

Financial Stability Review

OCTOBER 2019



RESERVE BANK OF AUSTRALIA

Financial Stability Review

OCTOBER 2019

Contents

Overview	1
1. The Global Financial Environment	5
Box A: Household Sector Risks in China	19
2. Household and Business Finances	25
Box B: Housing Loan Arrears – Insights From Western Australia	37
3. The Australian Financial System	43
Box C: Financial Stability Risks From Climate Change	57
4. Regulatory Developments	63

The material in this *Financial Stability Review* was finalised on 3 October 2019 and uses data through to 2 October 2019.

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 3 April 2020.

The graphs in this publication were generated using Mathematica.

Financial Stability Review enquiries:

Secretary's Department
Tel: +61 2 9551 8111
Email: rbainfo@rba.gov.au

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

Overview

Financial market compensation for risk remains low despite the greater chance of weak global growth

Uncertainty about the outlook for global economic growth has increased since the previous *Financial Stability Review*, with a greater chance of weak growth. The US–China trade and technology disputes have seen forward-looking indicators for trade and investment decline. Spillovers from an escalation of tensions in Hong Kong or the Middle East or a disorderly Brexit could also trigger a slowdown. In light of the increased risks to economic growth, the US Federal Reserve, the European Central Bank and some other central banks have eased monetary policy and financial markets expect further easing. This has led to lower government bond yields. However, higher uncertainty has not resulted in investors demanding increased compensation to bear risk. Estimates of term premiums, and credit and liquidity risk premiums, are low and some have declined further. These lower risk-free interest rates and low risk premiums have seen many asset prices rise further from already high levels. The apparent confidence embodied in financial market pricing belies the more uncertain growth outlook and vulnerabilities in the financial system, including the high level of debt in some sectors and concerns about the resilience of banks in a few economies.

In Australia, yields have fallen substantially with asset prices rising further

Domestically, government bond yields have fallen by more than international yields this year as the expected path of the cash rate has declined. The cash rate has been cut by 75 basis points since May, and financial markets expect further easing will be needed to achieve the Bank's inflation and employment objectives. Domestic risk premiums are also generally at low levels. As in other economies, lower risk-free interest rates in Australia have underpinned rising prices of many assets.

The cuts to the cash rate, and the resulting reductions in borrowing rates, have contributed to a turnaround in some established housing markets. Housing prices have risen in Sydney and Melbourne in the past few months after falling for around 18 months, and there are some tentative signs that turnover may be near its trough. However, in Western Australia and the Northern Territory, housing prices have continued their prolonged decline. Conditions in other housing markets are generally subdued.

A search for yield, low borrowing costs and strong fundamentals have underpinned commercial property valuations, particularly in Sydney and Melbourne. Strong demand for offices is easily meeting the increase in supply for now, and valuations have continued to rise as yields look attractive in a low interest rate environment. In contrast, weak conditions and changes in market structure in retailing have resulted in difficult conditions for some types of retail property. However, banks' commercial

property exposures are a fairly small share of their assets.

Despite slower economic growth domestically, businesses' profitability has remained around its historical average. This has enabled most businesses to easily make their debt repayments. While gearing has increased a little, it is not high relative to historical levels and debt servicing costs are low given the level of interest rates. However, some businesses, such as discretionary retailers, small businesses, some construction firms and those affected by the drought, are confronting challenging conditions.

There are (as always) some notable risks for financial stability in Australia

External shocks

A downturn in the global economy, asset price falls or reduced availability and increased cost of borrowing could be quickly transmitted to Australia through trade and financial links. A sharp decline in global economic activity would likely see asset prices fall, as well as reduce Australia's exports and domestic activity. But the impact on Australia would depend on the exact nature of the external shock and movements in the exchange rate. Australia's exports to China are disproportionately used in the Chinese domestic economy rather than as inputs for the production of Chinese exports. Australia's exports may therefore decline by proportionately less than global trade in response to an escalation of trade disputes, if Chinese domestic growth is maintained. But a more generalised slowdown in China could have a larger impact on domestic growth and hence the financial system.

In the current environment, there are many possible triggers for dislocation in financial markets. One is a sharp increase in risk premiums, and therefore longer-term interest rates, from their current historically low levels. In recent years, inflation has been lower than past

relationships with labour outcomes would predict. But if historical inflation dynamics did re-emerge, particularly in economies with very low unemployment, it could surprise markets and spur a re-evaluation of risk premiums and the path of central bank policy rates. Other asset prices would likely fall alongside bond prices, causing widespread losses in wealth, which could be particularly problematic for asset holders with high leverage.

High household debt

Household debt in Australia is around 190 per cent of household income, which is higher than in most other countries. Internationally, high household debt was a significant amplifier of economic and financial shocks in the financial crisis a decade ago, including through the effects on household consumption. In Australia, housing debt is generally well collateralised. Furthermore, around three-quarters of the debt is owed by households in the top 40 per cent of the income distribution, who generally have a high capacity to make repayments and are less likely to experience sustained unemployment. These factors reduce the potential losses for lenders. Most households are comfortably making their current debt repayments, with the arrears rate low both by international standards and in absolute terms. But the rise in housing non-performing loans to its highest level in several years is notable. Rising unemployment or ongoing weakness in income growth would likely see an increasing share of households struggle to make their debt repayments.

While the potential for direct losses to the banking system from high household debt seems limited, highly indebted households could curtail their consumption if there was a significant increase in job insecurity. With around one-third of households having mortgage debt, in aggregate this could result in a sizeable decline in consumption and so

amplify any shock to the economy and so the financial system.

Risks in housing markets

In the near term, risks from falls in housing prices have reduced but still exist. The uptick in housing demand and prices in Sydney and Melbourne has reduced the risk that sustained falls in housing prices could lead to widespread negative equity and so potential losses for lenders. However, the rental vacancy rate in Sydney is relatively high and a possible oversupply of apartments in some areas in Sydney could see prices and rents fall in some locations. Further, prices are still falling in Western Australia and the Northern Territory, and the incidence of negative equity is rising. A further 10 per cent fall in prices in these regions would see over one-third of these loan balances being associated with negative equity. For the country as a whole, the incidence of negative equity remains low and the vast majority of borrowers in negative equity are making their repayments on schedule.

Further out, there are potential risks from a resurgence in rapid housing price growth. The fall in housing demand and prices over the past couple of years, particularly in Sydney and Melbourne, as well as tighter credit supply for developers, has resulted in residential building approvals falling sharply. With population growth projected to remain strong, ongoing weakness in buildings approvals would likely result in a shortage of new housing in several years' time with a resulting risk of rapid growth in prices that would stimulate stronger debt growth.

Banks' non-financial risks

Banks face challenges resulting from their many legacy IT systems and the ever-present threat of cyber attacks. Attacks designed to disrupt the broad financial system could be spread across banks or target common systems or key

financial market infrastructure. Banks need to devote close attention to these risks while also managing large changes in their operations. These changes to their operations have resulted from the recommendations of several inquiries over the past couple of years, including the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry.

Despite these risks, the financial system is generally resilient

The resilience of the Australian financial system has steadily improved as a result of actions taken in response to the lessons learned from the financial crisis. Major post-financial crisis international reforms have been implemented in Australia, requiring banks to hold more capital and liquid assets. On an internationally comparable basis, Australian banks' Tier 1 capital ratios are likely well within the top quartile of equivalent banks, and comfortably inside the range needed to withstand the magnitude of shocks associated with most historical banking crises internationally. The implementation of the framework for loss-absorbing capacity (LAC) announced by APRA will further improve the resilience of the financial system. The tightening in lending standards for residential mortgages in recent years has appropriately improved the quality of new lending. However, it is important that banks are not overly cautious in the implementation of current lending policies. Lending always entails a degree of risk but excessive risk aversion by financial institutions can curtail the provision of credit that facilitates economic growth. It is crucial that the financial system is highly resilient, and so can continue to support economic activity, even if there are severe economic and financial shocks. ✖

1. The Global Financial Environment

International financial developments can affect financial stability in Australia through financial and economic channels. Close attention is therefore paid to economies that have significant direct or indirect financial or trade links with Australia. These include the United States, Europe, China, Japan and New Zealand. Some risks are idiosyncratic to those economies, while others are more global.

Global financial vulnerabilities remain elevated, reflecting high asset prices, high debt levels and a range of country-specific factors. Most of these vulnerabilities are little changed since the previous *Review*.

Rising asset prices have been underpinned by historically low risk-free interest rates, which have fallen further since the previous *Review*. Investors are also demanding relatively little compensation to bear credit, liquidity and interest rate risks. Around one quarter of the total stock of government bonds on issue now trades at negative yields. A sharp correction in asset prices could be amplified if debt-funded investors were forced to deleverage. The extended low interest rate environment has encouraged investors to take on more risk, raising the possibility of financial stress if a sharp reversal in asset prices should occur.

A rise in global debt has accompanied the rise in asset prices over the past decade. This leaves a range of household and corporate sectors, and sovereigns, vulnerable to adverse shocks. Corporate debt is especially high in China relative to income, with a large share financed through non-bank channels. The possibility of

debt-servicing problems in China has risen due to slower economic growth and tighter credit conditions. While Chinese authorities have implemented various policy responses, these are encouraging a further increase in debt. Corporate debt has also risen to historically high levels in some advanced economies, including the United States and Canada. This has been accompanied by weaker credit quality, particularly in the leveraged loan market.

Banks in some jurisdictions remain a source of vulnerability. Bank profitability is low in Europe and Japan, with many banks facing declining margins and some European banks also still grappling with high non-performing loans (NPLs). Signs of stress have also emerged among some smaller banks in China, and a few have needed government support in recent months.

While vulnerabilities are generally little changed, a number of factors that could act on them to cause a financial disruption have become more prominent. In particular, global economic growth has slowed further and downside risks to growth have increased. This reflects the heightened risk of policy-related shocks, including the intensification of trade and technology disputes between the United States and China or a disruptive Brexit. A range of geopolitical shocks, for example from tensions in Hong Kong, the Middle East or on the Korean Peninsula, could also set off a chain of events that act on global financial vulnerabilities. The downside risks to growth are amplified by the limited global capacity for further counter-cyclical fiscal and monetary stimulus in many

economies, given high sovereign debt and already low policy interest rates.

While the overall risk of financial disruption appears to have increased in recent months, this has occurred against a backdrop of increased global financial system resilience. Since the financial crisis, banks have increased their levels of capital and liquid assets, and they are subject to more intensive supervision, including through supervisory stress testing. While some banking systems have fragilities, most should be better placed to continue to facilitate economic activity during a major downturn.

Downside risks to global growth have increased ...

Economic growth has slowed, but is still close to trend in many advanced economies, which is supporting global financial stability. However, downside risks to growth remain prominent, including those stemming from trade tensions, geopolitical tensions and a potential disruptive Brexit. The likelihood of some of these risks being realised in the near term has increased, particularly following escalations in US–China trade and technology disputes over the past six months. A sharp slowdown in growth could undermine global financial stability, including by reducing the capacity of highly leveraged borrowers to service their debts.

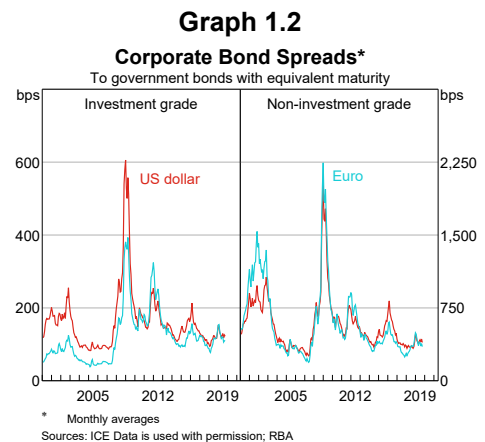
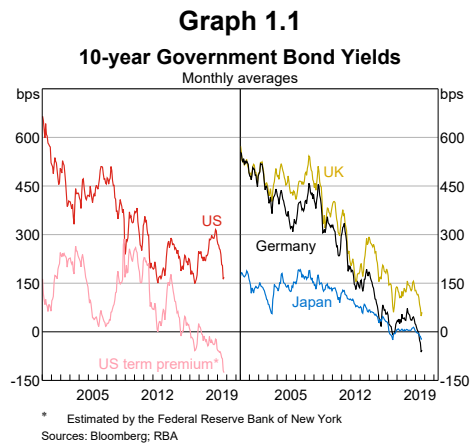
... yet asset prices remain high and compensation for risk remains low

Despite slower growth and prominent downside risks, many asset prices remain elevated and have risen further since the previous *Review*. A key driver of rising asset prices in recent months has been easier monetary policy, with expectations of more easing to come. This has contributed to a further decline in government bond yields, which reached all-time lows in some countries (Graph 1.1). Low government bond yields appear to reflect expectations that real risk-free interest rates and inflation will

remain low for many years. Further, investors are demanding very little, if any, compensation for bearing the risk that real risk-free interest rates or inflation rise unexpectedly.

Similarly, even though downside risks to growth have increased, investors do not appear to be demanding additional compensation for bearing credit and liquidity risks. For example, investment and non-investment grade corporate bond spreads remain relatively low (Graph 1.2).

With the decline in risk-free interest rates and risk premiums over the past year, around one quarter of the total stock of government bonds on issue now trade at negative yields. Such high nominal valuations for fixed income assets are



unprecedented historically. Prices for some other assets have also increased further, including commercial real estate, where price increases have outpaced rents in various markets (including in the United States and some countries in Europe). By contrast, equity risk premiums are not especially low.

Asset prices are vulnerable to a destabilising correction if risk premiums were to rise suddenly. This could be triggered by a negative growth shock, geopolitical event, major credit event, or a normalisation in term premiums. Large asset price falls could also be caused by an increase in risk-free rates from their very low levels, in a scenario where higher realised or expected inflation is not accompanied by stronger growth. Some asset holders may not be well prepared for such repricing, given a general increase in risk-taking in the low interest rate environment. This raises the prospect of large losses and reactive sales of assets, including by leveraged investors facing margin calls.

Other procyclical behaviour and changed market characteristics could also exacerbate price falls during a broad and sudden sell-off. For example, corporate bond market liquidity has declined post-crisis as banks have reduced their market-making activities, increasing the potential for price volatility. Open-ended investment funds have grown significantly in size since the global financial crisis. These funds often offer on-demand redemptions, even though their underlying assets may be illiquid. This liquidity mismatch can exacerbate price falls if managers need to sell assets into an illiquid market to meet redemptions.

These liquidity risks were recently highlighted by high-profile runs on some UK funds. One fund manager was unable to sell illiquid securities fast enough to meet redemptions and instead imposed redemption gates, which limit withdrawals. Measures that limit or prevent redemptions can reduce the risk of open-ended funds exacerbating asset price falls, by giving

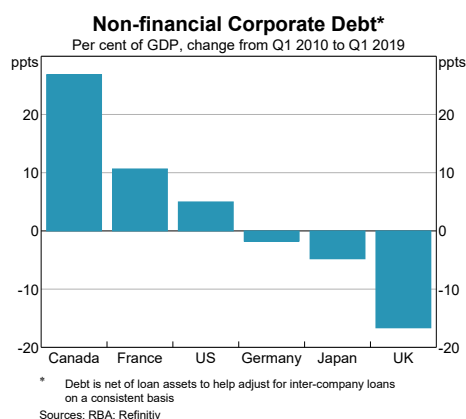
funds more time to sell illiquid assets. While these backstops are available in many jurisdictions, they remain largely untested in broader market stress events. They may, for example, result in contagion as investors in other funds seek to redeem while they can, or lead to reduced liquidity and price falls in other markets.^[1]

Non-financial corporate debt has been rising

Vulnerabilities associated with corporate leverage have been building across a number of advanced economies (Graph 1.3). Corporate debt is now around historic highs as a share of GDP in the United States, France and Canada. High levels of corporate debt can reduce borrowers' resilience to adverse income, interest rate and funding shocks. Heavily indebted corporations are also more likely to sharply reduce investment and other spending in the event of a negative shock.

However, several factors mitigate the extent of this vulnerability, at least in the current environment. Low interest rates are supporting firms' ability to service their debt. In the United States, corporate debt is not as high from a historical perspective when measured relative to earnings. The share of debt held by the most

Graph 1.3



vulnerable listed US firms – those with high leverage, low profitability or low interest coverage ratios – is also not high by historical standards (Graph 1.4). Some corporations also have significant liquid assets, which can be sold and the proceeds used to help make debt repayments, if their earnings were to decline.

Nonetheless, vulnerabilities do appear elevated in some parts of the corporate debt market. Within the investment grade bond market, debt has become more concentrated among riskier borrowers. This increases the risk that even small ratings downgrades could force investors with constrained mandates to sell. Leveraged loans, which are loans extended to speculative grade or already highly leveraged firms, have also expanded rapidly in recent years (though issuance has slowed this year). Further, credit quality has weakened in the leveraged loan market. In particular, investor protections from covenants have weakened considerably, the share of debt held by firms with very high leverage has increased, and buffers within borrowers’ capital structures have declined (Graph 1.5).

However a significant proportion of leveraged loans are sold to institutional investors (including through collateralised loan

obligations (CLOs)). These investors typically have much lower leverage and more stable funding bases than banks, and they reduce the concentration of exposures in the banking system. For leveraged loan investors, another mitigating factor is that leveraged loans are secured obligations and senior to unsecured bonds.

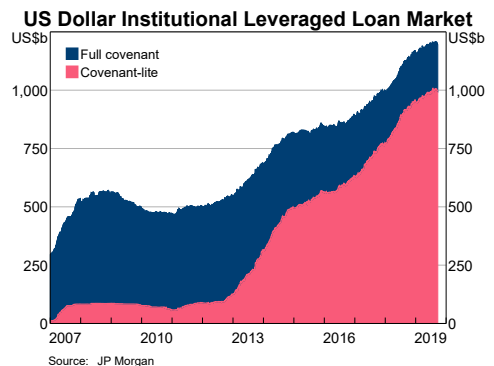
Debt and derivative markets risk disruption from the shift away from LIBOR

The transition away from use of the London Inter-Bank Offered Rate (LIBOR) (with publication likely to cease from the end of 2021) poses challenges for many financial market participants. The number of contracts referencing LIBOR is very large. Market participants have made some progress in transitioning to new benchmark rates in derivatives and securities markets, but adoption in consumer and business loan contracts has been slower.^[2] Also, since the new rates are (near) risk free and often overnight rather than for longer terms, they are not perfect substitutes for the existing LIBOR. This introduces risks, such as imperfect hedging. Authorities continue to encourage the private sector to transition away from LIBOR and develop contractual fall-back clauses for legacy contracts. If the transition is not finished before the end of 2021, significant

Graph 1.4



Graph 1.5



reputational, operational and legal risks to financial institutions could be realised.

Household debt growth continues to slow in some smaller advanced economies

Household debt remains a key vulnerability in some smaller open advanced economies. Highly indebted households are more vulnerable to financial stress, posing a risk to financial stability and the macroeconomy. Growth in household debt has continued to slow in early 2019, following earlier tightening of macroprudential policies and reduced expectations of future housing price growth, but the level remains high (Graph 1.6). Housing prices had stabilised or declined in recent years alongside slower growth in debt, though prices have recently started to rise again in some economies. Slower debt and housing price growth, coupled with tighter lending standards, have helped to lessen the build-up of vulnerabilities, though they remain elevated overall.

Advanced economy banks generally remain strong ...

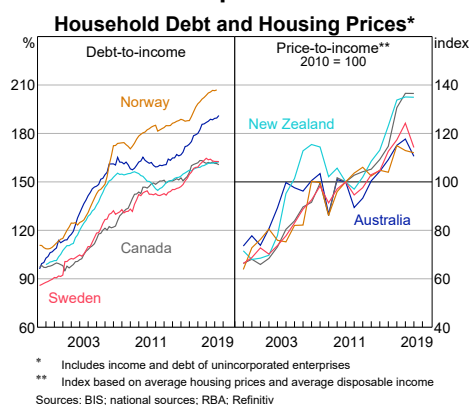
Advanced economy banks have become more resilient since the financial crisis, especially those that are systemically important. Banks are meeting more stringent capital and liquidity

rules and large banks are regularly stress-tested by supervisors. Global systemically important banks (G-SIBs) are also now meeting their initial total loss absorbing capacity (TLAC) requirements (with final requirements becoming effective in all advanced economies in early 2022). Implementation of other post-crisis reforms continues to advance, including the final revisions to the Basel III standards.^[3]

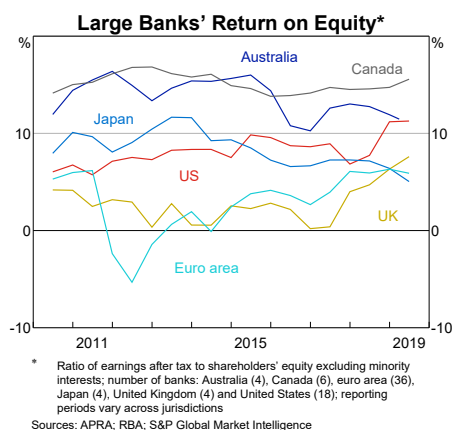
Bank profitability and asset quality have generally been maintained or improved over the past year or so (Graph 1.7). Reductions in asset write-downs and restructuring and litigation costs have led to some improvement in European banks' profitability. More generally, advanced economy banks' profits have been supported by low or declining loan-loss expenses in recent years. However, banks' loan-loss reserves are now relatively low in a range of countries, including Canada, Japan, the United Kingdom and United States (Graph 1.8). As a result, there is limited potential for further falls in loan-loss expenses to boost profits and earnings may be more vulnerable to a material decline in asset performance.

Bank valuations have continued to diverge between the major advanced economies (Graph 1.9). European and Japanese banks face a range of challenges that are impeding their

Graph 1.6



Graph 1.7



ability to generate returns above their cost of capital (discussed further below). Bank share prices in Europe have been particularly sensitive to declines in long-term government bond yields in recent months; very low risk-free interest rates can put pressure on banks' net interest margins, if banks are less able to lower their deposit costs in line with lower asset yields. By contrast, share prices in the United States and Canada generally remain at or above book value, and the largest US banks are now distributing very high proportions of their earnings to shareholders. Despite differences in profitability and equity valuations, credit default swap (CDS) premiums suggest that investors generally perceive bank credit risks to be low across advanced economies.

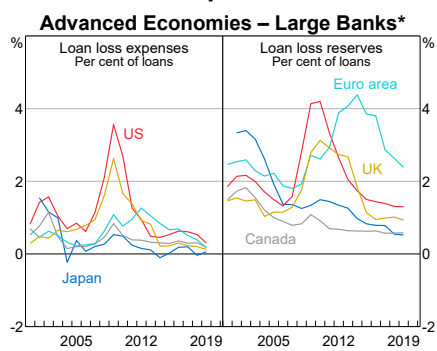
The US dollar liabilities of non-US banks have grown over the last decade and have returned to around their peak level during the financial crisis. Banks headquartered in Japan, the United Kingdom, France and Canada have particularly large US dollar exposures.^[4] A sharp tightening in US dollar funding conditions could make it difficult for non-US banks to obtain short-term dollar funding because they lack access to stable dollar deposits; in turn, this could force non-US banks to sell assets or curtail lending. Around half of non-US banks' dollar funds are raised cross-border, which can be a less stable

source during periods of volatility or stress. Liquidity in US money markets has also reduced in recent years, partly reflecting lower interbank activity due to strengthened risk management and tighter financial regulations. This was illustrated most recently in September when repo markets in the United States experienced heightened volatility, prompting the US Federal Reserve to provide liquidity to stabilise conditions.

... although structural challenges persist at Japanese and European banks

Japanese banks continue to face significant profitability headwinds due to very low interest rates and demographic factors, particularly for smaller regional lenders. Japan's ageing and declining population has resulted in falling loan demand and heightened competition between lenders. These factors have reduced domestic asset yields, with Japanese banks' net interest margins having consistently declined in recent years. To help offset these profitability pressures, banks have taken on more risk through securities investments and lending to riskier domestic firms. The large Japanese banks have also increased their exposure to higher-yielding overseas assets, including CLOs.

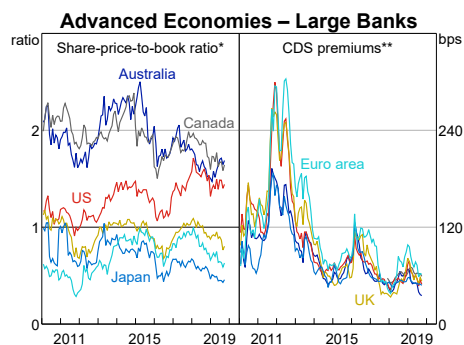
Graph 1.8



* Number of banks: Canada (6), euro area (36), Japan (4), United Kingdom (4), United States (18); reporting periods vary across jurisdictions

Sources: RBA; S&P Global Market Intelligence

Graph 1.9



* Number of banks: Australia (4), Canada (6), euro area (25), Japan (4), United Kingdom (4) and United States (18)

** 5-year senior CDS premiums; number of banks: Australia (4), Canada (5), euro area (8), Japan (3), United Kingdom (4) and United States (6)

Sources: APRA; RBA; S&P Global Market Intelligence

NPLs in the euro area have continued to decline, mainly through asset sales and write-offs. However, they remain high in some jurisdictions, leaving some European banks vulnerable to negative shocks. Regulators have been encouraging banks to reduce their NPL stocks and increase their provisions for new NPLs. High NPLs weigh on profitability and cast doubt on the size of banks' capital buffers, due to uncertainty about the size of eventual credit losses. Structural challenges associated with low cost-efficiency, subdued revenue generation and overcapacity in some countries also continue to weigh on the profitability of many European banks (Graph 1.10). Looking ahead, it may be more challenging to lower NPLs and generate revenue given the weaker growth outlook and fall in long-term interest rates.

Sovereign debt remains a vulnerability in Europe

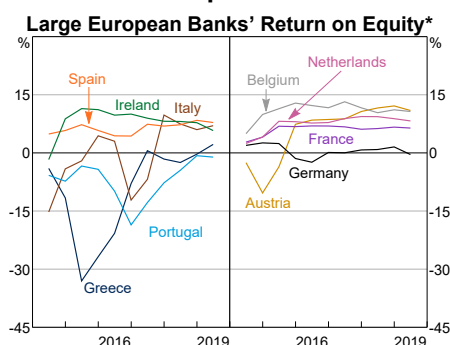
Sovereign debt levels remain high in some European countries (Graph 1.11). While markets for this debt are well supported currently, concerns about debt sustainability could quickly re-emerge with slower growth or increased political uncertainty. Funding costs would increase and governments would find it more difficult to roll over or raise new debt. Euro area banks hold large amounts of domestic sovereign

debt and so could experience significant losses. This could further amplify the sovereign stress due to the potential need for bank bailouts.

Sovereign spreads have narrowed to be around their post-crisis lows in most periphery euro area countries, partly due to growing perceptions that the European Central Bank would re-open its public sector purchase program (Graph 1.12). Italian sovereign spreads spiked in mid 2018 and remained elevated for an extended period, reflecting concerns about the fiscal policies and Eurosceptic views of the new government. However, spreads have narrowed considerably recently, after an agreement with the European Commission to reduce the 2019 budget deficit, and the formation of a less Eurosceptic coalition government in September.

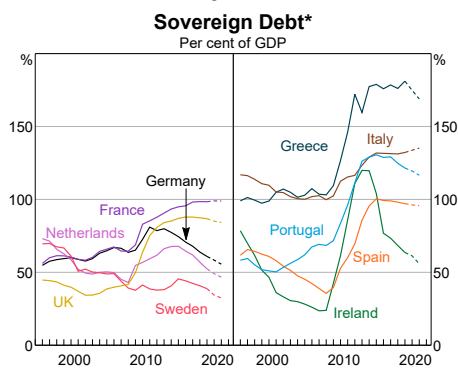
The United Kingdom's exit from the European Union (Brexit) continues to pose some risks to financial stability in Europe. The exit date has been postponed to 31 October to allow more time to reach agreement on the withdrawal terms, but uncertainty has increased following the change of Prime Minister and Cabinet in the United Kingdom. A 'no-deal' or disruptive Brexit could have a large negative effect on financial conditions and output growth in the United Kingdom and Europe more broadly. However, the authorities have put in place extensive contingency plans to mitigate the immediate

Graph 1.10



* Ratio of earnings after tax to shareholders' equity excluding minority interests
Source: S&P Global Market Intelligence

Graph 1.11



* 2019 and 2020 data are European Commission forecasts
Source: European Commission

risks to financial stability. The postponement of the exit date has also given private sector firms more time to prepare. Nonetheless, the risk of economic disruption, sharp asset repricing and other unforeseen challenges remains significant.

Household and dairy sector debt remain high in New Zealand

Financial stability risks in New Zealand are of key interest given each of the Australian major banks owns a large New Zealand bank. Overall, New Zealand banking subsidiaries' assets account for 12 per cent of major Australian banks' total assets. In its latest *Financial Stability Report*, the Reserve Bank of New Zealand (RBNZ) assessed that the risks to New Zealand's financial system are largely unchanged, with household and dairy sector debt remaining key vulnerabilities.

Growth in housing prices and credit has stabilised at lower levels than in recent years (Graph 1.13). Nonetheless, indebted households remain vulnerable to adverse shocks given the previous sharp run-up in housing debt and prices. Dairy farm revenues have improved in recent years, but indebtedness in the dairy sector remains high and concentrated, leaving some farms vulnerable to a downturn in dairy prices or lower production.

Actions are being taken to strengthen New Zealand's financial stability framework. The New

Zealand Government is continuing its review of the *Reserve Bank of New Zealand Act 1989*, with final decisions on legislative changes expected by 2020. Some key elements include:

- giving the RBNZ an explicit overarching financial stability objective
- developing a formal deposit insurance scheme
- reviewing the RBNZ's prudential policy toolkit (including macroprudential tools), approach to supervision and resolution powers.

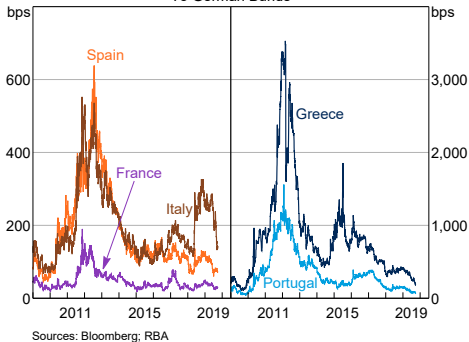
The RBNZ is also continuing to consult on proposals to increase capital requirements for New Zealand banks as part of a broader review of bank capital. The proposals would increase the required Tier 1 capital ratio to 16 per cent of risk-weighted assets for systemically important domestic banks (up from 8.5 per cent). This will affect the major Australian banks through their subsidiaries and will likely require an increase to their group capital ratios (see 'Chapter 3: The Australian Financial System'). Final decisions are expected to be announced later this year.

Chinese authorities are balancing financial vulnerabilities and growth

Authorities in China continue to face a difficult trade-off between addressing financial vulnera-

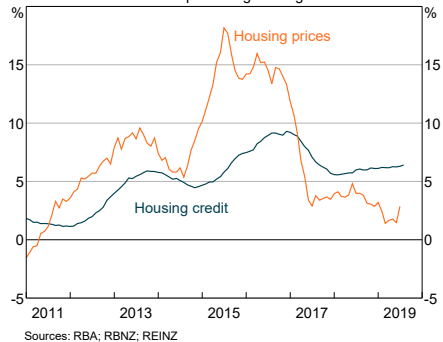
Graph 1.12

Euro Area 10-year Government Bond Spreads To German Bunds



Graph 1.13

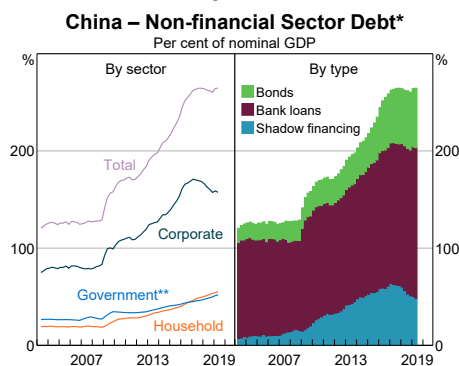
New Zealand Housing Annual percentage change



bilities and avoiding a slowing in credit that constrains economic growth. This is more challenging with slower economic growth, including from the trade and technology dispute. They have made progress in reducing corporate leverage and curtailing the activities of non-bank financial institutions (NBFIs). But slowing economic growth and reduced credit supply from NBFIs could make it harder for firms to service their debts and remain liquid. The various measures to improve financial stability are, however, offset by others to support credit provision. Policymakers have announced measures to stimulate economic growth and the supply of credit to micro and small enterprises (MSEs), which currently make up around 25 per cent of bank lending.^[5] This may mitigate short-term risks to financial stability, but is leading to higher debt (Graph 1.14).

A major financial vulnerability in China is the high level of non-financial corporate debt relative to GDP, which exceeds that in other emerging market economies (EMEs) and most advanced economies. The speed and scale of the post-crisis increase suggests that some lending is likely to have been of poor quality. Implicit guarantees – including for banks and state owned enterprises (SOEs) – probably also contributed to an erosion of lending standards.

Graph 1.14



* Includes RBA estimates of shadow financing that is not included in total social financing
 ** Includes some borrowing by local government financing vehicles
 Sources: BIS; CEIC Data; RBA

Growth of corporate debt has slowed sharply over recent years amid policy measures to promote deleveraging. The ongoing increase in local government debt also poses risks. Generous access to finance and political incentives to support economic growth have likely led to some poor investment decisions. Off-balance sheet borrowing by local governments, which lack transparency, remains significant.

Much of the increase in corporate debt has been sourced through lightly regulated and opaque NBFIs. However, much of the risk of this lending falls back on the banks that have largely funded or otherwise facilitated lending by NBFIs, often through repurchase agreements and their purchase of investment products issued by NBFIs. Should the liquidity and credit risks that have built up in NBFIs crystallise, the effects could easily spill over to the wider financial sector via complex interconnections within and across the NBFIs and banking sectors. This would be amplified if perceptions of implicit guarantees on NBFIs products were to suddenly weaken.

Chinese authorities have sought to reduce these vulnerabilities through various reforms and policy actions over recent years.^[6] As a result, financing provided through NBFIs channels has slowed a lot, and interconnections between banks and NBFIs have shrunk (Graph 1.15). However, reduced lending by NBFIs has tightened the availability of finance in China, with private sector firms, including MSEs, particularly affected. This has contributed to the slowdown in economic activity and could lead to financial distress.

Household debt in China has also grown rapidly over recent years, although the risks to financial stability do not seem large at this stage (for more details see 'Box A: Household Sector Risks in China'). The run-up in household debt has been mostly driven by mortgages, and has been associated with strong growth in housing prices,

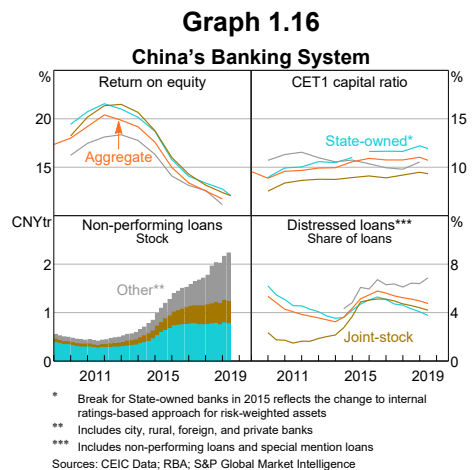
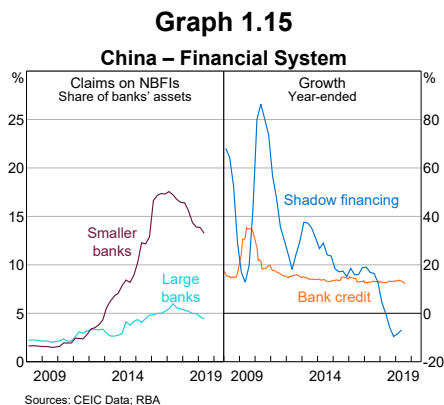
fuelled in part by speculative activity. While households generally seem resilient, a fall in housing prices and activity would increase financial pressure on property developers and local governments (which are reliant on property-related taxes and land sales as sources of revenue). However, the authorities have shown that they are willing to manage the housing cycle actively using a variety of tools, ranging from loan-to-value ratio caps to restrictions on purchases or resales. This lessens the risk of a sharp housing correction in the short run.

Despite slower economic growth, Chinese banks remain profitable overall, and reported capital positions are generally above regulatory minimums (Graph 1.16). However, liquidity and solvency strains have recently emerged at some smaller banks that rely heavily on short-term wholesale funding and have large holdings of risky investment securities issued by NBFIs.^[7] In May, Chinese authorities took over Baoshang Bank – the first reported takeover of a private bank since 1998 – due to solvency concerns, with some large creditors of the bank bearing losses. Two other banks have since needed capital investments from state-owned financial institutions. The Baoshang takeover weakened widely held perceptions of implicit guarantees for banks, and led to tighter liquidity conditions for smaller banks as investors reassessed their

credit risk. This risked triggering further stress within this sector, so the authorities have taken numerous counteracting measures to stabilise funding conditions.

Banks with solvency problems likely account for only a small share of the Chinese banking system. Even so, capital ratios and profitability are generally facing considerable headwinds:

- financial regulatory reforms have encouraged banks to bring exposures onto their balance sheets and have increased the capital required for certain exposures, weighing on banks' capital ratios;
- NPLs, especially at city and rural banks, and corporate bond defaults have risen amid slower economic growth, with the rise in the NPL ratios dampened by banks aggressively writing off and selling bad loans;
- required provisioning has increased as NPL recognition standards have tightened, with financial assets other than loans (such as securities issued by NBFIs) also expected to be provisioned for;
- banks have been instructed to increase their lending to MSEs (which are generally riskier than large state-owned borrowers); and
- a decline in corporate lending rates, which could weigh on banks' interest margins, is



expected after Chinese authorities announced changes to the lending reference rate to better reflect banks' funding costs.

In response, some banks have been raising capital or have announced plans to do so. Chinese authorities have also taken a number of measures to help banks bolster their capital positions.

Chinese authorities retain a wide range of economic and financial policy tools to address financial disruptions. Nonetheless, systemic financial disruptions could have a substantial effect on China's economy, given the widespread vulnerabilities. Financial linkages between China and the rest of the world are small, but trade links – including with Australia – are large and would transmit any economic downturn or financial disruption. There would also likely be an impact on global financial market sentiment and conditions.^[8]

Some emerging markets remain vulnerable to capital outflows

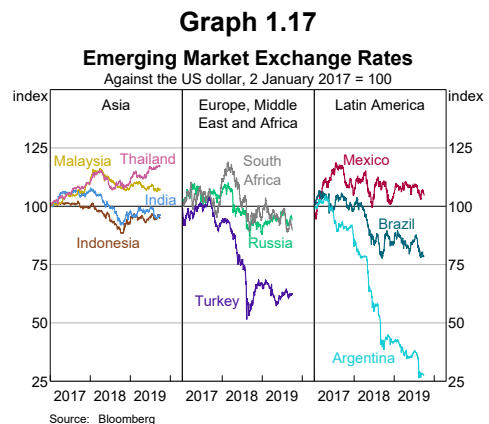
Investor sentiment towards other EMEs has generally stabilised this year, following a period of heightened volatility in 2018. Emerging market currencies and asset prices have mostly remained in a narrow range since the previous *Review*, though some have declined. Capital inflows have generally continued, supported in particular by expectations of monetary policy easing by major central banks (Graph 1.17). However, the escalation of trade tensions between the United States and China, as well as domestic political uncertainties, have contributed to bouts of volatility, which could intensify.

Accordingly, a retreat from vulnerable EMEs' assets remains a risk, triggered, for example, by increased investor risk aversion. Tighter financial conditions would exacerbate vulnerabilities in some EMEs, further undermining investor

sentiment. High corporate debt in some EMEs and unhedged foreign currency debt are notable vulnerabilities.

Financial stability risks remain high in Argentina and Turkey. In Argentina, an increased likelihood of the current president losing the upcoming election raised doubts about future reform and commitment to the IMF bailout program. This prompted a sharp fall in the Argentinean peso, which substantially increased the cost of servicing the country's foreign currency-denominated debt. In response, the government announced plans to delay payments on US\$101 billion of debt in August and tightened capital controls. However, spillovers to other countries have been limited. In Turkey, earlier increases in policy rates have slowed inflation and helped to reduce the current account deficit. However, Turkey remains vulnerable to sudden shifts in investor sentiment due to its large stock of external debt denominated in foreign currency, weak growth, and policy uncertainty.

Financial distress has intensified in South Africa. Economic growth has slowed, and unemployment has risen, amid severe power shortages (due to underinvestment in power infrastructure and financial mismanagement at the state-owned power company). Foreign capital outflows have recently increased amid growing



concerns that the country’s weak fiscal position could deteriorate further, due to the prospect of increasing financial support to state-owned firms.

Banking systems in EMEs appear mostly resilient, although asset quality has deteriorated over the past year or so in Turkey and South Africa (Graph 1.18). NPLs in Russian banks remain high, and the government is continuing its efforts to consolidate the banking sector. Indian banks’ NPLs also remain high, although asset performance is improving, with further public capital injections and a plan to merge state-owned banks recently announced. Following a high-profile NBF1 default last year, tighter funding conditions for Indian NBFIs have generally persisted, especially for those with significant liquidity mismatches or asset quality issues.^[9] There have also been strains at some small banks in recent weeks.

The potential for EME financial distress to spill over to advanced economies has risen over time, due to EMEs’ increased size and integration into the global economy. Along with stronger trade links, advanced economies’ financial links to EMEs – while still relatively small – have grown. In particular, investments in EME corporate debt and equity (especially via mutual funds) have risen (Graph 1.19).

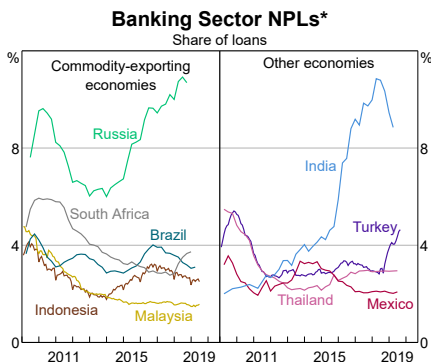
A number of longer-term global challenges are emerging

A number of longer-term trends, with origins outside the financial system, are challenging financial institutions and regulators and will continue to do so into the future.

Information technology-related operational risks have become more prominent over time. This reflects the financial system having become more reliant on technology, more interconnected and more complex, with more frequent and sophisticated cyber attacks. Cyber attacks could undermine financial stability by causing financial losses, reputational damage and service disruptions – all of which can threaten the operations and viability of individual institutions, their counterparties and financial market infrastructures. Financial institutions and regulatory bodies are increasing their efforts to monitor and enhance cyber security.

The entry of financial technology (‘fintech’) firms and large technology companies (‘bigtech’) into financial services may also alter risks. While these firms can enhance financial inclusion and have other benefits, they may also increase risks to

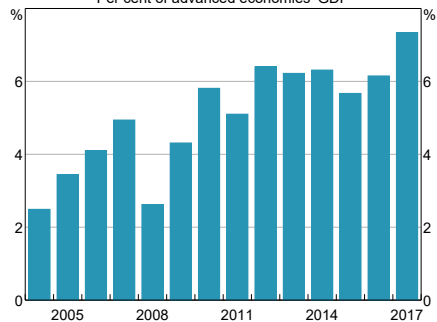
Graph 1.18



* Definitions of non-performing loans can differ across jurisdictions
Sources: Banking Regulation and Supervision Agency; CEIC Data; IMF; RBA

Graph 1.19

Advanced Economies’ Portfolio Investment in Emerging Market Economies*
Per cent of advanced economies’ GDP



* Advanced economies include Austria, Belgium, Canada, Denmark, France, Germany, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland, the United Kingdom and the United States; Emerging market economies include Argentina, Brazil, Chile, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Russia, South Africa, Thailand and Turkey
Sources: IMF; RBA

the system. The risk management of new entrants may be less well developed than existing regulated providers, and new techniques – such as alternative forms of credit assessment – have yet to be tested through a full cycle. Interlinkages with banks could introduce additional operational (including cyber) risks. Regulators have recently been considering whether ‘stablecoins’ and associated services might give rise to risks in a number of areas, including consumer and data protection, money laundering and terrorism financing, financial and operational risks, and interactions with the banking system (see ‘Chapter 4: Regulatory Developments’).

Finally, climate change poses risks to financial institutions. Individual firms can be exposed to the adverse effects of climate change through business disruption, counterparty default, asset price falls, insurance claims and legal risks. If events were to affect multiple asset classes or exposures were concentrated in systemically important institutions, this would increase the potential for losses at individual institutions to threaten financial stability. The risk of systemic financial disruption currently appears limited, but may increase if institutions fail to adequately understand and contain their exposure to climate change risks (see ‘Box C: Financial Stability Risks from Climate Change’). ❖

Endnotes

- [1] A range of work has been undertaken internationally to better understand the risks. See for example IMF (2015) ‘Chapter 3: The Asset Management Industry and Financial Stability’, *Global Financial Stability Report*, April and Price F and C Schwartz (2015) ‘Recent Developments in Asset Management’, *RBA Bulletin*, June, pp 69–78.
- [2] Bailey A (2019), ‘LIBOR: preparing for the end’, Speech at the Securities Industry and Financial Markets Association’s LIBOR Transition Briefing in New York, 15 July.
- [3] Yuksel M (2019), ‘A Decade of Post-crisis G20 Financial Sector Reforms’, *RBA Bulletin*, June, viewed 30 September 2018. Available at <<https://www.rba.gov.au/publications/bulletin/2019/jun/a-decade-of-post-crisis-g20-financial-sector-reforms.html>>.
- [4] Aldasoro I and T Ehlers (2018) ‘The geography of dollar funding of non-US banks’, *BIS Quarterly Review*, December.
- [5] In Graph 1.14, around one-fifth of MSE loans are classified as household loans, while the remainder is classified as corporate loans.
- [6] For more details, see RBA (2018), ‘Box A: Ongoing Financial Regulatory Reform in China’, *Financial Stability Review*, October, pp 19–22.
- [7] For further details, see RBA (2019), ‘Box A: Small banks in China’, *Statement on Monetary Policy*, August, pp 21–24.
- [8] For more details, see Guttman R, K Hickie, P Rickards and I Roberts (2019), ‘Spillovers to Australia from the Chinese Economy’, *RBA Bulletin*, June, viewed 30 September 2019. Available at <<https://www.rba.gov.au/publications/bulletin/2019/jun/spillovers-to-australia-from-the-chinese-economy.html>>.
- [9] For further details, see RBA (2019), ‘Box A: Risks in Non-bank Lending in India’, *Financial Stability Review*, April, pp 19–22.

Box A

Household Sector Risks in China

The growth and level of corporate debt in China has received significant attention, but household debt has also grown rapidly, albeit from a much lower base. The rise in household debt over the past decade is notable because it can negatively affect both financial stability and economic growth.^[1] This Box assesses the direct risk that household debt poses to the financial system in China.

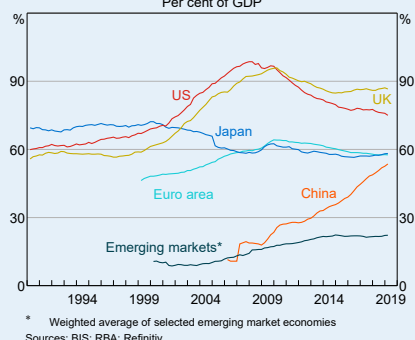
Household debt in China has grown at an average annual rate of more than 20 per cent over the past decade. As a result, the ratio of household debt to GDP has increased sharply, from about 20 per cent in 2009 to around 55 per cent currently (Graph A.1). This ratio is lower than in most advanced economies, but is higher than in many other large emerging market economies. Further, the ratio of household debt to household disposable income is higher relative to other countries, because household income is a low share of GDP in China. This ratio reached 112 per cent in 2017, up from 43 per cent in 2008, and is now comparable to the United States, Euro area, Japan and the OECD average.^[2]

The increase in household debt reflects the rapid process of financial deepening following reforms that were in part designed to increase household consumption as a share of economic activity in China. These included the privatisation of the housing stock and introduction of mortgages in the 1990s and ongoing financial deregulation. The increase in household income and a

decline in interest rates in China over the 2010s have also raised households' ability to service debt. The increase in debt has also been accompanied by a sharp rise in housing prices.

Mortgage debt has been the biggest driver of the increase in household debt over the past decade, and now accounts for around half of household debt in China (Graph A.2). Credit card debt has also risen strongly. Growth in personal business loans has been less pronounced, but these loans still account for around 20 per cent of household debt. Growth in some riskier types of household debt not measured in official household debt statistics, such as peer-to-peer (P2P) and other online lending, has been particularly strong in the past few years, although it has slowed recently after the Chinese authorities tightened regulation of this lending.

Graph A.1
Household Debt
Per cent of GDP



Risks to the financial system from household debt have risen

The sharp rise in household debt in China suggests that the risks to households and the financial system have increased, although household debt is still only one-third of the size of corporate debt in China. Higher debt makes households more vulnerable to adverse shocks, such as a fall in income, higher interest rates, or falls in housing prices. More generally, rapid growth in debt has often been found to signal heightened risk of financial crisis.^[3] This is because rapid credit growth can coincide with weaker lending standards, and frequently with excessive increases in asset prices, which can reverse suddenly.

The direct risks to the financial system from household debt depend on the size of lenders' exposures relative to their balance sheets, the likelihood of households defaulting and lenders' losses in the event of default (loss-given-default). These elements are explored below, firstly from the perspective of lenders' exposures and loan characteristics, and then from the perspective of the characteristics of borrowers.

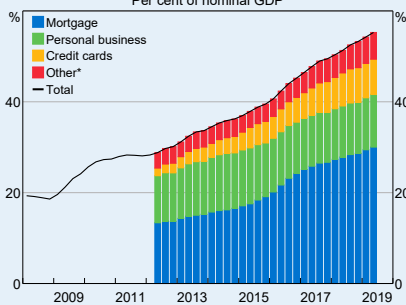
Loans to households are a moderate share of banks' assets

In China, lending to households is mainly facilitated by banks. Household credit has risen strongly as a share of banking assets to almost 20 per cent (Graph A.3). Within the banking system, state-owned banks provide around half of credit to households. However, this share has declined in recent years because loans from some types of smaller banks have grown more rapidly. Overall, loans to households in China are still a smaller fraction of banks' total assets than in advanced economies.^[4] Risk weights on residential mortgages in China, at around 50 per cent, also tend to be higher than in advanced economies, implying that banks hold larger capital buffers. This suggests that there would have to be relatively high rates of default, and loss-given-default, on loans to households to threaten banks' solvency.

A key determinant of loss-given-default is the extent to which loans are collateralised. For housing loans, this depends on loan-to-valuation ratios (LVRs). In 2017, LVRs at origination in China averaged around 60 per cent.^[5] This is consistent with the imposition of maximum LVRs by authorities of 80 per cent for first homes and 70 per cent for second homes, with some city and provincial authorities imposing lower caps. In practice, current LVRs for outstanding loans are likely to be lower still, because housing prices have risen significantly in recent years. Accordingly, LVRs in China appear to be low in absolute terms, and comparable to those in other countries, which somewhat mitigates the risk of loss to lenders.

Lenders' loss-given-default also depends on the ability to take control of and liquidate collateral, and pursue debtors more generally. Mortgage loans in China are full recourse,

Graph A.2
China – Household Debt
Per cent of nominal GDP



* Other debt includes car loans and personal loans
Source: CEIC Data

meaning that defaulting borrowers remain liable when the proceeds from the sale of their home are less than the outstanding balance on their loan. In principle, this should reduce the risk of losses for lenders. More generally, it should also discourage borrowers' risk-taking and reduce the incentive to default. However, liquidation of collateral and asset seizures may not always be straightforward in China for legal and other reasons.^[6] The net effect of these two opposing influences on lenders' ability to pursue full repayment, and so their loss-given-default, is uncertain. The effect on lenders' and borrowers' willingness to make and take on riskier loans is also unclear.

Until mid 2018, household borrowing via non-bank channels, including P2P and other online lending platforms, had been increasing rapidly. This is likely to be riskier – for borrowers, lenders and the financial system – than traditional bank lending. In particular, non-banks are subject to less regulatory oversight, so lending standards and both lender and borrower resilience can be weaker. There is also some evidence that households have been using non-bank channels – as well as personal bank loans – to finance housing deposits. While still a relatively small part of borrowing by

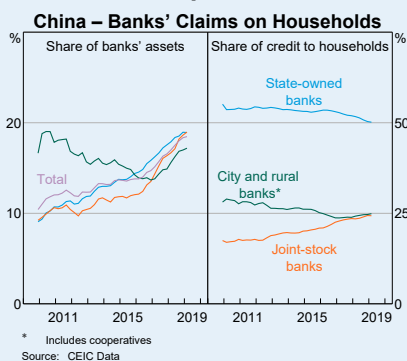
households, this suggests that household debt is more concentrated among home buyers, and that LVRs are higher, than the mortgage data indicate. This raises both the probability of default and the size of losses to bank lenders in the event of default.

The risks to lenders also depend on downside risks to housing prices, given the importance of housing as collateral. Large price falls would both reduce household equity buffers and raise the likelihood of default, because distressed households would be less likely to be able to sell their property to fully repay their loan. Housing prices in China have risen rapidly over recent years and are generally seen as high relative to incomes. An element of speculative activity has likely been a driver of this growth, raising the spectre of overvaluation and possible large price falls. In particular, investors may be more likely than owner-occupiers to sell their properties in a downturn, amplifying any fall in prices. In response, authorities have forced banks to tighten their lending standards and have imposed sale and purchase restrictions in a large number of cities over recent years, especially for second and third dwellings. This appears to have slowed the increase in prices. More generally, the Chinese authorities have displayed a willingness over the past decade to employ policy measures to prevent large housing price falls, which reduces the risk to lenders.

Household debt is concentrated among high-income households

Risks to the financial system from household debt depend on households' ability to service and repay their debts. At present, households seem to be having little difficulty meeting their financial obligations. The

Graph A.3



available data suggest that the non-performing loan (NPL) ratio for household loans remains low at 1.5 per cent.^[7] In assessing the risks from household debt, it is important to take account of the distribution of the debt across households. For example, if most debt is owed by high-income and high-wealth households, it poses less risk to lenders because these borrowers are better able to repay.

Survey estimates suggest that household debt is concentrated in a relatively small share of Chinese households. Only around 15 per cent of Chinese households participate in formal debt markets, although the use of informal channels, such as borrowing from family and friends or online non-bank lenders, means that the share of households with some form of debt is likely to be somewhat higher.^[8]

Household debt is concentrated among high-income and high-wealth households, as it is in many other countries. For urban households, around three-quarters of debt is owed by households in the top two income quintiles. Only around 10 per cent of debt is owed by households in the lowest income quintile.^[9] Similarly, households in the richer coastal provinces tend to be more indebted. The concentration of debt implies that those households with debt have much higher debt-to-income (DTI) ratios than the aggregate figures suggest. Indeed, the IMF estimates that almost half of all household debt in China is owed by households with a DTI ratio greater than four.^[10] However, household income growth remains rapid in China, which will help households service and ultimately repay their debts.

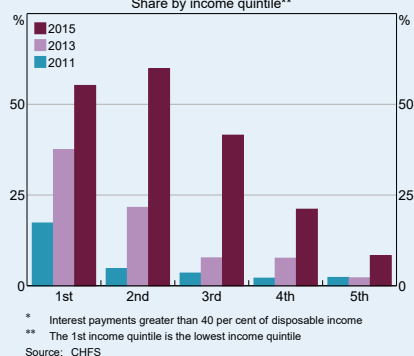
In aggregate, debt-service ratios in China (DSRs; required principal and interest payments relative to household disposable

income) are higher than some advanced economies. As noted above, most debt is owed by high-income households, who are better placed to support high DSR ratios since a smaller share of their income is needed for essential items like food. Further, interest payments take up more than 40 per cent of disposable income for only around 15 per cent of households in the top two income quintiles.^[11] In contrast, interest payments take up more than 40 per cent of disposable income for just over half of indebted households in the bottom income quintile, up from around one-fifth in 2011 (Graph A.4). These households appear significantly more vulnerable than high-income households, but they account for only a small share of household debt and so are a limited risk to the financial sector.

For the household sector as a whole, the debt-to-asset (DTA) ratio is very low. The low ratio is consistent with the high household saving rate in China, which has resulted in a large accumulation of both property and financial assets. Survey evidence suggests that the DTA ratio for indebted households is still relatively low at around 15 per cent.^[12] Further, only around 2 per cent of indebted households in the top two income quintiles,

Graph A.4

China – Households with High Interest Payments*
Share by income quintile**



and 7 per cent of those in the lowest income quintile, are estimated to have more debt than marketable assets. Almost all households should then be able to sell their assets to repay their debt if they needed to because of a shock to their income or expenses. However, the share that do not have enough assets to cover their debt would obviously increase if asset prices were to fall.

Overall risks appear contained

The rapid growth of household debt, to a relatively high level given China's stage of development, is a risk for the Chinese financial system. Rapid lending growth may have resulted in some poor quality loans. However, overall the risks seem contained at present. The debt is concentrated among high-income households, loans to households still comprise a fairly small share of banks' assets, banks are required to hold

relatively high levels of capital against housing loans, and households seem to have considerable equity buffers (albeit likely smaller than available data suggest). Nonetheless, pockets of vulnerability exist, with some households having quite high DTI and DSR ratios. Further, higher household debt may pose risks to the macroeconomy. In particular, international experience suggests that high levels of household debt can amplify income and wealth shocks. In response to negative shocks, indebted households can cut back spending by more than non-indebted households, even if the banking system remains resilient. Policy-makers have implemented a range of prudential policies in response to these risks. More generally, the Chinese authorities have also shown a willingness to support households in ways that are not common in advanced economies. Nonetheless, ongoing strong growth of household debt may suggest a further build-up of risk. ✎

Endnotes

- [1] A growing literature suggests that higher household debt can lead to slower future growth in consumption spending and GDP (see Drehmann M, M Juselius and A Korinek (2017), 'Accounting for Debt Service: The Painful Legacy of Credit Booms', *BIS Working Papers*, No. 645). Recessions can also be deeper when the preceding boom involves higher-than-normal credit growth (including to households; for example see Mian A, A Sufi and E Verner (2017), 'Household Debt and Business Cycles Worldwide', *The Quarterly Journal of Economics*, 132(4), pp 1755–1817).
- [2] People's Bank of China (2018), 'Financial Stability Report', p 48.
- [3] For example, see Schularick M and AM Taylor (2012), 'Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870–2008', *American Economic Review*, 102(2), pp 1029–61.
- [4] See IMF (2017), Household Debt and Financial Stability, *Global Financial Stability Report*, October, p 74.
- [5] People's Bank of China, loc. cit.
- [6] There are some protections for debtors built into the law. For example, debtors may be able to pay their obligation in instalments and can keep a minimum level of assets that allows them to take care of themselves and their families. See IMF (2019), 'People's Republic of China: Selected Issues', IMF Country Report No. 19/274, p 25.
- [7] However, this is likely to be a lower bound. For example, some loans in arrears for more than 90 days may be classified as 'special mention loans', although banks have made progress in recognising such loans as NPLs, after the authorities tightened NPL recognition standards. Some analysts also suggest that some NPLs have

been moved off banks' balance sheets or repackaged as 'investment receivables' to avoid recognition.

[8] See Funke M, R Sun and L Zhu (2018), 'The Credit Risk of Chinese Households: A Micro-level Assessment', BOFIT Discussion Paper No 12/2018.

[9] Gan L (forthcoming), based on findings from the 2017 wave of the China Household Finance Survey.

[10] IMF (2019), 'People's Republic of China: Selected Issues', IMF Country Report op. cit., p 20. However, alternative survey evidence suggests that the share of highly indebted households may be much lower (see Funke M, R Sun and L Zhu, loc. cit.

[11] Funke M, R Sun and L Zhu, loc. cit.

[12] Gan L (forthcoming), based on findings from the 2017 wave of the China Household Finance Survey.

2. Household and Business Finances

Over the past year the household sector has faced continued low income growth and a decline in wealth due to falls in housing prices. Given high household debt, these developments had the potential to diminish the financial resilience of households. There have been some signs of increased financial stress, especially in regions experiencing more difficult economic conditions. Arrears rates on housing loans have continued to rise, particularly in Western Australia and the Northern Territory, but overall remain low in absolute terms and by international standards. Strong employment growth, very low interest rates and improvements in lending standards over recent years have supported these outcomes. The incidence of negative equity on housing loans has increased in Western Australia and the Northern Territory, but remains low in aggregate.

Looking ahead, increased uncertainty regarding the global and domestic macroeconomic outlook increases the risks faced by households. Acting in the opposite direction, the recent improvement in housing market conditions in Sydney and Melbourne has reduced the risks for leveraged households and from declining household wealth. Overall, households remain well placed to service their debt: the most indebted households are those with the highest incomes, and many have sizeable prepayments. The recent reductions in interest rates will also support borrowers' ability to service their debts by reducing their interest payments. Improvements in bank lending standards over recent years reduce the risk that lower interest

rates will see an unsustainable increase in household indebtedness.

The financial health of businesses generally remains good, though there are risks in some industries. These include residential construction firms, retailers of discretionary goods and businesses affected by the drought in the eastern states. Consistent with the challenging conditions for retailers, valuations for retail properties have declined and vacancy rates in sub-regional shopping centres are rising. In contrast, the office and industrial property markets remain buoyant in Sydney and Melbourne, with valuations continuing to rise and office vacancy rates falling. Yields for office property continue to fall, although they remain attractive relative to other asset classes.

Risks related to the housing market have receded somewhat over the past six months

The housing market is a key source of potential systemic risk that needs to be monitored closely, with housing accounting for 40–50 per cent of household and bank assets. Overall, risks related to the housing market have receded somewhat as housing market conditions in Sydney and Melbourne have improved. After declining for more than a year, housing prices in Sydney and Melbourne increased over the four months to September and auction clearance rates have picked up noticeably (Graph 2.1). There are tentative signs that turnover may be near its trough. The stabilisation of housing market conditions in these cities has coincided with the

lower cash rate, the Australian Prudential Regulation Authority's (APRA) changes to the interest rates used in loan serviceability assessments (discussed below) and the resolution of some policy uncertainty following the Federal election. In addition, the magnitude of the earlier declines in prices may have been sufficient to rekindle some demand.

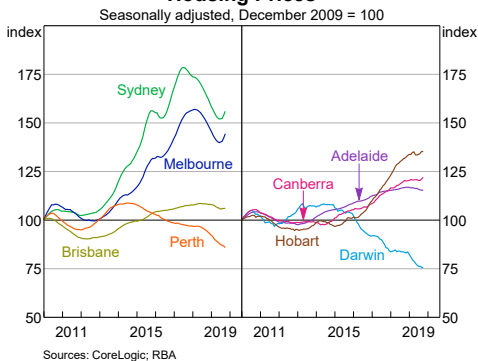
In contrast to Sydney and Melbourne, housing prices in Western Australia and the Northern Territory have continued their prolonged decline. In Perth, housing prices are around 20 per cent lower than their 2014 peak and in some parts of regional Western Australia, housing prices have fallen by more than 10 per cent over the past six months. Housing demand in Western Australia has been weighed down by low population growth and ongoing weakness in macroeconomic conditions. Conditions in most other capital cities and regional areas are generally subdued. Overall, these housing markets did not experience the earlier price declines seen in Sydney and Melbourne, and prices are generally close to their 2018 peaks.

New apartment completions in Sydney and Melbourne remain high, but are past their peak

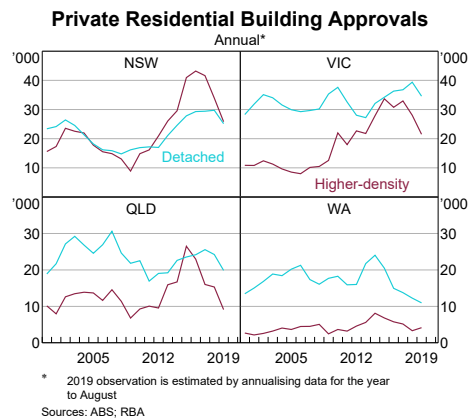
Higher density dwellings have been a growing share of new additions to the housing stock. High density developments take a long time to plan and develop and therefore their supply cannot respond quickly to changes in demand. Private residential building approvals have declined significantly since late 2017, and indicators of future construction activity suggest that some further modest declines in building approvals are likely in the near term (Graph 2.2). New apartment completions in Sydney and Melbourne remain high, but are also past their peak (Graph 2.3). The decline in activity has reflected the combined effects of weaker demand from buyers and tighter credit availability for both developers and buyers. For developers, meeting the banks' financing conditions of minimum pre-sales has been more difficult to achieve, and a greater share of development has been financed by non-bank lenders.

The large volume of apartments being delivered in Sydney has been associated with an increase in the rental vacancy rate and has placed downward pressure on rents (Graph 2.4). In Melbourne, new supply has been well absorbed

Graph 2.1
Housing Prices



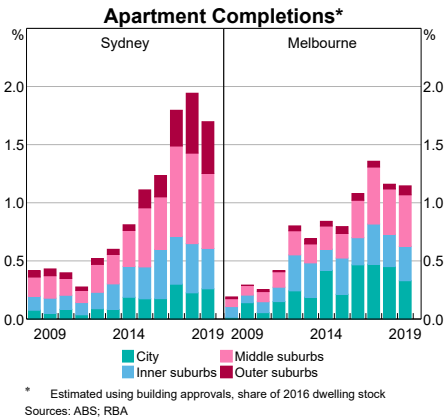
Graph 2.2



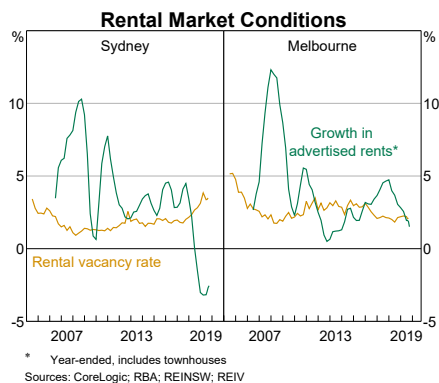
and the rental vacancy rate has been little changed.

In Melbourne, ongoing strong population growth and weak indicators of future construction activity suggest that the medium-term risks of oversupply are limited. This is also broadly the case in Sydney, although the rise in the vacancy rate suggests there is a chance of near-term oversupply, at least in some areas. However, taking into account lags in development and planning, there is a risk that an undersupply will emerge in a few years' time should new additions to the housing stock be sustained at volumes lower than household formation.^[1]

Graph 2.3



Graph 2.4

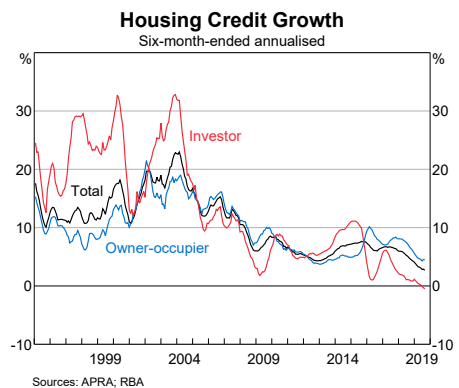


Housing credit growth remains low, but there are signs of a pick-up in loan demand

Housing credit growth has slowed since mid 2017. In six-month-ended annualised terms, growth in both investor and owner-occupier housing credit is around multi-decade lows, with investor credit growth especially weak (Graph 2.5). The slowdown has been most pronounced for the major banks. Liaison with lenders and mortgage brokers indicates that housing loan applications have decreased over the past couple of years with little change in the rate of loan approvals. There have been signs of a pick-up in the number of both loan applications and approvals more recently, but with housing market turnover remaining low, credit growth has also remained low.

Lenders have passed through most of the recent reductions in the cash rate to housing interest rates. However, non-price conditions remain tighter than in recent years, despite a modest easing in serviceability standards over the past six months. In July, APRA changed its guidance on the interest rate floors and buffers that banks use to assess a borrower's ability to repay a residential mortgage. The change was introduced because a prolonged period of record low interest rates meant that a floor of 7 per cent was high, particularly for lower risk

Graph 2.5



lending. Lenders were previously required to apply the higher of an interest rate floor of at least 7 per cent or the interest rate on the loan plus a buffer of at least 2 percentage points. APRA's new guidance replaces the interest rate floor of 7 per cent with a requirement for banks to set their own floor rates, while the minimum interest rate buffer was increased to at least 2.5 percentage points.

Lenders initially announced new floor rates around 1½–2 percentage points lower than previously and buffers in line with the minimum of 2.5 per cent. The net effect has been to increase the maximum loan size available to most prospective borrowers. For loans with relatively low interest rates (such as principal-and-interest loans to owner-occupiers), maximum loan sizes have increased by more than for loans with higher interest rates (such as interest-only loans to investors). In practice, however, only a small share of borrowers take out loans that are close to the maximum available to them, suggesting the overall impact on credit growth is small.

Working in the opposite direction, other earlier changes to lending standards were still being implemented over the past six months. These include an increased focus on verifying expenses (such as by examining transaction accounts more closely) and implementing the 2018 changes to the Household Expenditure Measure benchmark (which has resulted in higher expense benchmarks for higher income households relative to lower income households). Banks have also introduced policies limiting high debt-to-income lending and increased the repayment rates used to assess prospective borrowers' existing credit card obligations. The progressive expansion of Comprehensive Credit Reporting to cover mortgages, as well as credit cards, is unlikely to meaningfully reduce credit supply. Very few prospective borrowers are expected to have

other mortgage debts that have been overlooked in existing application processes.

ASIC is undertaking a consultation process with stakeholders to update its guidance on the Responsible Lending obligation. In August, the Federal Court handed down its decision in the Australian Securities and Investments Commission's (ASIC) case against Westpac on how responsible lending laws should be applied. ASIC is appealing the judgement.

Falls in housing prices have increased negative equity, but the overall incidence remains low

The estimated share of outstanding mortgage balances in negative equity has increased to around 3¾ per cent (Graph 2.6). Over half of all loan balances in negative equity are in Western Australia and the Northern Territory. If housing prices in Western Australia and the Northern Territory were to fall further, the share of loan balances in these states that are in negative equity would increase substantially. A further 10 per cent decline in housing prices in Western Australia and the Northern Territory is estimated to result in the share of loan balances in negative equity in these regions increasing from a little under one-fifth to over one-third. While this would lead to heightened financial stress for these borrowers and higher potential losses for lenders with exposures to these areas, these loans would still account for less than 4 per cent of the stock of outstanding mortgage balances in Australia. There have also been some small increases in the share of loan balances in negative equity in New South Wales and Victoria. However, these shares remain very low in absolute terms and housing markets in these states have stabilised.

Negative equity poses limited costs for financial institutions if borrowers continue making repayments. But if borrowers encounter problems servicing their loans, they are unable to resolve their situation by selling their

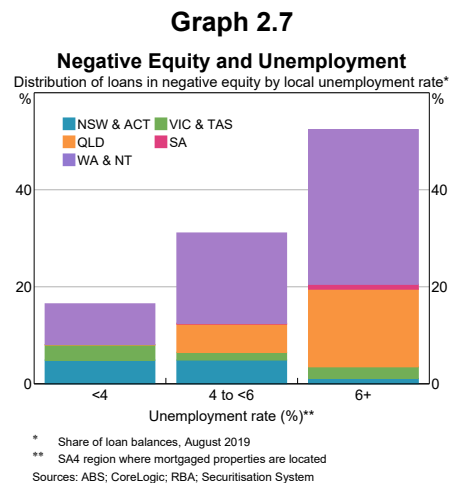
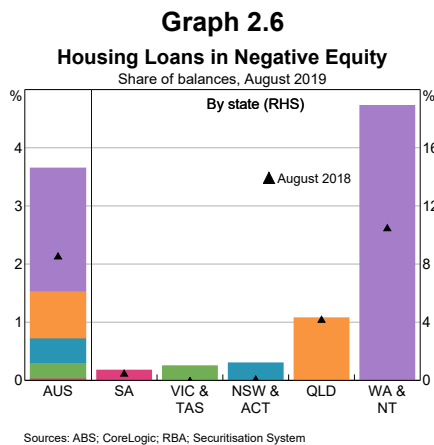
property. These borrowers are likely to experience greater levels of financial stress than borrowers with positive equity. This could in turn have larger negative spillovers on local economies as financially stressed borrowers with negative equity are more likely to need to reduce their consumption than those with positive equity. Moreover, lenders will bear credit losses if borrowers in negative equity default on their loans.

Declines in income have historically been a key reason for households defaulting on their loans. Although the Bank’s central forecast is for the unemployment rate to remain broadly unchanged for some time, if the unemployment rate were to rise, the risks associated with negative equity would increase. About one-half of all mortgages currently in negative equity (1.3 per cent of all mortgages by number) are estimated to be in areas where the unemployment rate has risen over recent years and currently exceeds 6 per cent (Graph 2.7). A disproportionately large share of these riskier loans belong to borrowers from Western Australia and regional areas in Queensland and the Northern Territory, suggesting lenders with exposures to these areas will incur larger losses.

The strengthening of lending standards has increased the resilience of households

The reduced share of lending at high loan-to-valuation ratios (LVRs) and on interest-only (IO) terms over recent years has limited the share of mortgages in negative equity. High LVR loans have only a small equity buffer against housing price declines, while IO loans do not require borrowers to accumulate equity through principal repayments (although many choose to make voluntary prepayments). The shares of loans approved with LVRs above 90 per cent and on IO terms remain near their lowest levels in at least 10 years, at around 7 per cent and 15 per cent respectively (Graph 2.8). The value of IO loans outstanding has continued to decline as the rate at which IO loans have switched to principal-and-interest repayments has continued to exceed the rate of approvals.

Improvements in lending standards also help to reduce the risk that the low interest rate environment could lead to an unsustainable increase in household indebtedness. The cumulative effect of measures to strengthen lending standards has been to reduce maximum available loan sizes, which means borrowers will have larger buffers to use in the event of future increases in their expenses or declines in



income. Accordingly, the share of loans written at very high debt-to-income ratios has declined over recent years (Graph 2.9). Many of these loans are likely to be to investors, given the tax benefit they receive from gearing.

Household debt remains high, but indebted households tend to have high incomes and large repayment buffers

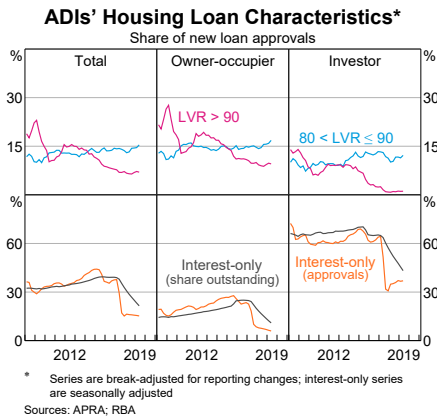
The household debt-to-income ratio remains high relative to history and by international standards. However, financial stability risks associated with household debt are determined not only by its level, but also by factors affecting borrowers' ability to repay it. Improvements in

lending standards have significantly increased the capacity of borrowers who have taken out loans in recent years to service their debts relative to previous cohorts. And while there is still a sizeable share of loans originated under weaker serviceability criteria prior to 2015, the risks associated with these borrowers are mitigated by the amortisation of their loans and the accumulation of savings. For the majority of these borrowers, the value of their homes have increased since taking out their loan and their income has grown, albeit at a moderate pace.

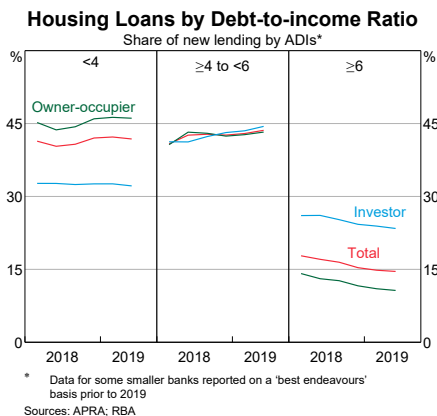
Most household debt is held by households in relatively strong financial positions. In particular, the Australian Bureau of Statistics' 2017/18 Survey of Income and Housing confirms that around 75 per cent of the value of all household debt is held by households in the top 40 per cent of the income distribution. Higher income borrowers have more capacity to maintain their loan repayments by adjusting their expenditure if their circumstances change. This reduces the risk of bank losses (but could nevertheless pose downside risks to household consumption and economic growth). Meanwhile households in the bottom 40 per cent of the distribution account for only around 10 per cent of all household debt (Graph 2.10). Moreover, the median debt-to-income ratio for households in the top 20 per cent of the income distribution is more than three times that of households in the lowest 20 per cent.

Overall, households continue to have a sizeable stock of mortgage prepayments that could be used if they encounter difficulties servicing their loans. The total stock of prepayments (the sum of balances in offset accounts and redraw facilities) is around 16 per cent of gross housing credit, or 2½ years of required mortgage repayments at current interest rates (Graph 2.11). However, the distribution of prepayment buffers across borrowers is uneven and around 30 per cent of borrowers have less than one

Graph 2.8



Graph 2.9



months' worth of prepayments. Of these, around half have disincentives to prepay (such as investor and/or fixed rate loans). The remainder are borrowers with minimal prepayments, who could be relatively vulnerable to shocks to their ability to service their loans (unless they are accumulating savings elsewhere).

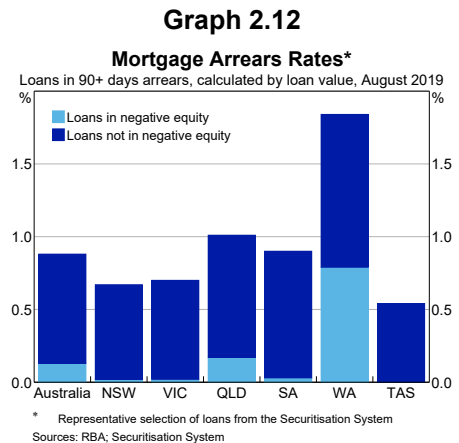
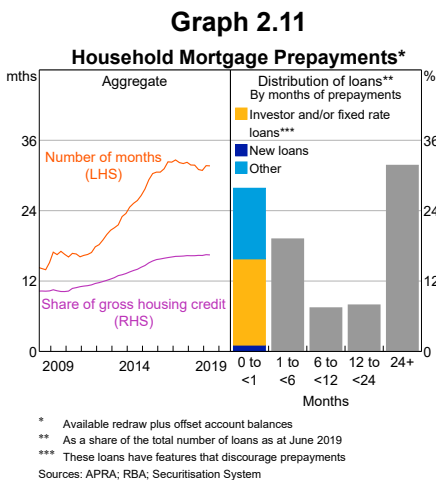
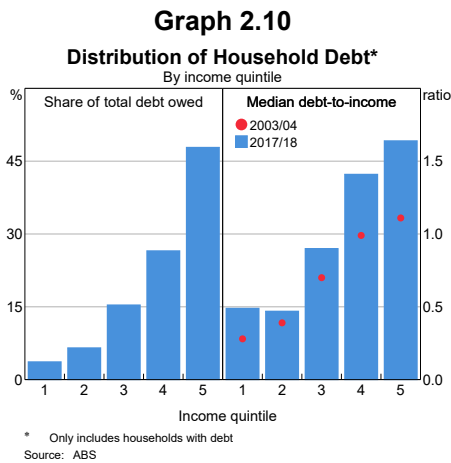
Nevertheless, housing loan arrears continue to trend higher

Housing loan arrears rates have risen steadily over recent years, albeit from very low levels (Graph 2.12). The largest increase in housing loan arrears has occurred in Western Australia

and the Northern Territory (see 'Box B: Housing Loan Arrears – Insights from Western Australia'). Arrears rates have also risen in New South Wales and other states, but are at low levels. Higher unemployment rates and weak income growth in Western Australia and the Northern Territory have reduced some households' ability to repay their debt. More generally, weak housing market conditions make it more difficult for households to repay their debt by selling their property. Nationally, around 15 per cent of loans in arrears are also in negative equity, although this is equivalent to just 0.1 per cent of all loans.

In all states, increases in the share of housing loans that are 90+ days in arrears have been driven to a greater extent by loans remaining in arrears for longer than by increases in loans entering arrears (Graph 2.13). This suggests households are finding it harder to resolve their situation than previously and is consistent with the softer housing market conditions. Liaison with banks also suggests that more lenient forbearance and foreclosure policies have contributed to the increase in longer-term arrears rates.

With the rise in housing loan arrears, lenders need to have appropriate processes in place to identify financially stressed households and, where feasible, help them return to a regular repayment schedule (such as in cases of



temporary financial stress). Lenders should ensure these processes are fair and well resourced. Where housing prices are falling, situations where borrowers are behind in their repayments should be resolved in a timely way, so that the financial position of the borrower and lender does not deteriorate further.

If economic conditions weaken or housing prices and turnover fall further, there is a risk that housing loan arrears rates could rise from their current levels. However, the recent reductions in the cash rate should help to offset this somewhat by reducing the interest burden on indebted households.

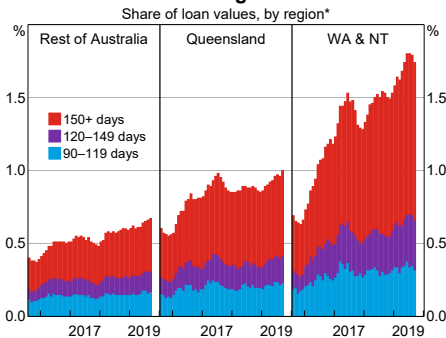
More generally, other indicators of household financial stress remain low. The rate of personal administrations, which historically have mainly been associated with unsecured personal loans and credit card debt, has trended lower over the past year or so to around its lowest level in two decades (Graph 2.14). The decline has been broadly based across states, although personal administrations in Western Australia remain high. Data from the 2017/18 Survey of Income and Housing also suggest the share of households experiencing at least one form of financial stress (such as being unable to raise emergency money) continues to drift lower. Around 30 per cent of households indicated they had experienced at least one type of

financial stress in 2017/18, which is a noticeable decline in the 45 per cent share reported 15 years ago.

Personal debt, which includes personal loans, credit card debt and other revolving credit such as margin loans, accounts for a small and declining share of household credit (Graph 2.15).^[2] In recent decades, homeowners have increasingly been able to use housing-secured financing in place of personal debt. In part, this reflects the increased availability and use of redraw facilities and offset accounts linked to residential mortgage loans. More recently, the increased use of buy-now-pay-later services may be contributing to a decline in credit card balances accruing interest. Buy-now-pay-later products are attractive to consumers because they offer the ability to smooth consumption at limited or no cost: these obligations do not incur interest, although late fees are charged if payments are missed and some providers charge regular account keeping or payment processing fees. While these products are not subject to responsible lending laws, the providers do employ some varying methods of managing risk, for example, by setting low purchase limits for new customers or requiring full repayments of previous purchases before funding new purchases. However, there are currently few safeguards that would prevent

Graph 2.13

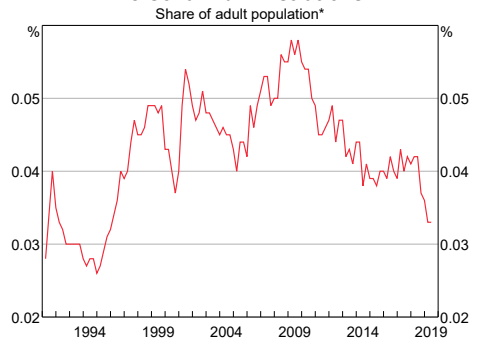
Extent of Housing Loan Arrears



* Representative selection of loans from the Securitisation System
Sources: RBA; Securitisation System

Graph 2.14

Personal Administrations



* Includes both business and non-business related personal administrations; seasonally adjusted
Sources: AFSA; RBA

vulnerable consumers from entering into multiple arrangements with different providers. This could contribute to an increase in financial stress for some households, with lower income and/or younger households potentially more at risk.

On the assets side of the balance sheet, households' holdings of superannuation have increased significantly over time. While this has mitigated the impact of declining housing prices on household net wealth over recent years, superannuation assets are illiquid for most households. Looking ahead, there is a risk that heightened global financial market uncertainty could leave some households exposed to falls in the value of their financial asset holdings, including superannuation. While this could cause households that are reliant on income streams from these financial assets to reduce their consumption, the aggregate effect is likely to be smaller than that associated with a decline in housing wealth as superannuation wealth is more unevenly distributed than housing wealth and returns on financial assets are typically more volatile than returns on housing. Moreover, downward revaluations to superannuation

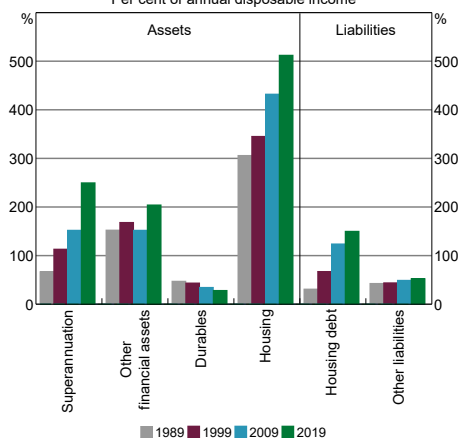
holdings are unlikely to pose broader financial stability risks as these positions are typically not leveraged.

The financial health of the business sector remains sound overall

Business balance sheets remain in good shape overall. Mining sector profitability has been boosted by increased revenue, as well as an ongoing focus on reducing costs, including by paying down debt to reduce interest expenses (Graph 2.16). Outside of the mining sector, profitability and gearing remain around their historical averages and debt-servicing ratios are close to decade lows.

Nevertheless, some businesses are facing challenging conditions. Smaller businesses continue to face relatively tight credit conditions. Lending to small businesses has hardly grown over the past year, compared with a 5 per cent increase in lending to large businesses. Small businesses also report that tighter credit conditions have made it harder to fund their operations or refinance debt. However, this does not currently appear to be having a widespread impact on asset quality. While the share of loans to private unincorporated businesses that are non-performing has risen slightly, it remains

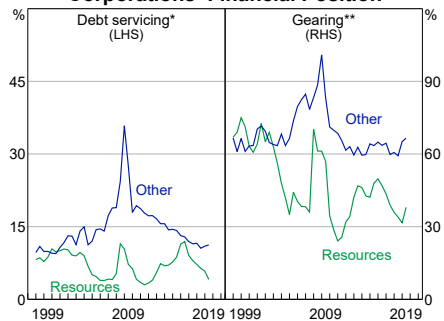
Graph 2.15
Household Balance Sheet
Per cent of annual disposable income



* Other financial assets include financial assets held outside of superannuation; other liabilities include personal credit, student loans and other household liabilities
Sources: ABS; RBA

Graph 2.16

Listed Non-financial Corporations' Financial Position



* Ratio of net interest expenses to Earnings before Interest, Taxes, Depreciation and Amortisation (EBITDA)
** Ratio of debt to equity
Sources: Morningstar; RBA

historically low and only marginally higher than that of incorporated businesses (Graph 2.17). Rates of business failure (insolvency and administration) have declined further and are below historical averages.

Drought conditions across eastern Australia continue to weigh on the farm sector and other businesses in affected regions. The direct risks to the financial system from the farm sector are low, with agricultural firms estimated to account for just 7 per cent of total private non-financial sector debt. The quality of banks' loans to the sector does not appear to have deteriorated to date, with information from liaison with banks suggesting borrowers so far have generally been able to stay within their existing facility limits (Graph 2.18). Moreover, these firms appear well placed to service their short-term debts, with deposits held by primary producers under the farm management deposits scheme remaining at a high level. Other businesses in drought-affected regions are also experiencing difficult conditions as drought-affected farmers reduce their spending. If these businesses find it more difficult to service their loans as a result of reduced incomes, banks are likely to experience a deterioration in asset quality.

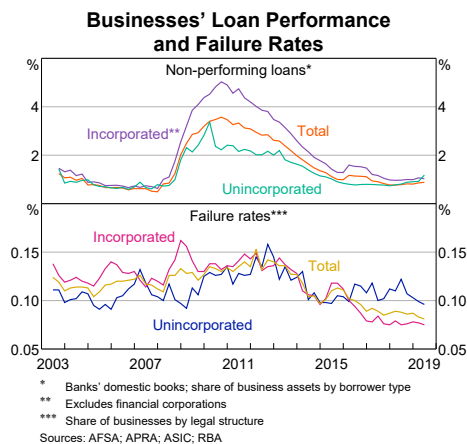
The operating environment for firms in the residential construction sector has become

more challenging as construction activity has declined. This has occurred against a backdrop of declining profitability in recent years as competition increased alongside the earlier strength in demand. While ongoing weakness in residential construction activity is likely to test the resilience of some firms, to date there has been little evidence of widespread stress. Non-performing loans to the sector remain within the narrow range seen in recent years and are historically low. Increases in residential construction firms' gearing have been constrained by banks' tighter lending standards in recent years, and low interest rates have supported the ability of firms to repay their debt. Construction sector debt accounts for only around 1 per cent of banks' assets.

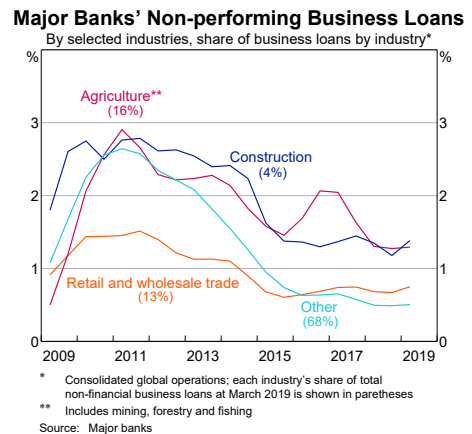
Risk appetite remains elevated in commercial property markets, but challenging trading conditions are reducing demand for retail property

Asset valuations for commercial property remain high following a number of years of strong growth (Graph 2.19). Rental yields have continued to decline as rental growth across all segments has remained relatively modest. However, yields on commercial property remain higher than many other asset classes and

Graph 2.17



Graph 2.18



spreads relative to sovereign yields have increased recently, largely reflecting a decline in yields on Australian Government bonds. Increases in commercial property valuations have also been evident overseas, given low interest rates globally and sustained economic growth over recent years. However, if investor risk aversion was to rise, for example in response to a global shock or lower domestic economic growth, this could trigger a portfolio allocation away from commercial property towards safer asset classes and valuations could fall sharply. If this was to occur, highly leveraged investors would be vulnerable to breaching LVR covenants on bank debt, though the potential scale of this is unclear given data limitations. A worst case scenario would see this trigger property fire sales and further large price falls. Heightened competition, changing consumer preferences and ongoing subdued growth in household income are creating a challenging environment for some retailers. Indicators of the financial health of retailers in the consumer discretionary industry suggest that, while profitability has declined, to date retailers seem to be meeting their financial obligations. Some retailers have responded to the headwinds by reducing their physical footprint

and, as a result, retail property valuations have declined over the past six months. The vacancy rate at sub-regional shopping centres (those with discount department stores as anchor tenants) is at its highest level in at least 25 years and rents have declined slightly for these centres over the past year (Graph 2.20). The vacancy rate for large regional shopping centres has also been drifting higher, with very little growth in rents.

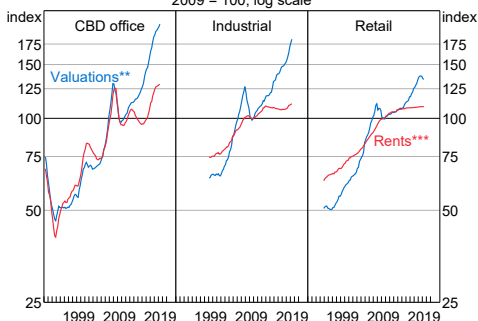
Retail development activity has increased considerably since 2016. Much of this has been refurbishing large regional centres to reorientate them towards services, as well as constructing smaller neighbourhood centres, particularly in areas with many new dwellings. Accordingly, there is a risk that older and less favourably located centres will find it harder to attract and keep tenants, which would weigh on rents and valuations and may lead to debt servicing challenges for the owners of some centres. The risks to banks from the retail property market appear low, given these exposures account for less than 2 per cent of total bank assets.

In contrast to the retail market, the office market appears less vulnerable to a sharp decline in valuations. Favourable economic conditions in Sydney and Melbourne have supported strong tenant demand for office space in recent years.

Graph 2.19

Commercial Property*

2009 = 100, log scale

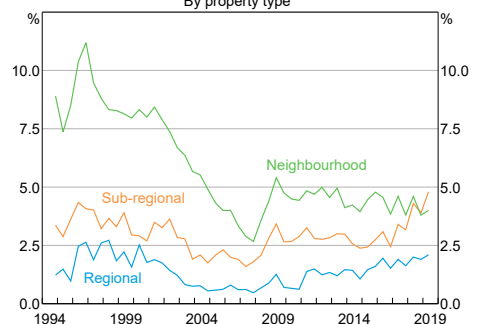


* CBD office and industrial are prime property; retail is regional (non-CBD) centres
 ** JLL Capital Value Indicator
 *** CBD office is effective rents; industrial and retail are face rents
 Sources: ABS; JLL Research; RBA

Graph 2.20

Retail Vacancy Rates

By property type*



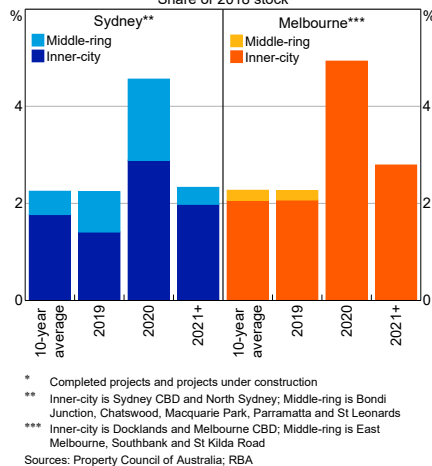
* Regional centres are major centres based around department stores (David Jones, Myer); sub-regional centres are discount department store based (Big W, Kmart, Target); neighbourhood centres are based around supermarkets
 Sources: JLL Research; RBA

Vacancy rates have declined to decade lows in both cities, to around or below 4 per cent. Withdrawals from the office stock in the Sydney CBD have also contributed to the low vacancy rates. Nevertheless there are risks. Tight office market conditions have encouraged a supply response in these cities, and the volume of new supply is expected to be well above average over the next year or two (Graph 2.21). While many new buildings have high rates of tenancy precommitments, older and less well located buildings may lose tenants. The low vacancy rates observed currently and attractive yields relative to other assets might encourage excessive new supply. The long planning and development processes can mean that macroeconomic and office market conditions can differ between when a building is completed and when it was proposed.

Banks' commercial property exposures as a share of total assets are around 5 per cent, and have increased steadily over the past five years or so.

Foreign banks have accounted for nearly all of the increase in banks' lending for office property while foreign and domestic banks have accounted for the increase in retail property lending. Impairment rates for commercial property remain very low. ❖

Graph 2.21
Future Office Supply*
 Share of 2018 stock



Endnotes

[1] RBA (2019), 'Box C: Risks in High-density Apartment Markets', *Financial Stability Review*, April, pp 38–41.

[2] RBA (2018), 'Box B: Recent Trends in Personal Credit', *Financial Stability Review*, November, pp 29–32.

Box B

Housing Loan Arrears – Insights From Western Australia

The housing loan arrears rate in Western Australia (WA) has increased in the past four years, from being a little above the rest of the country to more than double the national rate at 1.7 per cent in July 2019 (Graph B.1). Rising arrears rates typically lag a deterioration in economic conditions. The rise in the arrears rate in WA followed the economic downturn in the state after the end of the mining investment boom. The unemployment rate in WA increased by over two percentage points to 6 per cent by mid 2015 and there was little growth in household income. The weak economic conditions saw many workers leave the state and population growth slowed sharply, which, in turn, reduced the demand for housing. Given the difficult economic environment, housing prices in WA have fallen by 20 per cent since their peak in 2014. Investors in housing have also faced falling rental income and for some time the highest vacancy rates in nearly 30 years.

This box examines how different types of home loans have performed given the WA downturn. This episode provides an insight into how housing lending in the rest of the country may perform in an economic downturn. The Bank's securitisation dataset is used for the analysis.^[1]

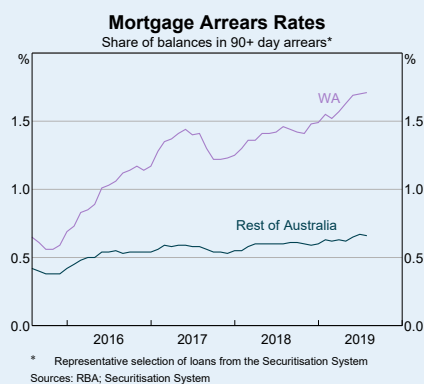
Arrears have increased more for loans with higher debt-servicing ratios and smaller deposits

Loans with larger repayments relative to income at origination (debt-servicing ratios

(DSRs)) have had larger increases in arrears rates (Graph B.2; left panel). Debt-servicing capacity is a common indicator of the riskiness of a loan. Borrowers with higher DSRs have less spare cash left after making repayments and so a small loss of income or unexpected increase in expenses (such as medical bills) can constrain their ability to make loan repayments. Notably, the increase in the arrears rate has been much larger for loans with a DSR exceeding 30 per cent at origination than for loans with lower DSRs.^[2] The tightening in lending standards since 2014 has improved serviceability requirements to increase a borrowers' ability to repay a loan and so should reduce the share of high DSR loans that experience repayment difficulties in the future.

Loans that were larger relative to the value of the purchased property (higher loan-to-valuation ratios (LVRs) at origination) have also had larger increases in arrears (Graph B.2;

Graph B.1



right panel). These loans had smaller equity buffers and so can result in a larger loss-given-default for the lender but, all else being equal, should not necessarily be at a greater risk of going into arrears. However, the larger increase in arrears rates for higher LVR loans suggests that borrowers with high LVRs have other riskier characteristics, including their own risk tolerance. Because they have a smaller equity buffer, loans with a high initial LVR are also more likely to exceed the property value if housing prices fall, that is, go into negative equity. Borrowers who are in negative equity because they had a high initial LVR are then less able to avoid or exit arrears by selling the property. There is a clear delineation in the riskiness of loans with an LVR of 80 per cent or less and those with an LVR exceeding 90 per cent.

Arrears have increased by more for investors and self-employed borrowers

Loans to investors have not performed as well as those to owner-occupiers. For investors, the increase in arrears has been about half a percentage point larger than for

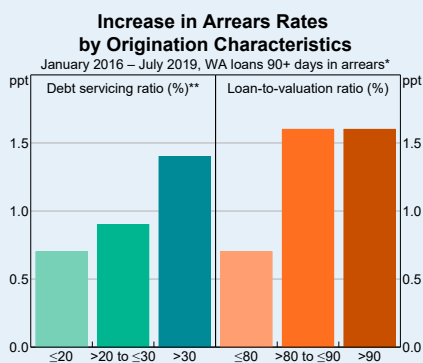
loans to owner-occupiers (Graph B.3; left panel). A number of factors could have contributed to investors having greater difficulty making repayments. Investors can be reliant on the rental income from their property, which, given the high vacancy rate and fall in rents in WA, became less reliable. There is also evidence that some investors have riskier borrowing characteristics, for example, higher debt-to-income ratios.

Self-employed borrowers have also been more likely to struggle to make repayments. Loans to self-employed borrowers have experienced larger increases in arrears rates than loans made to borrowers whose main income comes from being an employee (Graph B.3; right panel). Self-employed borrowers are more likely to have variable income and have had greater difficulty making loan repayments through the economic downturn.

Loans originated as interest-only and as principal and interest have performed similarly

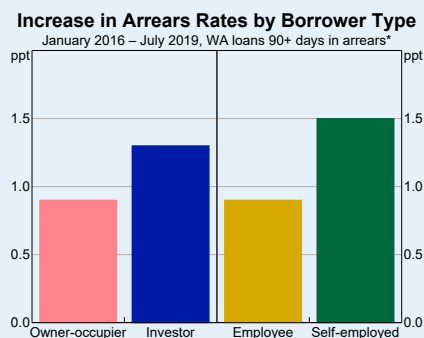
The increase in the arrears rate for loans originated on interest-only (IO) terms is around double that for principal and interest

Graph B.2



* Representative selection of loans originated since 2011 classified using origination characteristics as first reported to the Securitisation System
 ** Estimated for principal and interest repayments, using pre-tax income as reported for loan assessment
 Sources: RBA; Securitisation System

Graph B.3



* Representative selection of loans originated since 2011 classified using origination characteristics as first reported to the Securitisation System
 Sources: RBA; Securitisation System

(P&I) loans (Graph B.4).^[3] However, this difference in arrears rates overstates the difference in repayment performance of IO and P&I loans. Rather, the difference is largely a consequence of a declining stock of IO loans since 2016, as fewer new IO loans have been originated.^[4] The fall in IO lending followed regulatory measures introduced in early 2017 that increased the focus on the suitability of loans originated with IO terms and imposed a limit on the flow of new IO lending at banks to 30 per cent of new housing loans. In response, lenders increased interest rates on new and existing IO loans by around 50 basis points.

The increase in IO interest rates resulted in a significant drop in new IO lending which significantly affects the change in the arrears rate. With fewer IO loans originated since 2017, the stock of IO loans in 2019 has a smaller share of new loans than does the stock of P&I loans. Since new loans are less likely to be in arrears, this ageing of the stock of IO loans increases the observed arrears rate. Accounting for this change in the relative age structure of IO and P&I loans accounts for a large part of the difference in

the increase in their arrears rates (Graph B.4; yellow bar). Note the analysis here compares loans based on whether they were IO or P&I at origination and so abstracts from repayment terms changing, in particular loans switching from IO to P&I terms (either before or at the end of the IO term).^[5]

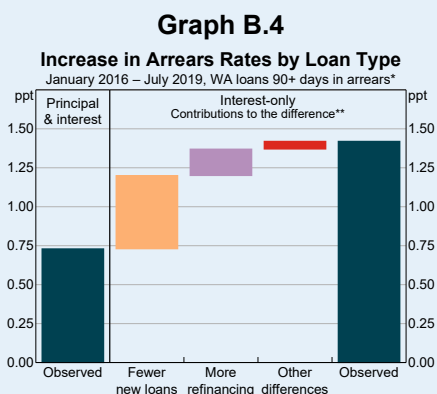
A second component of the difference between the change in the arrears rates comes from increased refinancing and faster repayments of IO loans. Again, this was driven by the increase in interest rates on IO loans. For example, some IO borrowers will have refinanced to a new P&I loan to reduce interest costs, and so the IO loan is repaid in full and drops out of the securitisation data. Adjusting for this effect accounts for a smaller part of the difference in the increase in IO and P&I arrears rates (Graph B.4; purple bar).^[6]

After adjusting for the effects flowing from changed IO lending dynamics, the implied difference between the increase in arrears rates for IO and P&I loans is estimated to be small (Graph B.4; red bar).

Interest-only loans and those in arrears are more likely to generate losses for lenders

While IO loans have similar repayment performance to P&I loans, they still appear to be more risky for the lender as they can lead to larger losses. Since IO borrowers are not required to make principal payments, their outstanding loan balance need not decline over time. This increases the chance the loan ends up in negative equity if housing prices fall, and so exposes the lender to a loss if the borrower cannot make their repayments.

In WA, around half of IO originated loan balances in arrears have negative equity, greater than the 40 per cent of P&I originated loan balances in arrears that have negative



* Representative selection of loans originated since 2011 classified using origination characteristics as first reported to the Securitisation System

** Effect of fewer new loans estimated by applying aggregate origination year weights to loan type changes in arrears; differences in refinancing estimated using fixed denominators

Sources: RBA; Securitisation System

equity. This indicates that IO loans are likely to result in larger losses for lenders than P&I loans. Similarly, investor loans in arrears also have a higher incidence of negative equity than owner-occupier loans. The share of loans in arrears that are also in negative equity is much greater than the share of all loans in WA that are in negative equity of around 18 per cent, highlighting that loans in arrears are also more likely to have negative equity.

Regulatory changes will improve the performance of newer loans but a decline in arrears rates in WA may take some time

The rise in the arrears rate in WA for different types of loans highlights how riskier types of lending perform worse in an economic downturn. Loans with high DSRs or LVRs have seen larger increases in arrears than those with lower DSRs and LVRs, as have loans to investors relative to owner-occupiers, and loans to self-employed borrowers relative to those to employees. However, the repayment performance of IO and P&I loans have been similar. Overall, the rise in arrears in WA has

not been especially large given the prolonged economic downturn.

The rise in arrears in WA lagged the deterioration in economic conditions. In part, this reflects that many borrowers had accumulated buffers, either prepayments or other assets, which could cushion any fall in income. Ongoing falls in housing prices and low turnover have reduced borrowers' ability to avoid or exit arrears by selling and repaying their loans. However, the unemployment rate has been little changed since mid 2015 and there are some broader signs of stabilisation in the WA economy. Nevertheless, any decline in arrears is likely to lag an improvement in economic conditions, particularly because of ongoing falls in housing prices. The increase in the arrears rate for higher risk loans in WA demonstrates the potential cost of these loans and so the importance of the tightening in lending standards nationally from 2014, which has resulted in newer loans having lower arrears rate.^[7] ✎

Endnotes

[1] For further details on the securitisation dataset, see Kent, C (2018) 'The Limits of Interest-only Lending', Address to the Housing Industry Association Breakfast, Sydney, 24 April. Available at <<https://www.rba.gov.au/speeches/2018/sp-ag-2018-04-24.html>> and Fernandes, K & Jones, D (2018) 'The Reserve Bank's Securitisation Dataset' RBA *Bulletin*, December, viewed 2 October 2019. Available at <https://www.rba.gov.au/publications/bulletin/2018/dec/the-reserve-banks-securitisation-dataset.html>. The dataset covers about one-quarter by value of all home loans nationwide, including over 100,000 loans in Western Australia. The level of arrears in the

securitisation dataset is a little lower than the population of all outstanding loans reported in APRA data. However, the two data sources show similar trends for arrears.

[2] The analysis in this box compares the repayment performance of different types of loans and splits them by one characteristic. It does not identify the partial effect of characteristics by controlling for the loans' other characteristics. A forthcoming Reserve Bank research paper examines the determinants of default using loan level data controlling for the characteristics of each loan.

[3] A detailed description of the methodology used in Graph B.4 is available on request.

- [4] See RBA (Reserve Bank of Australia) (2018) 'Assessing the Effects of Housing Lending Policy Measures', *Financial Stability Review*, October, pp75–88.
- [5] Whether a loan was IO or P&I at origination is estimated based on what the loan was when it was first reported in the Securitisation Dataset. This error of this estimation is limited by restricting the sample loans to those originated since 2011.
- [6] This second adjustment potentially overstates the effect that differences in refinancing and

repayment had on the difference in the change in arrears rates. In effect, it assumes that the IO loans that were refinanced or repaid, but which would not have been had they been P&I loans, did not fall into arrears after this point. In any case, this second adjustment accounts for a much smaller share of the difference between the change in the IO and P&I arrears rates.

- [7] See Kearns, J (2019) 'Understanding Rising Housing Loan Arrears', Speech at 2019 Property Leaders' Summit, Canberra, 18 June.

3. The Australian Financial System

The Australian financial system remains resilient and its ability to withstand shocks continues to build. Capital ratios for banks are high by both historical and (comparable) international standards. They are well within the range that would be sufficient to withstand the loss of capital in most historical banking crises. Insurers' capital ratios continue to be well above their regulatory requirements. Liquidity risks are generally being well managed by banks and they currently have access to ample funding at low cost. Banks' asset quality also remains generally good (though a little weaker than the lows of a year ago). Profitability in the banking and general insurance industries has declined a little of late but remains at healthy levels that are above international peers and their cost of capital. In addition, financial market infrastructures in Australia have continued to support financial stability.

Despite this resilience, there continue to be vulnerabilities that must be addressed. Many of these vulnerabilities are non-financial in nature. The issues highlighted by last year's Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (Royal Commission) have the potential to further erode public trust in financial institutions and to impair their financial position. Positive steps have been taken in this regard but there is much more to do. At the same time, it is important that institutions' efforts to strengthen their governance and management of compliance risks do not come at the expense of careful management of financial and other non-financial risks. The risk posed by information

technology system malfunctions or malicious cyber attack is another important non-financial risk. The recent prudential standard issued by the Australian Prudential Regulation Authority (APRA) establishes principles for good practice in this regard, but institutions need to ensure that they continuously improve their practices in this area, given its rapidly evolving nature.

Some other vulnerabilities are more financial in origin. Profitability in the life insurance industry has declined further and is no longer at a sustainable level. Life insurers are taking steps to address this, but the long-term nature of life insurance contracts means it could take some time to correct. A long-term challenge for all of the financial industry is to better manage the broad range of risks arising from climate change (see 'Box C: Financial Stability Risks from Climate Change'). While these do not currently pose a substantial risk to financial stability, they could do so if left unaddressed.

Banks' asset quality has deteriorated somewhat over the past year

The decline in asset quality has largely been driven by housing loans. The ratio of non-performing housing loans now exceeds its peak in the economic downturn that followed the financial crisis (Graph 3.1). However, it is well below the levels reached during the early 1990s. The share of non-performing business loans remains low but has also increased a little, primarily due to a deterioration in the performance of loans to smaller, unincorporated, businesses.

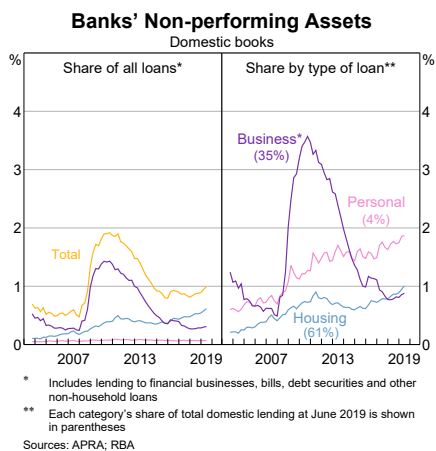
Within the housing loans portfolio, the majority of non-performing loans are well covered by collateral and loan impairments are at low levels. While a substantial decline in the value of dwellings securing mortgages could increase the number of impaired loans, the recent improvements in housing market conditions in the eastern states should lower the likelihood of this. However, in Western Australia and the Northern Territory the risk of losses from impaired housing loans continues to rise (see 'Chapter 2: Household and Business Finances').

The rate of non-performance among Australian banks' offshore operations also remains at a very low level. Rates of non-performance on banks' New Zealand lending, which accounts for the majority of offshore lending, are close to their post-GFC low. Outside of New Zealand, Australian-owned banks' international lending to private firms and banks has contracted and is small, accounting for 8 per cent of total assets compared with 10 per cent in early 2014 (Graph 3.2). There are signs that this period of downsizing offshore lending has ended. This is particularly notable in relation to Asia, where exposures in Singapore and Japan have been growing at a reasonable rate and lending in other countries has stabilised. While these international exposures add complexity and

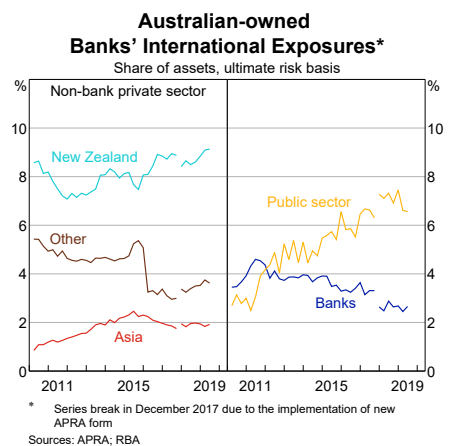
new risks to Australian banks' business, they also allow them to diversify overall risks.

Foreign banks' share of Australian business credit continues to increase, and is now about 20 per cent (and is even larger for institutional lending; Graph 3.3). Historically, strong growth in foreign bank lending has typically amplified the credit cycle and created incentives for domestic banks to loosen lending criteria to maintain market share. However, greater regulatory scrutiny and a cautious approach by domestic banks appears to have contained this risk to date in recent years.

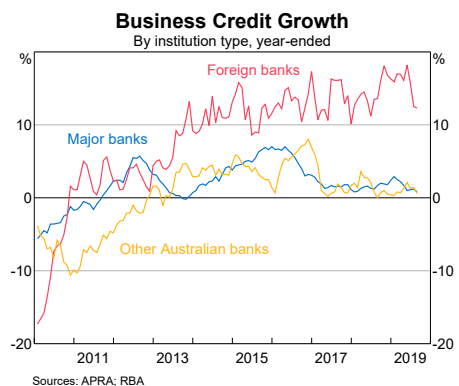
Graph 3.1



Graph 3.2



Graph 3.3



Australian banks' funding has become more resilient over the past decade

Banks' Liquidity Coverage Ratios (LCR) – which measure their holdings of liquid assets relative to the potential outflows of funding that could occur in a short-lived but severe stress scenario – have remained stable at around 125–135 per cent over recent years. Their Net Stable Funding Ratios – which measure the extent to which longer-term liabilities are used to fund illiquid assets – have risen to be around banks' target levels.

While most banks comfortably meet these regulatory requirements, APRA recently notified three banks of breaches in their reporting of the stability of their intra-group funding. Macquarie Bank, Rabobank and HSBC Bank had provisions in their intra-group funding agreements that allowed the parent to withdraw intra-group funding in times of stress, when it would have been most needed. This meant that these banks at times had true LCRs below 100 and so were not compliant with LCR requirements. These banks have subsequently removed these clauses from the intra-group funding arrangements and will restate their past liquidity metrics.

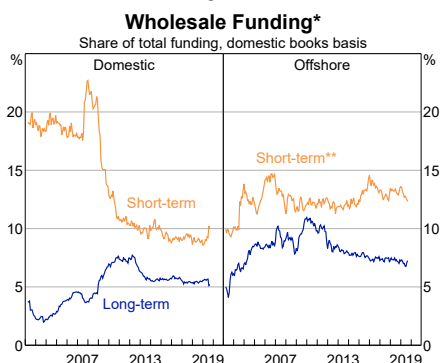
Australian banks' relatively significant use of offshore funding remains a potential vulnerability, given that offshore investors have tended to reduce cross-border funding in periods of stress (Graph 3.4). Offshore funding can also give rise to foreign exchange risk, but Australian banks fully hedge against this. Further, there is an important difference between how Australian banks use offshore funding and how it has been used by banks in some other countries that experienced a funding crisis. In particular, Australian banks mainly use the currency-hedged offshore funding to extend Australian-dollar loans. In the event of reduced willingness of foreign investors to fund Australian banks, the Australian dollar may depreciate, reducing the foreign currency funding need. The banks could also replace the

hedged foreign funding with domestic sources with no change in their currency matching. If domestic markets cannot expand sufficiently quickly to fully replace reduced offshore funding, which would seem likely for larger shocks, as a last resort the Reserve Bank can provide liquidity.

Australian banks currently have ample access to a range of funding sources, and at lower cost than a year ago. Spreads on long-term wholesale funding have declined to around their lowest level since before the financial crisis, while spreads on short-term wholesale funding have fully unwound last year's increase, to be around their lowest level in several years (Graph 3.5). Banks have also taken advantage of the absence of term premium in bond markets to lengthen the duration of their funding over the past few years, reducing their future annual refinancing needs. However, Australian banks' average bond tenor is still well below that of other developed countries' banks, meaning they face more rollover risk (Graph 3.6). Further lengthening of the maturity of their offshore borrowing would reduce the rollover risk for banks and the broader financial system.

Movements in spreads on short-term wholesale debt over the past 18 months suggest those markets are not particularly resilient. During this

Graph 3.4



* Adjusted for movements in foreign exchange rates; wholesale debt is on a residual maturity basis; there is a structural break in the data from July 2019

** Includes deposits and intragroup funding from non-residents

Sources: APRA; RBA

period, spreads for bank bills, repurchase and foreign exchange swaps increased substantially and then later declined just as rapidly, with no widely accepted explanation for the moves. However, the most plausible explanations imply that fairly small declines in domestic demand for bank debt and a modest increase in attempts to swap US into Australian dollars (both of which have since been unwound) were unable to be accommodated without significant impact on pricing. The apparent lack of depth in these markets appears to reflect structural changes that increase the resilience of banks but limit their willingness to supply liquidity – including

the Dodd-Frank Act, leverage ratios, a change in banks’ risk appetite and greater focus on conduct in money markets.^[1] The limited ability of short-term money markets to accommodate changes in supply and demand indicates that these markets might be quite volatile during periods of stress. If so, it would imply greater funding and profit vulnerability for banks because short-term rates are a critical determinant of their overall funding costs.

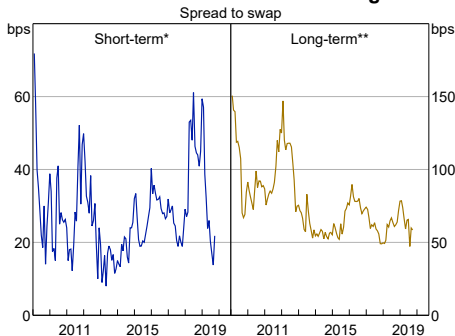
Improving non-financial risk management is a priority for the financial sector ...

Shortcomings of culture and governance within banks, insurers and superannuation firms have been well documented, as part of the Royal Commission. Some of the findings from the Royal Commission were echoed by APRA’s summary of last year’s self-assessments of culture and risk governance by 36 large financial institutions. The summary highlighted common themes of institutions: having under-developed frameworks for managing non-financial risk; not always being clear about who was accountable for such risks; taking excessively long to address known deficiencies; and having insufficient understanding of their own risk culture to determine if it supports the behaviour its board is seeking.

The absence of an appropriate culture in the financial sector has clear social costs. It can also have financial stability implications. International experience has shown that pervasive misconduct may be indicative of poor control of risks and can ultimately significantly impair bank profitability and capital. Australian banks have started to see some of this. Remediation costs associated with poor customer outcomes and regulatory non-compliance have amounted to \$7½ billion across the financial sector over the past two years and are expected by bank analysts to increase. In addition, the cost to banks of upgrading their risk and compliance

Graph 3.5

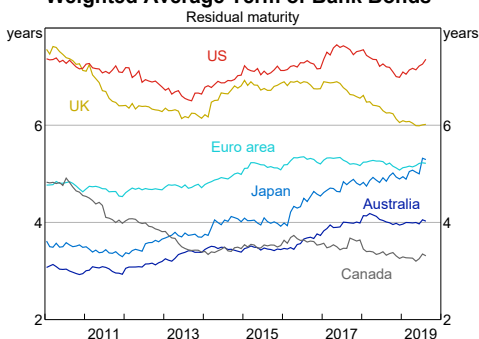
Australian Banks’ Debt Pricing



* Three-month bank bill swap rate to overnight indexed swap
 ** Major banks’ three-to-five AS bonds on a residual maturity basis to four-year interest rate swap
 Sources: AFMA, Australian Branch; Bloomberg; RBA; Tullett Prebon (Australia) Pty Ltd; UBS AG

Graph 3.6

Weighted Average Term of Bank Bonds*



* Includes unsecured bonds, covered bonds and Tier 2 instruments; data are based on the legal maturity of bonds, not first call date, other than for Tier 2 and perpetual instruments where maturity is calculated to call date
 Sources: Bloomberg; ICE Data is used with permission: RBA

functions has been considerable, though in a sense this corrects for past underspending. APRA has also imposed additional capital requirements on the major banks and an insurer to account for poor operational risk management practices.

... and a number of changes are underway to address this

Financial institutions and regulators have already taken important steps to improve culture and governance in the financial system. To date, these have mostly focussed on addressing poor incentives, consistent with the Royal Commission's view that this was the root cause of much of the observed misconduct. This has included a proposed end to the grandfathering arrangements for conflicted remuneration in financial advice and a move to cease paying commission to mortgage brokers on undrawn funds or upon achieving volume-based targets. Banks have also now implemented the recommendations of the Sedgwick review of bank product sales commissions, including not directly rewarding customer-facing roles for sales performance. APRA has proposed a prudential standard for executive remuneration that imposes a maximum weight of 50 per cent on financial performance metrics when determining bonus payments, along with longer vesting periods and stricter clawback clauses to better align executive incentives with long-term performance. (Further details on APRA's proposal can be found in 'Chapter 4: Regulatory Developments'.) These reforms all complement the maps of accountable senior executives and directors that have been developed over the past 18 months to comply with the Banking Executive Accountability Regime (BEAR). These accountability maps are now in place across all Australian authorised deposit-taking institutions (ADIs), following the expansion of BEAR industry wide on 1 July 2019.

Regulators are also taking a more assertive approach to enforcing the law. APRA and the Australian Securities and Investments Commission (ASIC) have both initiated a number of court proceedings for alleged misconduct by financial institutions. APRA has also been more public in its resolution of prudential issues.^[2] And in a variety of instances, it is clear that APRA and ASIC are taking a more 'constructively tough' approach to enforcement.

The reforms flowing from the recommendations of the Royal Commission should be implemented in a timely manner to improve the financial system. They should reduce the risk of future misconduct, ensure that financial services provided in Australia meet community expectations regarding fairness and suitability, and protect the reputation of Australian banks among international creditors. It is important, though, that the large body of work required to address these issues does not distract financial institutions from a sufficient focus on other risks. It is also important that there is not an excessive tightening in the supply of credit which, by its nature, requires taking calculated risks to support investment, innovation and so economic growth. The Australian financial system is well placed to manage these challenges, given it is well capitalised and generally starting from a position of high profits.

Risks related to cyber attacks and information technology (IT) failures have grown

Risks to financial institutions' IT systems – from both malicious attacks and malfunction – have grown as systems have become more complex and digital platforms have become ingrained in all aspects of the operations of financial institutions. This has resulted in some prominent cyber attacks on financial institutions during 2019. There has also been an increase in the number of outages in retail payments systems over the past year, mostly because of software

failures.^[3] The risk of malfunction or cyber attack is especially pronounced for ageing legacy IT systems. However, cyber risk is constantly evolving and has a high degree of uncertainty so even state-of-the-art IT systems are vulnerable. This therefore requires financial institutions to stay highly vigilant and regularly upgrade their defence to mitigate new vulnerabilities.

While cyber attacks and incidents are most likely to involve manageable financial losses for specific institutions, they could have systemic implications in some circumstances. This is particularly the case when the failure is caused by malicious attacks that aim to cause damage, perhaps across multiple institutions. An example could be an attack that erodes data integrity, thereby creating uncertainty about banks' asset or liability positions. An extended disruption to the Australian wholesale payment network would also adversely affect the broad financial sector. The use of common third party IT systems, encompassing both software and hardware, across institutions also provides a systemic vulnerability. And the impact of cyber attacks or a significant malfunction on the financial system could be amplified by a loss of creditor confidence in certain circumstances, potentially leading to a withdrawal of funding.

A lack of precise data on cyber incidents, in part stemming from a desire not to publicise information that may assist those with malicious intent or carry reputation risk, adds to the challenge of managing these risks. While some public and commercial datasets exist, they are often incomplete. The information that does exist is often piecemeal, making it hard to compare and analyse reported figures. Improved data collection and reporting, as well as sharing of information about threats and attacks, will assist institutions in responding quickly. It will also help regulators in monitoring the frequency and nature of incidents, and institutions' responses and preparedness for cyber risks.

In recognition of this, APRA's new prudential standard on information security, which came into effect in July, requires all regulated entities to promptly report any material security incidents. The standard also aims to ensure that APRA-regulated entities maintain strong cyber security capabilities, commensurate with the size and extent of threat to their information. This is done by requiring entities to: clearly define information security roles and responsibilities; identify information assets and classify them according to criticality and sensitivity; regularly conduct system testing and internal audits; develop formal response procedures to security incidents; and extend such measures to third parties, including evaluating their security capabilities to ensure compliance.

Banks' capital positions are strong and some further enhancements are expected

Australian ADIs all meet APRA's 'unquestionably strong' capital benchmarks that will apply from next year. Major banks' Common Equity Tier 1 (CET1) ratios are all around APRA's benchmark of 10½ per cent (Graph 3.7). Other ADIs are also expected to have sufficient capital to meet the increase in their minimum capital requirements under the revised capital framework.

The significant improvement in capital positions that ADIs have made since the global financial crisis has made them more resilient to potential losses. Major banks' Tier 1 capital ratios are now more than one and a half times what they were before the financial crisis, and are likely within the top quartile of large banks internationally when measured on a comparable basis (Graph 3.8). Their Tier 1 capital ratios (12¾ per cent overall) are also well within the range that would have been sufficient to withstand the majority of historical bank crises.^[4] The major banks' leverage ratios (the ratio of Tier 1 capital to non-risk-weighted

exposures) have also increased by more than one-third over the past decade, to be well above APRA's proposed minimum requirements of 3.5 per cent. In recognition of this increased resilience, equity market pricing implies that the probability of an Australian bank defaulting is minimal.^[5]

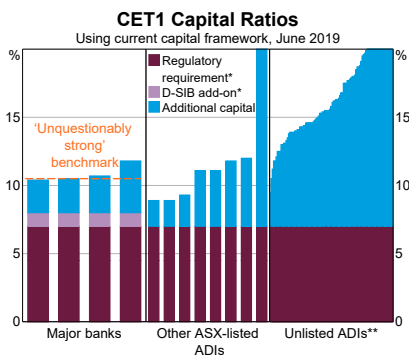
Further increases to the major banks' capital requirements are expected over the next few years. The Reserve Bank of New Zealand's proposed regulatory changes would substantially increase the minimum capital requirements for banks operating there, which will affect the major banks' through their

subsidiaries. This will likely require an increase to their group capital ratios, particularly given APRA's recent decision to halve the maximum allowable exposure of an ADI to a related entity. This will ensure that these increases in New Zealand capital do not come at the expense of the Australian banking system. It should also improve the resilience of the financial system by reducing the risk of contagion. APRA also recently imposed additional capital requirements on the major banks to reflect the increased operational risks identified in their self-assessments of risk governance. Further small increases in capital will be required following the adoption of new accounting standards in the second half of 2019. However, the major banks remain well placed to manage these adjustments, especially those that have impending asset sales.

More significantly, the amount of capital protecting the financial system from a disorderly bank failure will increase further to comply with APRA's framework for loss-absorbing capacity (LAC). APRA announced in July that the major banks will be required to increase their total capital ratios by 3 percentage points by 2024 (and possibly 4–5 percentage points eventually; see 'Chapter 4: Regulatory Developments'). This would align the quantum of major banks' LAC with global peers, after accounting for differences in capital frameworks. It is likely that banks will meet this increased requirement by issuing additional Tier 2 capital instruments. The major banks have issued about \$12 billion of Tier 2 instruments in the two months after APRA's announcement, but will still need to issue around \$40–50 billion more in net terms.

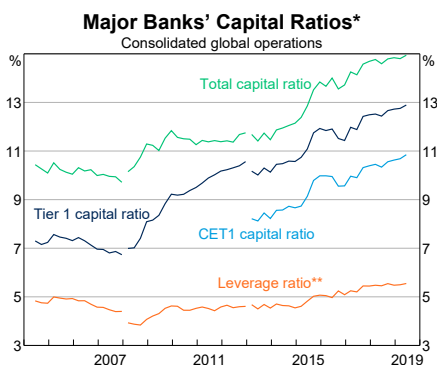
The resilience of Australian banks will be further improved by APRA's proposed revisions to the capital framework, which were updated in June. While the proposed changes will be 'capital neutral', in that they do not increase banks' overall capital requirements, they aim to ensure that the capital held against assets is more

Graph 3.7



* Requirement includes capital conservation buffer; domestic systemically important bank (D-SIB) add-on only applies to the major banks
 ** Some ADIs have capital ratios above 20 per cent (not shown)
 Sources: APRA; RBA

Graph 3.8

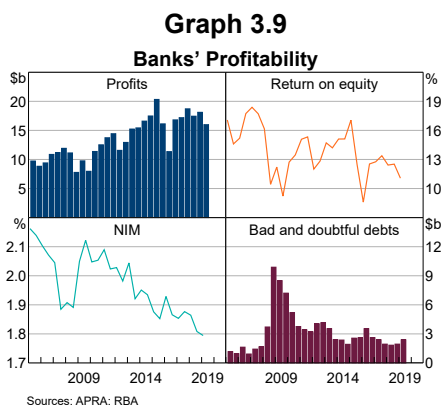


* Break in March 2008 due to the introduction of Basel II; break in March 2013 due to the introduction of Basel III
 ** Estimated prior to September 2015 as Tier 1 capital as a per cent of assets
 Sources: APRA; RBA

sensitive to their riskiness. This will be achieved by recalibrating risk weights. In particular, risk weights for interest-only and investor housing loans will rise relative to owner-occupier principal & interest (P&I) loans, risk weights on mortgages calculated under the standardised approach will become more sensitive to the loan-to-valuation ratio (LVR), and commercial property risk weights under the standardised approach will vary more with both LVR and the extent to which the borrower relies on income from the property. The revisions are also aimed at reducing the structural concentration of residential mortgages on banks' balance sheets. This will be achieved by increasing the average risk weight for housing loans while lowering it for some other assets classes (most notably, loans to small and medium enterprises secured by non-housing collateral), which should reduce the relative attractiveness of housing lending. Further revisions to the framework will be released later this year, before being finalised next year and becoming effective in 2022.

Australian banks' profits are high but likely to decline

Australian banks remain very profitable, with return on equity well above their cost of equity and high by international standards. However, banks' profits fell somewhat in the first half of 2019 (Graph 3.9).



The recent decline in profits was primarily driven by customer remediation costs arising from misconduct – mostly within banks' wealth management and financial planning businesses. However, underlying profits have also declined. Non-interest income has fallen as banks have sold or scaled back fee-generating activities. Interest income growth has been limited amid slowing housing credit and a persistent narrowing in the net interest margin (NIM). The NIM has been declining because of pricing competition for housing loans and switching from (higher-margin) interest-only to (lower margin) P&I lending, although this has been somewhat offset by last year's repricing of standard variable home loan rates and the easing in short-term wholesale funding costs this year. Remediation charges for incorrect (earlier) interest charges have also temporarily lowered NIMs by a few basis points over the past year.

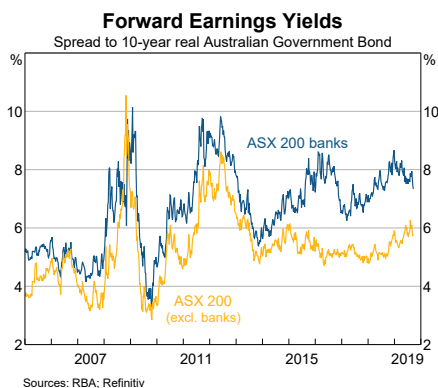
Analysts expect little growth in banks' profits, given forecasts for ongoing weak credit growth, ongoing pressure on NIMs and further costs relating to customer remediation and the need to improve compliance and risks management. Bad and doubtful debt charges are also expected to increase, in part because of the rise in housing loan arrears but more broadly because they are at cyclical lows.

One reason that analysts expect NIMs to narrow is that a portion of bank deposits already receive zero or very low rates of interest. Deposit interest rates can technically fall below zero and, for institutional deposits, they are negative in many other countries. But in those countries with very low interest rates it has been very rare for retail deposits to be negative due to concerns that customers will convert deposits to cash. Most deposits in Australia currently receive interest well in excess of zero, so the extent of pressure on margins from these deposits will be smaller than in many other countries. Consistent with this, average deposit rates appeared to fall

roughly in line with cuts to lending rates following rate cuts in June and July. Larger banks hedge the interest rate risk on their non-interest bearing deposits (i.e. those that never pay interest), along with their capital. These hedges will increase in value after an interest rate reduction, and then protect banks from lower rates for the remaining life of the contract. However, these hedges are less effective if rates stay low for a very prolonged period, given they would roll over to lower rates. A slightly larger proportion of rates will also be constrained if deposit interest rates fall further.

The uncertain outlook for profitability has increased Australian banks' implied cost of capital relative to other shares over the past three years, as measured by the spread of forward earnings yields to the risk-free rate (Graph 3.10). The premium on banks' implied cost of capital is currently about as high as it has been for many decades. The gap between the premium applied to banks and other shares has narrowed somewhat this year, mainly due to an increase in mining companies' forward earnings yields, but it remains well above its historical average.

Graph 3.10



Risks from non-ADI lending remain limited

Total debt financing from the non-ADI sector has remained steady at around 7 per cent of system assets, well below its pre-GFC share. The risk of contagion from non-ADI lenders to banks is also limited given banks' low exposure to the sector, which is only a few per cent of their financial assets. APRA now also has 'reserve' powers that allow it to impose rules on non-ADI lenders if a material risk to financial stability is identified.

While total non-ADI lending activity has been growing in line with the financial system, housing credit extended by non-ADIs has been growing more rapidly (despite slowing a little of late; Graph 3.11). As a result, non-ADIs have increased their market share over the past few years, but they still only account for less than 5 per cent of total housing credit.^[6] Rapid growth in non-ADI housing credit can create risks if it exacerbates credit and asset price cycles, or prompts banks to weaken their lending standards. However, this is unlikely to have occurred in the recent period, given housing prices and credit growth has been weak and banks have been tightening lending standards. Instead, the recent expansion of non-ADI lending has been a helpful support to avoid an excessive contraction in the provision of credit.

Information from the RBA liaison program indicates that non-bank lenders have also remained active in providing funding for residential construction projects. Non-ADI lending to property developers can be stabilising by allowing construction projects to commence when a lack of pre-sales makes it difficult to obtain bank credit. However, there can also be risks if competition from non-banks is significant enough to lead to an overall decline in lending standards. There is little evidence of the latter at present.

The general insurance industry is profitable and well capitalised ...

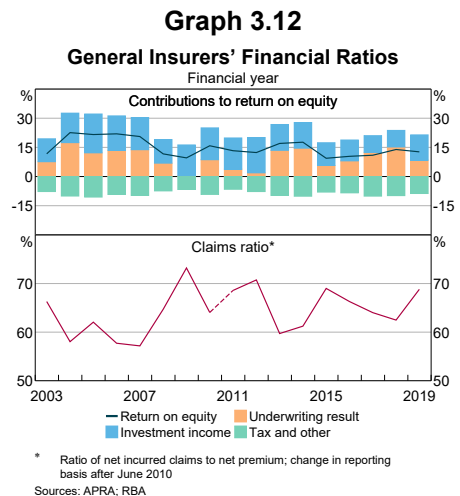
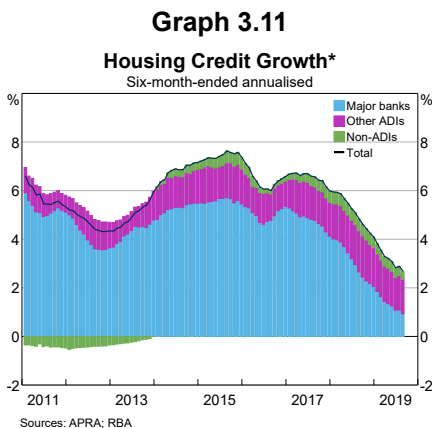
General insurers' profits remain at a healthy level after improving over the past few years (Graph 3.12). Recent profitability has been underpinned by very strong investment returns, partly offset by weaker underwriting results. Strong investment returns were driven by valuation gains from the decline in risk-free rates, though this also increased the discounted value of future claims liabilities and so weighed on underwriting performance. Underwriting performance was also impacted by higher claims from hailstorms and floods, which resulted in an increase in the claims ratio (net incurred claims relative to net premiums). This offset continued increases in insurance premiums for consumer and some commercial business lines. General insurers remain well capitalised, with capital equivalent to 1.8 times APRA's prescribed amount.

Lenders mortgage insurers (LMIs) are also well capitalised, but their profits have been under pressure in recent years. Revenue has declined due to the lower volume of high-LVR mortgage originations (which tend to require insurance) that have resulted from ongoing improvements to lending standards since early 2015 (see 'Chapter 2: Household and Business Finances'). At the same time, claims have also increased

due to the deterioration in housing loan impairments, particularly in Western Australia. In light of these challenges, along with a change in ratings methodology, Standard & Poor's downgraded its credit rating for two major Australian LMI providers in July (to A).

... but conditions remain challenging for life insurers

Life insurers' profitability has declined to below their cost of capital (Graph 3.13). Poor profitability reflects persistent structural issues, including historical underpricing of long-dated policies, loose product definitions, overly generous benefits and higher-than-expected claims, particularly for mental health. These issues have particularly affected individual disability income insurance (DII), which accounts for much of the recent decline in profits. APRA has undertaken a thematic review of the DII industry, and has requested that insurers take steps to address shortcomings which have resulted in unsustainable product design and pricing decisions.^[7] But these issues will take a long time to resolve given the long-term nature of these insurance contracts and the pressure to retain market share in a competitive market.



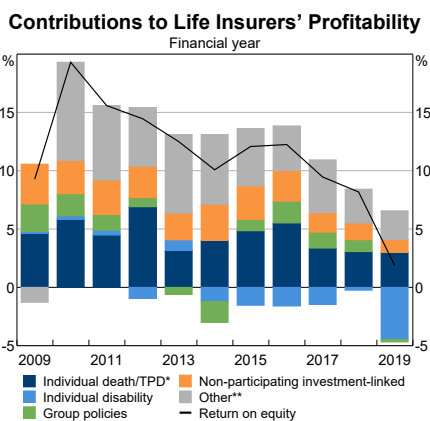
Recent and forthcoming changes to the industry will pose further challenges. Under recently passed legislation, superannuation funds will no longer be allowed to provide insurance by default for members aged under 25 or with inactive or low balance accounts. This will affect revenues from group life insurance policies unless premiums are increased for other members, and has already resulted in a material writedown of the value of AMP's life insurance businesses. A proposed ban on unsolicited telephone sales of direct life insurance and review of life insurance commissions will also impact revenues, while costs will be incurred to address deficiencies in culture and governance identified by the Royal Commission. The change in ownership of life insurers over recent years will help life insurers to manage this change. Almost all Australian banks have sold, or announced the sale of, their life insurance businesses to large global insurance specialists. These new owners have underwriting expertise, scale and strong financial resources which should have them well placed to undertake the necessary change. High levels of capital – equivalent to 1.8 times the prescribed amount – will also support insurers in addressing these issues.

Systemic risks in superannuation are limited due to the absence of leverage

The superannuation sector is a large part of Australia's financial system and an important source of funding for Australian institutions. Significant changes to the regulation and supervision of superannuation are underway following findings from the Royal Commission and the Productivity Commission's review of superannuation.^[8] Recently passed legislation limits the fees that trustees can charge on low-account balances. APRA has also increased its scrutiny of underperforming funds and will begin publishing assessments of fund performance. This could lead to fund closures or outflows from underperforming funds. There are also major changes in the ownership of retail superannuation funds impending, with most major banks arranging an exit from this industry. While these changes will pose challenges and give rise to operational risk, the lack of debt within APRA-regulated funds – which are not generally permitted to borrow – makes these risks manageable without risk to members' funds.

Given their large size, superannuation funds could potentially amplify market instability if they were to sell assets during periods of market stress. This could be particularly important for banks if the likely increase in their cost of capital during periods of stress was amplified by superannuation funds reducing their holdings of bank stocks. While this could happen if superannuation fund managers change their asset allocations and/or members switch between investment choices rapidly, historical experience suggests that these risks are minimal. Members are mostly inactive and fund managers generally have a longer-term investment focus. Indeed, superannuation funds increased their net purchases of domestic equities, including bank shares, during the GFC.

Graph 3.13



Financial market infrastructures remain sound, with further strengthening underway

Financial market infrastructures (FMIs), such as central counterparties (CCPs), securities settlement facilities and payment systems, occupy a central place in the financial system, because of their role in facilitating payments, trades and risk management. As a result, their continued resilience is critical for financial stability. FMIs operating in Australia have generally performed their functions in a way that promotes financial stability over the past year, and are working to address some remaining vulnerabilities.

CCPs have the potential to significantly reduce risks to participants through the multilateral netting of trades and by imposing more-effective risk controls on all participants. This means that participants only have to manage their exposure to a single counterparty that holds a conservative pool of financial resources. However, if a CCP's risk controls fail to work as designed, it can transmit risk to its participants by calling on them to contribute towards losses or by undermining confidence in the markets that the CCP serves. Given this, Australian regulators have continued to monitor whether Australian-licensed CCPs have identified all issues that were highlighted by a default at the Swedish CCP Nasdaq Clearing AB in 2018 and are addressing those that are relevant to Australia. (The default at Nasdaq created unexpectedly large losses for the CCP, much of which were absorbed by contributions from its participants.) Most of the issues faced by Nasdaq were already mitigated by Australian-licensed CCPs. However, some additional measures taken by ASX Clear (Futures) to address residual risks are summarised in the RBA's 2019 Assessment of ASX.^[9]

While the management of financial risks by FMIs is of continuing importance, addressing non-financial risks has also been a focus in the RBA's

2019 Assessments of FMIs. ASX has now implemented most of the recommendations of a 2018 review of its technology governance and operational risk frameworks. The 2018 review highlighted that, in these areas, it had fallen behind best practice in financial services. ASX's program to improve its enterprise risk management and governance practices builds on related initiatives identified prior to the review.

An operational outage affecting an FMI can have a significant impact on its participants and the broader financial system since there are typically limited substitutes available for critical FMI services. Given this, the RBA's 2019 Assessment of the Reserve Bank Information and Transfer System (RITS) – a high-value settlement system used by banks and other approved institutions to settle payment obligations on a real-time basis – reviewed the remediation actions taken in response to an incident on 30 August 2018. This incident resulted in power loss to most IT systems at the RBA's head office, including those supporting RITS.^[10] All initial actions arising from the incident have been completed. The RBA is currently working with financial institutions to review contingency arrangements for extreme scenarios such as an extended outage of RITS or other key infrastructure. The RBA also conducts regular contingency testing with RITS members to maintain a high level of readiness to deal with operational incidents.

The threat of a cyber attack is another important source of operational risk for Australian FMIs and their participants. An effective response to such threats requires coordination between FMIs, participants and other stakeholders that may be affected. Given this, the Bank plans to hold a 'table top' exercise in late 2019 with selected RITS members and industry stakeholders, to simulate a cyber event affecting the RITS ecosystem. The Bank will also be working with members to enhance security for their connections to wholesale payments systems, in

line with a strategy developed by the international Committee on Payments and Market Infrastructures. This work adds to an initiative of SWIFT, an international provider of payments messaging services, to establish a common set of security controls for its users, including RITS members. More broadly, a working group of the Council of Financial Regulators and the Department of Home Affairs has been established to share information on cyber-related matters affecting financial sector entities. The working group is developing a framework for testing the strength of institutions' defences against cyber attacks; this framework is intended to be applied to a pilot set of firms during 2020. The results would be conveyed to each institution and any identified themes reported back to the broader industry.

Another key source of non-financial risk to FMI is the risk that the legal basis for their operations is inadequate, uncertain or unclear. Without a sound legal basis, an FMI may face unintended, uncertain or unmanageable credit, liquidity or operational risks, which could in turn create or amplify systemic risk. The 2019 Assessment of ASX found that there are strong legal foundations for the operating rules governing its clearing and settlement activity. However, it also found gaps that could hinder entities operating ASX's clearing and settlement facilities from accessing capital held to cover their business, operational and investment risks. ASX has addressed a number of these gaps and plans to take further action to ensure that its clearing and settlement facilities have legally certain access to this capital. ✎

Endnotes

- [1] The impact of leverage ratio requirements has been exacerbated at quarter-ends by 'window dressing' among some foreign banks looking to reduce their reported leverage ratios.
- [2] Examples include APRA's response to breaches of prudential liquidity standards by Macquarie Bank, Rabobank Australia and HSBC Bank Australia and its imposition of a fine on Westpac for failing to meet legal reporting requirements.
- [3] See Bullock, M (2019), 'Modernising Australia's Payments System', Speech at the Central Bank Payments Conference, Berlin, 25 June.
- [4] An IMF study found a Tier 1 capital ratio of 15 to 23 per cent is appropriate for many advanced economies (see Dagher *et al* (2016), 'Benefits and Costs of Bank Capital', IMF Staff Discussion Note No 16/04). The major banks' Tier 1 capital ratio is equivalent to 17½ per cent on an internationally comparable basis accounting for APRA's stricter application of global bank standards.
- [5] The implied probability of default can be derived using a Merton-style 'distance-to-default' model, as done in MacDonald C, M van Oordt and R Scott (2016), 'Implementing Market-Based Indicators to Monitor Vulnerabilities of Financial Institutions', Bank of Canada Working Paper No 2016-05.
- [6] For more details, see RBA (2019), 'Non-bank Lending for Property', *Financial Stability Review*, October, pp 56-59.
- [7] APRA (Australian Prudential Regulation Authority) (2019) 'APRA Demands Life Insurers Improve Sustainability of Individual Disability Income Insurance', Media Release, 2 May.
- [8] Productivity Commission (2018), 'Superannuation: Assessing Efficiency and Competitiveness' Inquiry Report, December.
- [9] RBA (2019), 'Assessment of the ASX Clearing and Settlement Facilities', Assessment Report, September.
- [10] RBA (2019), 'Assessment of the Reserve Bank Information and Transfer System', Assessment Report, May.

Box C

Financial Stability Risks From Climate Change

Climate change is exposing financial institutions and the financial system more broadly to risks that will rise over time, if not addressed. According to the Intergovernmental Panel on Climate Change (IPCC), it will take significant effort to limit global warming to 1.5°C above pre-industrial levels, as targeted in the Paris Agreement. Even if targets are met, this level of warming is likely to be accompanied by rising sea levels and an increase in the frequency and intensity of extreme weather (including storms, heatwaves and droughts). Some of these outcomes are already apparent (Graph C.1). These changes will create both financial and macroeconomic risks.^[1]

This box focusses on the financial risks arising from climate change, particularly for Australian financial institutions. These risks can be classified as either:

- **physical:** disruptions to economic activity or reductions in asset values resulting from the physical impacts of climate change;
- **transitional:** the impact of changes in regulation or pricing introduced to facilitate a transition to a low-carbon economy; or
- **liability:** an inadequate response to these risks also raises the potential for reputational and legal risk.

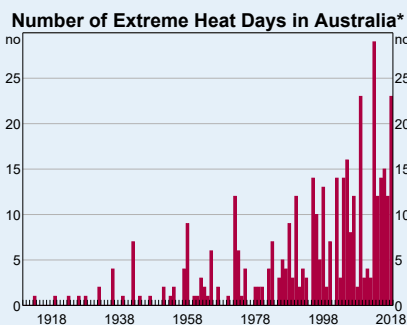
While climate change is not yet a significant threat to financial stability in Australia, it is becoming increasingly important for investors and institutions to take account of and manage these risks.

Climate change poses some material risks to Australian financial institutions

The physical effects of climate change can have a significant impact on Australian financial institutions. As an example, inflation-adjusted insurance claims for natural disasters in the current decade have been more than double those in the previous decade. This impact is likely to grow over time.

An increase in the frequency and severity of natural disasters will increase the incidence of damage to, or destruction of, physical assets that are insured or used as collateral. Assets that are exposed to increasing physical risk (such as property located in bushfire-prone or coastal areas) could decline in value,

Graph C.1



* Number of days each year where the Australian area-averaged daily mean temperature is extreme; extreme days are those above the 99th percentile of each month from the years 1910–2018; these extreme daily events typically occur over a large area, with generally more than 40 per cent of Australia experiencing temperatures in the warmest 10 per cent for that month

Source: Bureau of Meteorology State of the Climate report, updated to 2018

particularly if these risks become uninsurable. Climate change could also reduce certain types of business income that is used to service loans. Examples include changing rainfall patterns that result in lower or less predictable income from agriculture, more frequent storms disrupting supply chains and therefore sales, and damage to natural assets that reduces tourism income.

Insurers are most directly exposed to the physical impacts of climate change. This can arise through natural disaster claims, crop insurance, and health and life insurance. While insurers can increase their premiums to reflect higher risk, it is difficult to accurately price new and uncertain climate risks. If insurers under-price these risks, it could threaten their viability in the event of extreme weather events resulting in very large losses. On the other hand, over-pricing would impede the risk pooling function provided by insurance and unduly limit economic activity. Even if correctly priced, more of these risks may become uninsurable, forcing households, businesses or governments to bear this risk.

Banks (and other lenders) are also exposed to physical risks because climate change can result in a decline in the income or value of collateral that they are lending against. Such effects can go beyond the industries directly affected by climate change (such as agriculture and tourism), to the households and businesses that rely on income from those industries.

Australian financial institutions that have exposure to carbon-intensive industries – such as power generation and mining, or to energy-intensive firms – will also be exposed to transition risk. Transition to a lower carbon economy can also affect institutions with exposures to individuals and communities

reliant on these industries. Sudden or unexpected regulatory change could quickly lower the value of such assets or businesses, some of which may become economically unviable or ‘stranded’. Such regulatory changes could either be domestic or come from abroad, given the carbon intensity of Australia’s exports. Transition risk could also arise if large investment in technologies allowed new entrants to displace established but emissions-intensive practices, or if consumer preferences shifted rapidly towards ‘green’ products. If such changes occur abruptly, and certain sectors or firms face large losses, there could be broader dislocation in financial markets, despite the opportunities created for some firms from these changes.

Transition risk will be greatest for banks that lend to firms in carbon-intensive industries and to individuals or businesses that are reliant on these firms. Other financial institutions investing in carbon-intensive industries, such as superannuation and investment funds, are also exposed to the risk that climate change will diminish the value of their investments. This could occur both through direct investments in carbon-intensive industries, or indirect investments in banks that lend to these industries.

Financial institutions may also face reputational damage if they are seen to be contributing to climate change or failing to manage climate risks. This could affect an institution’s ability to retain customers and raise funding. Firms also face legal risks if directors fail to address the potential exposure of their firms to climate-related risks, according to the Hutley opinion (a landmark legal opinion on directors’ duties in relation to climate change under Australian law).^[2]

Climate risks are challenging to manage and there are significant data gaps

Australian financial institutions have become increasingly aware of the financial nature of climate risks and are taking steps to assess and manage their exposure to physical and transition risks. But it is difficult to map the impacts of climate change to changes in asset values and financial losses. The risks from climate change are particularly difficult to assess because of their long-term nature and complexity. These risks involve a great deal of uncertainty due to unknown future policy responses and the possibility that feedback loops and tipping points may lead to greater and/or more rapid physical impacts than is currently expected. Climate risks also have the potential to be correlated across regions, requiring institutions to reassess the benefits from geographical diversification.

Significant data gaps compound the difficulty of financial institutions and investors assessing and managing climate risks. To manage their own direct exposure to physical risk, insurers and banks need granular information on the location and physical risks faced by the assets they insure or the collateral they lend against. But they also need to consider their indirect exposure to firms or individuals that may be exposed to climate risk, which is challenging because of firms' incomplete or inconsistent climate-related financial risk disclosure. The Task Force on Climate-related Financial Disclosures (TCFD) has developed a consistent, voluntary disclosure framework for firms, which is an important first step towards addressing this data gap. It is important that the focus of disclosure is on *consistently* and *regularly* providing quality information, so that

financial institutions and investors can build an economy-wide understanding of the risks and how they are evolving. It is also important that firms supplement increased data disclosure with clear communication of their strategy to manage climate risks.

Climate change will have a broad-based impact on Australian financial institutions and therefore clearly poses risks that are systemic in nature. However, it does not yet pose an imminent threat to financial stability. Change has so far occurred at a pace that has allowed financial institutions to adjust, and losses associated with climatic events have been manageable. But climate change could emerge as a risk to financial stability if it is not properly managed, or if the size of climate-related losses increased materially. Rising climate-related losses could also erode confidence in an institution or the financial system, leading to a withdrawal of funding. This would be more likely if the physical impacts of climate change are more severe or occur sooner than currently projected, or if the transition to a low-carbon economy occurs in a disruptive and costly manner.

Actions taken by financial institutions can reduce the potential for the physical and transition risks associated with climate change to become financial stability risks. Given the long-term nature of climate change, financial institutions may be able to wind down their exposure to physical risks before the worst impacts of climate change are felt, or work with clients to adjust their operations. Suitable pricing of these risks would also mean that financial institutions are being compensated for their exposures and incentivised to adjust. That said, transition risks can materialise abruptly and the physical impacts of climate change could occur faster or affect a much wider range of

assets than currently anticipated. The climate-related exposures that pose the greatest risk to stability, such as general insurance policies and loans to industries most affected by climate change, are typically of shorter duration and so can be more easily adjusted. Climate change poses a bigger problem to longer-term financial contracts, such as mortgages and life insurance, as risks may change over time without the ability to adjust contract terms. However, these exposures are generally not where the largest climate risks lie.

Australian financial regulators are taking steps to address emerging climate risks

Financial regulators have a role to play in ensuring that climate risks are effectively managed by financial institutions. This includes setting expectations that financial institutions will identify, manage and disclose their exposure to climate risks. The Council of Financial Regulators has established a working group on the financial implications of climate change to help coordinate agencies' actions.

The Australian Prudential Regulation Authority (APRA) has emphasised that climate risks should be managed like any other risk, in line with existing prudential risk management standards.^[3] APRA has also supported the recommendations from the TCFD. APRA's recent survey of institutions' climate risk management practices found that the majority are taking steps to increase their understanding of risks, but further improvement is needed.^[4] APRA is increasing its scrutiny of institutions' climate risk management and will factor this into its

ongoing supervisory activities. It has also engaged with international regulators on climate risks through its involvement with the International Association of Insurance Supervisors (IAIS) and the United Nations Environment's Sustainable Insurance Forum (SIF), which APRA chairs.

The Australian Securities and Investments Commission (ASIC) has similarly provided updated regulatory guidance that applies to all listed companies, their directors and advisors. ASIC recommends that listed companies disclose meaningful and useful climate-risk-related information to investors, and strongly encourages listed companies with material exposure to climate change to consider reporting voluntarily under the TCFD framework. In a 2018 report, it found that most large Australian listed companies considered climate risks to some extent, with some identifying these risks as material. But climate risk disclosure was often too fragmented, general, or not comprehensive enough to be useful for investors.^[5]

The RBA does not regulate financial institutions that directly face climate risk. Nonetheless, it monitors climate risks as part of its monetary policy and financial stability mandates. This involves working to incorporate the potential impacts of climate change into the outlook for the economy, and monitoring the evolving risks to financial institutions. The RBA is also involved in international efforts to improve regulators' understanding of the implications of climate change for the financial sector, including through the Network for Greening the Financial System (NGFS), a group of central banks and supervisors.^[6] 🏠

Endnotes

- [1] Debelle G (2019), 'Climate Change and the Economy', Speech at the Centre for Policy Development Public Forum, Sydney, 12 March.
- [2] Centre for Policy Development (2019), 'Updated Hutley opinion on directors' duties and climate risk'.
- [3] Summerhayes G (2017), 'Australia's new horizon: Climate change challenges and prudential risk', Speech at the Insurance Council of Australia Annual Forum, Sydney, 17 February and Summerhayes G (2019), 'Financial exposure: the role of disclosure in addressing the climate data deficit', Speech at ClimateWise and University of Cambridge Institute for Sustainable Leadership, London, 22 February.
- [4] APRA (2019), 'Climate change: Awareness to action', Information Paper, March.
- [5] ASIC (2018), 'Climate risk disclosure by Australia's listed companies', Report, September.
- [6] Network for Greening the Financial System (2019), 'A call for action: Climate change as a source of financial risk', April.

4. Regulatory Developments

The impetus for regulatory reform in Australia is currently more domestic than has generally been the case in the post-crisis period. Most of the internationally driven reforms have now been implemented in Australia. Many recent and prospective domestic regulatory changes have instead been in response to recent reviews, such as the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (the Royal Commission). Efforts to enhance other elements of the regulatory framework have also continued. Actions taken by regulators have included a proposed new standard to strengthen remuneration requirements for prudentially regulated institutions, enhancing consumer protection in the financial services industry and improving the loss-absorbing capacity of authorised deposit-taking institutions (ADIs).

The main financial regulatory agencies have continued to coordinate on reforms through the Council of Financial Regulators (CFR). The CFR also discusses key developments in the financial system, which have recently included subdued growth in credit to households and small businesses. It has considered the relative importance of weaker demand and tighter lending standards in slower credit growth and has monitored developments in housing markets as indicators of credit conditions. CFR members viewed the risks to date to lenders from the falls in housing prices over the past few years as limited.

Internationally, global bodies have continued to review the implementation of the G20's post-

crisis financial sector reforms, and to assess their effects. The Financial Stability Board (FSB) has commenced an evaluation of the effects of the 'too big to fail' reforms. These evaluations are important for determining whether the reforms are achieving their intended objectives, and if there are material unintended consequences that should be addressed. This focus is seen in the recent decision by the Basel Committee on Banking Supervision (BCBS) to change the Basel III leverage ratio standard following an evaluation of the effects of reforms on incentives to centrally clear over-the-counter (OTC) derivatives.

The CFR has closely monitored credit and housing conditions and progressed joint initiatives

The CFR is the coordinating body for Australia's main financial regulatory agencies. A significant focus of its recent meetings has been credit conditions for households and small businesses. While noting the important role of weaker demand for credit, discussions have considered the tightening in lending standards as lenders have adjusted their processes for verifying income and expenses. Tighter standards have extended to small businesses as lenders have been cautious in their treatment of the division between personal and small business finances. The CFR was briefed on the Australian Securities and Investments Commission's (ASIC) review of its responsible lending guidance, along with the Federal Court's recent responsible lending decision.^[1] Discussions emphasised that the intent of ASIC's responsible lending review is not

to increase requirements on lenders, but to clarify and update guidance on existing requirements. The Australian Prudential Regulation Authority's (APRA) changes to its guidance on the minimum interest rate used in serviceability assessments for residential mortgage lending were also discussed prior to their announcement (discussed further in 'Chapter 2: Household and Business Finances').

Housing is monitored by the CFR for insights into the dynamics of credit supply and demand, and its value as collateral backing lending. The CFR discussed the recent signs of stabilisation in the Sydney and Melbourne markets. CFR members viewed the combination of a strong labour market, low interest rates and improved lending standards in recent years as limiting the risks to lenders from housing price falls.

The findings and recommendations of the Royal Commission have significant implications for the financial system and regulators. The CFR regularly discussed the Royal Commission proceedings and members' approaches to addressing its recommendations. A large number of these require legislative change. In August, the government released a plan for close to 90 per cent of its commitments to be implemented, or have the relevant legislation before parliament, by mid 2020; by the end of 2020, legislation for all remaining recommendations requiring legislative change will have been introduced into parliament.

Other recent activities of the CFR and its working groups have included the following:

- Member agencies have been working on implementing relevant recommendations from the International Monetary Fund's (IMF) 2018 Financial Sector Assessment Program (FSAP) review of Australia.^[2] Work on those that involve several agencies is coordinated by the CFR. For example, in September, the CFR reviewed Australian banks' use of overseas wholesale funding, as suggested by

the IMF. It welcomed the progress the banks had made in lengthening the maturity of their offshore term debt, but agreed that a further lengthening would reduce the rollover risk for banks and the broader financial system.

- The CFR considered the design of a crisis management legislative framework for clearing and settlement (CS) facilities, with this work being undertaken by the CFR's Financial Market Infrastructure (FMI) Steering Committee. The framework will ensure that agencies have the necessary powers to resolve a distressed domestic CS facility. A consultation covering both supervisory and crisis management powers is planned for late 2019. The CFR's conclusions will be provided to the government to assist with policy design and the drafting of legislation.

The FMI Steering Committee has also been working with the Australian Treasury on legislative changes that would support:

- the CFR's policy framework for competition in the clearing and settlement of Australian cash equities
- the enforcement of the CFR's regulatory expectations for monopoly providers of cash equity CS services.
- A CFR review of the regulatory regime for stored-value facilities (SVFs) has now been completed. SVFs enable funds to be prepaid into a facility for the purpose of making future payments. The facility therefore maintains a 'float' of stored value. The final reports of both the Financial System Inquiry and the Productivity Commission's Inquiry into Competition in the Australian Financial System recommended a review of the regulation of these facilities. Following a public consultation in 2018, the CFR has been considering how to structure a graduated regulatory framework and ensure adequate consumer protection

arrangements, while supporting competition and innovation. The conclusions of this work will be provided to the government for consideration in the near future.

- CFR agencies in September considered arrangements for managing liquidity at superannuation funds during periods of market stress. They agreed that existing arrangements provide an appropriate incentive for superannuation funds to manage their liquidity. They also agreed that circumstances where a systemic liquidity problem could arise for the superannuation system were highly unlikely. The CFR concluded that no additional measures, including access to liquidity from the Reserve Bank, were warranted.
- CFR agencies and the Australian Competition and Consumer Commission (ACCC) are developing an online tool to provide information on average mortgage interest rates paid on new loans. This follows a recommendation from the Productivity Commission's competition inquiry. The tool will use data from APRA's new Economic and Financial Statistics collection and is expected to be available in 2020.
- A CFR working group coordinates work on the implications for the financial system of climate change. This includes ensuring that Australian objectives and perspectives are consistently represented in international forums. CFR agencies have been engaged in this area in recent months. In particular, APRA and ASIC have been emphasising the need for financial institutions and listed companies to disclose the climate risks they face, including to meet statutory disclosure requirements. For APRA-regulated entities, this includes, for example, the disclosure of climate change-related modelling, stress testing and scenario analysis.

The CFR also engages with other regulators to discuss issues of common interest.

- In July, the CFR held its annual meeting with other Commonwealth regulators that have an interest in the financial sector. This included representatives from the ACCC, the Australian Taxation Office and the Australian Transaction Reports and Analysis Centre (AUSTRAC). Topics discussed included enforcement and data initiatives affecting the financial sector.
- CFR agencies have also been working with their New Zealand counterparts via the Trans-Tasman Council on Banking Supervision (TTBC) to further strengthen the cross-border crisis management framework. The heads and deputies of the seven TTBC agencies met in Sydney in July and will meet again in November this year. The TTBC carried out a cross-border crisis simulation in September, focused on crisis management communication arrangements.

In recent years, the CFR has been considering elements of its role and the way it operates. Outcomes have included the annual meeting with other Commonwealth regulators discussed above and increased transparency via the release of a quarterly statement after each scheduled meeting. At the July 2019 meeting, members agreed to adopt an updated charter. This emphasises the CFR's financial stability objective, while also recognising the benefits of a competitive, efficient and fair financial system. The new charter also highlights the CFR's focus on cooperation and collaboration to support the activities of its member agencies and its engagement with other regulators.

Further necessary actions are being taken to improve the regulatory framework ...

Domestic regulators have taken actions to address poor governance and incentives in the

financial system as well as to improve resilience, and the transparency and effectiveness of regulation and supervision.

In light of the findings of an earlier Prudential Inquiry by APRA into the Commonwealth Bank of Australia (CBA), APRA wrote to 36 of the country's largest banks, insurers and superannuation licensees in June 2018. It asked them to assess whether the cultural and non-financial risk management issues identified at CBA also existed within their own organisations. In May 2019, APRA released a report analysing these self-assessments. The report concluded that the issues were not unique to CBA. It identified a number of areas in which financial institutions needed to improve, including non-financial risk management (due to, for example, overly complex and bureaucratic decision-making). It also found that institutions needed to clarify internal accountabilities and enhance their risk culture. APRA concluded that institutions' knowledge of these weaknesses had at times been longstanding, but for various reasons – including, in some cases, a lack of prioritisation – they had not been addressed. In response to these self-assessments, APRA increased the minimum capital requirements of Australia and New Zealand Banking Group, National Australia Bank and Westpac Banking Corporation by \$500 million each, and Allianz's capital requirement by \$250 million. CBA's capital requirement had already been raised by \$1 billion after its earlier prudential review. This extra requirement for the three banks and insurer will apply until each institution has strengthened its risk management and closed the gaps identified in its self-assessment.

Several inquiries, including the Royal Commission and various reviews by APRA, have examined the remuneration arrangements of financial institutions. APRA recently released a discussion paper outlining a draft prudential standard in this area. The standard, covering all APRA-regulated entities, aims to better align

remuneration frameworks with the long-term interests of entities and their stakeholders, including customers and shareholders. The proposed reforms:

- introduce a requirement for boards to approve and actively oversee remuneration policies for all employees
- elevate the importance of managing non-financial risks (such as misconduct risk); accordingly, financial performance metrics cannot comprise more than 50 per cent of performance criteria for variable remuneration
- introduce minimum deferral periods for variable remuneration of up to seven years for larger, more complex entities
- ensure that larger, more complex entities have the ability to recover remuneration from executives up to four years after it has been paid (or 'vested').

Some recommendations of the Royal Commission also focused on the regulators themselves, including a call for regular capability reviews. A capability review of APRA was released in July. It concluded that APRA is a high-quality regulator and has been successful in delivering on its core mandate of financial safety and stability. The report made 24 recommendations to further strengthen and better position APRA for the future; 19 were directed to APRA and five to the government. Some key recommendations related to governance, such as changes to APRA's organisational structure and revisions to the role of its chair. Others concerned culture and accountability, cyber risks and enforcement approach, including building on the APRA Enforcement Strategy Review released in April 2019. APRA supports all 19 recommendations directed to it, and the government has agreed to take action on all five recommendations directed to it.

APRA has finalised elements of its loss-absorbing capacity framework for ADIs. This is in keeping with a government-endorsed recommendation of the Financial System Inquiry. The framework aims to increase the ability of ADIs to absorb losses while minimising the need for taxpayer support, to assist with an orderly resolution in the unlikely event of a failure. APRA will require the four major banks to lift their total capital ratios by 3 percentage points of risk-weighted assets (RWA) by 1 January 2024. APRA expects these banks to make up the majority of the increase through issuance of Tier 2 capital instruments. The requirement for the major banks was lower than the 4–5 percentage point increase initially proposed by APRA, reflecting concerns expressed by stakeholders about whether the market could absorb the required issuance. APRA's overall long-term target for additional loss-absorbing capacity remains 4–5 per cent of RWA. For small-to-medium ADIs, extra loss-absorbing capacity will be considered on a case-by-case basis as part of APRA's resolution planning process with ADIs.

In August, APRA announced a strengthening of its prudential standard with regard to contagion risk within banking groups (the risk of negative shocks to one entity spilling over to others). Changes to its prudential standard (to come into effect from 1 January 2021) will:

- reduce the limit on ADIs' exposures to a single related ADI from 50 per cent of total capital to 25 per cent of Tier 1 capital, and exposures to all related ADIs from 150 per cent of total capital to 75 per cent of Tier 1 capital
- modify the definition of a related entity to be broader and more related to the extent of control
- remove the eligibility of ADIs' overseas subsidiaries to be regulated under APRA's Extended Licensed Entity framework

- introduce minimum requirements for ADIs to assess contagion risk.

Additionally, APRA will require ADIs to regularly assess and report on their exposure to step-in risk – the likelihood that they may need to 'step in' to support an entity to which they are not directly related.

In May 2019, ASIC wrote to the chief executive officers of several major financial institutions regarding their level of preparedness for the transition away from using the London Interbank Offered Rate (LIBOR). This was strongly supported by both APRA and the Bank. This follows the UK Financial Conduct Authority's earlier announcement that it will no longer use its powers to sustain LIBOR beyond 2021. LIBOR is deeply embedded in financial markets globally and is used by many Australian financial institutions in their financial contracts and business processes. A disorderly transition away from LIBOR could have implications for short-term financial stability. Accordingly, Australian regulators expect all businesses with an exposure to LIBOR to actively plan for the transition to alternative reference rates. This follows reforms globally (as well as in Australia) in recent years to enhance the robustness of financial benchmarks, including by developing new 'risk-free rates'. These reforms in part reflect past examples of manipulation of LIBOR and other financial benchmark rates.

As discussed in 'Chapter 3: The Australian Financial System', FMI's such as central counterparties (CCPs) and securities settlement facilities (SSFs) occupy a key role in the financial system. Regulators took actions recently in this area.

- The Bank sought to improve the transparency of its supervision of FMI's by publishing two policy statements in June. These included an updated policy statement describing the Bank's approach to supervising and assessing CS facility

licensees against the Bank's Financial Stability Standards, and a new policy statement on oversight and supervision of systemically important payment systems. The changes aim to make the frequency, scope and level of detail of the Bank's assessment of CS facility licensees proportionate with the degree of systemic risk they pose. As CS facilities become progressively more important to the Australian financial system, the frequency and degree of interactions between Bank staff and management at the CS facility is expected to increase, alongside data requirements and assessment obligations. The Bank will continue to place an appropriate degree of reliance on reports and reviews conducted by overseas regulators when conducting its assessments of overseas CS facility licensees.

- While SSFs currently licensed in Australia are not exposed to the same types of financial risks from their participants that CCPs are, if SSFs offer intraday liquidity to participants in order to support more timely settlement of trades, it creates potential liquidity risks for these SSFs. This is true for some international SSFs, and they are required to have arrangements in place to manage these risks under international standards for FMs. To mitigate these risks if they were ever to arise in Australia, the Bank has recently introduced requirements that make holding an Exchange Settlement Account mandatory for systemically important Australian-licensed SSFs exposed to AUD liquidity risk. This will ensure that, if future Australian-licensed systemically important SSFs were to adopt settlement models involving AUD liquidity risks, they would have backstops to help manage these risks.

... including to enhance consumer protection in relation to financial products and services

Legislation passed by parliament in April 2019 strengthened ASIC's powers to protect consumers. The legislation introduced a 'design and distribution obligations' (DDO) regime and a 'product intervention power' (PIP), both administered by ASIC. The DDO regime will make issuers and distributors accountable for the design, marketing and distribution of financial and credit products to ensure they meet consumer needs. The regime will require issuers to identify in advance the consumers for whom their products are appropriate, and direct distribution to that target market. The DDO regime will commence in 2021. The CFR, in its July statement, encouraged issuers of Additional Tier 1 instruments (a form of bank-issued non-equity capital) to review their practices ahead of the commencement of the new DDO regime. The CFR noted that APRA would continue to treat these instruments as regulatory capital, capable of absorbing losses in the unlikely event of a bank failure.

The PIP gives ASIC the ability to intervene where a financial or credit product has resulted in, or is likely to result in, significant detriment to consumers. ASIC launched a consultation in June on the scope of the power, with a final regulatory guide planned to be released later in 2019. ASIC first used this power in September to address significant consumer detriment in the provision of short-term credit. The intervention targets a business model whereby associates of short-term credit providers charge significant upfront, ongoing and default fees. These fees can add up to almost 1000 per cent of the loan amount. Additionally, in August, ASIC proposed using the PIP to ban the retail sale of certain types of complex financial products, namely 'binary options', and impose conditions on the issue and distribution of 'contracts for difference' to retail clients. ASIC is currently consulting on

using the PIP to reform the sale of add-on financial products by car yards.

A further important enhancement to the protections offered to consumers in their use of financial products is an updated Banking Code of Practice by the banking industry, which was approved by ASIC in June 2019. The code includes a commitment to not charge fees to deceased consumers, as well as changes that reflect updated ASIC requirements for credit card lending practices. A further tranche of changes to the code, commencing in 2020, will primarily address the recommendations of the Royal Commission.

Internationally, monitoring the implementation of agreed reforms remains a priority ...

The FSB's update to the G20 on the implementation of post-crisis reforms highlighted continued progress across jurisdictions. Over the year, jurisdictions have made advances with implementing leverage ratio requirements, the large exposures framework, total loss-absorbing capacity (TLAC) requirements, and recommendations on ways to align incentives in securitisation.

However, the report notes that implementation is not yet complete and remains uneven across reform areas. Of note, a number of jurisdictions have yet to implement the Basel III Net Stable Funding Ratio, despite the agreed deadline being January 2018. The FSB acknowledged that challenges and difficulties are faced by some jurisdictions in meeting the agreed dates for some reforms, but reiterated the need to maintain momentum to achieve greater resilience in the global financial system.

The FSB has recently assessed the technical implementation of the TLAC standard. This major reform was designed so that failing global systemically important banks (G-SIBs) would have sufficient loss-absorbing and

recapitalisation capacity to allow an orderly resolution.^[3] The FSB concluded that implementation is progressing well and that all G-SIBs required to comply by January 2019 now meet or exceed the initial required TLAC ratios. G-SIBs headquartered in emerging market economies (EMEs) have extra time to meet these requirements given the less developed capital markets in EMEs.

The FSB saw no need to modify the TLAC standard at this time. However, it will continue to monitor implementation and issuance of TLAC instruments and report at least annually on progress. The FSB will also review the range of practices in place across jurisdictions regarding pre-positioning of 'internal TLAC' (a G-SIB's TLAC allocated to its subsidiaries) and the management of TLAC that is not pre-positioned. It has identified these as challenges affecting the smooth implementation of the TLAC standard across jurisdictions.

... along with evaluating the effects of these reforms

In recent years, the international community has been undertaking a program of formal evaluations of the effects of the post-crisis reforms. Earlier this year, the FSB launched its fourth major evaluation, which is focused on the reforms addressing 'too big to fail', the systemic and moral hazard risks posed by systemically important banks. The evaluation will assess whether the reforms are achieving their objectives and whether they are having unintended effects – for example, on the functioning of financial markets, global financial integration, or the cost and availability of financing. The FSB will publish a draft report for consultation in mid 2020. The Bank is represented on the FSB working group conducting this evaluation.

A separate FSB evaluation is examining the effects of reforms on the financing for small- and medium-sized enterprises (SMEs). A June

2019 consultative report, incorporating input from earlier public outreach, does not identify material and persistent negative effects on SME financing. It notes that any transitory costs should be set against the wider financial stability benefits that come from reducing the likelihood and severity of financial crises.

The potential for differences in the implementation of reforms across jurisdictions to lead to fragmentation in the market for financial services has also been a concern for the international community. The FSB published a report on this in June 2019. It highlights a possible trade-off between the need to tailor regulations to local conditions and the benefits of standardised rules across jurisdictions, such as increased cross-border activity. It also outlines areas for further work that could allow more effective cross-border cooperation among authorities.^[4]

Some adjustments have been made to global standards to improve their functioning

Regulatory frameworks need to be responsive to changing needs and new information. For instance, the BCBS announced a revision to its global standard on disclosure for the Basel III leverage ratio. From January 2022, banks will have to start disclosing their leverage ratios based on daily average values of securities financing transactions in addition to quarter-end values. This follows concerns about ‘window-dressing’, where temporary reductions in transaction volumes around quarter-end dates increase reported leverage ratios. The BCBS views window-dressing as unacceptable, as it undermines the intended policy objectives and risks disrupting the operation of financial markets.

The BCBS has also revised the leverage ratio calculation to remove a disincentive for participants to clear derivatives for clients. From January 2022, initial and variation margin

received by banks from clients will be able to offset the replacement cost and potential future exposure for client cleared derivatives. This revision aligns the leverage ratio treatment of client cleared derivatives with the standardised approach to measuring counterparty credit risk exposures in the risk-based capital framework. The change follows earlier findings that the current rules may be a disincentive for banks to offer or expand client clearing services (undermining the G20 aim of promoting central clearing of standardised OTC derivatives).

The BCBS and the International Organization of Securities Commissions have delayed the full implementation of margin requirements for non-centrally cleared derivatives by one year. The delay recognises that many entities are affected and face challenges in implementing the requirements, and rushed or incomplete implementation could be disruptive. Under the original 2015 plan, all covered entities (financial firms and systemically important non-financial firms) with notional amounts of non-centrally cleared derivatives above €8 billion would have been required to meet the margin requirements by 1 September 2020. Under the revised plan, covered entities with exposures greater than €50 billion will still have to meet the margin requirements by this date, but those with exposures between €8 billion and €50 billion will have until 1 September 2021. In September, APRA announced it will implement equivalent changes in Australia.

Crypto-assets continue to attract attention from international regulators

In a 2018 report to the G20, the FSB concluded that crypto-assets were an emerging issue for regulators, but did not pose material risks to global financial stability at that time. However, crypto-assets raise a number of policy issues (such as money laundering risks) and so continued vigilant monitoring is warranted

given the speed of development and the variety of new products and services being proposed.

Global bodies are also taking steps to address issues raised by crypto-assets. For example, the BCBS is in the process of clarifying the prudential treatment of bank exposures to crypto-assets. The prudential treatment is expected to reflect the high degree of risk from these exposures. Earlier in the year, the BCBS published high-level supervisory expectations for banks engaging in crypto-asset activities. It continues to monitor banks' exposures to these assets. The FSB reported in May 2019 that regulatory approaches to crypto-assets vary across jurisdictions, and highlighted the risk that this could lead to regulatory gaps or arbitrage. The FSB also acknowledged that crypto-assets may not fit easily into existing regulatory frameworks, in part because some crypto-assets have been designed to fall outside the regulatory perimeter.

A recent focus of both domestic and international policymakers has been the potential for the introduction of new stablecoins and associated payment services.^[5] A stablecoin is a crypto-asset designed to maintain a stable value relative to another asset, typically a unit of currency or a commodity. One suggested use for stablecoins would be for making cross-border payments. The case for use for domestic payments in advanced economies is less clear, although a stablecoin issued by a platform with a large existing network could see a substantial uptake. If the pool of assets backing a stablecoin became large, some system-wide risks could emerge. Regulators globally, and domestically through the CFR, are coordinating to ensure any implications for the payments system and the financial system are carefully considered and, if necessary, addressed. ✎

Endnotes

- [1] Australian Securities and Investments Commission v Westpac Banking Corporation (Liability Trial) [2019] FCA 1244.
- [2] RBA (2019), 'Box E: The 2018 Financial Sector Assessment Program Review of Australia', *Financial Stability Review*, April, pp 70–75.
- [3] The minimum TLAC requirement, which is composed of both regulatory capital and other eligible debt, is being phased in for G-SIBs headquartered in advanced economies from 1 January 2019. Requirements start at 16 per cent of risk-weighted assets and 6 per cent of the 'exposure' measure used in the Basel III leverage ratio denominator, rising to 18 per cent and 6.75 per cent respectively by 2022.
- [4] Two such areas relate to making deference processes in derivatives markets clearer, and strengthening international banks' understanding of supervisory approaches towards pre-positioning of capital and liquidity.
- [5] One proposed stablecoin is 'Libra'. An associated digital wallet, 'Calibra', is also proposed.

