European Banking Authority found unrealised losses to be 'modest' for euro area banks in April 2023.





… but some smaller US banks remain under pressure.

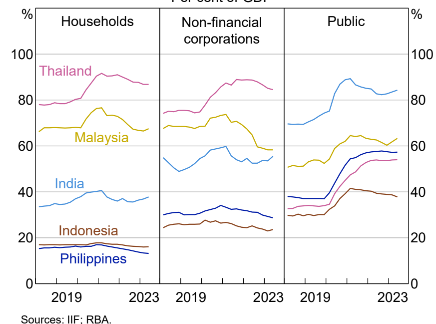
Some smaller US banks remain under pressure following the failure of three regional banks in March 2023.[6] This is despite a stabilisation in deposit levels and a decrease in the share of uninsured deposits. Increased competition for deposits, reliance on expensive wholesale funding (including from Federal Home Loan Banks) and borrowing from the US Federal Reserve have led to significantly higher funding costs and a reduction in NIMs at some banks. NIMs among smaller banks fell by up to 65 basis points in the June quarter of 2023. These funding and profitability pressures recently led to the announced merger of PacWest and Banc of California; such mergers may become more common if the business models of some regional banks prove unviable.

US regional banks may face strengthened capital and liquidity requirements in the period ahead. This follows the announcement of proposed rules to implement the final components of Basel III standards for banks with at least US$100 billion in assets or banks with large trading activities. US banking regulators have stated that most affected banks already have sufficient capital to meet the proposed requirements, which are expected to be phased in over a number of years beginning in mid-2025.

1.5 Emerging markets (excluding China)

Financial stability risks in most non-China emerging markets have remained moderate in the face of ongoing global uncertainty.

Since April 2023, financial conditions for emerging market economies (EME) in Asia have been little changed. Non-resident portfolio inflows and spreads between EME US-dollar-denominated bonds and US Treasuries have been stable. Foreign exchange reserves remain above the adequacy metrics set by the International Monetary Fund, despite recent foreign exchange intervention in some EMEs, and the ratio of debt-to-GDP has been broadly stable (Graph 1.12). However, in recent years, a significant share of sovereign bond issuance has been at shorter maturities, raising the risk associated with refinancing debt, and many EMEs continue to face significant external financing needs.



Capital levels in Asia are expected to be high enough to allow banks to absorb higher credit losses under the most plausible scenarios; Common Equity Tier 1 capital ratios remained relatively stable in most EMEs over the June quarter of 2023. However, delays in the recognition of losses associated with the extension of (pandemic-related) regulatory loan forbearance in some economies have created uncertainty around asset quality. Regulatory forbearance is due to lapse at the end of 2023 in Thailand, while in Indonesia the relaxation of loan classification standards that was set to expire in March 2023 has been extended for another year.

Box: Lessons from the recent banking stress

The banking stress in the United States and Switzerland in early 2023 has reinforced some important lessons for bank supervision and regulation from previous crises and has also provided some new areas of focus. The following lessons have guided the initial regulatory response, both internationally and domestically:

- **Stress can spread quickly**, including to institutions and jurisdictions not directly affected by a shock. For example, while Credit Suisse did not have direct connections with the failed US regional banks, stresses in financial markets rapidly spread to Credit Suisse, exacerbated by its long-running reputational and management problems.
- **The failure of smaller banks can have systemic consequences** depending on circumstances and sentiment. The failures of Silvergate, Silicon Valley Bank and Signature Bank in March 2023 caused wider stress in the US banking system despite these three banks not being considered systemically important beforehand.
- **Deposit outflows can be significantly larger and quicker than accounted for by regulatory frameworks for managing liquidity risk.** This could have implications for appropriate minimum levels of liquidity for banks and is a key area under active review by policymakers globally.
- **Current recovery and resolution frameworks and deposit insurance schemes need to be improved.** The US Federal Deposit Insurance Corporation recommended widening the deposit insurance scheme to allow for higher or unlimited deposit insurance for business payment accounts. The BoE is reviewing its Financial Services Compensation Scheme in light of the failure of Silicon Valley Bank UK. International bodies and national regulators are also actively considering the implications of the banking failures for recovery and resolution frameworks. In Australia, the Council of Financial Regulators is reviewing Australia's crisis management arrangements to ensure they remain robust, and the Australian Prudential Regulation Authority has begun exploring options to improve the effectiveness of AT1 instruments as crisis management tools (see Chapter 4: Domestic Regulatory Developments).

Endnotes

[1] See Choudhary R, S Mathur and P Wallis (2023), 'Leverage, Liquidity and Non-bank Financial Institutions: Key Lessons from Recent Market Events', RBA *Bulletin*, June.

[2] See Choudhary, Mathur and Wallis, n 1.

[3] See Lim J, M McCormick, S Roche and E Smith (2023), 'Financial Stability Risks from Commercial Real Estate', RBA *Bulletin*, September.

[4] See European Systemic Risk Board (2023), 'Recommendation on Vulnerabilities in the Commercial Real Estate Sector in the European Economic Area', January; European Central Bank (2023), 'Financial Stability Review', May.

[5] Latest observations for the house price indices are September 2023 (Australia, South Korea, United Kingdom), August 2023 (Canada, New Zealand, Norway, United States), and June 2023 (Japan).

[6] See RBA (2023), 'Box A: Recent International Bank Failures – Causes, Regulatory Responses and Implications', *Financial Stability Review*, April.

2. Resilience of Australian Households and Businesses

Summary

Most Australian households and businesses remain well placed to manage the impact of high inflation and higher interest rates given the strength of the labour market and sizeable savings buffers. Nevertheless, pressure on household budgets and business profitability has increased over the past six months.

- **The vast majority of Australian borrowers have continued to service their debts in the face of higher inflation and interest rates.** In part, this is because some households have gained additional work, reduced discretionary consumption and/or drawn on savings buffers. The income and savings positions of borrowers have allowed most to continue to meet their essential expenses and mortgage payments; very few have fallen behind on their loan payments or sought temporary loan modifications. In the event that more borrowers became unable to service their loans, only a very small number would be in negative equity on their mortgage. As a result, losses to lenders are expected to remain low and manageable.
- **The business sector remains resilient overall, as strong demand and high cash buffers have supported business profitability and balance sheets.** However, ongoing cost pressures coupled with a softening in demand is putting pressure on some businesses' profitability and liquid reserves. Company insolvencies have increased from the very low levels seen during the COVID-19 pandemic, but as these companies have tended to be small and have little debt, risks to banks and the broader financial system remain low.
- **There are few signs of financial stress among owners of Australian commercial real estate (CRE)**, despite pressures on profitability and valuations from reduced leasing demand and higher interest rates. It is possible that stresses, including among non-bank CRE lenders, could emerge if higher interest rates and a severe economic downturn were to lead to a sharp fall in rental income, or stress in foreign CRE markets escalated and spilled over to the Australian market (see Chapter 1: The Global and Macro-financial

Environment). However, systemic risks from CRE are limited in Australia due to domestic banks' low exposures and conservative lending practices.

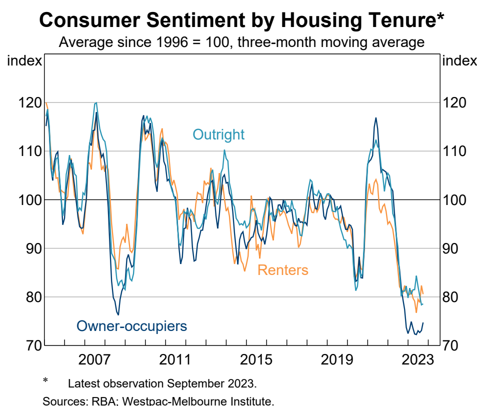
2.1 Households

Higher inflation and interest rates continue to put pressure on household budgets …

Many households continue to face a squeeze on their budgets as high inflation and the increase in interest rates over the past 18 months have reduced available income after essential expenses and housing costs. Consistent with this, consumer sentiment remains near historically low levels, particularly for owner-occupier mortgagors (Graph 2.1).

Budget pressures differ across households depending on income levels and whether they have debt (see 5.3 Focus Topic: Indicators of Household Financial Stress):

- **Lower income households**, including many renters and some mortgagors, spend a larger share of their income on housing costs and other essential items. They have therefore been impacted more by inflation than households on higher incomes. These households had little in the way of spare income even before the sharp increase in inflation.



* Latest observation September 2023.
Sources: RBA; Westpac-Melbourne Institute.

- **Variable-rate borrowers** (accounting for around three-quarters of housing credit) have seen their scheduled mortgage payments increase sharply since the first increase in the cash rate in May 2022. For most, payments have increased by between 30 per cent and 50 per cent, depending on when the loan was originated. Borrowers with high debt relative to their income – including some new mortgagors and first home buyers – have been particularly affected as their scheduled loan payments relative to income have increased by a greater amount than those of other borrowers.
- **Borrowers who fixed their interest rates** during the COVID-19 pandemic and are yet to roll off those rates (accounting for around one-fifth of housing credit) will see similar increases in scheduled mortgage payments, with the bulk rolling off over the rest of this year and in early 2024. However, they do not appear to be more at risk than similar borrowers on variable rates and in fact have benefited from having fixed their interest rates at very low levels for an extended period (see 5.2 Focus Topic: An Update on Fixed-rate Borrowers).
- **Housing investors** (accounting for around 30 per cent of housing credit) have experienced increases in their mortgage costs, similar to owner-occupiers on the same type of loan (i.e. variable or fixed rate). At the same time, rental incomes have increased strongly in the tight rental market, offsetting some of the effects on investor cash flows from higher costs.

… but the vast majority of household borrowers have continued to service their debts.

While budget pressures have led to an uptick in arrears and personal insolvencies, the vast majority of households continue to service their debts (Graph 2.2). Lenders in the Bank's liaison program have reported that borrowers have been more resilient than expected in their ability to service their debt, given the sharp rise in interest rates.

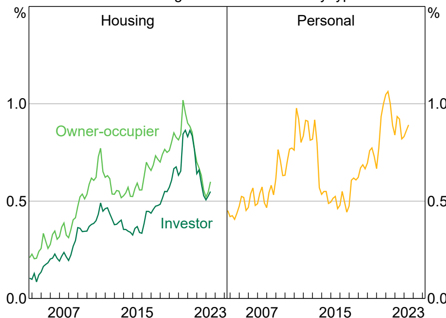
Households' ability to manage higher expenses and interest rates has mostly relied on three factors:

1. *The strong labour market has supported household incomes.* More Australians than ever are in paid work (as a share of the population), and some have increased their hours of work. Together with job-switching, promotions and additional payments such as overtime or cost-of-living bonuses, this has led to strong growth in nominal employment income (Graph 2.3, right panel). This is especially true for those on lower incomes, with many having experienced a lift in real incomes that has outpaced growth in their base hourly wage rate.
2. *Many households have curtailed their spending, particularly for discretionary goods and services.* Consistent with high inflation and the resulting tightening in monetary policy, growth in household consumption has slowed materially since mid-2022. Liaison with retailers also suggests that households are increasingly looking for value, including on essential items. Looking ahead, some households may find it increasingly difficult to cut back further on consumption as they have already reduced their discretionary expenditure substantially.
3. *Some households have been able to draw on the large savings buffers they accumulated during the pandemic.* Most households entered the period of high inflation and rising rates in a strong financial position because of substantial fiscal and monetary policy support and reduced consumption opportunities during the pandemic. Low interest rates had also supported borrowers, including borrowers on fixed rates, to increase their savings over this time (Graph 2.4). More recently, however, the flow of new savings has slowed, including excess payments into offset accounts and redraw facilities.[1] In addition, a larger share of variable-rate owner-occupier borrowers

Graph 2.2

Loans 90+ Days Past Due*

Balance-weighted share of loans by type



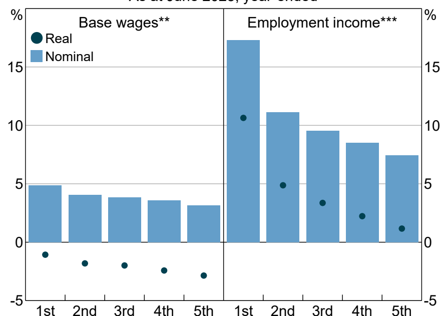
* Well-secured loans prior to March 2022; both well-secured and not well-secured loans thereafter. Latest observation June 2023.

Sources: APRA; RBA.

Graph 2.3

Growth in Earnings by Quintile*

As at June 2023, year-ended



* Inflation quintiles constructed by income levels.

** Total hourly rates of pay, excluding bonuses and commissions; quintiles constructed using hourly wage rates in the previous period.

*** Single Touch Payroll employment income per worker for those with a 2019/20 tax return; percentiles constructed using employment income in the current period; estimates are based on the percentile at the mid-point of each group; administrative data on incomes are not necessarily directly comparable to published aggregate estimates.

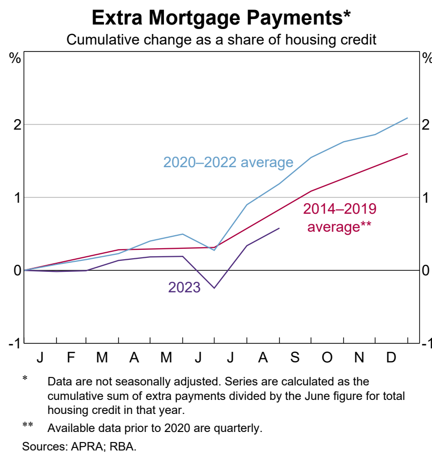
Sources: ABS; ATO; RBA.

have persistently drawn on their buffers this year (Graph 2.5). The share of small withdrawals (relative to income) has also picked up, possibly indicating that these withdrawals are used to finance regular spending rather than large, discretionary expenses such as holidays.

A small but rising share of borrowers are on the cusp, or in the early stages, of financial stress …

While almost all borrowers have been able to make adjustments that have allowed them to continue servicing their debts and cover essential spending**,** the share falling behind on their mortgage payments has begun to pick up from a low level. Before reaching this stage, households often contact their lender to enquire about options to restructure their loan or apply for temporary hardship, turn to alternative sources of finance or seek other forms of help. A growing share of households have sought financial counselling; the National Debt Helpline (NDH), for instance, has seen demand for its services increase by around one-quarter from the low level experienced during the COVID-19 pandemic (see 5.3 Focus Topic: Indicators of Household Financial Stress). Some households contacting the NDH have been using 'buy now, pay later' products to finance their regular consumption. However, in contrast with some countries, there is little evidence that Australian households are turning to other forms of personal credit (such as credit cards or personal loans) to sustain their spending (Graph 2.6).

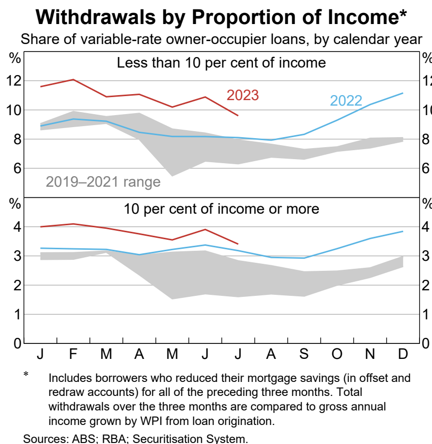
Further insights into how the share of borrowers in mortgage stress is likely to be evolving can be derived using the loan level data from the Bank's Securitisation System and the Melbourne Institute's Household Expenditure Measure (HEM) of essential expenses (see Box: Assumptions underlying estimates of borrowers' essential expenses and income).



* Data are not seasonally adjusted. Series are calculated as the cumulative sum of extra payments divided by the June figure for total housing credit in that year.

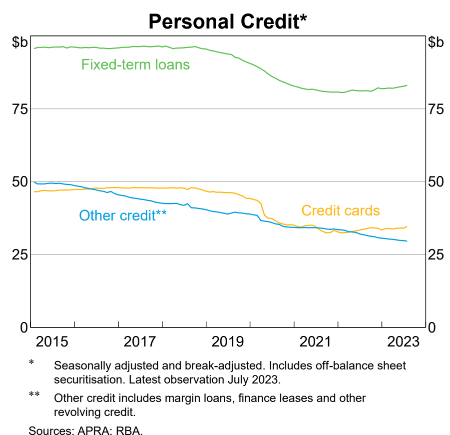
** Available data prior to 2020 are quarterly.

Sources: APRA; RBA.



* Includes borrowers who reduced their mortgage savings (in offset and redraw accounts) for all of the preceding three months. Total withdrawals over the three months are compared to gross annual income grown by WPI from loan origination.

Sources: ABS; RBA; Securitisation System.



* Seasonally adjusted and break-adjusted. Includes off-balance sheet securitisation. Latest observation July 2023.

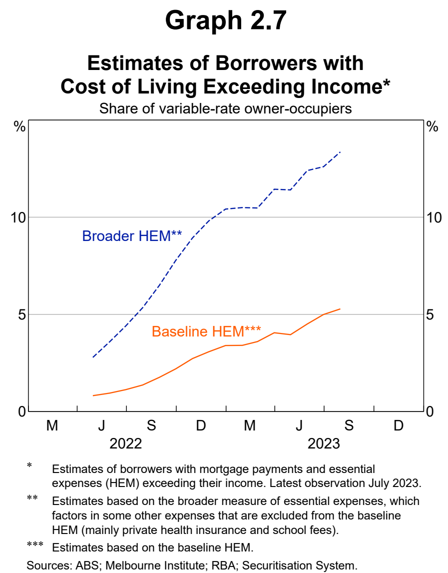
** Other credit includes margin loans, finance leases and other revolving credit.

Sources: APRA; RBA.

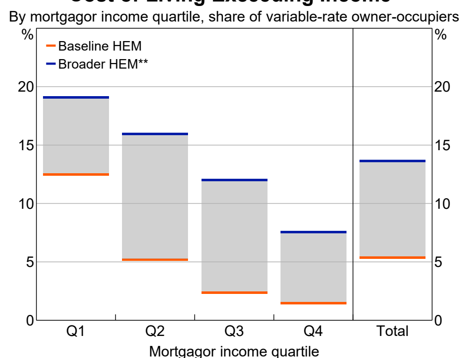
Using the baseline HEM measure of essential expenses, the share of variable-rate owner-occupiers whose essential expenses and mortgage costs exceeded their income in July 2023 is estimated to be around 5 per cent, up from around 1 per cent in April 2022.[2] These households are likely to have little capacity to cut back on spending (Graph 2.7).

Using a broader HEM measure of expenses – which includes items that are more discretionary in nature but can be difficult to adjust (such as private health insurance and private school fees) – the share of variable-rate owner-occupiers whose expenses and mortgage costs exceeded their income in July 2023 is estimated to be around 13 per cent, up from around 3 per cent in April 2022 (Graph 2.7). These borrowers, however, are likely to have some capacity to reduce spending over time.

These estimates show that a small but rising share of borrowers are likely to have seen their essential expenses and mortgage costs exceed their income as interest rates have increased since May 2022. However, they do not necessarily indicate that these borrowers are in mortgage stress. Rather, these estimates indicate that a share of borrowers need to make adjustments beyond significantly reducing consumption – such as drawing on their savings buffers (discussed below) or assessing other options like restructuring their loan. The analysis below focuses on the share of borrowers whose expenses exceed their income based on the baseline HEM measure of expenses, given these borrowers are likely to be facing particularly challenging financial decisions and are at greater risk of defaulting on their housing loan.



Lower income borrowers – defined as those in the bottom quartile of *mortgagor* incomes, with up to around $78,000 in household disposable income – tend to be more affected by higher interest rates as they already had less spare income before interest rates began to increase in May 2022. Consistent with this, lower income borrowers make up a larger share of borrowers with insufficient income compared with their essential costs and scheduled mortgage payments (Graph 2.8).



* Estimates of borrowers with mortgage payments and essential expenses (HEM) exceeding their income as at July 2023.

** This factors in some other expenses that are excluded from the baseline HEM (mainly private health insurance and private school fees).

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

… but most borrowers are well placed to service their debts even if interest rates were to increase further.

As noted above, most owner-occupier borrowers are currently estimated to have sufficient income to allow them to meet their essential expenses and loan payments. By contrast, the estimated 5 per cent of borrowers with insufficient income (using the baseline HEM) will need to draw down on available savings buffers or find other margins of adjustment, such as additional work, to meet their essential expenses and scheduled mortgage payments.[4] About 70 per cent of these borrowers have sufficient savings in their offset and redraw accounts to finance their cash

Box: Assumptions underlying estimates of borrowers' essential expenses and income

The share of borrowers whose essential expenses and mortgage costs exceed their income cannot be observed in the loan level data from the Bank's Securitisation System[3] (or by lenders themselves). Therefore, it must be estimated. The range of estimates presented here depend on the following assumptions for income and expenses.

Baseline HEM: Essential expenses are proxied using the Melbourne Institute's Household Expenditure Measure (HEM), the minimum living expenses measure used by Australian banks when assessing loan serviceability. The HEM is defined as the median spend on a basket of absolute basics (such as most food items, utilities and transport costs) plus the 25th percentile spend on discretionary basics (e.g. take-away food, restaurants and entertainment) for different household types and income levels. Rents and mortgage payments are not included.

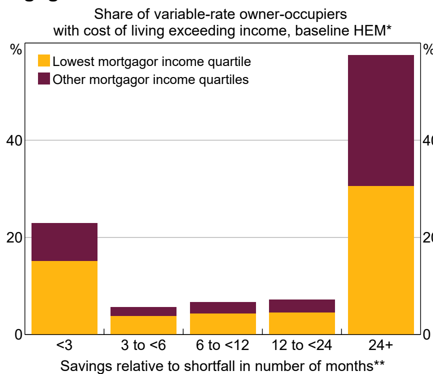
Broader HEM: Additional expenses that are less likely to be adjusted in the near term (mainly private health insurance and private school fees) are added to the baseline HEM, which may better capture the near-term financial pressure borrowers face. However, households estimated to be unable to meet these additional expenses may be able to adjust to their budget constraints before defaulting on their loan. As such, the baseline HEM is likely to better capture borrowers' ultimate essential living costs and their ability to service their current loan.

For both measures, borrowers' income growth is assumed to align with the Wage Price Index (WPI) since their loan was originated. This is a very conservative estimate of incomes: growth in the WPI, by design, cannot factor in other sources of income growth, such as promotions and job switching, that may occur over time. These step-increases in income are likely to be particularly relevant for younger mortgagors. In addition, some borrowers do not disclose all their income when applying for a loan, but rather only what is needed to be approved for a loan. This results in a potential upward bias in the estimated share of borrowers with a cost of living that is exceeding their income.

flow shortfalls for at least six months, assuming interest rates remain around current levels (Graph 2.9). However, the remaining 30 per cent of these borrowers (or around 1½ per cent of all variable-rate owner-occupier borrowers) are at risk of depleting their buffers within six months – and so are at higher risk of falling into arrears on their housing loan. Lower income borrowers are over-represented in these groups as they are more likely to have difficulties covering their essential costs and mortgage payments; furthermore, those who cannot cover these costs tend to have smaller savings buffers.

Graph 2.9

Mortgage Buffers Relative to Cash Flow Shortfalls



* Includes variable-rate owner-occupier borrowers who are estimated to be in cash flow shortfalls as at July 2023 under assumptions using the baseline HEM and income growth in line with WPI growth since loan origination.

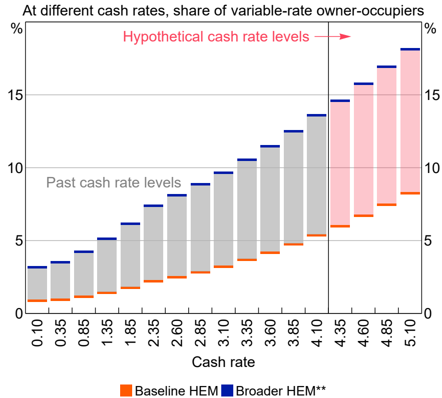
** Number of months that mortgage prepayments (offset and redraw balances) can cover cash flow shortfalls.

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Most borrowers are also expected to be well placed in the event of a further increase in interest rates. The direct effect of a hypothetical 50 basis point increase in the cash rate to 4.6 per cent increases the estimated share of variable-rate owner-occupier borrowers who are unable to cover their expenses (using the baseline HEM) from around 5 per cent to around 7 per cent (Graph 2.10). Of these borrowers, about 30 per cent are at risk of depleting their buffers within six months (equivalent to 2 per cent of all variable-rate owner-occupier borrowers).

Graph 2.10

Estimates of Borrowers with Cost of Living Exceeding Income*



* Estimated shares of variable-rate owner-occupier borrowers with mortgage payments and essential expenses (HEM) exceeding their income as at July 2023 under assumptions using the Household Expenditure Measure and income growth in line with WPI growth since loan origination. Assumes no changes in expenses or incomes if the cash rate were to change.

** This factors in some other expenses that are excluded from the baseline HEM (mainly private health insurance and private school fees).

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Employment remains an important factor in households' resilience.

While most borrowers appear well placed to service their debt and cover essential costs during an extended period of higher interest rates, this would change if they became unemployed for a sustained period. Around one-third of all variable-rate owner-occupier borrowers would have enough buffers in their offset or redraw accounts to sustain their scheduled mortgage payments and essential expenditures for at least one year if they were to lose all their household's income – an extreme scenario, as discussed below (Graph 2.11). On the other hand, a little over 40 per cent are estimated to have buffers to sustain them for less than three months.

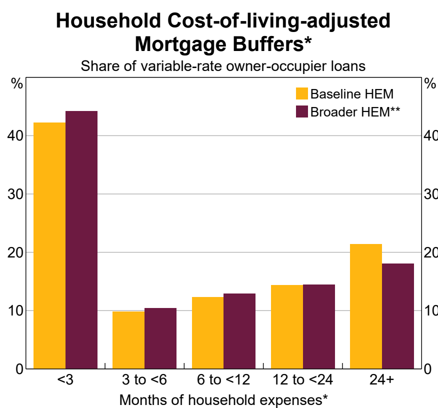
Relative to their costs of living, the buffers held by lower income borrowers are similar to those of borrowers on higher incomes. However, they are more at risk of becoming unemployed and having to draw down on these buffers during an economic downturn.[5] Highly leveraged borrowers represent another group at higher risk

as they have fewer savings and tend to spend more of their income on servicing their mortgage (see 5.3 Focus Topic: Indicators of Household Financial Stress).

While a substantial economic downturn poses a considerable risk for individual borrowers if they become unemployed, it is unlikely to have material implications for system-wide financial stability. Even in the case of a substantial increase in unemployment of 2 percentage points, based on the estimates in Graph 2.11, only around 1¼ per cent of variable-rate owner-occupier borrowers would become at risk of depleting their buffers within one year (where expenses are taken from the baseline HEM). Furthermore, several factors are likely to mitigate this risk for individual borrowers and, hence, the broader financial system, including:

- Mortgagors have historically been around 40 per cent less likely to lose work during downturns than non-mortgagors. Around 60 per cent of mortgagor households have multiple income earners and are therefore likely to retain a share of their income if one income earner loses their job.[6]

Graph 2.11



* Number of months that mortgage prepayments (offset and redraw balances) can cover minimum scheduled payments and HEM expenses for variable-rate owner-occupier borrowers if they were to lose their entire household income as at July 2023.

** This factors in some other expenses that are excluded from the baseline HEM (mainly private health insurance and private school fees).

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

- Borrowers affected by income losses can apply for hardship arrangements from their lenders. If approved, this could include temporary mortgage payment deferrals, interest-only periods or other forbearance arrangements. If borrowers perceived their income losses as permanent, most could repay their loan in full by selling their property as the vast majority have sufficient equity in their homes.
- A large increase in the unemployment rate – all else equal – could lead to a monetary (and/or fiscal) policy response. While this is unlikely to materially change the circumstances of many households that lose a job in the near term, it will ease financial pressures across households more broadly.

Overall, and supported by conservative lending standards, the risks to the broader financial system from housing lending remain low.

This assessment is informed by two considerations:

- *While arrears rates are likely to increase, they are expected to remain very low.* About 1½ per cent of borrowers are estimated to have their essential expenses and mortgage costs exceed their income *and* be at high risk of depleting any available buffers. Even if the unemployment rate were to increase by 2 percentage points (around twice as sharply as projected in the August 2023 *Statement on Monetary Policy*), the share of existing borrowers at risk of running out of buffers over the next year or so would likely remain at low single-digit levels. Similarly, most borrowers would be well placed to service their housing loans if interest rates were to increase further.
- *Only a small share of borrowers are at risk of becoming unable to service their loan and very few of these are likely to result in losses for lenders.* Supported by prudent lending

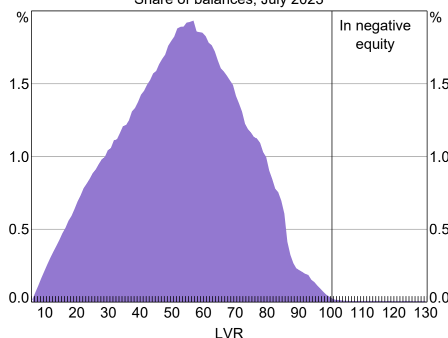
standards and the general increase in housing prices over a number of years, the vast majority of borrowers have substantial equity in their properties. While very disruptive for affected households, this does allow them to sell and repay their loan before defaulting (Graph 2.12). Only around 0.1 per cent of loans (0.15 per cent of loan balances) are in negative equity at current housing prices. These shares would increase to around ½ a per cent if housing prices were to fall by 10 per cent from their July levels (Graph 2.13).

As a result – and consistent with banks' expectations – losses incurred by lenders are likely to remain manageable even in adverse circumstances. As such, banks – supported by their strong profits and capital positions – can withstand such losses while continuing to lend to households and businesses (see Chapter 3: Resilience of the Australian Financial System).

Graph 2.12

Outstanding LVR Distribution*

Share of balances, July 2023



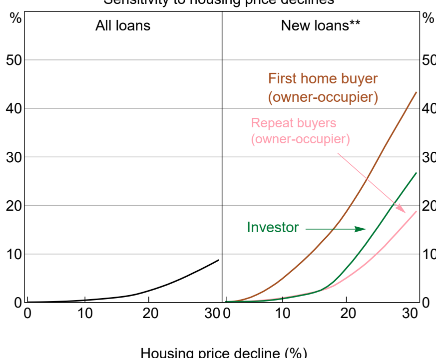
* Loan balances adjusted for redraw and offset account balances; property prices estimated using GCCSA price indices.

Sources: ABS; CoreLogic; RBA; Securitisation System.

Graph 2.13

Share of Loans in Negative Equity

Sensitivity to housing price declines*



* Each percentage decline is applied to the price levels that prevailed in each GCCSA region during July 2023, separately for houses and apartments.

** New loans are those originated since January 2021. These are somewhat under-represented in the Securitisation data as new loans can take some time to be securitised.

Sources: ABS; CoreLogic; RBA; Securitisation System.

2.2 Businesses

The strong recovery from the pandemic supported business profitability, but pressures have emerged more recently from higher input costs, higher interest rates and slowing demand.

Strong demand over much of the past couple of years has enabled most businesses to pass on higher input costs. However, ongoing cost pressures coupled with a softening in demand has more recently put pressure on some businesses' profits. Firm-level data suggest that operating profit margins as at March 2023 are around their pre-pandemic levels in most industries, outside of the mining sector. However, profit margins have begun to decline a little in the accommodation and food industry (Graph 2.14).

Higher interest rates have directly affected businesses' interest expenses, especially for smaller businesses (Graph 2.15). Indebted smaller businesses have seen significant increases in their interest expenses, as many have variable-rate loans. While some smaller businesses have fixed-rate loans, these tend to be for smaller amounts and with shorter

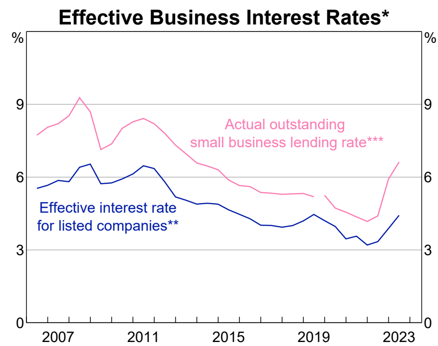
maturities. By contrast, larger ASX-listed companies have used interest rate hedges for variable-rate debt and issued longer term fixed-rate debt when interest rates were low, which has slowed the impact of higher interest rates on their cash flow positions. As a result, the (debt-weighted) share of listed companies with earnings less than double their interest expenses – equivalent to an interest coverage ratio (ICR) less than 2 – has mostly stayed the same over the past couple of years (Graph 2.16, left panel). These businesses will face higher interest rates once hedges expire or debt matures, though this is likely still some time away. For most large ASX-listed issuers, only a small share of bonds is due to expire in the next year.

Businesses facing profitability challenges are drawing down on cash buffers to support their operations or service debts. Despite this, these cash buffers relative to expenses remain generally high, having increased over the past couple of decades and particularly sharply during the pandemic (Graph 2.17). Similarly, information from listed companies supports the observation that many have substantial cash buffers. The (debt-weighted) share without sufficient short-term assets on hand to cover their short-term liabilities – equivalent to a liquidity ratio less than 1 – has increased a little from the pandemic lows but it remains below its 10-year average (Graph 2.16, right panel). Even among unprofitable listed companies, 60 per cent have enough cash on hand to cover their total liabilities, which reflects that these companies tend to have little debt.

Company insolvencies have increased to pre-pandemic levels …

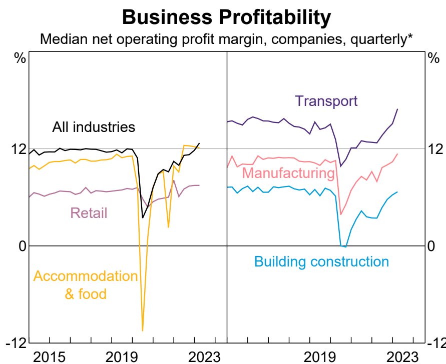
The number of company insolvencies has increased to around pre-pandemic levels (Graph 2.18). While most are small companies, the number of medium and large companies

Graph 2.15



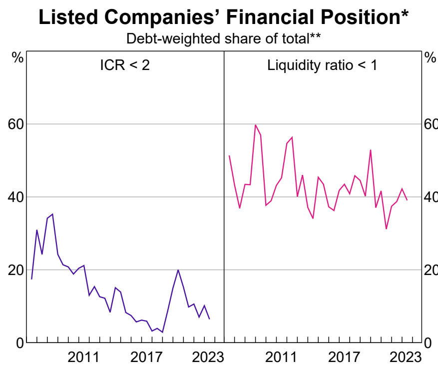
* Latest observation June 2023.
** Effective median interest rate for ASX-listed non-financial companies. Calculated as annual interest expenses over interest-bearing liabilities. Excludes companies with a ratio of debt to assets less than 10 per cent.
*** Six-month average. Series break in 2019 due to a change in the definition of a small business loan.
Sources: APRA; Morningstar; RBA.

Graph 2.14



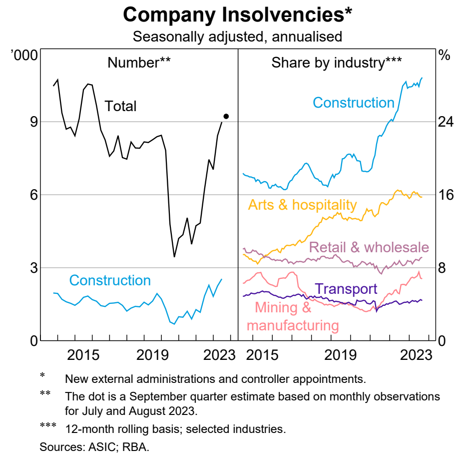
* Selected industries; net profits as operating revenue less operating costs and wages; not including government payments (e.g. JobKeeper); includes ~250,000 GST-remitting companies; seasonally adjusted. Latest observation March 2023.
Sources: ABS; RBA.

Graph 2.16



* Interest coverage ratio (ICR) measured by profits over gross interest expenses, liquidity ratio measured by current assets over current liabilities. Latest observation June 2023.
** Excludes companies with a ratio of debt to assets less than 10 per cent.
Sources: Morningstar; RBA.

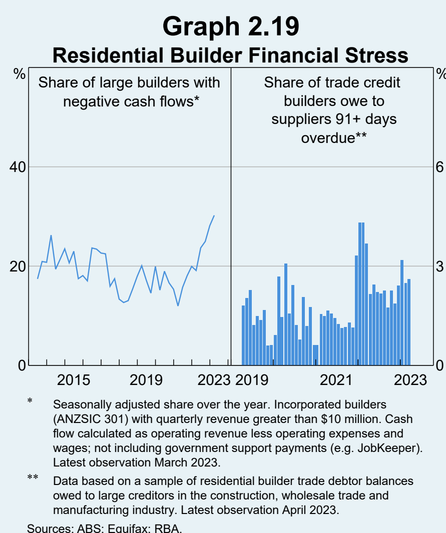
becoming insolvent has increased of late. Insolvencies of larger businesses are more likely to transmit stress to households and other businesses, as they have more employees, larger debts, and more interlinkages with other businesses via trade credit. Over the past year, a number of large residential construction firms have entered insolvency. Rising insolvencies in the construction industry have accounted for one-third of the increase in insolvencies of late, albeit this upswing has occurred from the very low levels recorded during the pandemic (see Box: Risks in the residential construction industry).



Box: Risks in the residential construction industry

The construction industry – in particular, residential builders locked in to fixed-priced contracts – continues to experience challenges.

A sharp rise in construction input costs, compounded by costly delays arising from labour and materials shortages as well as bad weather, has eroded profit margins on existing fixed-price contracts for many residential builders. Some builders are still working through these contracts, which are now loss-making for many. As such, the share of large residential builders with negative cash flows has increased sharply over the past couple of years (Graph 2.19, left panel). Higher interest rates have also raised debt-servicing costs for many firms. Reflecting these financial pressures, residential builders' overdue trade credit balances to major suppliers have increased (Graph 2.19, right panel).



Graph 2.19
Residential Builder Financial Stress

* Seasonally adjusted share over the year. Incorporated builders (ANZSIC 301) with quarterly revenue greater than $10 million. Cash flow calculated as operating revenue less operating expenses and wages; not including government support payments (e.g. JobKeeper). Latest observation March 2023.

** Data based on a sample of residential builder trade debtor balances owed to large creditors in the construction, wholesale trade and manufacturing industry. Latest observation April 2023.

Sources: ABS; Equifax; RBA.

The risk of transmission of financial stress from builders to their sub-contractors remains elevated.

Some sub-contractors have also faced higher input costs, but many have been able to pass these on due to strong demand for their services arising from the large pipeline of work yet to be done. Profit margins among construction services companies have improved but remain below pre-pandemic levels. Builders facing cash flow challenges can quickly transmit stress to sub-contractors through delayed trade payments; while most sub-contractors appear to be managing these challenges, some have been impacted by builders defaulting on outstanding invoices.

Signs of severe financial stress among households owning and operating small construction businesses also remain low; personal insolvencies related to business failures are near historical lows, including in the construction sector (Graph 2.20). However, new residential construction

activity is slowing, which will put further pressure on builders and construction services firms, particularly those relying on cash flows from new projects to offset losses on others.

Graph 2.20

Personal Insolvencies

Related to construction businesses, quarterly*

* New personal insolvencies of business owners/operators (e.g. sole traders or directors of proprietary companies). Latest observation June 2023.

Sources: AFSA; RBA.

… but there are limited direct risks to the banking sector.

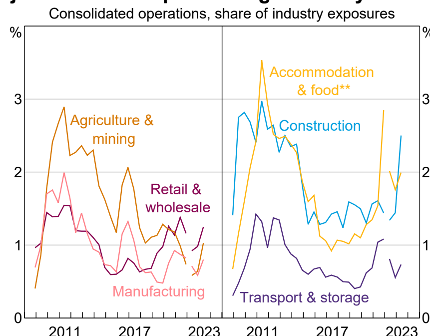
Banks appear to have limited exposures to companies that have entered insolvency. This is consistent with low rates of non-performing business loans at banks; non-performing loans have increased in the construction sector but these account for only a small share of banks' business lending (Graph 2.21). Banks' exposures to insolvent businesses are likely to increase should more medium and large businesses become insolvent.

Most insolvent firms tend to have unsecured debt, likely with non-bank lenders and other businesses, as well as debts to the Australian Taxation Office (ATO) (Graph 2.22).[7] Systemic risks posed by non-bank lenders remain small, as non-banks account for a small share of total credit in the Australian economy (less than 10 per cent of business lending and 5 per cent of housing lending) and banks have relatively limited exposures to non-bank lenders (see Chapter 3: Resilience of the Australian Financial System). Defaults on debts to other businesses via trade credit could transmit financial stress between businesses; however, there is no widespread evidence of this at present. The increase in insolvencies has partly reflected the resumption of ATO enforcement activities on unpaid taxes following the end of the pandemic. This is likely to continue to prompt some businesses that are unable to pay their debts to commence formal insolvency procedures.

Graph 2.21

Major Banks' Non-performing Loans by Industry*

Consolidated operations, share of industry exposures

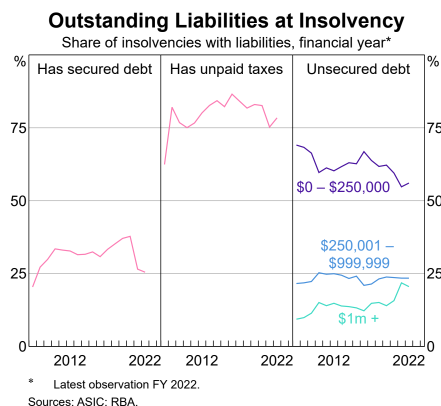


* Selected industries; series break in June 2022 due to changes in reporting methodology. Latest observation June 2023.

** One major bank does not report data for this industry.

Sources: Major banks' Pilar III disclosures; RBA.

Graph 2.22



* Latest observation FY 2022.
Sources: ASIC; RBA.

Overall, the risks to the broader financial system stemming from the business sector remain low.

This assessment is based on two factors:

1. *Strong demand has meant that most businesses have been able to pass on higher input costs.* In addition, cash buffers remain high, although the distribution of these across businesses is likely to be highly uneven.
2. *The increase in company insolvencies has had a limited impact on banks.* Although the level of business insolvencies has increased to pre-pandemic levels, those businesses entering insolvency tend to be small and have little debt, and of this only a limited amount is owed to banks.

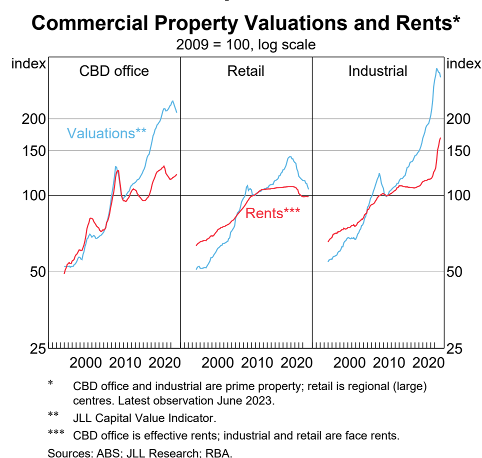
However, a decline in demand associated with a slowdown in the economy is a key risk for businesses' profits and ability to service their debts. Businesses that are exposed to discretionary consumer spending or that cannot reduce costs quickly when revenues fall (such as those in the arts and recreation, and business services industries) would face a significant decline in profits.[8] Pressures on profits will be most challenging for highly indebted businesses that are already drawing down on their cash buffers. Businesses affected by significant declines in profits and low cash buffers are more likely to reduce their number of employees, and therefore transmit financial stress to households.[9]

2.3 Commercial real estate

There is pressure on profitability and asset valuations in office and retail CRE …

Weak leasing demand (reflected in higher vacancy rates and weak rental growth) coupled with higher interest rates is weighing on some office and retail owners' ability to service their loans (Graph 2.23). At the same time, these factors are leading to declines in the values of the assets they hold, and further falls appear to be likely. Conditions are most challenging in the office sector, particularly for secondary grade offices, as many employers prefer higher quality office space to encourage workers back to the office and meet sustainability targets. By contrast, industrial properties continue to perform strongly due to increased demand for distribution and warehouse facilities.

Graph 2.23



* CBD office and industrial are prime property; retail is regional (large) centres. Latest observation June 2023.
** JLL Capital Value Indicator.
*** CBD office is effective rents; industrial and retail are face rents.
Sources: ABS; JLL Research; RBA.

… but there are limited signs of financial stress among owners of Australian CRE.

Recent Bank analysis of the CRE market in Australia finds little evidence of financial stress among owners of Australian CRE, despite pressures on profitability and valuations.[10] Australian Real Estate Investment Trusts (A-REITs) have generally reduced their risks since the global financial crisis (GFC), with balance sheets that continue to have relatively low levels of leverage and ICRs of more than three times earnings.

Information from liaison suggests that Australian unlisted trusts (excluding superfund-related products) have higher leverage than A-REITs. While some unlisted trusts have experienced an increase in redemption requests from unit holders, they appear to be effectively managing liquidity pressures – including by limiting redemptions and/or distributions of returns, which has likely occurred after drawing down buffers of liquid asset holdings. While some trusts have indicated a desire to sell assets, there is no evidence of Australian unlisted trusts being forced to rapidly sell assets at steep discounts.

Liaison also suggests that while some landlords with funding from banks are struggling to meet ICR requirements as part of their covenant agreements, lenders have been working with existing borrowers who can demonstrate a path back to meeting minimum requirements. The current level of loan-to-value (LVR) ratios of many of these borrowers could accommodate further declines in valuations. However, should owners' profits and/or prices decline sharply – and the owners are unable to increase income and/or contribute more equity – these limits could become binding, and a forced property sale could be triggered, potentially at a steep discount. Consistent with financial pressures being managed to date, non-performing rates on Australian banks' commercial property lending remain negligible across all bank types and segments (Graph 2.24).

Overall, while risks in Australian CRE markets are elevated, the risks to the broader financial system from CRE lending remain low.

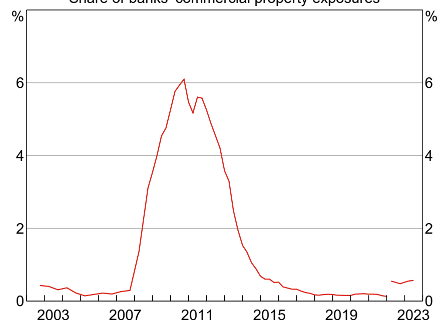
The risks to the broader financial system stemming from the CRE sector remain low, notwithstanding the ongoing headwinds and an increased risk of foreign stress being transmitted to Australian CRE markets through common ownership and funding sources (see Chapter 1: The Global and Macro-financial Environment, and recent Bank analysis[11]). This assessment arises from two factors:

1. *There is limited evidence of a withdrawal of foreign investors from the Australian CRE market, and A-REITs continue to access offshore funding markets and are well placed to manage temporary dislocations in global CRE debt markets due to having ample liquidity.* However, widespread financial stress among owners of CRE overseas could increase the risk of a disorderly fall in valuations in Australia, should losses on foreign assets force owners to sell and lead lenders to reduce lending to Australian CRE. This risk has increased, as foreign investors have become more active in Australian CRE markets.
2. *Banks operating in Australia have conservative lending practices and small exposures to CRE.*

Graph 2.24

Commercial Property Non-performing Rate*

Share of banks' commercial property exposures



* Excludes overseas exposures. Prior to 2022, data reported as impairment rates.

Sources: APRA; RBA.

Lending practices have improved since the GFC. Over recent years, most commercial property bank loans have been written with an LVR of less than 65 per cent and have requirements that borrowers have earnings that cover twice their interest expenses. Banks' aggregate exposures to commercial property markets have declined since the GFC and are now around 6 per cent of total assets. Consistent with this and as noted above, rates of banks' non-performing CRE loans remain low. While foreign bank branches have a higher concentration of CRE exposures, reflecting the specialised nature of their Australian banking operations, lending standards are broadly in line with those at domestic banks and non-performing loans remain similarly low at these institutions.

Endnotes

[1] While some renters were also able to build substantial savings over the COVID-19 pandemic and entered the inflationary environment in a relatively strong position, many have since reduced their savings. Moreover, renters have had substantially lower savings than mortgagors to begin with and are therefore more at risk of entering financial stress if they experience a shock to their incomes or expenses (see 5.3 Focus Topic: Indicators of Household Financial Stress).

[2] Under the same set of assumptions for essential expenses and income, our estimates are broadly in line with estimates from lenders, with the Commonwealth Bank estimating that around 3½ per cent of their recent loans belong to households whose income was below essential expenses and scheduled mortgage payments in June 2023.

[3] RBA (2022), 'Securitisation System – RBA Securitisations Industry Forum'.

[4] The additional 8 percentage points of variable-rate owner-occupier borrowers estimated to have insufficient income to cover their necessary costs (based on the broader HEM) are less likely to enter arrears or default on their home loan as they have more capacity to reduce expenditure.

[5] RBA (2023), 'Box B: Scenario Analysis on Indebted Households' Spare Cash Flows and Prepayment Buffers', *Financial Stability Review*, April.

[6] Lower income borrowers are more likely to lose work and are therefore more at risk (see RBA, n 4). However, these borrowers also tend to have smaller debts (in absolute terms), which reduces losses to the financial system.

[7] Banks typically lend on a secured basis, with relatively small amounts lent unsecured, such as for working capital.

[8] See RBA (2023), *Financial Stability Review*, April.

[9] See Grozinger P (2023), 'Financial Health and Employment in the Business Sector: A Non-linear Relationship', RBA *Bulletin*, September.

[10] See Lim J, M McCormick, S Roche and E Smith (2023), 'Financial Stability Risks from Commercial Real Estate', RBA *Bulletin*, September.

[11] See Lim *et al*, n 10.

3. Resilience of the Australian Financial System

Summary

The global and domestic macroeconomic environment is challenging. Global financial stability risks are elevated and could spill over to Australia through a range of channels. The tightening of monetary policy in response to high inflation internationally and in Australia has put pressure on the incomes and balance sheets of many households and businesses, making them vulnerable to further shocks. Inflation and interest rates remaining high for longer than expected or a sharp economic downturn, possibly transmitted from abroad, could lead to a substantial tightening in financial conditions internationally and in Australia.

However, the Australian financial system is navigating these challenges from a strong position and its overall resilience remains high.

- **Banks remain well positioned to deal with these risks.** Australian banks are profitable and hold capital and liquid assets in excess of regulatory requirements. Banks' funding sources are relatively stable and include a large share of domestic deposits, leaving them well placed if there were to be disruptions to international funding market conditions. Higher interest rates affect the balance sheets and cash flows of Australian banks in a range of ways, but the direct impacts are being prudently managed (see 5.4 Focus Topic: Interest Rate Risk).
- **Many non-bank lenders are experiencing a challenging environment for funding and/or asset quality, but systemic risks to the overall financial system posed by non-bank lenders remain low in Australia.** Funding costs and arrears have increased for non-bank lenders, and they are facing strong competition from banks for high-quality borrowers. As a result, growth in housing and some segments of business lending by non-banks has slowed materially and their margins have declined, leading some to lend to higher risk segments or to loosen lending standards to maintain lending volumes and margins. While this may lead to lower credit quality, the share of overall housing and business credit from non-banks remains small.
- **Higher insurance premiums could lead to a shift in risk to some households and businesses that may not be well suited to bear that risk.** Inflation and reinsurance

costs have led insurers to materially increase premiums. Some policyholders have responded by increasing excess payments and reducing insurance coverage. Uninsured assets may be challenging to finance or refinance.

- **Operational resilience, strong governance and confidence are important elements of the overall resilience of the financial system.** Australian financial institutions, including financial market infrastructures (FMIs) such as central counterparties, have bolstered their operational resilience in recent years under the supervision of the Australian Prudential Regulation Authority (APRA) and the Reserve Bank. Cyber risks remain elevated, and while financial institutions and FMIs have increased their resilience to cyber events over recent years, the threat environment dictates that remaining gaps be addressed as a priority (see 5.5 Focus Topic: Operational Risk in a Digital World).

3.1 Banks

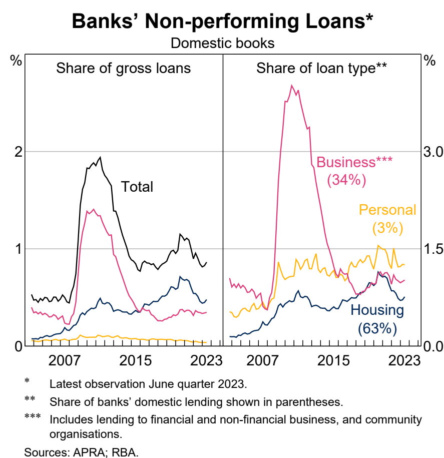
Tighter financial conditions and weaker economic activity pose some risk to banks' credit quality …

Timely information points to a slight deterioration in banks' credit quality as higher interest rates, increases in the cost of living and weaker economic activity have made it more difficult for borrowers to service their debts. Credit risk is the largest component of risk banks hold capital against, so developments in the credit quality of the banking system warrant close scrutiny. Banks' non-performing loans (NPLs) have increased slightly in recent quarters but remain near decade lows as the strong labour market, reductions in discretionary spending and high savings buffers accumulated during the COVID-19 pandemic have allowed most borrowers to adjust to higher repayments.[1]

By lending category, owner-occupier housing loans have accounted for most of the increase in NPLs. NPLs for investor housing, non-financial businesses and personal loans have been broadly stable in recent quarters (Graph 3.1). Residential mortgage lending makes up the largest share of banks' risk-weighted credit exposures, at 40 per cent, though this is lower than the actual share of mortgage lending, as it is considered less risky than lending to other sectors such as corporate or SME borrowers (Graph 3.2).

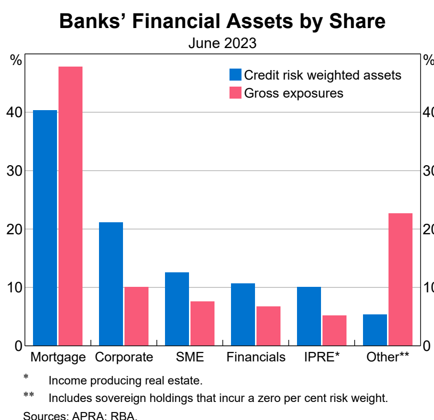
Despite challenging conditions in the Australian commercial real estate (CRE) sector, bank NPLs from domestic CRE exposure remain very low (see Graph 2.24 in Chapter 2: Resilience of Australian Households and Businesses). Australian banks have established conservative lending practices in CRE markets and have further reduced their exposures to CRE as a proportion of their lending since the global financial crisis (GFC) (which in turn were lower than in the early-1990s downturn). As a result, risks to the Australian banking system from CRE lending appear low.[2]

Graph 3.1



* Latest observation June quarter 2023.
** Share of banks’ domestic lending shown in parentheses.
*** Includes lending to financial and non-financial business, and community organisations.
Sources: APRA; RBA.

Graph 3.2



* Income producing real estate.
** Includes sovereign holdings that incur a zero per cent risk weight.
Sources: APRA; RBA.

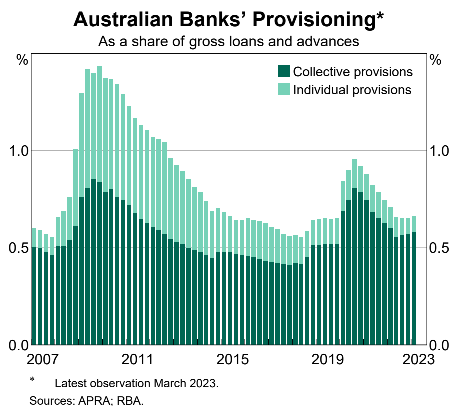
Financial pressures, for both businesses and households, are expected to persist for some time as the impact of higher interest rates continues to work through the economy. Leading indicators for bank credit quality, such as early-stage housing arrears, are consistent with some further increase in NPLs over the coming year (see Chapter 2: Resilience of Australian Households and Businesses).[3]

A large negative shock to employment is a significant upside risk to banks’ NPLs. Historically, increases in unemployment have been associated with rising NPLs in Australia and other advanced economies. Household and business finances would face additional pressure if inflation and interest rates remain high for longer than anticipated. However, sound lending standards under APRA’s regulatory framework decrease the risk of losses to banks by reducing the probability that a borrower will be unable to meet their loan repayments – even if incomes were temporarily reduced – and by helping to ensure that collateral would be sufficient to meet any shortfall in outstanding obligations. Most mortgage holders have experienced an increase in the value of their property since loan origination, adding to the initial equity in their home. Absent large falls in property values, this limits losses for banks in the event of default (see Graph 2.13 in Chapter 2: Resilience of Australian Households and Businesses).

… but profits and high levels of capital leave them well placed to manage this risk.

Banks are well placed to manage a rise in loan defaults. Banks raise provisions – earnings set aside against future credit losses – in response to changes in credit risk relating to specific borrowers (individual provisions) and to portfolios of loans with similar risk characteristics (collective provisions). Collective provisions are determined by banks’ models of expected credit loss (ECL), supplemented by an additional overlay and forward-looking adjustments based on judgement of risks. Australian banks’ level of provisioning is currently at levels similar to those prior to the pandemic (Graph 3.3). Despite the risks to the economic outlook, this is a result of ECLs on mortgages running at low levels (below the average of the past five years), which partly reflects that the vast majority of mortgage holders remain in positive equity.

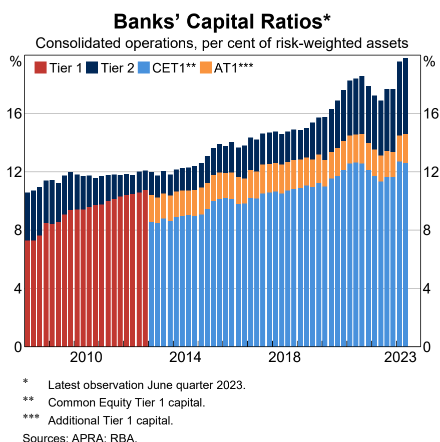
Graph 3.3



Banks' profits leave them well placed to increase provisions and absorb greater loan losses if economic conditions worsen more than expected. In recent years, lending volume growth and lower impairment charges have supported profitability. Higher interest rates have supported net interest margins (NIMs) through higher earnings on interest rate hedges and holdings of high-quality liquid assets (HQLA). More recently, slowing loan growth and competition for mortgage lending and deposits have weighed on profits, and banks expect these trends to continue.[4]

Australian banks hold capital well above regulatory requirements, bolstering their resilience to unexpected losses. Over the past decade, total capital has increased by around 6 per cent of banks' risk-weighted assets, reflecting tighter prudential standards and buffers that banks maintain above regulatory requirements (Graph 3.4). Total capital as a share of banks' risk-weighted assets increased to 19.8 per cent in the June quarter; the major banks' capital ratios remain well above the loss absorbing capacity requirement of 18.25 per cent, due to come into effect in 2026 for domestic systemically important banks. Banks' Common Equity Tier 1 (CET1) capital – the highest quality of regulatory capital – was 12.6 per cent of banks' risk-weighted assets in the June quarter, and well above levels prevailing before the pandemic.[5] Capital levels are sufficiently high that some banks have recently completed share buy-backs or announced their intention to do so, to bring capital ratios more in line with internal targets.

Graph 3.4

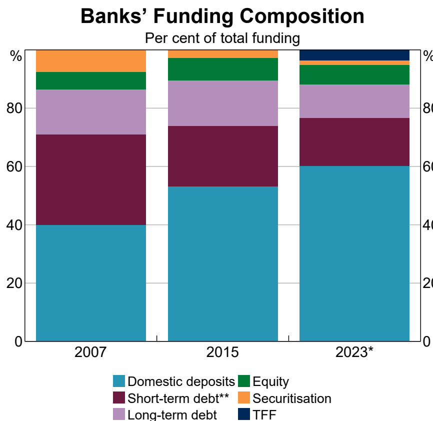


Banks have remained resilient to funding and liquidity stresses …

Since the GFC, Australian banks have transitioned to a more resilient funding model (Graph 3.5). Around 60 per cent of banks' funding is from domestic deposits, three-quarters of which is comprised of more stable types of deposits that are less susceptible to flight risk. The largest share of deposits is from households, which are considered the most stable source of funding. The next largest source of deposits is from non-financial corporates, most of which are for operational purposes (such as facilitating payroll) and are also considered relatively stable.

Also since the GFC, banks have de-risked their debt funding profile. They have done so by extending the maturity of wholesale debt – the weighted average residual maturity has increased from three to four years since 2008 – and by reducing their reliance on short-term debt funding. Longer and more staggered

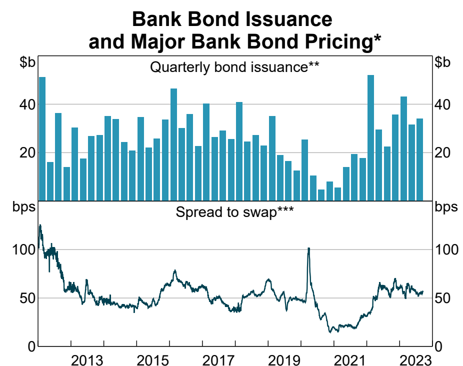
maturities reduce banks' refinancing risks, as a smaller proportion of debt needs to be replaced each year. This makes banks more resilient to periodic disruptions to funding markets. Large and complex banks also continue to comfortably meet their Net Stable Funding Ratio requirement, which is designed to ensure they have robust long-term funding profiles.



* June end, all other dates are December end.
** Includes deposits and intragroup funding from non-residents.
Sources: ABS; APRA; Bloomberg; RBA; Refinitiv.

Banks have adapted their funding plans to maintain access to markets through changing financial conditions. In the past two years, banks have encountered volatility in funding markets associated with Russia's invasion of Ukraine in 2022 and banking stresses in some overseas jurisdictions in early 2023. Over this period, Australian banks' debt issuance has been high (relative to history) as banks funded strong balance sheet growth, replaced the Committed Liquidity Facility (which was phased out at the end of 2022), and prepared to repay funds borrowed under the Reserve Bank's Term Funding Facility (TFF). Covered bond issuance was particularly strong and, at times, banks shortened the tenor of their issuance, reflecting increased investor preference for lower risk instruments amid uncertain economic and financial market conditions. Banks issued a greater-than-usual share of domestic bonds over this period as Australian funding markets were less affected by international events. Despite large amounts of issuance and periods of financial market volatility, the spread of major bank bond yields to the three-year swap rate – a key pricing benchmark for bank bond issuance – has remained around its decade average (Graph 3.6). This suggests that markets have absorbed the issuance well and that banks have maintained their strong reputation among investors.

Banks hold significant buffers of liquid assets above regulatory requirements, enhancing their resilience to adverse liquidity conditions. Large and complex banks subject to the Liquidity Coverage Ratio requirement continue to maintain significant holdings of HQLA, even as repayments of the TFF reduce their Exchange Settlement (ES) balances at the Reserve Bank (see below). Smaller and less complex banks also comfortably meet their Minimum Liquidity Holding ratio requirements, which aim to ensure they maintain a sufficient portfolio of liquid assets that can be quickly converted to cash if required.

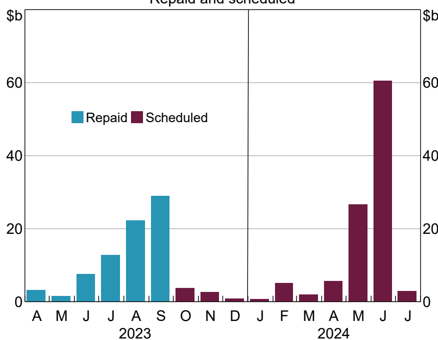


* Latest observation 19 September 2023.
** Senior unsecured and covered bond issuance.
*** Domestic secondary market; 3-year target tenor.
Sources: Bloomberg; RBA.

… and their large funding task is progressing smoothly.

Banks have begun repaying funds borrowed under the TFF. Of the $188 billion borrowed, $77 billion had been repaid by the end of September 2023, including $64 billion in the September quarter. This represents the first of two concentrated maturity periods, with $93 billion to mature in the June quarter of 2024 (Graph 3.7). The remaining TFF repayments are unlikely to pose a significant challenge for the banking sector overall, provided banks continue to manage their funding needs proactively.

The repayment of the TFF has implications for banks' liquidity management. When banks borrowed under the TFF, they primarily pledged self-securitised assets as collateral that do not qualify as liquid assets. In return, they received highly liquid ES balances that added to their liquid assets. As banks repay the TFF, the reverse applies; ES balances decline and banks' liquid assets holdings decrease. To maintain their liquidity ratios, banks need to source additional liquid assets (or reduce their net cash outflows).[6] As a result, there has been strong demand from banks for both Australian Government Securities and securities issued by the central borrowing authorities of the states and territories, both of which qualify as liquid assets.



Overall, the risks to Australia's financial system from the banking sector remain low.

While financial stress for households and businesses could impact banks' credit quality, it will have limited impact on their overall resilience due to the following:

- *Banks are well positioned for a turn in the credit cycle*. They are well capitalised, profitable and have raised provisions, putting them in a strong position to weather an increase in loan arrears.
- *Banks' funding model consists of a high proportion of stable deposits, and they continue to hold high levels of liquid assets*, which should allow banks to continue to support economic activity even during more challenging funding market conditions.

3.2 Non-bank lenders

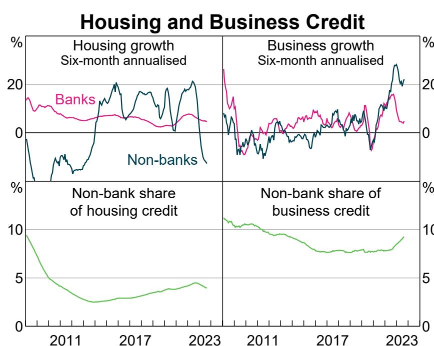
Non-bank loan quality may come under pressure.

Until recently, non-bank credit to both households and businesses had been accelerating at a fast pace, as low funding costs and fast turnaround times enabled non-banks to compete with banks for prime borrowers. Despite rapid growth in credit, there was no evidence that non-bank underwriting standards had materially weakened.[7]

Non-bank housing credit growth has slowed over 2023 as interest rates have increased and non-bank funding costs have risen by more than for banks (which benefit from low-rate deposit funding). Non-banks typically fund their mortgage lending through residential mortgage-backed securities (RBMS). While strong demand for highly rated investments has supported pricing of investment-grade RMBS, weaker demand for non-investment-grade RMBS has led to a significant increase in funding costs for non-bank lenders. Non-banks have either had to pay these higher funding costs or

put more of their own equity into RMBS deals. Competitive pricing and cashback offers from banks have eroded non-banks' margins and share of new lending (Graph 3.8). Reductions in borrowers' servicing capacity has also dampened demand for credit.

The outlook for non-banks' housing loan quality is more challenging than in recent years. In an effort to rebuild margins and lending volumes, liaison discussions indicate that some non-bank lenders are relaxing serviceability requirements and targeting higher risk borrower segments, such as those with less documentation about their finances. At the same time, some non-banks have found it difficult to retain credit-worthy borrowers who have sought to refinance their loans on highly competitive terms with banks. A weakening in lending standards and overall loan quality could lead to more risk concentrating in a part of the financial system where regulators have less oversight. Housing loan arrears for non-banks have risen by more than for banks (to levels recorded just before the pandemic), partly because they lend to borrowers who are more sensitive to economic conditions, such as the self-employed. Non-bank lenders also have a higher share of variable-rate lending so interest rate rises, and associated debt-servicing difficulties, pass through more quickly to their loan book.



There are important mitigants to the financial stability risks posed by non-banks' housing lending. Market discipline acts as a key mechanism that helps to limit how far non-bank lenders can ease lending standards and how far along the risk spectrum they can operate. Loan warehouse limits for securitisations act as a constraint in this regard, while RMBS reporting requirements provide investors with visibility into underlying loan quality. And unlike in some other advanced economies, non-banks account for a small share of overall housing credit in Australia (less than 5 per cent) and have limited connections to the banking sector.

Non-bank business credit growth has eased slightly but remains elevated both historically and relative to banks (Graph 3.8). To support margins, non-banks have increased some higher risk forms of business lending, including property development, construction, auto loans and lending to self-managed super funds. Non-bank business lending is predominantly financed through external debt or equity. As these loans are not securitised, they are not subject to warehousing limits on lending standards and loan quality is less transparent, making it more difficult to monitor the build-up of risks. While non-banks' share of business lending has increased, at around 9 per cent it comprises only a small share of total business lending in Australia.

Overall, the risks to Australia's broader financial system from non-bank lenders remain low.

Some non-banks' loosening of lending standards and transition towards riskier lending segments warrants careful monitoring in the period ahead. However, the sector is unlikely to pose systemic risks while non-bank lending remains a relatively small part of Australia's financial system (around 7 per cent of total credit) and interconnectedness with the

traditional banking sector is not a principal feature of their operations.

3.3 Insurers

Lower insurance coverage could result in a redistribution of risk.

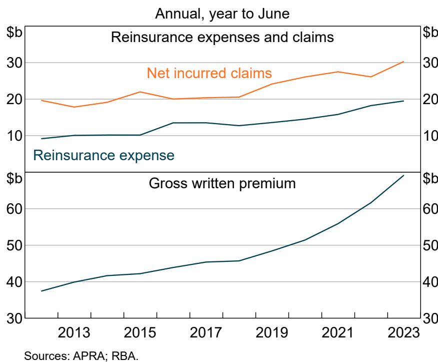
Higher inflation and a series of severe natural disasters, including recent flood events on Australia's east coast, have increased the cost of claims and weighed on profits for general insurers. Net incurred claims increased by more than 16 per cent to $30.3 billion in the year to June 2023, and by nearly 50 per cent over the past five years (Graph 3.9). The greater frequency and severity of natural disasters, such as floods and storms, have also been reflected in higher reinsurance expenses, which increased by over 50 per cent between June 2018 and June 2023.

In response, there have been reports that Australian insurers are having to adopt larger retentions – the amount of a claim they must cover before reinsurance applies – transferring extra risk to retail insurers and requiring them to hold additional capital. Higher reinsurance and claims costs are being passed on to policyholders through higher premiums, with gross written premiums for general insurers increasing over 12 per cent in the year ending June 2023 (Graph 3.9).

Graph 3.9

General Insurers' Premiums and Claims

Annual, year to June



Sources: APRA; RBA.

Taken together, these shifts in the Australian insurance landscape are leading to a redistribution of risk. Retail insurers are absorbing more risk to manage the challenging reinsurance market. Higher premiums are placing pressure on insurance affordability for households and businesses, which is likely to result in policyholders taking on more risk through higher excess payments and reductions in insurance coverage. APRA recently reported that some small- to medium-sized businesses have been increasing deductibles since premiums started to rise in 2017.[8] If insurance coverage declines, future risk events would lead to larger downstream impacts on household and business finances, and thereby consumption and business activity.

This risk redistribution will impact regions unevenly, as highlighted in recent analysis by the Actuaries Institute.[9] Premium increases are most severe in areas heavily exposed to natural disasters, typically non-metropolitan localities. Given that lower socio-economic groups often live in these riskier locations, the impact of reduced insurance access, both through price and availability, will heavily affect certain communities.

Lower insurance coverage would have an impact on banks and their willingness to lend to regions more prone to natural disasters. Lower insurance coverage on assets that banks take as collateral, such as property, would mean they face greater potential losses on their lending in areas more affected by natural disasters. Banks are likely to respond by reducing their lending to these regions if insurance coverage is not obtained by borrowers.

Several initiatives aim to better understand and address these and other challenges facing Australia's insurance sector.

These include the following:

- APRA, on behalf of the Council of Financial Regulators, will conduct a climate scenario

analysis with insurers to analyse the impact of climate change on the affordability of household insurance out to 2050.

- The Australian Government's parliamentary inquiry into the insurance industry's response to the 2022 floods will investigate insurance affordability, land-use planning and mitigation options.
- The Cyclone Reinsurance Pool, backed by a $10 billion government guarantee, aims to reduce premiums for cyclone and related flood damage. This will ensure that the premiums are charged without the need to cover the cost of capital, profit margin and other overheads that would normally be charged.
- The National Emergency Management Agency administers the Disaster Ready Fund, which provides funding for natural disaster resilience and risk reduction, and the Hazard Insurance Partnership, which is investigating policy solutions to reduce risk and insurance costs.

APRA has also highlighted the availability of catastrophe bonds and other insurance-linked securities (ILS), which are not commonly used in Australia, to manage risk amid a challenging reinsurance market.[10] ILS can be used to bolster the pool of capital available to absorb losses from natural catastrophes and other disruptions or provide a mechanism to transfer risk to other parties.

Endnotes

[1] A loan is considered non-performing if a borrower is 90 days or more past-due on a credit obligation or the lender considers that the borrower is unlikely to pay in full.

[2] See Lim J, M McCormick, S Roche and E Smith (2023), 'Financial Stability Risks from Commercial Real Estate', RBA *Bulletin*, September.

[3] Early-stage arrears refers to loans that are overdue by fewer than 90 days.

[4] This is consistent with research from the Bank for International Settlements finding that bank profits tend to increase at the start of an interest rate tightening cycle and decrease as loan growth slows and customers move to higher interest rate deposits. See Bank for International Settlements (2023), 'Box B: Rising Policy Rates and the Outlook for Banks' Net Interest Margins', *Annual Economic Report*, June.

[5] Banks' CET1 ratios increased following the implementation of APRA's 'unquestionably strong' framework in January 2023, reflecting lower average risk-weights. For more information about the effect of the new capital framework on Australian banks' capital positions, see RBA (2023), 'The Australian Financial System', *Financial Stability Review*, April.

[6] See Jacobs D (2023), 'Australian Fixed Income Markets – Recent Developments and a Look Ahead', Speech at the Australian Government Fixed Income Forum, Tokyo, 24 May.

[7] Non-bank lenders provide credit to parts of the economy that are underserved by banks and play an important role in the financial system. However, sustained strong growth in non-bank credit can lead to a build-up of risk in a more lightly regulated part of the financial system, particularly if lending standards are not maintained. See Hudson C, S Kurian and M Lewis (2023), 'Non-bank Lending in Australia and the Implications for Financial Stability', RBA *Bulletin*, March.

[8] APRA (2023), 'NCPD Analysis: Review of Claims Trends and Affordability of Public Liability and Professional Indemnity Insurance in Australia'.

[9] Actuaries Institute (2023), 'Home Insurance Affordability Update', August.

[10] APRA (2023), 'APRA's Reinsurance Requirements and the Use of Insurance Linked Securities', August.

4. Domestic Regulatory Developments

Summary

The Council of Financial Regulators (CFR)[1] and its working groups have continued to meet frequently to exchange information, assess developments and coordinate policy actions on financial stability-related issues in Australia. Over the past six months, the CFR has focused on the following four areas:

1. Assessing the impact of higher inflation and interest rates on the financial system.
2. Revisiting crisis management arrangements following recent global banking system stress.
3. Working to strengthen the resilience of the Australian financial system to external threats.
4. Further enhancing cooperation among CFR agencies.

These are discussed below in turn.[2]

Assessing the impact of higher inflation and interest rates on the financial system.

The CFR has continued to closely monitor the resilience of households, businesses and the broader financial system to the effects of higher interest rates and cost-of-living pressures. While households and businesses have been largely resilient to date, the CFR recognises that the effects of higher interest rates and inflation have been felt unevenly across the community (see Chapter 2: Resilience of Australian Households and Businesses). ASIC has been closely monitoring lenders' approaches to supporting customers who are experiencing financial hardship and has recently published its expectations of lenders in meeting their related obligations. The CFR continues to closely monitor labour market conditions, given employment remains the most important factor in households' resilience. The CFR judges that the Australian banking system is well placed to manage a material deterioration in economic conditions, should one occur.

At its September 2023 meeting, the CFR discussed the main considerations for macroprudential settings, including the risks arising from housing and business lending and the uncertainty around the economic outlook. It was noted that APRA would continue to assess the appropriateness of macroprudential policy settings as economic and financial conditions evolve and would consult with CFR members accordingly.

Revisiting crisis management arrangements following recent global banking system stress.

The Australian banking system remained resilient following the emergence of stress in parts of the global banking system in March 2023. This highlighted the importance of preventative measures, including a regulatory and supervisory framework requiring the banking system to manage risk appropriately and maintain high levels of capital and liquidity, combined with strong inter-agency crisis management arrangements. Given the speed of impact for the affected banks and other challenges faced by US and Swiss authorities, CFR agencies have been closely engaged with their international counterparts on the lessons to be drawn from the experience. The CFR agencies are also re-examining the crisis management arrangements that exist between them to ensure they remain fit for purpose. Furthermore, this episode highlighted the importance of crisis management tools, including Additional Tier 1 (AT1) capital, operating as intended and guarantee schemes being able to provide depositors with timely access to funds. APRA has begun exploring options with industry participants to improve the effectiveness of AT1 capital instruments for use in a potential bank stress scenario.

Working to strengthen the resilience of the Australian financial system to external threats.

There are key risks to financial stability originating from outside the financial system, including cyber-attacks, geopolitical risk and the transition and physical risks associated with climate change. CFR agencies have been working with industry participants to boost their defences and strengthen their financial and operational resilience to these evolving risks.

The CFR has a large program of work aimed at further strengthening the resilience of the Australian financial system to increasingly sophisticated cybersecurity threats, including the following:

- APRA and ASIC have recently conducted reviews of regulated entities' cyber resilience measures.
- APRA has intensified supervision of cybersecurity, including where regulated entities' practices are found to be falling short of the expectations set out in the Information Security Prudential Standard.
- CFR agencies have been working closely with the Australian Government in the development of Australia's Cyber Strategy 2023–2030 and to improve information-sharing arrangements between regulators. The aim will be to deliver consistent whole-of-government cyber regulation and consolidated systemic incident response practices to collectively strengthen Australia's cyber resilience.
- Due to the strong links between the Australian and New Zealand financial systems, the CFR agencies are engaging regularly with New Zealand authorities to refine cyber-attack protocols.

CFR agencies are also coordinating to enhance the ability of financial market participants to manage the financial risks and identify the opportunities associated with adjusting to climate change. Over the past six months:

- Treasury has completed two consultation processes in relation to the implementation of standardised and internationally aligned climate-related financial disclosure requirements.
- ASIC has continued to focus on lifting sustainability-related disclosure and governance standards by listed companies and other issuers of financial products, including publishing measures taken to address instances of potential greenwashing.

- Following the completion of the APRA-led inaugural Climate Vulnerability Assessment for Australia's largest banks in 2022, APRA and the Reserve Bank have continued analysis of climate-risk exposures for both financial institutions and the financial system more generally.

The CFR priorities around climate change risks are aligned with the forthcoming Sustainable Finance Strategy; in addition to the work above, this includes providing oversight of the development of an Australian Sustainable Finance Taxonomy and continuing to support Australia's international engagement on sustainable finance.

Further enhancing cooperation among CFR agencies.

Over the past six months, the CFR has discussed recommendations from the Review of the Reserve Bank that are relevant to the CFR. CFR agencies have agreed to update their existing Memorandum of Understandings and the CFR Charter to provide more clarity and transparency on how CFR agencies work together to promote financial stability. This includes close coordination with the work underway by APRA and the Reserve Bank involving interactions between monetary policy, financial stability and macroprudential policy.

In September 2023, the Australian Government passed the legislation for the Financial Accountability Regime (FAR). The FAR imposes a strengthened responsibility and accountability framework for APRA-regulated entities in the banking, insurance and superannuation industries, and their directors and senior executives. The FAR's objective is to improve the risk and governance cultures of those financial institutions. It will be jointly administered by APRA and ASIC and will come into force for the banking industry on 15 March 2024 and for the superannuation and insurance industries on 15 March 2025. APRA and ASIC are working closely to implement the FAR and engage with industry.

Endnotes

[1] The CFR is the forum for coordination between Australia's key financial regulatory agencies: the Australian Prudential Regulation Authority (APRA); the Australian Securities and Investments Commission (ASIC); the Australian Treasury; and the Reserve Bank of Australia. For more detail, see CFR <https://www.cfr.gov.au/>.

[2] For more information, see CFR (2023), 'Quarterly Statement by the Council of Financial Regulators – June 2023', Media Release No 2023-02, 14 June; CFR (2023), 'Quarterly Statement by the Council of Financial Regulators – September 2023', Media Release No 2023-03, 25 September.

5.1 Focus Topic: Vulnerabilities in China's Financial System

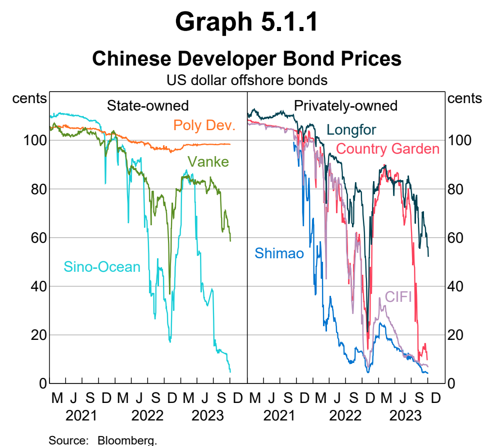
Authorities in China have been concerned about domestic macro-financial imbalances for many years, particularly those related to the real estate and shadow banking sectors. More recently, growth in the Chinese economy has slowed and there has been a sharp deterioration in property market conditions, increasing risks to China's financial system. While authorities have announced targeted policy support in response to weakening conditions in the real estate sector and the wider economy, they continue to balance the need to support growth against many longer term financial vulnerabilities, including high debt levels and perceptions of implicit guarantees.

This Focus Topic considers the vulnerabilities in China's financial system and the implications for Australia and the global financial system.

Continued weakness in demand has intensified stress in the Chinese property sector and exacerbated financial system vulnerabilities.

Weak consumer confidence, falling house prices and ongoing uncertainty regarding the completion of homes under construction have reduced the demand for new housing in China. This has exacerbated financial pressures on property developers (most notably Country Garden, one of China's largest property developers) and contributed to further defaults on offshore debt and delays in payments on onshore debt. While authorities have announced further support for the property sector, the effects of these measures are uncertain. The sector faces significant funding difficulties, with private developers largely unable to access capital markets and facing considerable upcoming debt maturities in the coming months. The bond prices of many large developers, particularly privately owned firms, indicate significant financial stress (Graph 5.1.1).

Stress in China's property sector has further exacerbated long-running vulnerabilities in local government balance sheets. Revenues from land sales are weak by historical standards, and local governments have continued to rely on local government financing vehicles (LGFVs) to replace developer demand in land auctions.[1] In addition, LGFVs are exposed to a downturn in property prices as land purchased from local governments is often used as collateral when borrowing. Given LGFVs comprise a large share of Chinese lending markets – 40 per cent of the non-financial corporate bond market and 14 per cent of total bank loans – a jump in LGFV defaults could trigger a disorderly repricing of risk in Chinese financial markets and a



deterioration in bank asset quality and profitability. Authorities will reportedly allow local governments to use proceeds from bond sales to bring LGFV debt onto their balance sheet via a CNY1 trillion (US$139 billion) debt-swap program. However, the size of this program is smaller than a similar scheme in 2015, and much smaller than the CNY57 trillion (US$8 trillion) in LGFV debt that the International Monetary Fund estimates is outstanding.

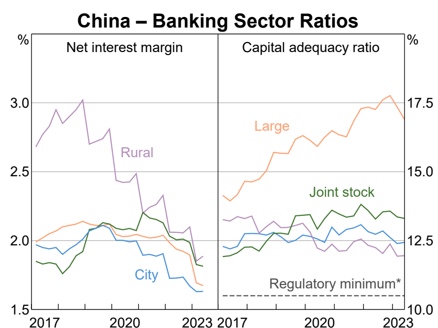
The number of defaults on shadow banking products, including trust loans and wealth management products, has increased further, likely reflecting stress in the property sector. Concerns over shadow banking have increased after a large entity, Zhongrong International Trust, missed payments on multiple trust loan products. While these missed payments did not lead to wider stress, the shadow banking sector remains a source of financial fragility in China as it is opaque, undercapitalised and has interlinkages with the wider financial system (especially banks).

Large Chinese banks have a strong capital position, despite a decrease in capital adequacy ratios over the June quarter of 2023 (Graph 5.1.2). Smaller banks have weaker capital adequacy positions, and are more vulnerable to real estate and LGFV risks. Reported non-performing loan ratios have been stable, though they are widely believed to be under-reported, and forbearance continues to mask true asset quality. Many banks have also recorded a decline in their profitability, partly reflecting a narrowing of net interest margins as lending rates have declined (alongside recent policy rate cuts) by more than deposit rates.

Stress in China's financial system could affect the global financial system, including Australia, via slower growth and an increase in risk aversion.

Direct links between mainland China's financial system and advanced economy banking systems are limited.[2] Widespread financial stress in China would therefore affect advanced economy financial systems mostly via its impact on Chinese trade and a general increase in risk aversion in global financial markets. However, China's financial system is a significant source of bank lending and direct investment for emerging market economies (EMEs). As a result, a disorderly repricing of risk in the Chinese financial system could lead to a significant tightening in financial conditions in some EMEs.

The direct links between Australia's financial system and China's financial system are small. The Australian banking system's exposure to mainland China is 0.2 per cent of assets (or 0.3 per cent when including Hong Kong). As a result, financial stress in China would have little direct effect on credit quality in the Australian banking system. Chinese banks also have a small presence in Australia and tend to confine their lending activities to particular segments, especially commercial real estate (CRE) and lending to Chinese enterprises with activities in Australia. Chinese banks account for 5 per cent of bank credit outstanding in the Australian CRE sector, much of which is thought to have funded the increase in purchases from Chinese investors around the mid-2010s. Since then, there has been little reported activity from Chinese investors in Australian CRE markets. Never-



* Regulatory minimum is 10.5 per cent; 11.5 per cent for systemically important banks.

Sources: CEIC Data; RBA.

theless, there is a risk that Chinese investors sell their holdings of Australian assets in response to stress in their home economy, adding to downward pressure on CRE (or other) valuations in Australia, and increasing the tail risk of a disorderly price adjustment.[3]

The main effects of financial stress in China on Australia would likely be felt through slowing global economic activity, lower global commodity prices and reduced Chinese imports of Australian goods and services. This is a result of connections between Australia and China being far stronger through trade rather than financial linkages. A broad-based spike in risk aversion in global financial markets due to concerns over the outlook in China is the most likely channel through which a tightening in financial conditions could transmit to Australia.

Endnotes

[1] See RBA (2019), 'Box A: China's Local Government Bond Market', *Statement on Monetary Policy*, May.

[2] One exception is Hong Kong, though it is mostly the largest (and safest) mainland Chinese banks that have a presence in Hong Kong and many are subsidiaries regulated by the Hong Kong Monetary Authority.

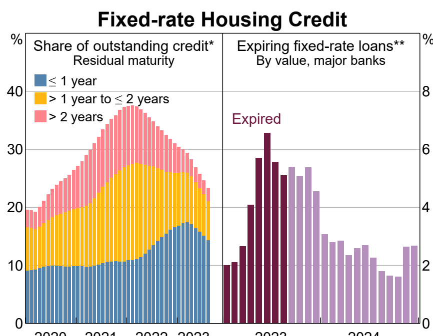
[3] For further discussion of how stresses in overseas CRE markets could spill over to affect the Australian CRE market, see Chapter 2: Resilience of Australian Households and Businesses; see also Lim J, M McCormick, S Roche and E Smith (2023), 'Financial Stability Risks from Commercial Real Estate', RBA *Bulletin*, September.

5.2 Focus Topic: An Update on Fixed-rate Borrowers

Between March 2020 and January 2022, when interest rates were at their lowest, the share of fixed-rate housing credit almost doubled, nearing 40 per cent of housing credit outstanding (Graph 5.2.1). Since the first increase in the cash rate in May 2022, around 45 per cent of these loans (by value) have rolled off onto higher interest rates, with the vast majority of these borrowers opting for variable-rate loans.

This Focus Topic explores how borrowers who have already rolled off fixed rates have managed the transition and assesses the risks for the remaining fixed-rate borrowers. It finds that:

- **The vast majority of borrowers who have rolled off fixed rates have managed the transition to higher interest rates well.** Arrears rates among this group have increased a little, in line with the increase observed among variable-rate borrowers.
- **The majority of current fixed-rate borrowers are estimated to have sufficient income to continue meeting their obligations after moving onto higher mortgage payments.** The majority also have large savings buffers.[1]
- **Fixed-rate loans yet to roll off do not appear materially riskier than those that have already rolled off.** This group contains a slightly larger share of higher risk borrowers; however, these borrowers have also benefited from low rates for longer.



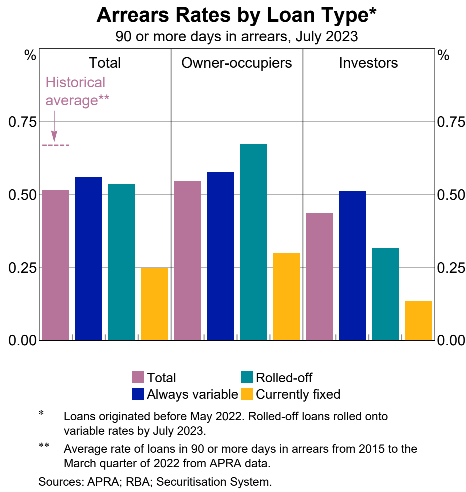
The vast majority of fixed-rate borrowers who have rolled off to date have managed the transition well.

Arrears rates for borrowers who have recently rolled off fixed-rate loans have increased slightly from low levels and are generally similar to arrears rates among other variable-rate borrowers (Graph 5.2.2).[2]

Arrears rates for borrowers who have recently rolled off fixed rates are also similar to those of other variable-rate borrowers when considered by borrower risk characteristics. Borrowers who took out (or refinanced) loans at low rates could be expected to be riskier given the larger increase in interest rates they face compared with other borrowers. However, arrears rates have remained low for these borrowers to date (Graph 5.2.3).[3] By contrast, arrears rates tend to be higher for borrowers with high ratios of loan-to-value (LVR) or loan-to-income (LTI), and moderately higher for first home buyers.[4] As might be expected, arrears rates are lower for

borrowers still on fixed rates irrespective of their risk characteristics.

Graph 5.2.2



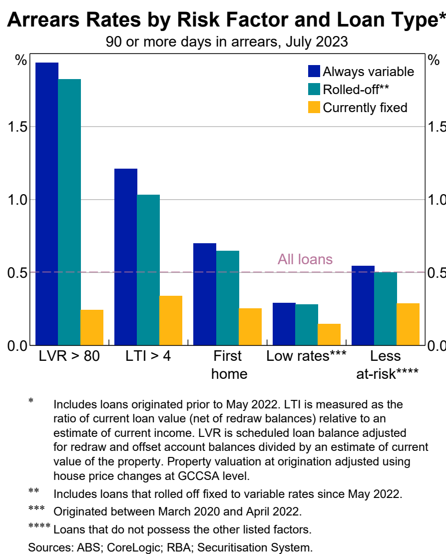
* Loans originated before May 2022. Rolled-off loans rolled onto variable rates by July 2023.

** Average rate of loans in 90 or more days in arrears from 2015 to the March quarter of 2022 from APRA data.

Sources: APRA; RBA; Securitisation System.

Arrears rates for borrowers who have transitioned from fixed to variable rates are higher for owner-occupiers than investors (Graph 5.2.2). This may be partly attributed to investors tending to have higher savings on average, and to the strong growth in rental

Graph 5.2.3



* Includes loans originated prior to May 2022. LTI is measured as the ratio of current loan value (net of redraw balances) relative to an estimate of current income. LVR is scheduled loan balance adjusted for redraw and offset account balances divided by an estimate of current value of the property. Property valuation at origination adjusted using house price changes at GCCSA level.

** Includes loans that rolled off fixed to variable rates since May 2022.

*** Originated between March 2020 and April 2022.

**** Loans that do not possess the other listed factors.

Sources: ABS; CoreLogic; RBA; Securitisation System.

incomes helping them to partially offset the increase in their borrowing costs. Investors are also more likely to sell an investment property before entering arrears compared with owner-occupiers, for whom selling their home can come with significant financial and personal costs.

Most remaining fixed-rate borrowers appear well placed to manage the transition to higher interest rates when their loans roll off.

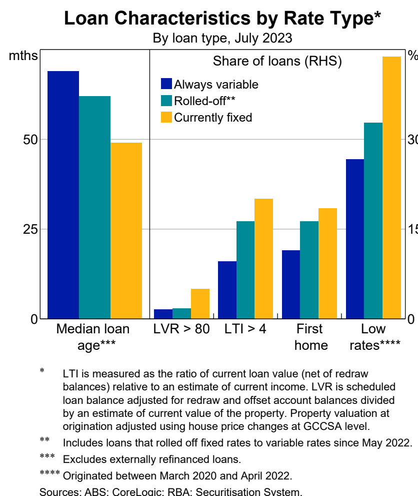
This is supported by three factors:

1. **Fixed-rate loans yet to roll off do not appear materially riskier than those that have rolled off already.** However, there is a somewhat higher share of risky characteristics among current fixed-rate borrowers than those whose loans have already rolled off. In part, this reflects that these loans are generally newer, so borrowers have had less time to repay their principal (i.e. reduce the size of the loan) and build up savings buffers (Graph 5.2.4). The majority of these loans can be expected to become less risky over time; however, in the meantime they will likely be more at risk if unemployment were to rise.

Graph 5.2.4

Loan Characteristics by Rate Type*

By loan type, July 2023



* LTI is measured as the ratio of current loan value (net of redraw balances) relative to an estimate of current income. LVR is scheduled loan balance adjusted for redraw and offset account balances divided by an estimate of current value of the property. Property valuation at origination adjusted using house price changes at GCCSA level.

** Includes loans that rolled off fixed rates to variable rates since May 2022.

*** Excludes externally refinanced loans.

**** Originated between March 2020 and April 2022.

Sources: ABS; CoreLogic; RBA; Securitisation System.

2. **Most fixed-rate borrowers are estimated to have sufficient incomes to meet their higher mortgage payments and necessary expenses.** Current fixed-rate borrowers are expected to face slightly larger increases to their scheduled mortgage payments when their fixed-rates loans roll off compared with those whose loans have already rolled off. As at July 2023, around 10 per cent of fixed-rate borrowers who have rolled off their fixed rates since May 2022 have faced an increase in their payments of more than 60 per cent. By comparison, around 14 per cent of current fixed-rate borrowers are expected to face an increase in mortgage payments of more than 60 per cent when they roll off, based on variable rates as at July 2023. This in part reflects that a larger share of these loans were originated (or refinanced) at very low interest rates during the COVID-19 pandemic compared with fixed-rate loans that have already rolled off.

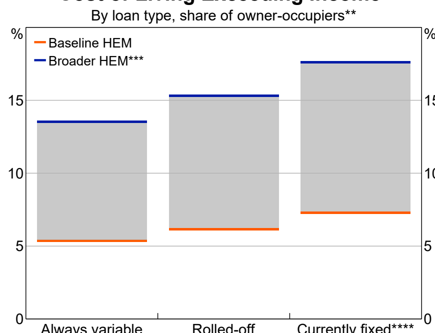
   Nevertheless, the vast majority of fixed-rate borrowers have sufficient income to service these higher loan payments and meet their essential expenses. Around 7 per cent of fixed-rate owner-occupier borrowers are estimated to have their required mortgage payments and essential spending rise to be above their incomes after rolling off their fixed rates, based on baseline living expenses from the Household Expenditure Measure (Graph 5.2.5; see also Chapter 2: Resilience of Australian Households and Businesses). This estimated share increases to around 18 per cent when using a broader measure of expenses.

3. **Most fixed-rate borrowers have substantial savings.** Further supporting borrower resilience, fixed-rate owner-occupier borrowers have benefited from lower interest rates during their fixed-rate period and accumulated material savings buffers over that time (and in some cases, added to their existing savings).[5] Around two-thirds of these borrowers have liquid savings equivalent to at least 12 months of scheduled mortgage payments. This is comparable to the savings of variable-rate owner-occupier borrowers (Graph 5.2.6). However, there is also a smaller share of fixed-rate borrowers (less than 20 per cent) who will roll off onto higher interest rates with much lower savings buffers, equivalent to less than three months of scheduled mortgage payments.

Graph 5.2.5

Estimates of Borrowers with Cost of Living Exceeding Income*

By loan type, share of owner-occupiers**



* Estimates of borrowers with mortgage payments and essential expenses (HEM) in excess of income as at July 2023.

** Investors excluded; investor incomes are likely observed with greater error in the Securitisation System as they tend to rely less on regular income sources.

*** This factors in some other expenses that are excluded from the baseline HEM (mainly private health insurance and private school fees).

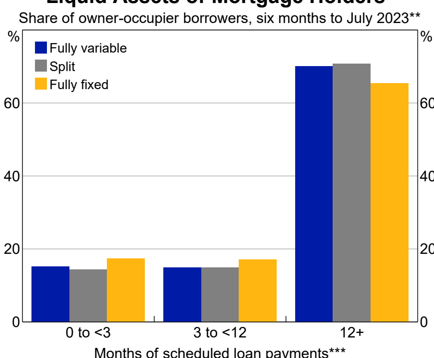
**** Estimates for fixed-rate borrowers assume they roll off on to the outstanding variable rate in July 2023.

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Graph 5.2.6

Liquid Assets of Mortgage Holders*

Share of owner-occupier borrowers, six months to July 2023**



* Balances in deposit accounts (including offset and redraw), shares and managed funds.

** Includes all loans held by owner-occupier respondents, which could include loans on investment properties. Respondents who only hold investor loans are excluded.

*** Monthly scheduled payment assuming borrowers face average outstanding variable rate as at June 2023.

Sources: RBA; RFI Global's DBM Atlas.

Endnotes

[1] See Lovicu G-P, J Lim, A Faferko, A Gao, A Suthakar and D Twohig (2023), 'Fixed-rate Housing Loans: Monetary Policy Transmission and Financial Stability Risks', RBA *Bulletin*, March.

[2] Earlier-stage arrears are also similar for borrowers who have rolled off fixed-rate loans and variable-rate borrowers. The level is higher for the share of rolled-off loans that are 30 days or more in arrears, at around 1.2 per cent, but liaison with lenders suggests that some of this reflects borrowers needing to update their payments rather than borrowers experiencing servicing difficulties.

[3] This is consistent with the analysis in 5.3 Focus Topic: Indicators of Household Financial Stress, which finds that a similar share of these borrowers have estimated costs of living in excess of income and similar savings buffers as other borrowers.

[4] For discussion of these risk factors, see 5.3 Focus Topic: Indicators of Household Financial Stress.

[5] Some borrowers were on variable-rate loans previously and already had large savings before fixing their rate. Fixed-rate borrowers are limited in their ability to save in offset and redraw accounts associated with their mortgages and therefore hold their savings largely outside of such accounts. While around one-fifth of recently rolled-off borrowers move over significant savings once they regain access to redraw and offset accounts associated with their new variable-rate loans, most keep their savings in their existing structures. This could reflect inertia or potential transaction costs (e.g. when selling shares). As a result, their saving buffers as measured by savings in their offset and redraw accounts (visible in the Securitisation System data) appear significantly lower on average than those of comparable variable-rate borrowers even a few months after roll-off. We are instead able to monitor their other forms of savings via private survey data as shown in Graph 5.2.6.

5.3 Focus Topic: Indicators of Household Financial Stress

There is no universally accepted definition of the concept 'household financial stress', so the Reserve Bank monitors a broad range of indicators of the health of household finances in Australia. This Focus Topic provides an assessment of households' financial health and the incidence of financial stress across different types of households. The main findings are:

- **Early indicators show that financial pressures have increased.** Many households are facing a squeeze on their budgets and have had to make (in some cases, substantial) adjustments to their spending or saving patterns in light of the increase in inflation and interest rates over the past 18 months.
- **The incidence of severe financial stress has increased but remains low.** The vast majority of households have had scope to make adjustments to their personal situation, including increasing hours worked, reducing their discretionary spending, saving less or reducing their stock of savings.
- **The group of borrowers at higher risk of falling into arrears on their mortgage remains small.** Borrowers with low incomes, large loans relative to their income or property value, and low savings are particularly at risk.

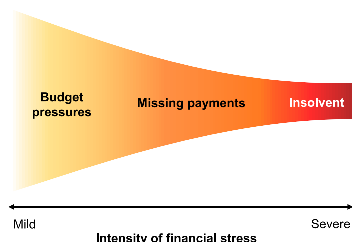
The Bank monitors a broad range of indicators to assess household financial stress.

Definitions of financial stress vary, which reflects that different households can be in different stages along the spectrum of stress (Figure 5.3.1):[1]

- *Rising budget pressures* can be an early indicator of stress. Budget pressures may cause households to worry about being able to pay their bills or build savings going forward, and force some to cut back on discretionary expenditures or look to increase hours worked.
- *Under severe financial stress* is the more extreme end of the spectrum. Insolvent households are unable to service their debts or pay their essential bills out of their income and savings.

Some life events, such as illness or job loss, may push households into severe financial stress immediately, independent of the state of the economy. In other cases, financial stress can build gradually from milder to more severe forms as a household exhausts its options to respond to budgetary pressures. Some households may be able to 'self-cure' and exit financial stress – for instance, through hardship assistance from lenders or by selling assets to reduce their debts – however, this may involve substantial financial and personal costs (e.g. in the sale of the family home).

Figure 5.3.1: Spectrum of Financial Stress



Financial stress first and foremost impacts people's wellbeing but there can also be spillovers to the broader economy and financial system. Households in early stages of financial stress might sharply reduce their non-essential spending, which can contribute to or exacerbate an economic downturn. In extreme cases, financial stress can have implications for financial stability. Households in severe financial stress are unable to service their debts, which could lead to losses for lenders and – if sufficiently large and widespread – could cause them to reduce lending or to become financially stressed themselves.

The Bank therefore closely monitors a range of indicators for signs of financial stress. These range from early indicators of building financial pressures (such as households' perception of their financial situation) to measures of more severe stress (such as loan arrears and other late debt payments). In addition to these directly observable indicators, the Bank analyses a range of surveys – such as the Survey of Income and Housing (SIH) by the ABS and the Melbourne Institute's Household, Income and Labour Dynamics in Australia (HILDA) Survey – for a comprehensive assessment of households' experiences with financial stress and their financial wellbeing. As these surveys tend to be available only with a substantial lag, the Bank complements this information with loan level data from the Securitisation System. We then estimate indebted households' evolving financial positions in terms of:

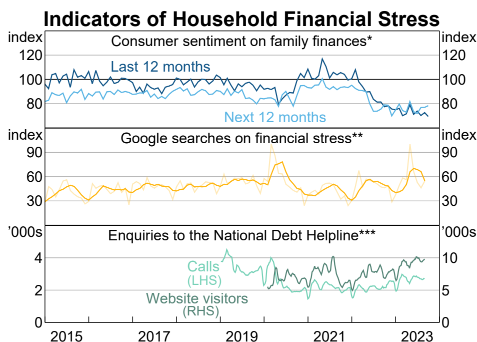
- *spare cash flows* – households' income available after meeting housing costs and other essential expenditures
- *savings buffers* – savings that can be drawn on when household income is not sufficient to meet housing costs and other essential expenditures.

A growing number of households are in early stages of financial stress, but a very small share are currently unable to service their debts.

High inflation and higher interest rates have reduced most households' spare cash flow. In turn, a small but increasing share of households is likely to have to spend more than their incomes (see Chapter 2: Resilience of Australian Households and Businesses). Consistent with these broad-based budget pressures:

- many households are making adjustments to their expenditure, as evidenced by slowing consumption growth
- households' sentiment of their current or future financial health has declined sharply since early 2022
- the frequency of Google searches of terms related to household financial stress increased earlier this year to its highest level since the start of the COVID-19 pandemic in early 2020
- financial counselling services such as the National Debt Helpline have seen increased demand for their services from the low levels seen during the pandemic (Graph 5.3.1).

Graph 5.3.1



* January 1996 = 100. Latest observation September 2023.

** Tracks relative frequency of Google searches based on key words related to household financial stress; March 2020 = 100, four-month rolling average. Latest observation September 2023.

*** Number of enquiries per week, four-week rolling average. Latest observation 31 August 2023.

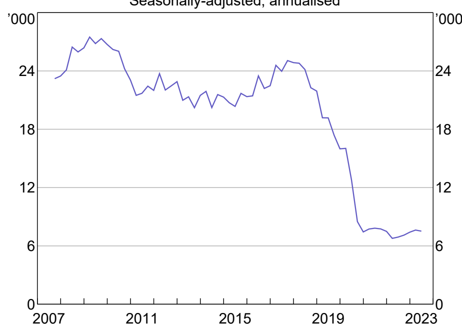
Sources: Financial Counselling Australia; Google Trends; RBA; Westpac-Melbourne Institute.

At the other end of the spectrum, indicators of severe financial stress have also begun to increase, but they have remained at very low levels as measured by mortgage arrears rates (see Graph 2.2 in Chapter 2: Resilience of Australian Households and Businesses) and personal insolvencies (Graph 5.3.2).

Graph 5.3.2

Personal Insolvencies*

Seasonally-adjusted, annualised



* Excludes business-related personal insolvencies. Latest observation June 2023.

Sources: AFSA; RBA.

Budget pressures and incidences of financial stress differ across households. Some households have been affected more by high inflation and higher interest rates and are therefore facing budget pressures more acutely.

Renters are generally more likely to experience financial stress but do not pose direct financial stability risks.

Timely, comprehensive and representative data on renters' financial situations is hard to come by. Yet, many renters are likely to have been particularly impacted by the recent period of high inflation for the following reasons:

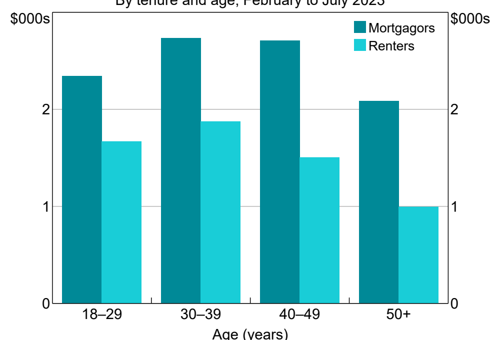
- *Renters tend to have lower incomes.* Private survey data covering the period from February to July 2023 show that renters have substantially lower incomes than mortgagors across all age groups (Graph 5.3.3).[2] Renters have also been particularly impacted by recent large rent increases.[3] That said, some renters – particularly those on low incomes – are likely to have experienced stronger-than-average income growth (see Graph 2.3 in Chapter 2: Resilience of Australian Households and Businesses).
- *Renters have substantially lower savings* than mortgagors irrespective of their age (Graph 5.3.4).

As a result, renters are much more likely to experience financial stress than other households. In 2021, renters were around twice as likely to face difficulties paying their bills and

Graph 5.3.3

Median Household Weekly Income*

By tenure and age, February to July 2023



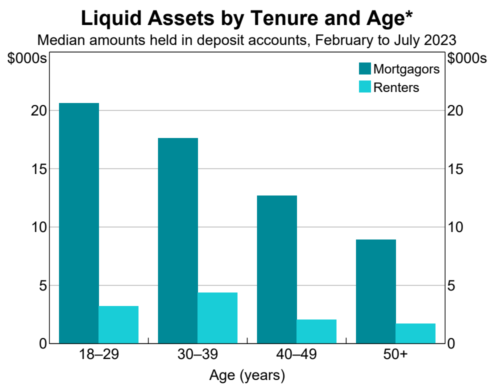
* Survey respondents report gross (before tax) income. Medians are interpolated from survey response buckets.

Sources: RBA; RFI Global's DBM Atlas.

were around four to five times more likely to seek help from community services or family and friends (Graph 5.3.5).[4] Renters could also experience financial stress more severely if the labour market were to soften, as they tend to be more likely than mortgagors to lose work in economic downturns.[5]

Even though renters are more likely to experience financial stress, they do not pose direct financial stability risks as they do not have material debts. That said, if a large number of renters were to default on their rental payments, this could adversely impact the cash flow of investors, particularly those who financed their investment property with debt. And, if renters were to sharply reduce their spending, this could contribute to a more material economic downturn.

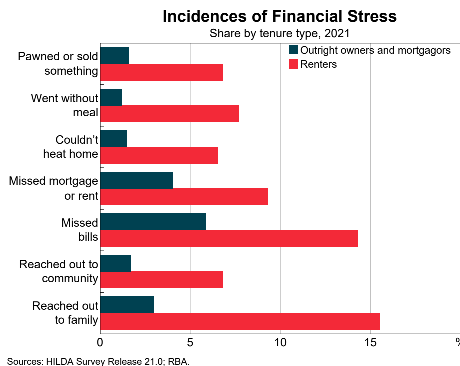
Graph 5.3.4



* Liquid assets include balances held in deposit accounts. Medians are interpolated from survey response buckets.

Sources: RBA; RFI Global's DBM Atlas.

Graph 5.3.5



Sources: HILDA Survey Release 21.0; RBA.

Mortgagors are facing much higher interest costs, but the vast majority appear well placed to continue to service their debts.

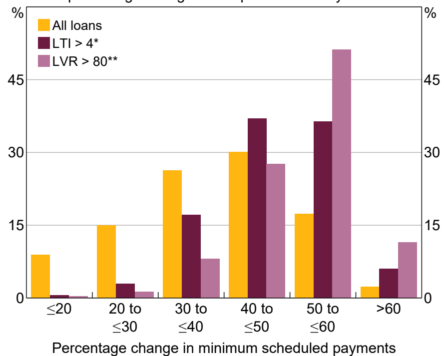
Mortgagors tend to have higher incomes than renters and have historically been less likely to experience financial stress. More recently, however, borrowers – except those still on low fixed rates – have faced substantial increases in their mortgage costs, with the majority having seen their payments increase between 30 and 50 per cent since April 2022 (Graph 5.3.6, all loans).

Mortgage payments represent an increasing share of borrowers' income. The share of variable-rate owner-occupier borrowers devoting at least one-third of their (reported) income to their mortgage payments has increased sharply, from around 4 per cent in April 2022 to around 20 per cent in July 2023 (Graph 5.3.7). This share is the highest among low-income mortgagors (defined as the bottom

Graph 5.3.6

Change in Minimum Scheduled Payments

Owner-occupier variable-rate borrowers, percentage change from April 2022 to July 2023

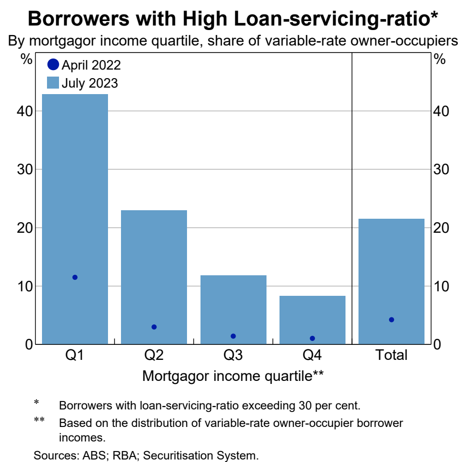


* LTI is current loan balance divided by estimated current household income. This is estimated by growing forward income reported at origination by WPI. Where original income is missing, borrower income is estimated using loan characteristics.

** LVR is offset and redraw adjusted loan balance divided by property price estimated using GCCSA price indices.

Sources: ABS; CoreLogic; RBA; Securitisation System.

quartile of mortgagor incomes – that is, borrowers with up to around $78,000 in household disposable income) at around 43 per cent.[6] By contrast, the share is around 8 per cent for borrowers in the highest mortgagor income quartile. Further, higher income borrowers can generally absorb the higher debt-servicing costs without becoming financially stressed because they tend to have significant income relative to essential spending needs (see Graph 2.8 in Chapter 2: Resilience of Australian Households and Businesses).



Borrowers with larger loans relative to their income ('higher LTI') or relative to the value of their property ('high LVR') are more likely to face financial stress.[7] Since interest rates increased in May 2022, higher LTI loans and high-LVR loans tend to have seen larger increases to their scheduled minimum payments compared with other variable-rate owner-occupier loans (Graph 5.3.6).[8] As a result, these borrowers are much more likely to struggle to meet their essential spending needs. About 25–50 per cent of higher LTI borrowers and about 15–32 per cent of high-LVR borrowers are estimated to have an income level not sufficient to meet their housing costs and necessary expenses, compared with 5–13 per cent for all variable-rate owner-occupier borrowers, depending on assumptions about essential expenses (Graph 5.3.8).[9]

Higher LTI variable-rate owner-occupier borrowers whose essential expenses and housing costs exceed their income tend to have only slightly lower savings buffers than all borrowers in a similar financial position (irrespective of the Household Expenditure Measure (HEM) used to capture essential expenses). By contrast, high-LVR borrowers tend to have substantially lower savings buffers and are hence most at risk of entering mortgage stress (Graph 5.3.9).[10] Consistent with this, higher LTI and in particular high-LVR borrowers have higher arrears rates than other borrowers (see Graph 5.2.3 in 5.2 Focus Topic: An Update on Fixed-rate Borrowers).

By contrast, other groups of borrowers do not appear to be materially more at risk and have broadly similar or lower arrears rates to other borrowers (see Graphs 5.2.2 and 5.2.3 in 5.2 Focus Topic: An Update on Fixed-rate Borrowers). These include:

- *Those who borrowed at low fixed or variable rates during the COVID-19 pandemic* and are now on higher variable rates (accounting for 25 per cent of outstanding variable-rate owner-occupier loans by volume). The estimated share of borrowers in this group whose income does not meet their cost of living ranges between 8 and 18 per cent (depending on the measure of essential expenses used) – which is not significantly different to all other borrowers in a similar financial position. This is despite these borrowers having had less time to repay the principal on their loan and therefore often having larger loan sizes, and the fact that their borrowing capacity at loan origination was assessed at an interest rate below their current rate. Moreover, these borrowers have

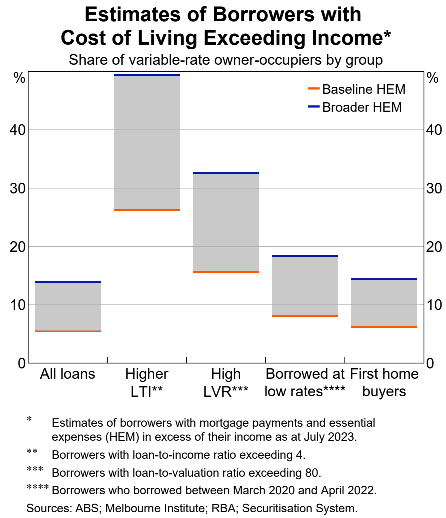
broadly similar savings buffers to other borrowers.

- *First home buyers*. These borrowers tend to take out loans with high LVRs as saving for a deposit can be difficult; by contrast, previous home buyers tend to have accumulated equity in their properties.[11] Despite some recent first home buyers having higher LVRs (and hence lower equity in case of needing to sell if in stress), between about 6 and 14 per cent are estimated to have living costs that exceed their income, which is similar to all variable-rate owner-occupiers. This group also has similar savings buffers to other comparable borrowers.
- *Investors*. While investors have seen similarly large increases in their interest payments compared with owner-occupier borrowers on the same interest-rate type, most are likely well placed to service their debts. This is because investors tend to have higher incomes and savings than other households and have seen their rental income increase strongly over the past year or so (albeit generally not sufficient to offset the increase in mortgage costs). Moreover, investors are more likely than owner-occupiers to sell their properties to avoid financial stress.

Graph 5.3.8

Estimates of Borrowers with Cost of Living Exceeding Income*

Share of variable-rate owner-occupiers by group



* Estimates of borrowers with mortgage payments and essential expenses (HEM) in excess of their income as at July 2023.

** Borrowers with loan-to-income ratio exceeding 4.

*** Borrowers with loan-to-valuation ratio exceeding 80.

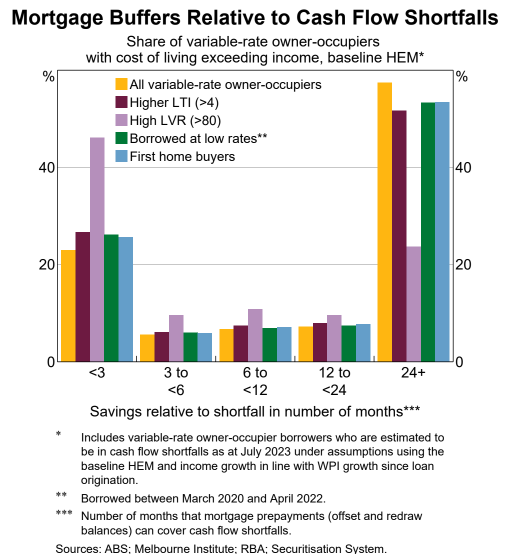
**** Borrowers who borrowed between March 2020 and April 2022.

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Graph 5.3.9

Mortgage Buffers Relative to Cash Flow Shortfalls

Share of variable-rate owner-occupiers with cost of living exceeding income, baseline HEM*



* Includes variable-rate owner-occupier borrowers who are estimated to be in cash flow shortfalls as at July 2023 under assumptions using the baseline HEM and income growth in line with WPI growth since loan origination.

** Borrowed between March 2020 and April 2022.

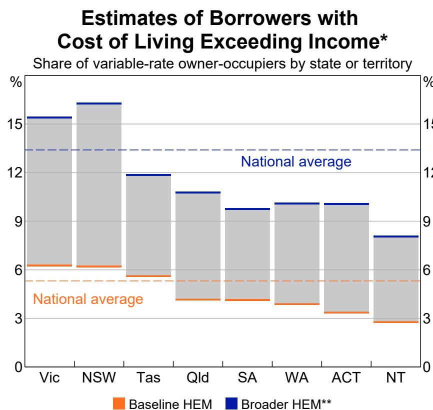
*** Number of months that mortgage prepayments (offset and redraw balances) can cover cash flow shortfalls.

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Financial stress does not vary much across Australia. This is despite borrowers in some regions having seen larger increases in their loan payments (relative to their incomes) – for example, New South Wales and Victoria have the highest shares of borrowers devoting at least one-third of their incomes to their mortgage expenses. Housing prices (and thereby loan

sizes) largely drive these differences. While the share of borrowers estimated to have their cost of living exceed their income is higher in these states, it is not significantly so, with the shares ranging between 6 and 16 per cent depending on HEM assumptions (Graph 5.3.10). In turn – and supported by the tight labour market across most of Australia – loan arrears remain relatively low, at less than 1 per cent across all states and territories (Graph 5.3.11).

Graph 5.3.10

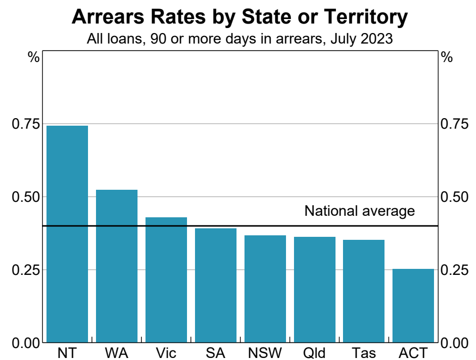


* Estimates of borrowers with mortgage payments and essential expenses (HEM) in excess of their income as at July 2023 under assumptions using the Household Expenditure Measure and income growth in line with WPI growth since loan origination.

** This factors in some other expenses that are excluded from the baseline HEM (mainly private health insurance and private school fees).

Sources: ABS; Melbourne Institute; RBA; Securitisation System.

Graph 5.3.11



Sources: RBA; Securitisation System.

Endnotes

[1] Adapted from Bullock M (2018), 'Household Indebtedness and Mortgage Stress', Address to the Responsible Lending and Borrowing Summit, Sydney, 20 February.

[2] Data are from RFI Global's DBM Atlas that collects information on the financial position of around 26,000 Australian consumers through a variety of methods.

[3] Hanmer F and M Marquardt (2023), 'New Insights into the Rental Market', RBA *Bulletin*, June.

[4] Based on data from the HILDA Survey.

[5] RBA (2023), 'Box B: Scenario Analysis on Indebted Households' Spare Cash Flows and Prepayment Buffers', *Financial Stability Review*, April.

[6] By comparison, the bottom quartile of all household incomes extends to around $50,000 (based on data from Wave 21 of the HILDA Survey, grown forward by WPI growth), reflecting that mortgagors tend to have higher incomes than other households.

[7] RBA (2021), 'Chapter 5: Mortgage Macroprudential Policies', *Financial Stability Review*, October.

[8] Higher LTI loans are defined as LTI greater than 4, which accounts for around 14 per cent of variable-rate owner-occupier loans. APRA considers loans with a total debt-to-income (DTI) ratio of 6 as higher risk loans. This is not directly comparable to our threshold choice of an LTI greater than 4 because it relates only to the size of the loan, not all debt a borrower holds. Using a threshold of 6 as a definition of high-LTI loans captures around 2 per cent of loans outstanding.

These borrowers tend to have seen even larger increases in their scheduled minimum payments and are much more likely to not have enough cash flow (around 70 per cent). While this group is therefore much more likely to be in financial stress, focusing on this group risks missing a larger group of borrowers that are also at risk of entering financial stress as interest rates increase. High-LVR loans are defined as LVR greater than 80 per cent, which accounts for around 3 per cent of variable-rate owner-occupier loans.

[9] See 'Box: Assumptions underlying estimates of borrowers' essential expenses and income' in Chapter 2: Resilience of Australian Households and Businesses.

[10] Previous work has found that borrowers with higher debt-to-income ratios (which captures a borrower's total debt, including loans on other properties such as investment properties) tend to have larger savings buffers. This is mostly driven by investors who are more likely to have larger debts and larger liquidity buffers than owner-occupier borrowers considered here. Consistent with evidence presented here, previous work also found that high-LVR borrowers continue to have noticeably lower liquidity buffers many years after they take out their mortgages (RBA, n 7).

[11] See RBA, n 7.

5.4 Focus Topic: Interest Rate Risk

The Reserve Bank has tightened monetary policy sharply in response to high inflation, resulting in a significant increase in short-term interest rates since April 2022. This follows a long period of historically low interest rates. As international experience has shown, increases in interest rates have the potential to cause stress in financial institutions if interest rate risk has not been well managed. This in turn can affect other institutions or parts of the financial system.

This Focus Topic explains how Australian financial institutions are exposed to interest rate risk and how this risk is managed.

Interest rates affect financial institutions through several channels.

Interest rate risk arises from mismatches in the interest rate sensitivity of entities' assets compared with their liabilities. The channels through which this can occur are summarised in Table 5.4.1 in the case of an increase in interest rates.

Financial institutions manage interest rate risk within a strong regulatory framework in Australia. The Australian Prudential Regulation Authority (APRA) sets prudential standards for risk management at banks, superannuation funds and insurers, and closely monitors institutions' risk management practices. The Reserve Bank sets Financial Stability Standards for clearing and settlement facilities, including central counterparties (CCPs). These are standards set at high levels, reflecting the critical role these institutions play in the Australian financial system.

Financial institutions use a variety of tools, often in combination, to manage interest rate risk. This includes:

- matching the interest rate sensitivity of their assets to the interest rate sensitivity of their liabilities, so that when interest rates change, gains on one side of their balance sheet offset losses on the other side
- using derivatives, including interest rate swaps that are commonly used to convert one type of interest payment into another (e.g. to convert a fixed-rate payment into a variable-rate payment) to align the interest sensitivity of assets and liabilities more closely
- holding buffers of liquid assets that can be used to meet cash outflows caused by changes in interest rates, including from margin calls on derivatives and repurchase agreements
- holding high levels of capital that can be used to absorb unexpected losses from changes in interest rates.

Banks experience both direct and indirect effects of interest rate changes.

The composition of Australian banks' balance sheets and their use of hedging instruments limits their direct exposure to interest rate risk. In Australia, the interest rate banks earn on their assets tends to move with short-term interest rates, as most of their assets reprice within one month (Graph 5.4.1). This is because banks' assets are primarily variable-rate mortgages, or business loans that are repriced in

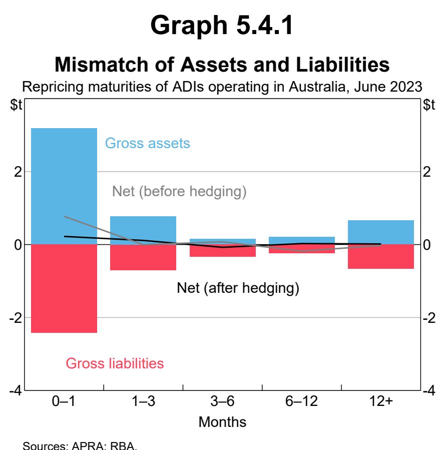
Table 5.4.1: Channels of Interest Rate Risk

Institution type	Effect of an increase in interest rates
Banks	*Earnings:* • Higher in the near term as interest income from assets typically increases by more than interest expenses on liabilities. • Slower credit growth and higher credit losses weigh on profits in the medium to long term. *Value of assets and liabilities:* • The present value of some fixed-rate assets and liabilities, such as bonds and fixed-rate mortgages, declines. *Credit risk:* • Increases with higher probability of defaults and lower collateral values (higher interest rates weigh on asset values). *Liquidity risk:* • Margin calls on derivatives and repurchase agreements (net effect depends on positions held). • Increases due to lower value of high-quality liquid assets (HQLA).
Insurers	• Higher yield on interest-bearing investments. • Mark-to-market losses on some assets, particularly long duration assets. • Reduction in the discounted value of assets net of liabilities. • Margin calls on derivatives (net effect depends on positions held).
Superannuation funds (defined contribution)	• Higher yield on interest-bearing investments. • Mark-to-market losses on some assets, particularly long duration assets. • Margin calls on derivatives (net effect depends on positions held).
Central counterparties	• Indirectly exposed through the risk of counterparty default.

Source: RBA.

line with the bank bill swap rate. The interest rate banks pay on their liabilities tends to change more slowly, since a larger share of banks' liabilities is based on fixed rates such as bonds or rate-insensitive deposits. Banks typically use interest rate swaps to convert their fixed-rate liabilities into variable-rate liabilities, so they reprice more in line with their assets. As a result, Australian banks' net interest margins – a measure of the difference between interest earned on banks' assets and interest paid on banks' liabilities – have been relatively stable over time, despite large movements in the cash rate.[1]

Banks also hold other types of interest-rate-sensitive financial assets, such as bonds. Bonds issued by the Australian Government and the states and territories are held by banks primarily as a buffer of HQLA that can be used to meet cash outflows. An increase in interest rates reduces the value of these securities, leading to financial losses and a decrease in the value of



banks' liquid assets. Australian banks hedge against financial losses on these securities using government bond futures or interest rate swaps.[2] Silicon Valley Bank, a mid-sized US bank, failed in March 2023 in part due to large losses on its securities portfolio, which was not hedged against an increase in interest rates.[3]

Banks are required to hold capital against interest rate risk under the Interest Rate Risk in the Banking Book (IRRBB) framework for banking book items, and under the market risk framework for trading book items.[4] This incentivises banks to hedge interest rate risk, as described above. Australian banks that use internal models to measure credit risk are required to hold capital for IRRBB as part of their minimum capital requirements.[5] The standard international approach is for banks to hold capital for IRRBB in addition to their minimum capital requirements at the discretion of supervisors. This approach is used for smaller Australian banks.

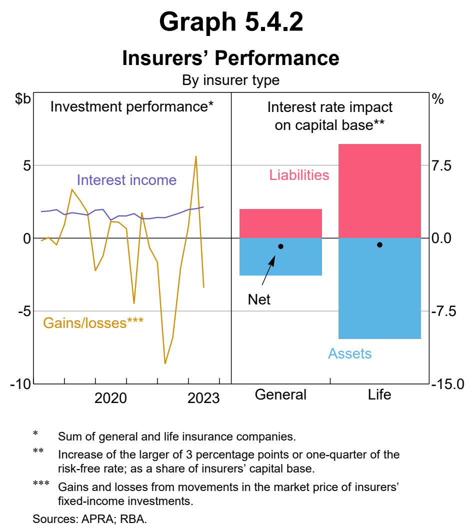
As an indirect effect, higher interest rates weigh on banks' profits and potentially increase credit losses. An important transmission channel of tighter monetary policy is to reduce consumption and investment in the economy, and thereby demand for new credit, by increasing the cost of borrowing. Higher interest rates result in weaker demand for credit, which dampens banks' balance sheet growth and, in turn, profit. Lower growth in credit may lead to greater competition for borrowers among lenders and reduced margins. At the same time, it is more difficult for borrowers to service their debt due to higher interest payments, slower income growth and higher unemployment, which are themselves the result of higher interest rates. Ultimately, the number of borrowers unable to repay their debt increases, potentially leading to credit losses for banks. Banks hold provisions to absorb potential future credit losses, partly based on models of expected credit loss and additional overlays based on judgement of risks.

Higher interest rates also weigh on the value of collateral banks hold to protect against credit losses. Interest rates influence asset prices, which affect banks' balance sheets through the value of collateral. Banks hold collateral to protect against losses if a counterparty defaults. In the case of a mortgage, the bank has rights to property that, in the event of default, can be sold to repay the debt owed by the borrower. When interest rates rise, property prices tend to fall, which reduces the value of collateral held by the bank, potentially below the value of the borrower's debts. Banks mitigate this risk by lending an amount less than the value of the collateral and hold capital to absorb losses. They also use collateral to reduce potential losses in repurchase agreements and derivatives transactions. In this case, changes in the value of collateral relative to exposures in response to interest rates are corrected via margining (see Box: Interest rate risk is strongly linked to other financial risks).

Australian insurance companies tend to have little exposure to interest rate risk due to the composition of their balance sheets.

Increases in interest rates affect insurers' investment returns and the values of their assets and liabilities. General insurers hold around 80 per cent of their investment portfolio in interest-earning investments, primarily fixed-income securities issued by corporations and governments. Higher interest rates take time to fully flow through to interest income, as lower yielding fixed-income securities mature and are replaced with higher yielding securities. By contrast, higher interest rates immediately lower the value of insurers' assets and liabilities (Graph 5.4.2). Since the duration of general insurers' assets is similar to their liabilities, the effect on their capital is small; the value of their

investment portfolios declines, but so does the value of their liabilities due to policyholders. There is an additional effect for insurers whose liabilities are sensitive to inflation; if an increase in interest rates is accompanied by an increase in inflation, then the value of expected future payouts increases. Insurers can mitigate this by investing in inflation-linked securities. Insurers are required to hold capital against the effect of an interest rate shock on their capital base, which incentivises them to manage the mismatch in interest rate sensitivity of their assets and liabilities.



* Sum of general and life insurance companies.
** Increase of the larger of 3 percentage points or one-quarter of the risk-free rate; as a share of insurers' capital base.
*** Gains and losses from movements in the market price of insurers' fixed-income investments.
Sources: APRA; RBA.

Box: Interest rate risk is strongly linked to other financial risks

Interest rate risk often interacts with other financial risks, particularly credit and liquidity risk. This is especially true when changes in interest rates affect the prices of assets used as collateral, which has implications for both credit and liquidity risk.

An increase in interest rates can increase credit risk. As noted above, increases in interest rates can reduce the value of collateral held against loans and increase the probability that it will not be sufficient to cover the lender's exposure. Higher interest rates could also lead market participants and credit rating agencies to reassess the credit quality of some institutions that issue debt securities. This could further reduce the value of those securities as investors demand higher returns to compensate for the increased credit risk.

An increase in interest rates can also increase liquidity risk. Derivatives and repurchase agreements have two main collateral ('margin') requirements, where typically cash or securities are transferred between the counterparties:

1. *initial margin* is intended to cover potential future exposure if a counterparty defaults
2. *variation margin* is exchanged daily to prevent the build-up of exposure due to changes in the market value of the transaction.

Margin requirements generally increase with market price volatility.[6] Therefore, increases in the level and volatility of interest rates can trigger large transfers of cash or securities, which presents liquidity risk for the margin payer. Australian banks manage potential outflows from margin payments under their liquidity management framework, and by meeting prudential standards set by APRA, including by holding buffers of HQLA. If many institutions need to pay margin, their collective efforts to obtain liquidity can have systemic consequences. For example, in 2022, UK pension funds faced large margin payments due to sharp changes in UK Government bond (Gilt) yields. The resulting dash for liquidity led to disruptions in the Gilt market and intervention by the Bank of England to restore proper market functioning.

Australian superannuation fund members bear most risks of higher interest rates.

Most superannuation funds in Australia are defined contribution schemes – where the benefit due to policyholders is determined by the fund's uncertain future investment return – so investment losses from increases in interest rates are borne by policyholders. By contrast, defined benefit funds – where the benefit due to policyholders is guaranteed – must manage the interest rate risk associated with long-term liabilities. This requires defined benefit funds to align the interest rate sensitivity of their assets and liabilities.

Superannuation funds use derivatives, primarily interest rate and foreign exchange swaps, which exposes funds to potentially very large outflows of cash due to margining of derivatives transactions. Australian superannuation funds use derivatives to a much lesser extent than pension funds in some overseas jurisdictions (as they are not guaranteeing returns) and use minimal leverage. Even so, large margin flows can still be created by large market moves, although Australian funds have proven resilient to these given liquidity management practices. APRA also introduced updated investment governance standards in 2023, designed to further strengthen practices.[7]

Central counterparties are generally not directly exposed to interest rate risk, but they may face losses if a counterparty defaults.

CCPs act as the buyer to every seller and the seller to every buyer in derivatives transactions so their exposures (including to interest rates) are offset – unless a counterparty defaults. CCPs collect both variation margin and initial margin to help protect against losses in this situation. If this is insufficient, then the CCP has other means to absorb the losses, including using its own capital.

Endnotes

[1] See also Windsor C, T Jokipii and M Bussiere (2023), 'The Impact of Interest Rates on Bank Profitability: A Retrospective Assessment Using New Cross-country Bank-level Data', RBA Research Discussion Paper No 2023-05.

[2] This may still expose the bank to basis risk, which is the risk that the price of the hedging instrument moves differently to the price of the security being hedged. For example, a bank could hedge the interest rate risk of a government bond using an interest rate swap where the bank pays a fixed rate and receives a variable rate. However, movements in the yield curve used to price the government bond are unlikely to exactly match movements in the interest rate curve used to price the swap.

[3] Silicon Valley Bank (SVB) had a large portfolio of securities that were classified as 'held-to-maturity', which were not required to be revalued when market prices changed (marked-to-market) under accounting rules unless they were reclassified (including if they were sold). Investors and depositors became aware of the unrealised losses when SVB sold some of their securities at a loss. Most securities held by banks in Australia are marked-to-market and are required to be valued at market price for the calculation of regulatory liquidity ratios.

[4] 'Trading book' generally refers to balance sheet items that are intended to be held shorter term (e.g. securities held as part of a bank's broking and market-making activities) and 'banking book' items are held longer term (e.g. residential mortgages).

[5] The IRRBB capital requirement is based on changes in the *economic value of the banking book*, which is the net present value of all expected future principal and interest cash flows for banking book items. This is a measure of expected future profitability and is sensitive to the mismatch in banks' repricing profiles. See Prudential Standard APS 117 Capital Adequacy: Interest Rate Risk in the Banking Book (Advanced ADIs).

[6] See Carter L and D Cole (2017), 'Central Counterparty Margin Frameworks', RBA *Bulletin*, December.

[7] See RBA (2023), 'Chapter 2: The Australian Financial System', *Financial Stability Review*, April.

5.5 Focus Topic: Operational Risk in a Digital World

In addition to direct losses, the failure to manage operational risks can lead to reputational harm and loss of confidence in an institution's wider risk management practices.[1] The growing digitalisation of financial services, including reliance on third-party vendors, increases the vulnerability to, and impact from, cyber-attacks and technology outages. These risks present new governance and risk management challenges for institutions as they are inherently difficult to identify and quantify; regulators face similar difficulties in monitoring institutions' response to these risks. Furthermore, the rapidly evolving nature of these risks highlights the need for institutions to regularly test and review their risk management frameworks in line with changes to the threat environment.

This Focus Topic considers the key operational risks faced by financial institutions today, with a focus on cyber risk.

Cyber risk has emerged as a key operational vulnerability for the financial system.

The scope for, and consequences of, cyber-attacks has risen with the increased use of technology for the provision of financial services. Cyber-attacks have a higher potential than other types of incidents to be systemic: a well-resourced and sophisticated adversary seeking to cause widespread distress will actively exploit cyber vulnerabilities to maximise the impact of their attack.[2]

The number and severity of cyber-attacks in Australia has increased. In its latest annual report, the Australian Cyber Security Centre noted a 13 per cent annual increase in cybercrime reports over the year to June 2022, and Australians lost a record $3.1 billion to scams over the 2022 calendar year. Recent prominent examples in Australia include cyber breaches at Optus, Medibank Private and Latitude Financial, where attackers gained access to millions of customer records, including sensitive information, thereby facilitating further scams. Globally, a ransomware attack on Ion Markets in January 2023 disrupted critical processes at some derivatives market participants for several weeks and affected some of the world's largest banks.

A recent cybersecurity stocktake by the Australian Prudential Regulation Authority (APRA) highlighted gaps in many financial institutions' management of cyber and information security risks.[3] Common issues include:

- the failure to identify critical and sensitive information assets
- inadequate testing of control programs
- outdated incident response plans
- limited assessment of third-party information security capability.

The ongoing resilience of the Australian financial system depends on financial institutions addressing these shortcomings and ensuring they have a robust framework to manage information security.

The vulnerability to, and impact of, broader technology outages is rising.

Customers are increasingly switching to digital financial services and financial institutions are making more use of third-party services. The partial outage of Commonwealth Bank's website and banking app in June 2023 left many customers across Australia unable to access banking services or make payments. Meanwhile, the outage of the Reserve Bank's Fast Settlement Service and Low Value Clearing and Settlement Services in October 2022 caused disruption across the payments system. As services become reliant on an increasing and interconnected range of parties – from banks and superannuation funds to payments providers, cloud service providers and telecommunication companies – there are more possible points of failure, and outages have the potential to quickly cascade through the system.

Clearing and settlement facilities are increasingly undertaking multi-year projects to migrate critical services onto public cloud platforms. These platforms offer the potential for greater resilience due to their geographically diverse locations, system availability and security. However, they also concentrate operational risk. Given the importance of clearing and settlement services to the financial sector, it is vital that governance arrangements related to third-party outsourcing are robust and migration risks are appropriately managed to ensure continuity of service throughout the transition.

Ensuring a strong operational risk management culture in Australian financial institutions is a regulatory priority.

Australian regulators are focusing on close supervision, updated regulatory standards and enforcement actions against entities that have fallen short.[4] A core underlying principle is resilience: activities such as risk identification and assessment, risk mitigation (including the implementation of controls) and the monitoring of risks and control effectiveness work together to minimise operational disruptions and their effects.

APRA has recently finalised a new operational risk standard, CPS230, which modernises and brings together previously separate standards with the aim of closing regulatory gaps. This new standard will come into effect on 1 July 2025, although APRA expects entities to begin working towards compliance immediately and will be assessing their preparedness to the new standard throughout 2024. Key aspects of the standard include:

- *Increasing requirements to maintain and test internal controls*, with a focus on good governance. Management boards are expected to treat information security as a critical business risk, not just a technology risk.
- *Improving business continuity planning*. Unforeseen events will happen, and institutions must be prepared to operate critical services through severe disruptions and quickly return to business as usual.
- *Enhancing institutions' oversight of external service providers*. Third-party risk is becoming more important as financial services are increasingly digitised and financial institutions move more of their business onto cloud services.

The Cyber Operational Resilience Intelligence-led Exercises (CORIE) Framework, developed by the Council of Financial Regulators and led by the Reserve Bank, is another aspect of Australia's operational risk defence. Systemically important entities, including critical third parties not directly regulated by the financial regulators, were invited to participate. CORIE tests institutions'

readiness for and resilience to cyber-attacks: 'red team' exercises mimic the tactics, techniques and procedures of real-life adversaries, using tools and techniques that may not have been anticipated and planned for. These exercises help financial institutions identify and remediate weaknesses in their defences against cyber-attacks. Furthermore, the Australian Government established the National Office of Cyber Security in May 2023 to coordinate and strengthen cybersecurity policy, preparedness and response across Australia.

Since 2013, the Australian Securities and Investments Commission (ASIC) has conducted regular self-assessment surveys to assess the cyber resilience of financial markets. ASIC extended the scope of this initiative this year to include a wider range of regulated entities across all financial services. The survey is designed to help organisations evaluate their cybersecurity posture, controls, governance arrangements and incident preparedness. Earlier this year, ASIC also introduced market integrity rules that set out minimum expectations and controls to mitigate technological risks.

Authorities have taken enforcement actions against institutions that have failed to meet expected standards of conduct. These actions emphasise the importance placed by Australian regulators on good operational risk management. Recent examples include:

- A court-enforceable undertaking from the Bank of Queensland, relating to several breaches of APRA's prudential standards in 2022 and 2023 and notable gaps in its risk management framework, particularly in regard to non-financial risk, anti-money laundering and counter-terrorism financing.
- A $250 million capital charge for Medibank, due to weaknesses identified in its information security environment following the 2022 breach of customer records.
- A $4.5 million fine and enforceable undertaking for Openmarkets Australia Limited, after multiple compliance failures related to an inadequate framework to deal with suspicious trading.
- A $247,500 fine for BNK Banking Corporation for failing to meet its legal obligations to report balance sheet data to APRA.
- In May 2022, the Federal Court found RI Advice, an Australian Financial Services licensee, had breached its license obligations to act efficiently and fairly when it failed to have adequate risk management systems to manage its cybersecurity risks.

Regulators' renewed focus on operational risk is designed to lift industry practices and build on existing progress. Swift implementation of updated regulatory standards is an important step towards improving the resilience of the Australian financial system in the face of rapidly evolving risks.

Endnotes

[1] The failure of Credit Suisse in March 2023 highlights the danger of poor risk management practices, including operational risk. Repeated incidents at Credit Suisse over a number of years contributed to reputational damage and 'an increasingly critical assessment of the bank by its clients, market participants and rating agencies', according to the Swiss National Bank. During the period of stress in parts of the global banking system following the failure of Silicon Valley Bank in March 2023, this lack of confidence led to large deposit outflows and a liquidity crunch, ultimately resulting in Credit Suisse's acquisition by UBS. This occurred despite Credit Suisse meeting regulatory capital and liquidity requirements.

[2] See RBA (2022), 'Box C: Building Resilience to Cyber Risks', *Financial Stability Review*, April.

[3] APRA (2023), 'Cyber Security Stocktake Exposes Gaps', June.

[4] McCarthy Hockey T (2023), 'From Fires to Firewalls: The Evolution of Operational Risk', Speech to the GRC2023 Conference, 23 August.

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