

Financial Stability Review

OCTOBER 2020



RESERVE BANK OF AUSTRALIA

Financial Stability Review

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Overview

Financial systems in Australia and internationally are resilient but face substantial risks

The COVID-19 pandemic is an enormous health and economic challenge that raises significant risks for financial systems around the world, including in Australia. The substantial economic contraction in the first half of 2020 was the largest in most economies since the Second World War.

After a period of heightened volatility and stress following the onset of the pandemic, financial systems have continued to operate effectively. Banks and financial markets withstood the initial liquidity phase of the crisis, given banks' large liquid asset holdings and central banks' substantial injections of liquidity.

With economies experiencing large contractions in output, the focus has shifted from liquidity to the solvency of borrowers as expected defaults will result in credit losses for lenders. The global economic recovery is going to take time and will be uneven. Its path is also highly uncertain, and dependent on the further course of the virus. Risks to financial systems will therefore remain elevated for some time to come.

Over the past six months financial markets have continued to operate effectively with no repeat of the heightened volatility and illiquidity seen in February and March. Financial asset prices have rebounded after falling sharply and, in many cases, are back around pre-COVID-19 highs. In part, this reflects an expectation that policy interest rates will remain low for an

extended period of time. Also, measures of compensation for taking risk – for example credit spreads – have retraced most of the sharp increase that occurred in March. This is in contrast to the expectation of most forecasters that output will not quickly return to pre-pandemic levels, and that corporate defaults will rise. Together these facts imply a potential for compensation demanded for risk to jump, and so for asset prices to fall sharply.

Globally, including in Australia, banks entered the pandemic with substantially higher levels of capital and holdings of liquid assets than prior to the global financial crisis (GFC). This balance sheet strength has enabled banks to absorb shocks, rather than amplify them as they did in the GFC. Banks have continued to lend, including enabling businesses to draw down lines of credit as a precaution early in the crisis. They do, however, face the prospect of sharp rises in borrower defaults.

Other parts of the financial system have also withstood the impact of the crisis. Central counterparties have continued to operate effectively without any major incidents despite the substantial volatility in financial markets and disruptions to working arrangements. Investment funds have generally been able to meet customers' claims, partly due to the quick recovery in markets, and so have not been a persistent amplifier of liquidity shocks. Some funds internationally, however, now have depleted liquid asset holdings and an unwinding of leverage at some funds contributed to dislocation in government bond

markets in March. The rebound in asset prices has benefited insurance companies, though some will face pressures from low interest rates and, for some, their liability for businesses' losses from the pandemic is unresolved. In Australia, superannuation funds have successfully managed the large early release of funds to households without notable impacts on markets.

Despite the general resilience of the global financial system overall, there are areas where risks are particularly elevated. Some pre-existing risks are specific to particular economies: high levels of debt in household and business sectors in some economies could result in large credit losses for banks; in some European countries there is an intertwined risk from low bank profitability and high government debt; in some emerging market economies banks entered the crisis with low profitability while the economic contraction could be particularly large given weaker health systems and so health outcomes and less space for fiscal stimulus. Some other risks are common to financial institutions globally, in particular increasing cyber risks from sophisticated criminal and state-sponsored groups, and the long-term risks from climate change.

Australian businesses and households are generally in a strong financial position but some will struggle in the near term

In Australia and many other economies, households and businesses that have faced a loss of income have been able to defer loan repayments until later this year, or in some cases into next year. This has helped to avoid defaults by borrowers who should be able to resume repayments when economic conditions improve. In doing so, these deferrals avoided asset fire sales, supported businesses so that they can continue to employ people and, in doing so, avoided the unnecessary impairment

to household and business balance sheets that would have adverse long-run consequences. Loan repayment deferrals have been feasible because of banks' balance sheet strength, flexible regulatory treatment and very low interest rates, which mean the impact on banks' cash flow and borrowers' loans balances is relatively small. It is, though, important that there is transparency around loan performance and that borrowers engage with their bank and resume repayments as soon as possible. Banks need to deal carefully with the loans of borrowers who will not be able to resume repayments, in a way that balances avoiding further losses to the bank, the interests of the borrower and potential spillover effects from any sales of collateral.

Australian businesses generally had low levels of debt going into the crisis. Income support measures, rent relief and loan repayment deferrals have helped maintain cash flow despite the sharp reduction in revenue experienced by many businesses. These measures, in conjunction with temporary insolvency relief, have seen business failures trend lower this year. Continued availability of equity and debt funding has enabled large businesses to shore-up their balance sheets. However, business failures will rise substantially as loan repayment deferrals and income support come to an end. Business failures have flow-on effects to their creditors, both financial institutions and other businesses, and their employees.

Overall household income in Australia increased in the first half of the year, with large fiscal stimulus payments more than offsetting the decline in employment income. Households' cash flow also benefited from loan repayment deferrals and the early release of funds from superannuation. Households have increased their savings buffers in response to increased economic uncertainty, including through payments into mortgage offset and redraw

accounts. However, with unemployment having increased and many employees working reduced hours, the number of households experiencing financial stress has increased and will increase further.

Some households are struggling, but the finances of most households are faring well to date and demand for housing has held up. Housing prices in Sydney and Melbourne have fallen only a little, with larger falls in inner city areas. While credit is available at very low interest rates, reduced housing demand from very low immigration and the rise in unemployment contribute to the risk of further falls in housing prices. This increases the potential for losses for lenders in the event of a rise in distressed sales.

Some commercial real estate also poses significant risks for lenders and leveraged investors. Prior to the pandemic, structural change in the retail sector was contributing to rising retail property vacancy rates and falling valuations. This process has accelerated given mobility restrictions and voluntary physical distancing during the pandemic. Conditions in office markets had been tight prior to the crisis, particularly in Sydney and Melbourne. But with the current economic downturn and changing expectations of future office use, conditions have deteriorated somewhat with rising vacancy rates and expectations of declining capital values. In contrast, demand for industrial property has remained strong, including because of online shopping.

The Australian financial system has the strength to withstand the economic downturn and support the economic recovery

Globally, financial systems have cushioned rather than amplified the pandemic shock. This positive outcome has reflected several factors: banks are more resilient following the reforms that followed the GFC, which in particular

boosted their capital and liquidity; policymakers have taken unprecedented actions to support their economies and financial systems; and, in contrast to what occurred during the GFC, confidence in banks has remained high as they were not the source of the shock.

Australian banks have high capital levels, are profitable and most of their loans are well secured. Banks' capital has been supported by retaining a higher share of earnings, for which there was guidance from the Australian Prudential Regulation Authority (APRA). The Bank, APRA, the Australian Securities and Investments Commission and the Treasury have intensified their collaborative work through the Council of Financial Regulators to effectively support the financial system during the pandemic.

While the Australian financial system is in a strong position, risks are elevated. These risks to the financial system would be exacerbated by a weaker-than-expected economic recovery, for example, stemming from further setbacks on the health front or international political tensions. However, stress tests of the Australian banking system indicate under a baseline scenario based on the economic forecasts in the Bank's August 2020 *Statement on Monetary Policy* (SMP) banks will remain very well capitalised, not even entering their capital conservation buffers. Even if the economic contraction is substantially more severe under a downside scenario, banks would remain above their minimum capital requirements. Given their strong balance sheets, banks will be well placed to continue lending, supporting the economic recovery and so in turn the Australian financial system. ✖

1. The Global Financial Environment

The COVID-19 pandemic continues to constrain global economic activity and pose risks to financial stability. Since the previous *Review*, the balance of risks has shifted from the initial disruptions to financial markets toward the uncertain outlook for the economic recovery and so credit quality.

Financial markets became dysfunctional in March when the severity of the virus and the consequences for the global economy became apparent, initiating a sharp repricing of assets and heightened demand for liquidity. Market function was restored due to unprecedented policy responses by central banks, governments, prudential authorities and securities market authorities. Financial asset prices also rebounded, despite the subdued and still very uncertain economic outlook, prospects for widespread defaults and a range of international tensions that cover geopolitics, trade and technology. Lower incomes will create stress for a wide range of businesses, households and some governments, particularly those with high levels of debt.

Banks generally entered the crisis with substantially increased resilience, owing to regulatory reforms and changes in their business practices in the decade since the global financial crisis (GFC). Alongside substantial policy support, this has enabled banks to continue lending, which supports the real economy, even as expected credit losses and uncertainty have risen with the pandemic. However, lending standards have tightened and rising credit losses could test the willingness of some banks to continue lending – particularly those that

already had low profitability or high non-performing loans (NPLs).

Bank profitability had been low in Europe and Japan for some years before the pandemic, and some euro area banks had been grappling with high NPLs. A large number of smaller Chinese banks had also appeared vulnerable to rising credit losses prior to the onset of the pandemic, with several banks requiring interventions by policymakers over the past year. Banks in a range of large emerging market economies (EMEs), mainly outside of Asia, also had high or rising NPLs. Many of these EMEs are being severely affected by the pandemic and they remain vulnerable to renewed capital flight.

Financial market function was restored with substantial policy support

In March, the initial extreme uncertainty about the economic effects of COVID-19 triggered sharp falls in the prices of risky assets, increased demand for cash and caused market dysfunction, leading to a tightening in global financial conditions. Major global equity indices declined by around 35 per cent and high-yield bond spreads increased by 5.5 to 7.5 percentage points (Graph 1.1). The tightening in financial conditions was amplified by large-scale selling by some highly leveraged and open-ended investment funds (see 'Box A: Risks from Investment Funds and the COVID-19 Pandemic'). However, the policy responses by governments, central banks, prudential authorities and securities market authorities were rapid and unprecedented in scale and form, and were

effective in stabilising financial market conditions and supporting economic activity.

Asset prices have rebounded, despite prospects for widespread defaults

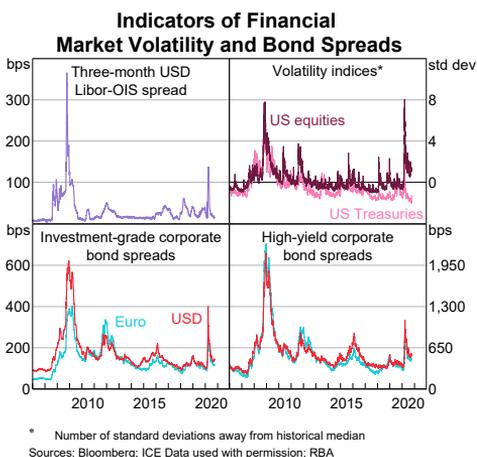
There was a sharp recovery in risky asset prices and a compression in risk premiums, reflecting the policy response and expectations of sustained, very low risk-free interest rates. For instance, global equity prices have increased by around 35 per cent since their troughs, and some measures of equity valuations such as price earnings ratios have risen to high levels. The compensation for bearing credit and liquidity risks on corporate bonds has also narrowed sharply, though asset prices have decreased a little over the past few weeks. The rebound in risky asset prices occurred despite substantial uncertainty about the outlook for the pandemic and consequently for economic growth and business earnings. It may take a while for GDP in many economies to return to its pre-pandemic level, and some business closures will be permanent with higher unemployment likely to persist for some time (see the Bank's August 2020 *Statement on Monetary Policy*). This raises the potential for large losses for equity and debt investors.

Some businesses will not recover

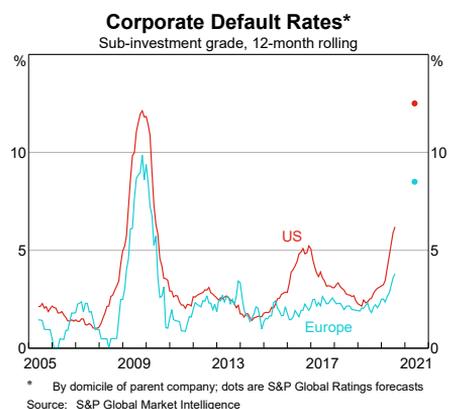
To cover cash flow shortages and build precautionary liquidity buffers, large corporations in advanced economies were able to draw on existing lines of credit as a precaution in the initial phase of the pandemic. They have also been able to issue significant volumes of bonds and new equity as market conditions have improved. Nevertheless, corporate default rates have risen and are expected to reach levels seen during the GFC (Graph 1.2). Similarly, delinquency rates have increased sharply for US commercial mortgage-backed securities, to be just over 8 per cent (up from around 1.5 per cent in February), given challenges being faced by hotels and shopping malls. Defaults are likely to accelerate in the period ahead, especially as debt repayment deferrals and other government support measures expire in the coming months.

Firms that operate in sectors hardest hit by the pandemic, and those with already low profitability and high debt levels are most vulnerable. Corporate debt had increased in the years prior to the pandemic in some economies, notably in Canada, France and the United States. There was also evidence of weakening in corporate credit quality – particularly in the United States, with the rapid expansion of ‘covenant-lite’ leveraged loans, which now

Graph 1.1



Graph 1.2



account for about 85 per cent of US leveraged loans (Graph 1.3).

Prior to the pandemic, there had also been a deterioration of overall credit quality within the global investment grade corporate bond market. The share of BBB-rated bonds – the lowest investment grade rating – increased significantly. The prices of BBB-rated bonds will be sensitive to perceived risks of widespread credit rating downgrades if regulatory or mandate-constrained investors are required to sell. The investor base for high-yield bonds is relatively shallow, so a sudden surge in high-yield debt due to credit rating downgrades could inhibit the ability of high-yield borrowers to raise new debt, increasing rollover risks.

A large number of companies have had their credit ratings downgraded since March, but there was little effect on yields for other high-yield bonds and the pace of downgrades has slowed more recently. In part, this may be because some central banks, such as the European Central Bank and the US Federal Reserve, have expanded eligibility of their facilities to a broader range of corporate bonds. For example, these central banks will use pre-pandemic ratings when deciding whether to accept collateral.

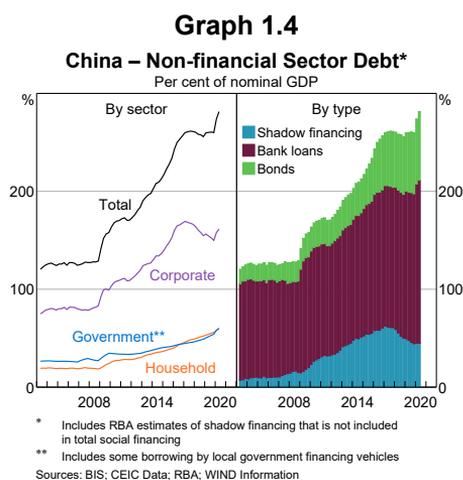
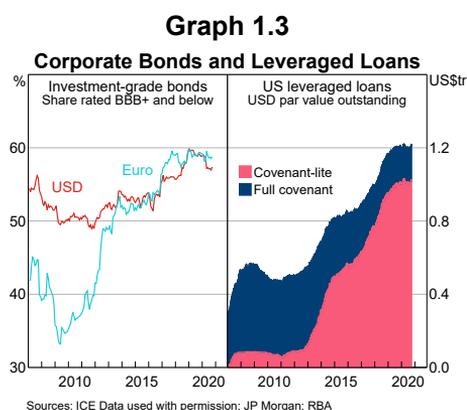
In China, corporate debt has continued to grow, to be 160 per cent of GDP in the June quarter, which is high relative to other countries at

similar levels of development (Graph 1.4). As in other economies, regulators in China have encouraged an increase in corporate borrowing in response to the pandemic. This includes mandating an increase in bank lending to micro- and small-enterprises (MSEs) at favourable interest rates and loan forbearance until March 2021, which has limited the increase in NPLs.

The health of local government balance sheets in China also remains a concern. Local governments are once again playing a large role in funding fiscal stimulus with the quota for local government special bond issuance 75 per cent higher in 2020 than in 2019. The stock of off-balance sheet borrowing by local governments, which lacks transparency, also remains significant. In addition, the finances of local governments are vulnerable to a deterioration in housing market conditions due to their reliance on revenue from property taxes and land sales.

Political tensions have implications for both the global economic recovery and the financial system

There has been a rise in international tensions – covering trade, technology and international and national political disputes – which has the potential to significantly constrain the global economic recovery and impede the functioning



of the global financial system. For example, rising international tensions, notably between the United States and China, increases the risk of abrupt and broad-based disruptions to global supply chains and trade. This could generate losses for lenders and other asset owners exposed to affected businesses. The indirect effects, through weaker confidence, investment and growth, would likely be even larger for the financial system.

Globally, banks are more resilient than in the past but there are risks

Most banks entered 2020 with high levels of capital and liquid assets, which had increased with the regulatory reforms that followed the GFC. At the end of 2019, the median Tier 1 capital ratio of large banks in advanced economies was 15 per cent (Graph 1.5). These buffers, alongside the substantial policy response, have enabled banks to support economic activity by continuing to extend credit to businesses and households.

Internationally, regulators have taken action to support banks' capacity and incentive to lend and maintain other critical functions. Actions have included: adjusting or releasing capital and liquidity buffers; restricting capital distributions and discretionary pay; clarifying that deferred

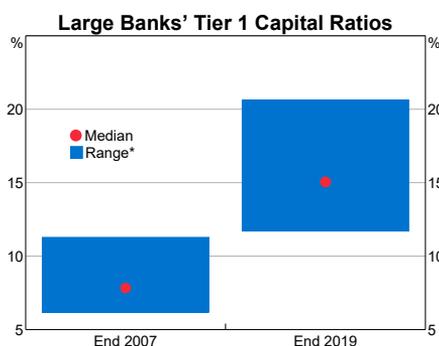
loans should not automatically be classified as non-performing; and providing information on how banks should approach the accounting issue of provisioning against future losses in a time of considerable uncertainty. Regulators have also emphasised that buffers are designed to be drawn down during times of stress. Some authorities have adjusted the calculation of regulatory capital, including temporarily easing the leverage ratio rule to support banks' capacity to act as intermediaries between buyers and sellers in financial markets. Other central bank actions, including various term funding schemes, have lowered banks' funding costs and supported their liquidity.

Banks in many jurisdictions have offered repayment deferrals to borrowers affected by the COVID-19 pandemic. The amount of this forbearance varies, reflecting the extent of the economic contraction, the nature of borrowing and the terms of forbearance offered in individual countries. In many large advanced economies, between 5 and 10 per cent of loans at large banks were subject to forbearance as of mid 2020.

Several factors lower the direct risks to banks from these deferred loans. In many economies banks have provided higher rates of forbearance on residential mortgages, which are often lower risk than other types of lending. In addition, some borrowers with deferred loans have continued to make loan repayments and there has also been a reduction in loans in forbearance in recent months due to the recovery in economic conditions. Nevertheless, some banks' capital positions will be eroded by the unwinding of favourable regulatory treatment if they continue to provide forbearance, and this will start to occur in some countries by the end of 2020 (including in Canada, the United Kingdom and the United States).

Most banks have so far remained profitable, partly as a result of extensive policy support for

Graph 1.5



* 5th to 95th percentile of Tier 1 capital ratios across 74 large advanced economy banks from Australia (4), Canada (6), United Kingdom (4), United States (10), Japan (4), euro area (34) and other Europe (12)
Sources: RBA; S&P Global Market Intelligence

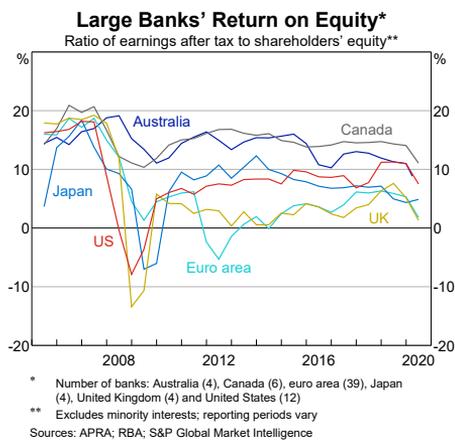
households and businesses (Graph 1.6). This is despite recording increased impairment expenses to account for higher expected loan losses (Graph 1.7). The extent of the increase in provisions has varied by jurisdiction, with differences partly explained by differences in the expected economic impact of the pandemic. US banks have increased provisions by more than banks in other large advanced economies, including Australia, in part because of more stringent accounting standards that were implemented in the March quarter of 2020.

Many central banks and prudential regulators have undertaken bank stress tests using baseline and more extreme economic scenarios. As with

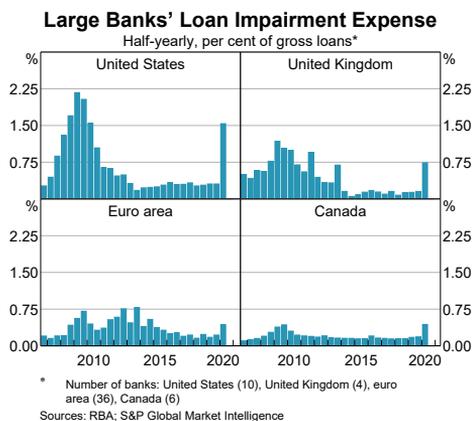
previous stress tests, the results suggest most banks will be resilient and hold sufficient capital buffers to absorb the loss levels implied by these scenarios without breaching minimum regulatory requirements. However, the high degree of uncertainty surrounding the economic outlook means that losses could exceed banks' current provisioning and in downside scenarios some banks would likely need to replenish capital to avoid capital ratios approaching minimum requirements.

Uncertainty around the outlook for credit quality may cause banks to restrict lending, particularly to new and more risky borrowers. Indeed, bank lending standards have already tightened in some jurisdictions (Graph 1.8). This is despite the majority of global banks having substantial capital buffers that are well in excess of regulatory minimums and regulatory guidance that banks should use their capital buffers to support lending (see 'Box C: The Use of Banks' Capital Buffers'). One notable exception is business lending in the United Kingdom where temporary government guarantee programs led to a substantial easing in lending standards in the second quarter of 2020. The continued provision of credit by banks is crucial for supporting the recovery and limiting the depth of the global recession.

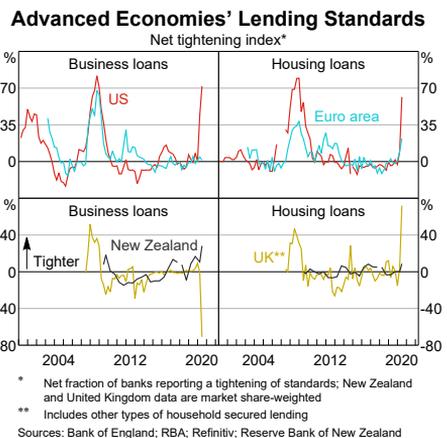
Graph 1.6



Graph 1.7



Graph 1.8



Some banking systems are facing greater challenges because of pre-pandemic vulnerabilities

For banking systems with a history of low profitability, notably in the euro area and Japan, share price valuations have fallen from already low levels since the start of the pandemic.

Aggregate price-to-book ratios in the euro area and Japan have fallen to around 0.4 (Graph 1.9). An extended period of very low interest rates, and compressed net interest margins, would further weigh on banks' profitability, particularly for banks that rely heavily on retail deposits for their funding. Low profitability means it will take longer to replenish capital to pre-COVID-19 levels and it will be more expensive for affected banks to raise capital. This could lead banks to reduce lending to preserve capital, which would hinder the broader recovery in these economies and place further pressure on capital positions.

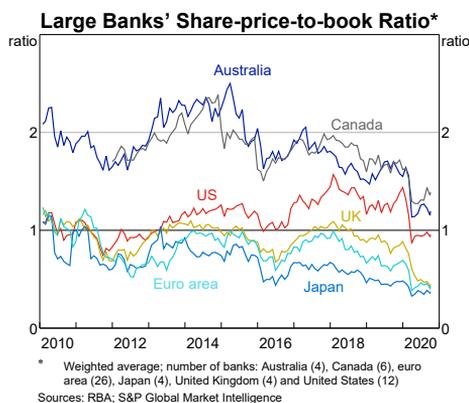
Structural challenges at European banks associated with high operating costs, subdued revenue growth and overcapacity within the banking sector have contributed to low profitability for some years. Many European banks also entered the pandemic with high levels of NPLs. In addition, banks in the euro area hold large amounts of sovereign bonds issued by their home government, which makes banks vulnerable to any emerging concerns about

debt sustainability. The recent announcement of the European Union's €750 billion European Recovery Fund, under which member countries agreed to pool risk and jointly issue debt, may mitigate some of this sovereign debt risk by reducing the amount of debt that individual countries issue themselves.

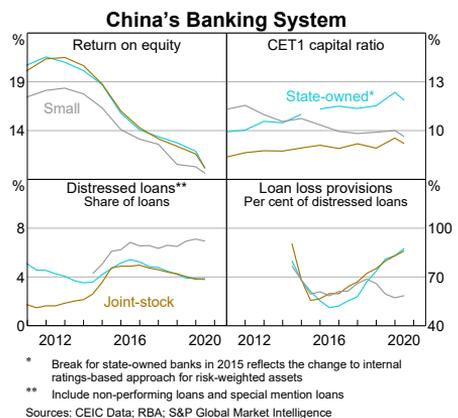
In China, banks generally remain profitable and have supported the economy by providing forbearance on loans to MSEs and continuing to lend (Graph 1.10). This has been assisted by increased funding from the People's Bank of China at low interest rates and an easing of regulations, including lower minimum provisioning requirements and delayed recognition of NPLs. However, credit losses have risen and banks have increased provisions in anticipation of higher losses. This is being compounded by increased lending to MSEs, which have relatively high default risks because of their concentrated revenues and smaller liquidity buffers. The authorities have also directed banks to lower their profits to benefit the real economy.

While large banks' reported capital ratios are well above regulatory minimums, a range of smaller banks have thin buffers, are disproportionately exposed to MSEs, have higher NPLs and are more exposed to China's opaque shadow

Graph 1.9



Graph 1.10



banking system. Over the past year, at least seven small banks are reported to have experienced deposit runs and at least 12 banks have been involved in mergers and restructurings, some of which were because of issues with asset quality and corruption.

While policymakers have been successful in shrinking China's complex and riskier shadow banking system and reducing its direct links to the banks in recent years, risks remain elevated. Defaults have materialised at some Chinese trust companies over the past year as authorities have attempted to wind back perceived implicit guarantees. However, the scale of defaults in the shadow banking sector has remained very small to date. The implementation of asset management regulations – which address risks related to implicit guarantees, liquidity, leverage, contagion and regulatory arbitrage – was further delayed by one year.

Banks have handled the disruptions to their operations well

The pandemic and related containment measures have increased operational risks, with large numbers of staff still working from home or working in separated shifts and sites. While operational arrangements have generally worked well to date, the risks associated with operational capacity, technology failure and cyber attacks remain heightened.

Delays in the transition away from London Inter-Bank Offered Rates (LIBOR) also create risks. If the transition is not finished before the end of 2021, significant reputational, operational and legal risks to financial institutions could be realised. Authorities are continuing to encourage the private sector to transition away from LIBOR and adopt definitive contractual fallback clauses for legacy contracts (discussed further in 'Chapter 4: Regulatory Developments').

Insurers and central counterparties (CCPs) have generally been resilient though there are some risks

Insurers and reinsurers are generally well capitalised and should be able to meet the higher claims expected due to the pandemic. Many insurers excluded pandemics from coverage in their policies, which will limit the size of total claim losses. However, ambiguous contract wording could mean that some insurers are more exposed than expected, though legal test cases are being used to resolve some of this ambiguity. Long-term interest rates are expected to remain at very low levels for a considerable period of time, reducing insurers' return on assets and so profits. They are also increasing the risk of insolvency for some life insurers and for defined benefit pension funds that previously agreed to pay guaranteed benefits to policyholders based on higher interest rates.

Insurers are also exposed to the effects of climate change, including through higher potential claims and losses on financial investments. A range of insurers are acting to reduce these risks, though some actions will have negative effects (such as significantly higher insurance premiums or withdrawing coverage of certain risks).

CCPs have operated effectively, including throughout the period of market dysfunction in March. Initial and variation margin requirements rose in response to higher asset price volatility, which mitigated counterparty risks but contributed to the increased demand for liquidity. While most participants at CCPs were able to meet these increased margin requirements, there were a small number of participant and client defaults globally, though none in Australia. These events were managed without any loss to the CCPs or their other participants. Initial margins have remained higher than before the pandemic.

Some EMEs remain vulnerable to capital outflows and rising credit losses

EMEs (excluding China) experienced unprecedented portfolio outflows in March, leading to sharp currency depreciations and a material tightening in financial conditions (Graph 1.11). In response, some central banks sold foreign currency reserves to support their currencies and purchased local currency government bonds, which have assisted domestic market functioning. Financial market conditions have improved since March, though in recent weeks exchange rates have depreciated and local and foreign currency bond yields have started to rise again.

EMEs continue to face risks, particularly from unhedged foreign currency debt and weak economic outlooks, which, if realised, would lead to increased loan losses at banks. The International Monetary Fund (IMF) has provided emergency assistance to 81 EMEs for balance of payments support in the wake of the pandemic.

In Asia (excluding China), most EMEs entered 2020 with relatively strong macroeconomic fundamentals and banking systems that were generally well capitalised, had adequate liquidity and low NPL ratios (Graph 1.12). As a result market conditions have been more stable than for EMEs in other regions. Authorities have responded to the shock with a range of policy

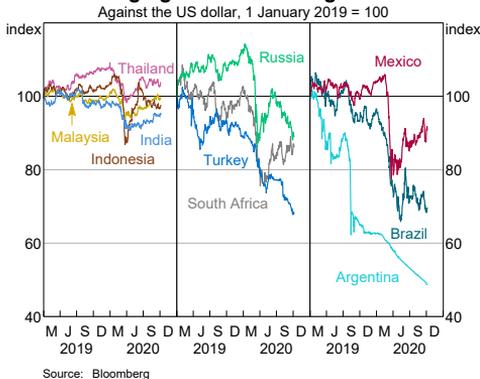
measures including term lending facilities to support the flow of credit to businesses, loan repayment holidays and loan guarantees. The central banks of Indonesia and the Philippines have provided direct financing to their governments to support fiscal packages.

Indian banks entered the year in a weaker position, with elevated NPL ratios and low profits (especially at public sector banks) even before the onset of the pandemic. The pandemic is placing renewed pressure on Indian banks at a time when government finances are under strain. Non-bank financial companies are also facing deteriorating asset quality. They have obtained a greater share of their funding from banks since the pandemic began, which increases the potential for losses to flow through to banks.

Some large EMEs outside Asia already had elevated vulnerabilities, which are being exacerbated by the pandemic. Turkey has experienced capital outflows that contributed to an exchange rate depreciation and increased the cost of servicing liabilities that are denominated in foreign currency (most of which is owed by the private sector). Foreign currency reserves have also fallen to low levels. Brazil and Russia have seen large declines in the value of their currencies this year, of around one-quarter,

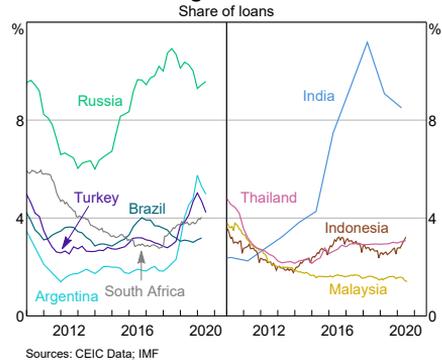
Graph 1.11

Emerging Market Exchange Rates



Graph 1.12

Banking Sector NPLs



which has prompted their central banks to intervene by selling foreign currency reserves.

South Africa had vulnerabilities prior to the pandemic, including weak growth, high government debt and a large fiscal deficit. The IMF has approved US\$4.3 billion in emergency support for South Africa, which will help to alleviate external pressures. Argentina has formally requested further assistance from the IMF, having previously reached an arrangement with bond holders to restructure the vast majority of its foreign currency debt. Yields on the restructured debt have already increased sharply. ✖

Box A

Risks from Investment Funds and the COVID-19 Pandemic

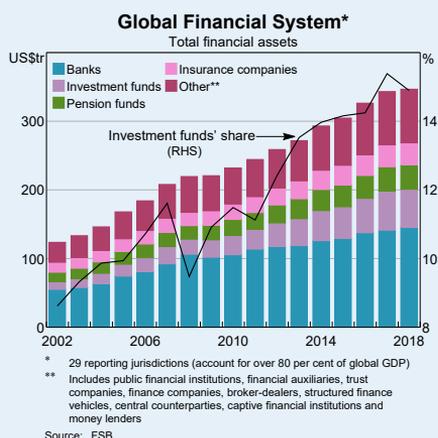
Globally, investment funds are important providers of funding to the real economy and other financial institutions.^[1] They provide benefits such as allowing investors to get exposure to a wide range of assets and offer an alternative to banks as a source of finance to the real economy. But given their size, characteristics and linkages with other parts of the financial system, they are a potential source of systemic risk. As investment funds have grown as a share of the global financial system, they have increasingly been a focus of regulators. Particular attention has been paid to those funds with leverage and liquidity mismatches, which have the potential to amplify price declines in times of stress.

Investment funds weathered the market turmoil in March without large disruptions and only limited use of measures such as redemption restrictions (which limit redemptions for a certain time) and swing pricing (where redemption prices are adjusted to account for transaction costs). This owes partly to earlier regulatory reforms and unprecedented actions by central banks. However, some funds reduced leverage abruptly, which contributed to market dislocation, including in government bond markets that serve as key pricing benchmarks.^[2] While some of the risks in investment funds have been unwound, some remain and, given their size, investment funds still have the potential to exacerbate asset price falls and possibly contribute to market dysfunction.

The size of the investment funds sector has increased significantly in recent years

Investment funds have more than US\$50 trillion in assets under management. They have grown as a share of the global financial system over the past decade to account for 15 per cent of system assets, with open-ended funds accounting for the majority of investment funds' assets (Graph A.1). Several factors have contributed to the growth of investment funds, including regulatory reforms following the global financial crisis (GFC) that made riskier lending and own-account trading less attractive to banks.

Graph A.1



Liquidity mismatches and leverage in some funds can amplify price declines in times of stress

Open-ended funds allow investors to redeem their investment directly from the fund.

These funds can pose greater risks to financial stability than closed-end funds, which have a fixed number of units on issue. To meet a large demand for redemptions, open-ended funds have to sell assets. If funds' sales are large relative to demand to buy the assets, then such sales can substantially depress prices of these underlying assets. A large demand for redemptions is more likely when market conditions are strained and investors are more risk averse, with strong demand for cash and widespread selling of riskier assets.

Open-ended investment funds with illiquid assets can encounter greater difficulty fulfilling investor redemption demands and their asset sales have a larger price impact. Funds that invest primarily in corporate debt or real estate – which tend to be illiquid – account for about one-quarter of open-ended funds' assets. In recent years, some fixed income funds, particularly those focused on high-yield bonds, have shifted their portfolios toward riskier and less liquid holdings, such as lower-rated and longer-duration bonds. Stress tests by the International Monetary Fund (IMF) estimated that funds accounting for about one-sixth of all fixed income fund assets might not have enough liquidity to meet redemptions in the event of a redemption shock.^[3] If a fund experiences a liquidity shortfall, it may employ tools such as redemption gates or swing pricing. These tools can help funds manage their liquidity when demand for redemptions is high, but they can also exacerbate demand for redemptions (including in other similar funds) by creating

an incentive for investors to redeem before such tools are deployed.

There are funds that use leverage to supplement funds contributed by investors, thereby magnifying investment returns and losses. Leverage can cause funds' activities to amplify price falls. Investment funds can obtain leverage either by borrowing or with derivatives. Leverage can result in funds needing to sell assets when prices are falling, in order to avoid the fund's gearing increasing or to pay margin calls on loan-funded positions or derivative holdings. Leverage is used by many types of funds, but some hedge funds have very high leverage, particularly those that pursue 'relative value' and 'macro' strategies.^[4]

Some investment funds could transmit stress to banks

Investment funds provide funding to banks by investing in bank debt and equity, deposits and securitised assets (including through repurchase agreements). If this funding is substantial and is suddenly restricted, banks' access to funding could decline and costs increase. As a result, credit supply to the real economy can decline and its cost increase. Indeed, the reliance of US and European banks on short-term credit provided by money market funds (MMFs) is widely recognised as having amplified stress in these banking systems during the GFC.

Working in the other direction, investment funds also borrow from banks to obtain leverage, creating credit risk for banks (although these loans are typically a small share of bank assets). Similarly, derivatives exposures between investment funds and banks can expose each to losses in the event of counterparty failure. Stress can also run from banks to investment funds through a

number of other channels, including the potential for withdrawal of bank credit lines used to manage funds' cash flow, or the reduced availability of custodial and trading services which are essential for investment funds' operations.

Almost one-third of the world's 50 largest asset managers are owned by banks. When banks own or sponsor investment funds, reputational concerns can incentivise banks to support their funds in times of liquidity stress. For example, during the March 2020 turmoil, BNY Mellon and Goldman Sachs purchased assets from their prime MMFs (which invest in highly rated commercial paper) to improve their liquidity positions amid large outflows.^[5] The GFC also saw banks in Europe and the United States provide support for investment funds run out of their asset management business.

Prior actions by regulators have moderated some risks in investment funds ...

Over the past decade or so, regulators globally have undertaken work to assess and enhance the resilience of non-bank entities, including investment funds, while preserving their benefits. This work has included the following.

- Addressing banks' exposures to investment funds and other non-bank financial institutions, including by requiring that higher risk weights are applied to banks' exposure to non-bank entities.
- Mitigating liquidity and maturity mismatches, and leverage in non-bank financial institutions. Of note, there were steps to reduce the susceptibility of MMFs to runs, including their conversion from constant 'net asset value' (NAV) to

variable NAV structures so as to be more resilient to redemptions.^[6]

- The International Organization of Securities Commissions (IOSCO) issued recommendations in 2018 to further address liquidity mismatches in funds, including that regulators should impose stricter liquidity management requirements for funds offering quicker redemptions rights, and funds should conduct stress testing as part of effective liquidity management. In 2019, IOSCO proposed more consistent and comparable measures of fund leverage.

These reforms reduced risks and helped investment funds weather the turmoil in markets in March, when there were heavy redemption pressures across a wide range of funds. Use of liquidity management tools was limited, although in Europe funds with a total of €100 billion in assets applied redemption restrictions or other extraordinary liquidity measures. Many of these funds had investments in less liquid fixed income and real estate assets. Investors who withdrew their investments might have done so because they expected liquidity management tools to be used, which could have prevented a complete withdrawal. This could have contributed to the selling pressures seen across a wide range of funds.

... but some classes of investment funds still contributed to substantial disruption in markets ...

While investment funds were generally able to meet the heavy redemption pressures in March, leverage and liquidity mismatches in some funds materially amplified market stress. Sales by these funds contributed to large price falls and a significant tightening in financial conditions. For example, highly

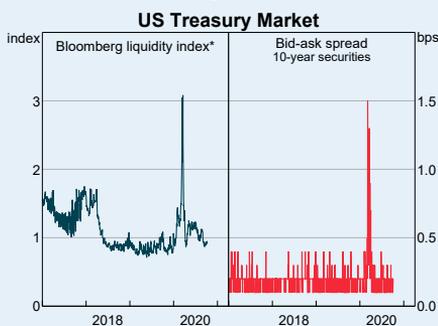
leveraged hedge funds that engaged in ‘basis’ trades contributed to dislocation in the US Treasury market when they were forced to unwind positions quickly as price fluctuations led to margin calls.^[7] This added to a broader widespread selling of US Treasuries, which overwhelmed the capacity of dealers to intermediate markets, leading to impaired market functioning for a few weeks (Graph A.2). Given that US government bonds are a widely used pricing benchmark, this had a widespread impact on other asset markets. Similar dynamics were also present in other government bond markets, including in Australia.

‘Volatility targeting’ funds were also forced to rapidly unwind positions, contributing to sharp price falls. Volatility targeting funds use leverage to meet a targeted level of volatility of their returns. This encourages greater leverage when asset price volatility is low and causes assets to be sold when volatility increases. Some volatility targeting funds, such as risk parity funds, had also relied on negative correlations between equity and bond returns to manage portfolio volatility. However, returns on bonds and equities became positively correlated in March 2020 as both asset classes were sold by

investors to raise cash. This sudden increase in correlation led to additional selling by volatility targeting funds. Estimates of the size of volatility targeting funds vary, but generally indicate that the sector is now large enough to contribute materially to asset price swings over short time horizons.^[8]

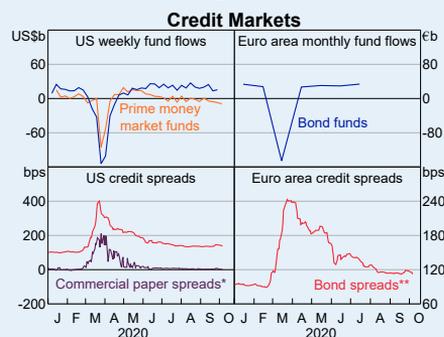
Investors made large withdrawals from a range of investment funds as demand for cash increased and risk sentiment deteriorated (Graph A.3). Investors withdrew almost US\$140 billion from US prime MMFs in March, which made it considerably more difficult and expensive for banks and other corporations to raise short-term funding.^[9] MMFs in other jurisdictions, including the United Kingdom, also experienced large outflows. Investors withdrew large sums from fixed income funds (about US\$315 billion in March), which caused funds to sell large volumes of corporate bonds, leading to liquidity problems.^[10] Reflecting illiquidity in bond markets, some fixed income exchange traded funds traded at discounts in excess of 5 per cent relative to their NAV.^[11]

Graph A.2



* Average difference between modelled and actual yields for US Treasury securities with at least one year to maturity; larger values can indicate lower liquidity
Sources: Bloomberg; Tradeweb

Graph A.3



* Three-month non-financial commercial paper spread to overnight indexed swap

** Investment grade option adjusted swap

Sources: ICE Data used with permission; Refinitiv

... and significant interventions by central banks were needed to restore market function

The disruption in financial markets threatened a sharp tightening in financial conditions and hence an amplification of the economic downturn. Central banks, therefore, provided unprecedented policy support to restore orderly market functioning.^[12] Actions included liquidity provision to banks and some investment funds and the establishment of facilities to purchase financial assets, including government bonds, commercial paper, corporate bonds and asset-backed securities. Overall, they were effective in restoring orderly market functioning and contributed to a quick recovery in financial market conditions.

Regulators also took actions to ease the impact of the market disruption on funds. Several jurisdictions delayed certain filing or reporting deadlines for funds, and some regulators allowed for temporary and targeted exemptions from rules regarding swing pricing, borrowing or related-party transactions. The market disruption in March underscores the importance of ongoing work by the Financial Stability Board (FSB) to better understand the links in the financial system. The FSB is currently working on mapping the interconnections across different parts of the financial system, especially between non-bank financial institutions and the banking system. The Australian Securities and Investments Commission is a member of the working group conducting this mapping work and related analysis. ✎

Endnotes

- [1] Investment funds includes equity, bond, money market, real estate, hedge and mixed funds.
- [2] For Australian context see Finlay R, Seibold C, and Xiang M (2020) 'Government Bond Market Functioning and COVID-19', *RBA Bulletin*, June, pp 11-20.
- [3] International Monetary Fund (2019) 'Global Financial Stability Report', October, Chapter 3.
- [4] European Securities and Markets Authority (2020) 'Annual Statistical Report: EU Alternative Investment Funds 2020'.
- [5] Both the broker-dealer and asset management operations of banks are 'ring fenced' from banks' other operations in several jurisdictions under post-crisis regulatory reforms.
- [6] For example, see IOSCO (2018) 'Open-ended Fund Liquidity and Risk Management – Good practices and Issues for Consideration', February. In short, constant NAV funds tightly limit variability in their share price, whereas variable NAV funds offer more variability. As such, constant NAV funds are seen as prone to large redemptions because they provide investors with a 'first mover advantage'. By contrast, daily fluctuations in the share price are a feature of variable NAV funds, thereby investors are more used to (and tolerant of) losses (and gains), making them less prone to redeem in a financial crisis.
- [7] For more information on basis trades and their effect on fixed income markets, see Schrimpf A, Shin H, Sushko V (2020) 'Leverage and margin spirals in fixed income markets during the Covid-19 crisis', *BIS Bulletin*, April.
- [8] The IMF estimated the size of volatility funds at US\$810-835 billion ('Global Financial Stability Report', October 2017, Chapter 1), the BIS reported estimates of more than US\$1 trillion in funds that could be labelled volatility targeting (see reference in footnote 7) and the ECB reported a figure of up to US\$2 trillion ('Financial Stability Review', May 2020, Box 2).
- [9] Based on data from ICI – Investment Company Institute.
- [10] Bank of England (2020) 'Financial Stability Report', August.

[11] Aramonte S and Avalos F, 'The recent distress in corporate bond markets: cues from ETFs', *BIS Bulletin*, April.

[12] For a more detailed discussion of the central bank response see Bank of England (2020), 'Financial Stability Report', August, Box 7.

2. Household and Business Finances in Australia

The large contraction in economic activity caused by the COVID-19 pandemic is testing the resilience of some Australian households and businesses. A broad range of income support policies are softening the effect of the economic downturn. However, there is a high level of uncertainty about how big and how long the downturn will be. It is likely that many businesses will not fully recover. Financial stress will rise for some households to the extent that the unemployment rate increases in the near term and as short-term policy support tapers off. However, an overwhelming majority of households remain well placed to service their debt. Many have increased their financial resilience through higher mortgage prepayments, paying down personal credit balances, and increasing their savings. Overall, businesses entered 2020 in good financial shape, but have since experienced sharp falls in revenue. Most have withstood the economic contraction so far, with the support of government initiatives and private lenders. As the downturn persists and the support starts to unwind, however, it is likely that business failures will rise. Vacancy rates for office and retail commercial properties have already risen, particularly for shopping centres. A prolonged loss of rental income would weaken the financial position of landlords, including their ability to repay their debts. An increase in business sector weakness would affect workers and therefore households.

While households generally also started the year in a good financial position, many workers have

lost their jobs or had their hours reduced. The income support policies have helped considerably, though there are signs of growing financial stress. The share of households behind on loan repayments has risen and is expected to increase further. Borrowers who have deferred loan repayments will, at some point, need to resume repayments. While housing prices have declined only modestly to date, they could fall further given weak population growth and the potential that some mortgage holders in financial difficulties sell their properties. Price falls would erode homeowners' equity and increase losses to banks in some cases, though the vast majority of loans are very well collateralised.

Income support policies have helped to maintain the cash flow of most businesses, despite sharp falls in revenue

Many businesses have faced enormous disruptions to their trading. In aggregate, small business revenue has fallen by 15 per cent since March, with larger declines for businesses operating in Victoria (Graph 2.1). However, aided by the support policies, small business cash flow – measured by bank deposit inflows – has been little changed in aggregate. While deposit inflows for small businesses have declined significantly in some hard-hit industries, including arts and recreation services and accommodation and food services, they have increased in others.

The support policies have increased cash flow through either direct government subsidies or by significantly reducing expenses, including labour costs and loan repayments. About 11 per cent of small business loans were deferred as of August, with four-month extensions available on a case-by-case basis. These measures, along with temporary insolvency relief policies, have contributed substantially to the decline in business failures observed since the start of the year (see 'Box B: Business Failure Risk in the COVID-19 Pandemic').

Business cash buffers have increased amid greater uncertainty ...

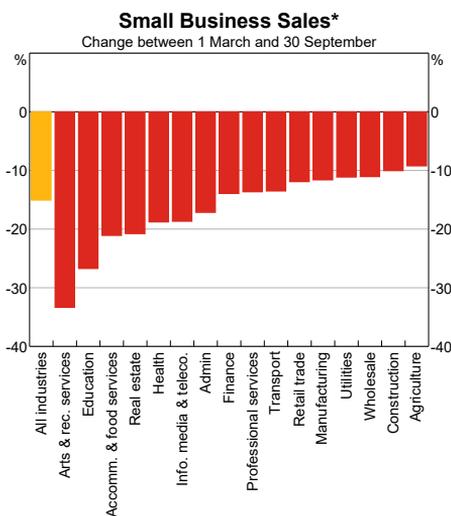
Business cash buffers have increased markedly since the start of the year. Before the pandemic, around half of Australian businesses had enough cash on hand to pay their expenses for less than one month (Graph 2.2). By June 2020, more than 40 per cent of businesses reported they had sufficient savings to cover their current expenses for more than six months, partly due to the level of income support. Large corporates appear particularly well placed in terms of cash buffers, having significantly increased their cash

holdings during the pandemic, including through reducing expenses and drawing down credit lines.

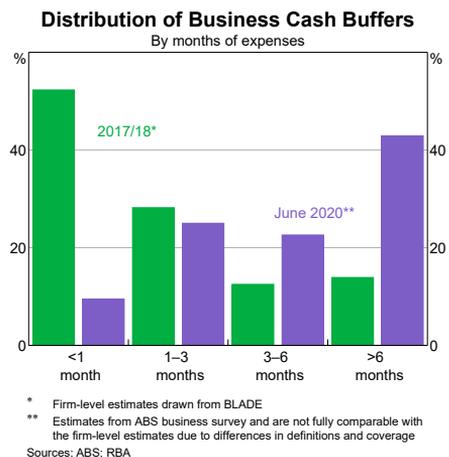
The majority of businesses are well placed to service their debts given the extent of income support, as well as low levels of gearing and falls in interest rates over recent years (Graph 2.3). Fiscal measures that allow companies making losses up to June 2022 to claim back taxes paid in years up to June 2019 will further support cash flow for many businesses. Despite the policy support, some businesses are facing more challenging circumstances. The capacity to service debt appears to have fallen in recent years for companies least able to pay (as shown by the gradual decline in the interest coverage ratio for the firm at the 25th percentile).

At least 10–15 per cent of small businesses in the hardest-hit industries still do not have enough cash on hand to meet their monthly expenses. These businesses are in a tenuous position and are particularly vulnerable to a further deterioration in trading conditions or the removal of support measures. Survey evidence indicates that about one-quarter of small businesses currently receiving income support would close if the support measures were

Graph 2.1



Graph 2.2



removed now, before an improvement in trading conditions.

... though business failures are expected to increase

Business failures will increase, although there is a high degree of uncertainty about the magnitude and timing. It will depend on the strength of the economic recovery, which will be influenced by the duration and severity of future COVID-19 related disruptions, and the timing and extent of the unwinding of the various support measures (see 'Box B: Business Failure Risk in the COVID-19 Pandemic'). Bankruptcies and insolvencies are currently very low because of the income support, loan repayment deferrals and temporary insolvency relief (Graph 2.4).

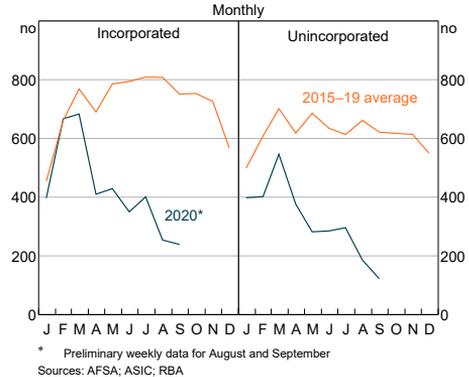
Tenant demand for commercial property is falling, especially in retail

Vacancy rates for commercial property are rising, putting pressure on commercial landlords. This has been particularly pronounced in the retail sector which was experiencing challenges before the pandemic. Retail vacancies rose sharply over the first half of 2020. The biggest increase has been in central business districts (CBDs), where vacancy rates have risen to over

10 per cent (Graph 2.5). Further increases in vacancy rates are likely and department stores have accelerated planned closures. In contrast, conditions in the industrial property market are more favourable, with liaison suggesting increased demand for warehouses and distribution centres since March, driven by the accelerated shift towards online retailing and strength in food sales.

Office vacancy rates have risen in most capital cities, and from near-record lows in Sydney and Melbourne (Graph 2.6). Demand for office space is expected to decline in the near term given staff working from home and reduced economic activity, and potentially in the longer term as

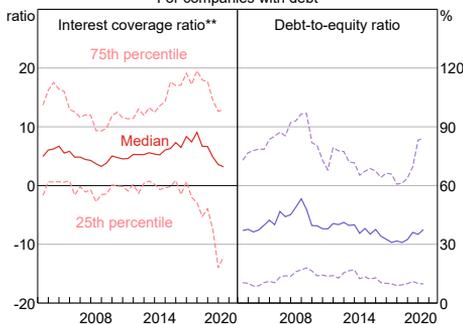
Graph 2.4
Business Failures



Graph 2.3

Corporate Debt Servicing Indicators*

For companies with debt

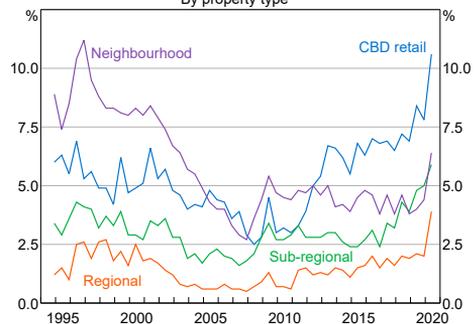


* Excludes all companies in the resource and financial sectors
** Interest coverage measured as the ratio of earnings before interest, tax, depreciation and amortisation (EBITDA) to gross interest payments
Sources: Morningstar; RBA

Graph 2.5

Retail Vacancy Rates*

By property type**



* Vacancy rates for specialty stores
** Regional centres are anchored by department stores, sub-regional by discount department stores and neighbourhood by supermarkets
Sources: JLL Research; RBA

businesses reconfigure how they work. Secondary-grade offices appear particularly vulnerable to falling demand, as tenants are often enticed by lower rents during downturns to upgrade to better premises. At the same time, an above average volume of new office buildings will have been completed in Sydney and Melbourne in 2020, increasing supply. While most of these new buildings have pre-committed tenants, it will put further pressure on vacancy rates in second-grade buildings.

Commercial property investors would incur losses if prices fell sharply

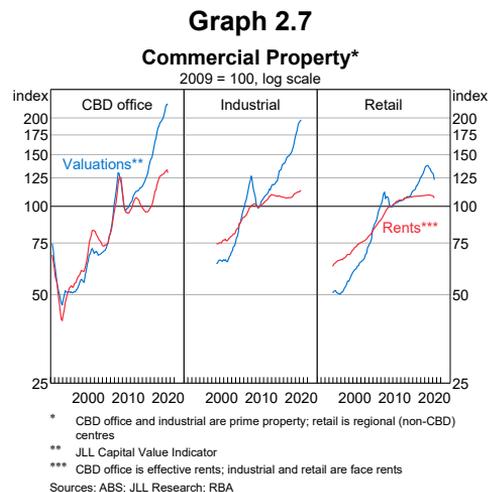
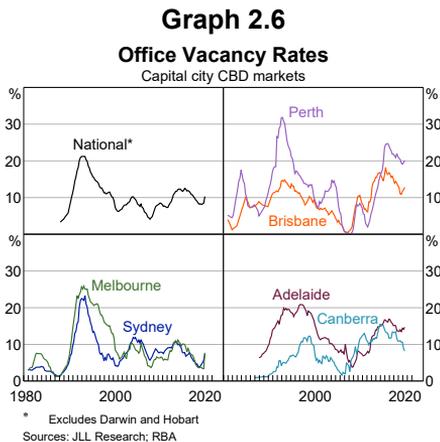
Given the deterioration in rental conditions already underway, office and retail property prices could fall sharply. Investors could substantially re-evaluate risks and pull back demand, which had contributed to strong office price growth over the past decade, particularly in Melbourne and Sydney (Graph 2.7). Similarly, the economic downturn is likely to accelerate the contraction in retail property prices, which had already declined by around 10 per cent on average between late 2018 and the middle of this year. This raises the potential for leveraged investors to breach loan covenants, requiring a review of their situation with their lenders. With commercial property valuations being so uncertain APRA released guidance that

authorised deposit-taking institutions (ADIs) may defer revaluations for existing commercial property collateral until 31 March 2021.

The outlook for commercial property means banks' impairment rates are likely to increase from their current low levels. Some indebted landlords will find it difficult to meet their debt repayments, given rising vacancies and declining rents. Risks appear highest for retail commercial property. However, banks are better placed than in the downturns in the 1990s and 2007/08 as prudent lending standards have been maintained over the past few years. Banks' direct exposures to commercial property as a share of assets are only 6 per cent, around 2 percentage points lower than before the GFC. Banks' effective exposures to commercial property are somewhat higher than this as some business loans are secured by commercial property.

Some households have experienced significant falls in income, but many have been able to save and most are continuing to repay their debt

Some households have experienced significant falls in income due to job losses, reduced working hours and lower wages. For those



affected, cash flow has been underpinned by government income support policies, loan repayment deferrals, and low interest rates. As at July 2020, around 30 per cent of Australia’s working age population was receiving JobKeeper, JobSeeker or equivalent payments. Around 3 million requests for early access to superannuation have been processed, equivalent to 10 per cent of quarterly household income. A considerable portion of the superannuation withdrawals has been saved through either paying down debt or building deposits. Household saving rates increased sharply in the June quarter for each of renters, mortgagors and outright homeowners (Graph 2.8). A key uncertainty is the extent to which those households that have strengthened their financial position by saving extensively will run down these savings to support consumption in the coming period. However, fiscal measures to support low and middle income households, including income tax cuts, will help to support households’ financial position and spending going forward.

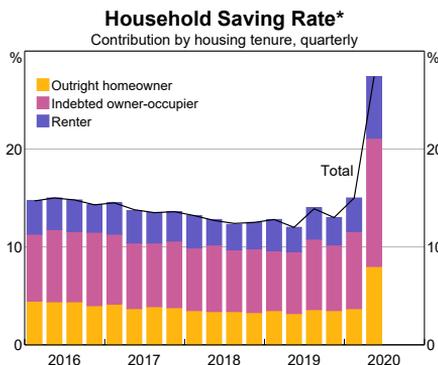
Despite unprecedented income support, some households have experienced significant falls in income due to job losses, lower wages or reduced working hours. Others face heightened income uncertainty and job insecurity. To date,

job losses and reduced working hours have been most pronounced for younger workers. Individuals with mortgages have historically had lower rates of unemployment than renters, although both groups have experienced increasing unemployment over 2020 (Graph 2.9). With further increases in unemployment expected, more households will experience financial stress.

In response to the difficult economic conditions, repayments were deferred on around 7 per cent of housing loans by number at the end of August 2020. This share is down from a peak of 8 per cent in June, partly reflecting the recovery underway in many parts of the country. Bank liaison suggests that some borrowers deferred repayments for precautionary reasons. APRA data suggest that around one in ten loans recorded full repayments while deferred. This may understate the share of borrowers who have not changed the amount they are putting toward their mortgage to the extent that it does not include payments into offset accounts.

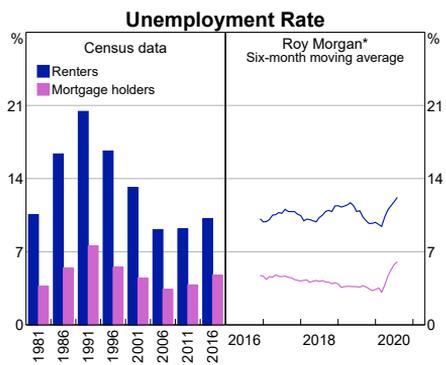
The shares of deferred loans have been similar across the states and territories, although they are slightly higher in Victoria reflecting the extended lockdown measures. Deferral rates have been highest for borrowers working in industries most affected by the pandemic such

Graph 2.8



* Average saving estimated as the difference between net household income and expenses; average saving of each group weighted by 2016 Census housing tenure shares
Sources: ABS; RBA; Roy Morgan

Graph 2.9



* Respondent is considered to be 'unemployed' if they indicate they are looking for work (broader than ABS definition); benchmarked against 2016 Census
Sources: ABS; RBA; Roy Morgan

as tourism and retail trade, and in regions where a higher share of employees have received JobKeeper payments (Graph 2.10). Deferred loans tend to have higher current loan-to-valuation ratios and lower prepayments. About three-quarters of deferred loans have prepayments of less than three months' worth of repayments. This is a larger share than for all loans, for which around half have less than three months' worth of repayments.

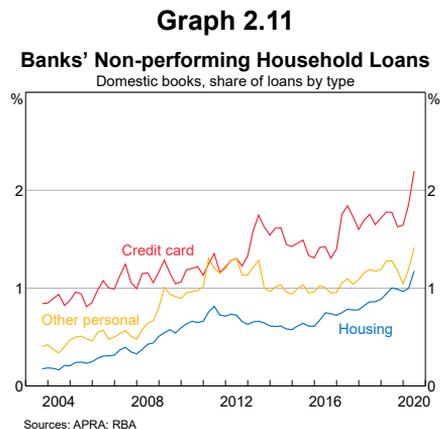
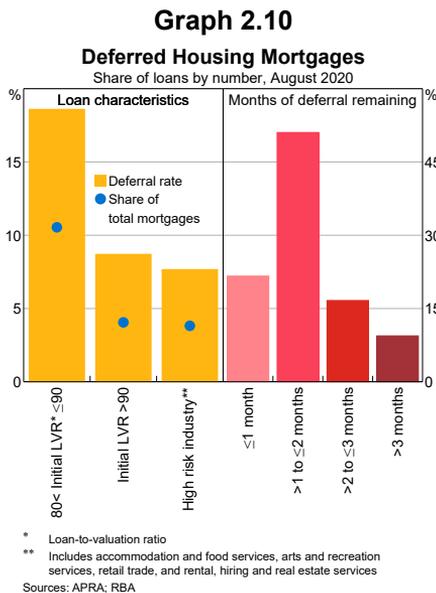
The share of non-performing loans to households will increase over coming months

Deferrals started expiring in late September with most due to expire before the end of October. A four-month extension is possible on a case-by-case basis for borrowers that are not yet able to resume repayments but have good prospects of doing so. APRA has received loan deferral plans from ADIs and will monitor implementation closely. The vast majority of loans moving out of deferrals to date have not had trouble resuming repayments, but because this has been voluntary, borrowers choosing to resume repayments will be those in the strongest

financial position. It is likely the share of loans exiting from deferrals and then beginning to miss payments will increase over coming months. Banks have assessed that about 15 per cent of deferred loans are at greatest risk of not being able to resume repayments when the deferral period ends. Some borrowers may be able to restructure their debt (such as by extending the term or temporarily switching to interest-only payments) and lower their repayments. However, some borrowers may need to sell their property to repay their debt. Accordingly, banks' asset quality is expected to deteriorate further (Graph 2.11). Estimates based on the recent relationship between unemployment and housing loan arrears, while imprecise, suggest that the share of borrowers in arrears could reach around 2 per cent if the unemployment rate reaches 10 per cent. This would double the current rate of housing arrears.

The vast majority of housing loans are in positive equity, which should limit the extent of losses to banks

If a borrower with positive equity in their home has trouble making repayments, there is the option to sell the property and repay the debt without losses for the lender or ongoing debt for the borrower. If many borrowers were to attempt to sell because they are unable to meet



their repayments, and demand is weak, housing prices could fall. Large and sustained price falls could lead to losses for borrowers and lenders. The share of loans currently in negative equity is estimated to be around 3 per cent, although the share among loans with deferred repayments is larger as they tend to have higher LVRs (Graph 2.12). The share of all loans in negative equity would roughly double if prices were to fall by a further 10 per cent, and for a 20 per cent decline, the share would increase seven-fold. Loans currently in negative equity are mostly in Queensland, Western Australia and the Northern Territory, where some regions had large housing price falls during the unwinding of the mining investment boom.

More generally, almost all households with a mortgage remain well positioned to service their debt, and many have responded to the increased uncertainty and any boost to their cash flow by increasing their prepayments. In aggregate, households have also been paying down balances on credit cards. Further, the strengthening in lending standards over recent years has meant the share of housing loans with riskier characteristics is lower than in the past. This will help protect both borrowers and banks' asset quality in the difficult period ahead, and

banks have already provisioned against expected losses on this lending.

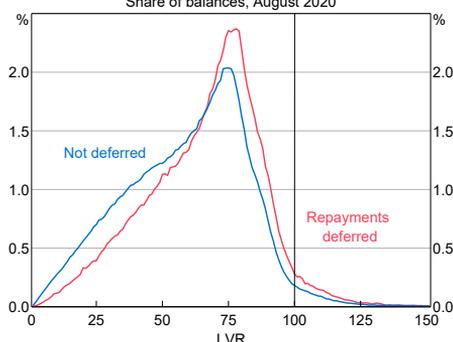
Demand for housing has held up, though conditions may weaken if low population growth is prolonged or if there is a significant increase in forced sales

National housing prices are 1½ per cent below their April 2020 peak, led by declines in Melbourne and Sydney (Graph 2.13). After a period of low transactions and listings during the initial national lockdown, new property listings are at a broadly similar level to this time last year (with the exception of Melbourne). Government grants for home building and renovating appear to have provided support to the market for detached dwellings (as described in the Bank's August 2020 *Statement on Monetary Policy*). Owner-occupiers are driving much of the housing market activity, consistent with low interest rates that are attractive to buyers in secure employment. Housing credit to owner-occupiers is growing at a similar pace to the beginning of the year, and recent strength in new loan commitments is consistent with many households not being affected financially (Graph 2.14). Investor housing credit has been contracting amid weaker rental market conditions (particularly in Sydney and Melbourne where the pullback in demand from international students has had the largest impact).

Banks have begun reversing some of the moderate tightening in lending standards they had earlier put in place in response to COVID-19 amid heightened uncertainty about the economic outlook. Since the earlier tightening affected only a small share of borrowers, and typically only resulted in lenders offering lower maximum loan sizes, the recent unwinding is likely to have a limited effect. The loosening includes returning LVRs and the discounts applied to less reliable income such as rent,

Graph 2.12

Current LVR Distribution*
Share of balances, August 2020



* Loan balances adjusted for redraw and offset account balances; property prices estimated using SA3 price indices
Sources: ABS; CoreLogic; RBA; Securitisation System

bonuses and overtime to their previous levels. The Government has proposed changes to responsible lending obligations to simplify the loan application process.

Rental vacancy rates have increased considerably in Sydney and Melbourne, partly due to the impact of travel restrictions on demand from international students (Graph 2.15). There is also less demand from international tourists and domestic business travellers for short-term rental properties. Extended periods of vacancies could lead to mortgaged investors struggling to afford

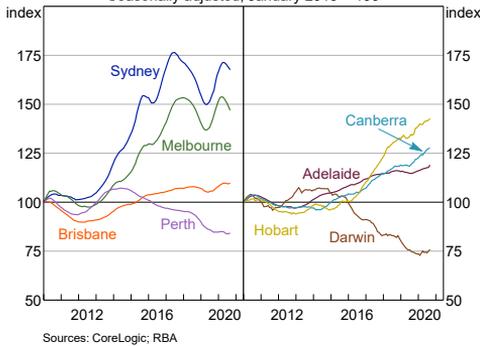
repayments, and deciding to sell their properties. This has the potential to exacerbate housing price falls, particularly in areas with more investor properties. A sizeable portion of small-to-medium-sized business loans are also secured by residential property and so difficulties experienced by these businesses could also lead to more forced sales and downward pressure on housing prices.

Apartment prices have softened over recent months, especially in inner city areas. For newly completed apartments, sales are now being settled in very different economic conditions. While there is little evidence of higher settlement failures to date, risks are elevated given the economic uncertainty and potential for further price declines. However, risks to banks appear reasonably low. Banks' lending for off-the-plan apartments over the past couple of years has been at conservative LVRs, and their exposures to residential construction are less than 1 per cent of total assets. Risks from financing apartment construction are higher for non-bank lenders, reflecting greater exposures as a share of assets (around 10 per cent on average according to available data), and lower pre-sale requirements.^[1] 🏠

Graph 2.13

Housing Prices

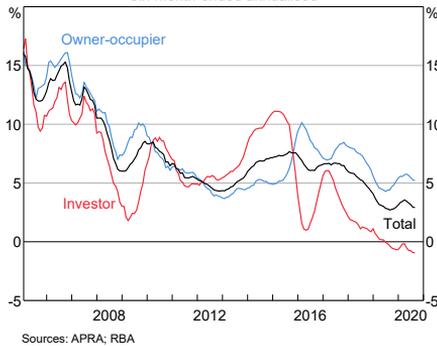
Seasonally adjusted, January 2010 = 100



Graph 2.14

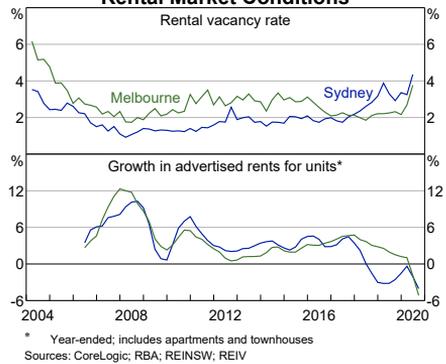
Housing Credit Growth

Six-month-ended annualised



Graph 2.15

Rental Market Conditions



Endnotes

[1] See <https://www.rba.gov.au/publications/fsr/2019/apr/box-d.html>

Box B

Business Failure Risk in the COVID-19 Pandemic

The COVID-19 pandemic has disrupted economic activity and sharply reduced the revenue of Australian businesses. The number of businesses that fail in this episode will depend on a range of factors, including the size of individual businesses' cash buffers just prior to the pandemic, the decline in their revenue during the downturn, their capacity to reduce operating expenses, and the extent of support from both the Government and private lenders. This Box explores how the risk of business failure in the non-financial sector has evolved during the pandemic.^[1]

Businesses failures are a key risk to the financial system for a few reasons. First, a higher rate of business failure means there will be larger loan losses, since insolvent firms hold debt (by definition). Second, an increase in the rate of business failures can pose indirect risks to the financial system if they lead to widespread job losses that put household finances at risk. Third, there can be adverse spillover effects if firms in financial trouble do not pay debts to other businesses in their supply chain. Finally, widespread business closures can lead to an increase in property fire sales, with flow-on effects to the prices of commercial properties, which are used as security for many business loans.

Business failure is an incomplete metric of financial health. Before businesses become insolvent, some may choose to exit voluntarily because of limited growth prospects or a lack of access to credit. Consistent with this, business exits are

typically 10 times larger than failures in any given year. In quantifying the number of business failures as a result of the pandemic it is important to benchmark the additional expected failures to the significant number of firms that fail even in good times; typically between 15,000 and 20,000 firms fail each year.

The analysis in this Box suggests that, in the absence of any policy support, the 3 per cent decline in business revenue that is estimated to have occurred in the 2019/20 financial year would have caused about 1,400 additional business failures, relative to normal times. The effect is relatively small because firms tend to offset declines in revenue by reducing their operating expenses and because the COVID-19 shock only affected businesses in the last quarter of the financial year. If there was no recovery in turnover in 2020/21, annual revenue would be a further 9½ per cent lower than in the previous year and an additional 5,200 businesses would be expected to fail. However, to date, actual business failures remain at historic lows.

The relatively low business failure rate to date is due to the support policies (including loan repayment deferrals and rent reductions) and temporary insolvency relief. The firm-level analysis indicates that the support policies, particularly the JobKeeper payroll subsidy and the Cash Flow Boost for Employers, have significantly increased business cash flow and reduced the number of business failures by around 4,600 firms so far (relative to a

situation in which revenue declines sharply and there is no policy support).^[2] These two policies have had the largest effect because they reduce labour costs, which constitute a significant expense for most businesses. However, the actual failure rate since the pandemic has been lower than can be explained by these support policies. Most of this 'failure gap' between actual and estimated failures can be attributed to the temporary insolvency relief.^[3]

Many businesses entered the pandemic with limited cash buffers

Prior to the pandemic, around half of all Australian firms only had enough cash on hand to cover one month of expenses (Graph B.1).^[4] If 'cash on hand' is broadened from the value of firms' cash and deposit holdings to include other liquid assets such as inventories and accounts receivable, the share with limited 'cash' falls to about 35 per cent of all firms (shown by the dot on the first bar in Graph B.1).

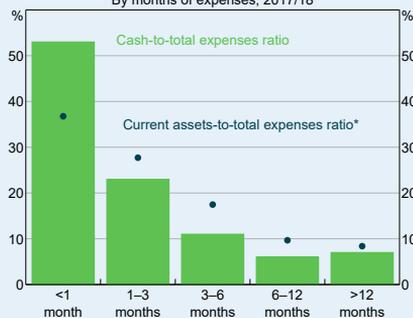
The smallest and most affected firms had even less cash on hand to cope with a decline in revenue

Some firms were better placed than others to withstand the downturn leading into the pandemic. Large and publicly listed companies had much larger cash buffers than small unincorporated businesses, holding more than three times as much cash, on average. Large, listed companies were also more likely to have access to large credit lines, further boosting their liquidity position. Many companies drew down on their available credit lines in the early stages of the pandemic to shore up their cash holdings (Graph B.2, see the Bank's August 2020 *Statement on Monetary Policy*).

Firms in some industries had relatively large cash buffers, although they tended to be in sectors that the downturn has had little or no impact on, such as mining. In contrast, firms in the industries hardest hit by the pandemic, such as accommodation and food services and arts and recreation services, tended to have smaller cash buffers, making them more vulnerable to a sharp decline in their revenues.

Graph B.1

Distribution of Business Liquidity
By months of expenses, 2017/18



* Current assets include cash and deposits, inventories and accounts receivable
Sources: ABS, RBA

Graph B.2

Non-financial Business Cash Holdings*
By months of expenses



* Total expenses estimated as the difference between gross operating profits and total sales from the ABS Quarterly Business Indicators Survey
Sources: ABS, RBA

Scenario analysis shows the impact of the pandemic and policy responses

Scenarios using firm-level data are used here to explore how many businesses are likely to be able to withstand the sharp decline in economic activity and the effect of various support policies on firms' viability.

The analysis considers three scenarios: 1) a COVID-19 pandemic shock scenario (with a decline in business revenue of close to 3 per cent in 2019/20 and a further 9½ per cent in 2020/21 and no policy intervention); 2) a COVID-19 pandemic policy scenario (with the same sharp decline in revenue but including policy intervention); and 3) a counterfactual 'normal times' scenario based on 2017/18 balance sheets for both companies and unincorporated businesses. These scenarios rely on assumptions that are discussed in the Technical Appendix.

The income support policies have significantly increased business cash flow

Business cash flow would have declined sharply because of the contraction in economic activity due to COVID-19 in the absence of a policy response. The scenario analysis suggests the median firm's cash flow would have fallen substantially following the economic downturn (Graph B.3). However, the policy interventions significantly boosted cash flow and reduced the share of businesses facing cash shortfalls.

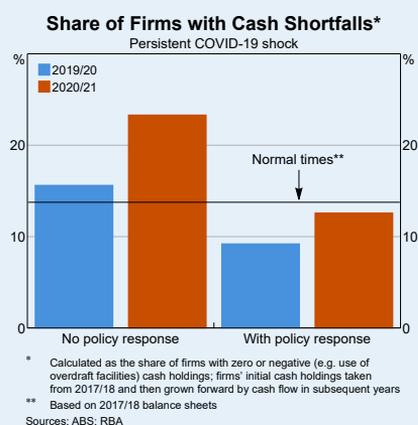
The estimated effect of the income support policies on business cash flow is mainly driven by the JobKeeper and Cash Flow Boost for Employers programs. These two policies have the most significant effects because they target labour costs, which constitute a large component of expenses for

most businesses.^[5] While eligibility for JobKeeper depends on the fall in revenue, not labour costs, the take-up of JobKeeper has been much higher for labour-intensive businesses (Graph B.4).

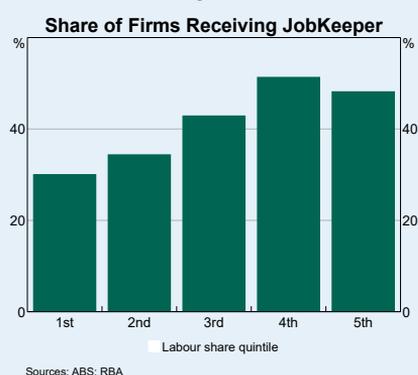
Business failures would have risen if it were not for the income support policies

A firm-level model is used to estimate the share of businesses that would have failed because of the economic downturn and in the absence of the policy support. The model assumes that the relationship between cash flow and failure is not linear in that the failure

Graph B.3



Graph B.4



rate of businesses is assumed to increase a lot more when cash flow falls to very low levels.

Estimates from the model indicate that a 3 per cent decline in annual revenue, roughly the size of the aggregate decline observed in 2019/20, is associated with the probability of failure rising by 6 basis points, relative to more normal economic conditions and without any policy response. This would be the equivalent of about 1,400 more failures in 2019/20 than would have occurred without the COVID-19 shock. The decline in revenue to date would have been larger in the absence of the policy response, and so likely understates the effect of the COVID-19 pandemic. Assuming no recovery in revenue in 2020/21, the model estimates a further 5,200 additional firms would fail, relative to normal times. This provides an estimate of the direct effect of the COVID-19 downturn on business failures through cash flow. There are also likely to be indirect effects, as declines in cash flow gradually reduce business cash buffers and decrease the value of total assets (so leverage increases).

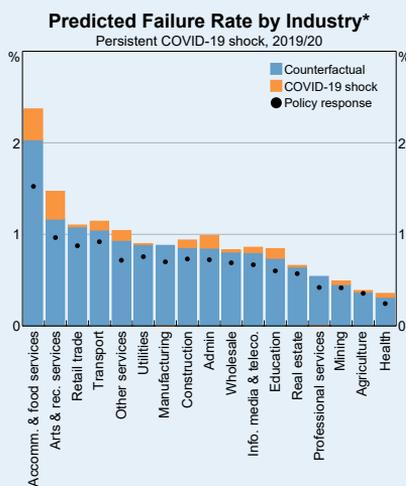
Overall, the analysis suggest that the income support measures boosted business cash flow (relative to total assets) by 25–35 percentage points, on average. This is estimated to have reduced business failures by around 4,600 firms in 2019/20, and so more than offsets the COVID-19 shock (Graph B.5). Assuming that JobKeeper and other policy stimulus is tapered in line with current announcements, a further 6,600 firms are estimated to be saved in 2020/21, relative to no policy response. These differences are most pronounced in the accommodation and food services, arts and recreation services, and other services industries. Firms in these industries were proportionally more likely to receive the JobKeeper wage subsidy.

Caveats

The analysis in this Box focuses on firm failures, which is a relatively narrow and extreme measure of financial stress. Entering external administration is costly. Some firms may prefer to scale down their operations or ‘voluntarily’ exit in response to a demand shortfall, rather than continue trading until they are insolvent. It is also worth noting that the 13,000 business failures that occurred in 2019/20 is smaller than the 15,000 to 20,000 annual businesses failures that have typically occurred in recent years.^[6]

The analysis above is based on a sample of businesses that includes companies, partnerships and trusts but excludes sole traders as they are not required to report balance sheet information to the Australian Taxation Office, which is used in this analysis. Sole traders may be more likely to fail in response to a sharp decline in cash flow than other businesses. As evidence of this, the exit rate of sole traders rose significantly more than for other types of businesses during the

Graph B.5



* Dots represent estimated failure rates with policy response (e.g. includes the effect of JobKeeper, Cash Flow Boost for Employers, rental holidays and interest payment deferrals)

Sources: ABS; RBA

global financial crisis. The analysis may therefore underestimate the effect of cash flow on total business failures.

The analysis is also based on the historic relationship between business balance sheets and failures over the period from 2002/03 to 2015/16. These relationships may not hold during extreme episodes like the COVID-19 pandemic. Moreover, the relative stability of the Australian economy during the sample period affects the ability of the analysis to identify the effects of a large decline in cash flow on business failures. Aggregate estimates of failure rates during the early 1990s recession can be used to provide a rough guide as to how a large economic downturn might affect business failures. These estimates suggest that the aggregate business failure rate in the early 1990s was about double that of the current failure rate (Graph B.6). Applying the same failure rate from the 1990s recession to the business population today implies that nearly 7,000 more businesses would be expected to fail compared to more normal times (or about 25,000 failures in total). This simple calculation does not take into account the relative magnitudes of the stimulus during the current pandemic and in the 1990s recession.

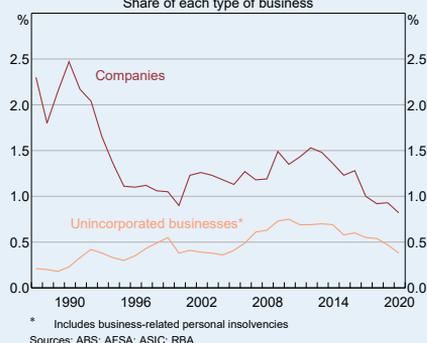
Endnotes

- [1] The analysis mainly uses data from the Australian Bureau of Statistics (ABS) Business Longitudinal Analysis Data Environment (BLADE). BLADE includes longitudinal tax records of nearly every business since the early 2000s, with balance sheet information up to 2017/18. More detail is included in the Technical Appendix.
- [2] The analysis in this Box does not incorporate the effect of any business income support announced in the 2020/21 Federal Budget.

More broadly, the results exclude any indirect or multiplier effects of both the COVID-19 downturn and the policy responses. For example, the JobKeeper subsidy can directly affect business cash flow by reducing operating expenses, which is captured in the analysis, but it also boosts business revenue because it increases household cash flow and therefore spending. The analysis also captures only the direct effect of the COVID-19 downturn on business cash flow and not the indirect effects through possible changes in business cash buffers and indebtedness. ✎

Graph B.6

Business Failures
Share of each type of business



- [3] The 'failure gap' may also reflect model error or misspecification. For example, the analysis in this Box does not explicitly account for second-round demand boost from the increase in incomes caused by the support policies.
- [4] This is a stock-flow concept measuring how long a firm is able to finance its operating costs without additional cash from creditors or shareholders. Alternatively, it measures how long a firm can survive on its existing stock of cash

before it needs to generate more revenue to cover its costs.

- [5] For instance, suppose a firm experiences a 40 per cent decline in revenue but that labour costs comprise more than 40 per cent of their expenses. If the policies effectively reduce labour costs to zero, this firm will be in a better cash flow position compared to the period before the pandemic.

- [6] These failure estimates are calculated by adding together estimates of corporate insolvencies (from the Australian Securities and Investments Commission (ASIC)) and business-related bankruptcies for unincorporated businesses (from the Australian Financial Security Authority (AFSA)).

3. The Australian Financial System

The financial system has continued to support the economy, facilitated by the strong capital and liquidity positions of financial institutions at the onset of the pandemic. The banking system has easily met the demand for credit during the pandemic, both initially as large businesses sought to bolster their liquidity by drawing down credit facilities and requesting new lines of credit and subsequently as housing loan demand has increased (Graph 3.1). Temporary loan repayment deferrals have also provided material support to the cash flows of borrowers affected by the pandemic. In addition, the superannuation industry accommodated households' withdrawals of \$34 billion of funds through the early access to superannuation scheme.

Capital markets have also continued to meet the financing needs of large businesses. Listed companies have raised around \$40 billion of equity since April. The amount raised constitutes

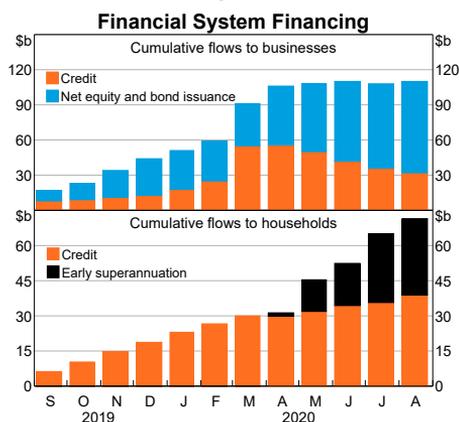
the most rapid accumulation of capital from the Australian stock market since the global financial crisis. Most of this has been raised by sectors that are more heavily affected by the pandemic. The pace of bond issuance in the domestic market by non-financial corporates has also increased since May.

The financial system remains well placed to withstand the economic effects of the pandemic, while supporting households and businesses. However, there will be increased challenges over the year ahead as government support tapers and loan repayment deferrals end.

Banks have provided for material future credit losses, yet remain profitable

Australian banks recorded a five-fold rise in the charge for bad and doubtful debts over the first half of 2020, as they increased provisions for expected credit losses arising from the economic effects of the COVID-19 pandemic. Increased provisions resulted in aggregate profits falling by around 50 per cent compared with the previous half year, and return on equity (ROE) declining to well below its average of the past three decades (Graph 3.2).^[1] Nonetheless, the current level of bad and doubtful debts remains relatively low, and Australian banks' profitability continues to be above that of banks in most other comparable economies. Profit outcomes were similar across the major banks' domestic operations and their New Zealand subsidiaries, reflecting the similar set of challenges in each country.

Graph 3.1



Sources: ABS; ASX; Bloomberg; Private Placement Monitor; RBA

Major and mid-sized Australian banks have raised an additional \$8 billion in forward-looking provisions since the start of the year, bringing the stock of total provisions to 0.8 per cent of the value of their total loans outstanding. These provisions were raised in anticipation of future losses. Realised losses (net write-offs) and non-performing loans remain low at this stage, partly due to the range of temporary measures implemented to support household and business finances during the pandemic, including government payments. In addition, the Australian Prudential Regulation Authority (APRA) has allowed banks to continue to classify most loans under deferral as part of a COVID-19 support package as performing (consistent with regulators internationally; see 'Chapter 1: The Global Financial Environment'). Loan performance is expected to deteriorate as these support measures are unwound and banks are required to make a more considered assessment of whether deferred loans are non-performing (see 'Chapter 2: Household and Business Finances in Australia'). This will weigh on bank profits if their current provisions are insufficient to absorb these losses.

Profits are also likely to be constrained by forecast weak credit growth and ongoing pressure on net interest margins. One factor weighing on the outlook for margins is the low

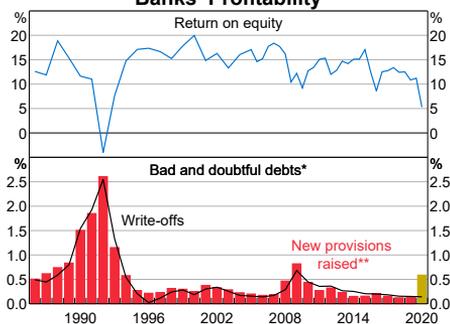
interest rate environment, in particular as banks' hedges on their non-interest bearing deposits gradually roll onto lower rates. However, the pressure on margins should be at least partly offset by low funding costs, including from the Bank's Term Funding Facility (TFF).

Banks have large capital buffers that can be used to absorb losses ...

The Australian banking system entered the pandemic with a much stronger capital position than in previous downturns. Banks' aggregate Tier 1 capital ratio is almost double what it was in 2007 (Graph 3.3). On an internationally comparable basis, the four major banks' Common Equity Tier 1 (CET1) capital ratios are estimated to be well within the top quartile of global banks and at a level that has historically been sufficient to withstand almost all previous bank crises.^[2] Lending standards in Australia in recent years have also been generally good, which has not always been the case in the lead-up to these past international banking crises, meaning current capital levels make the banking system even more robust. The capital ratios of mid-sized banks operating in Australia are comparable with those of the major banks (Graph 3.4).

Graph 3.2

Banks' Profitability



* Relative to net loans; major banks only
 ** Last observation for the first half of 2020 is annualised
 Sources: APRA; Banks' profit releases; RBA

Graph 3.3

Banks' Capital Ratios*

Consolidated global operations

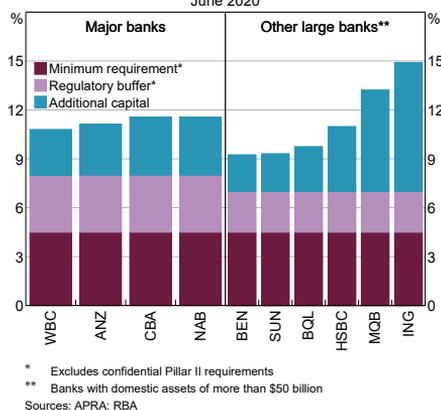


* Per cent of risk-weighted assets; break in March 2008 due to the introduction of Basel II for most ADIs; break in March 2013 due to the introduction of Basel III for all ADIs

Source: APRA

Large banks' capital ratios have been stable despite the large increase in provisions, as banks retained a greater share of their earnings this year. Retained earnings added more than 20 basis points to capital ratios over the first half of 2020, offsetting growth in risk-weighted assets. The contribution of retained earnings would have been half this amount had banks paid dividends in line with recent practice rather than limiting payments to shareholders in line with APRA's guidance. In addition, National Australia Bank raised \$4 billion in capital in the June quarter through new equity issuance. This was achieved even though its shares were trading below their book value at the time, demonstrating the banking system's ability to access capital markets even in strained conditions. The high starting level of capital and ongoing support from retained earnings means Australian banks are well placed to continue lending during the recovery (see 'Box C: The Use of Banks' Capital Buffers'). APRA has also announced that it does not expect banks to meet the 'unquestionably strong' capital benchmarks for now (though all banks currently do) and committed to ensuring that its future expectations for capital will allow banks to rebuild their capital buffers in an orderly manner.

Graph 3.4
CET1 Capital Ratios
June 2020

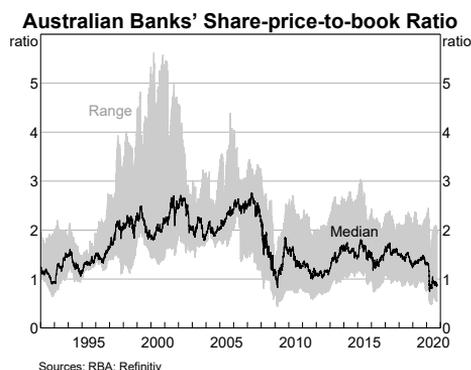


Market pricing implies that investors have confidence in banks' regulatory capital positions and their ability in future to meet their cost of capital. Share-price-to-book ratios have recovered from low levels in March, to be around one for most banks (Graph 3.5). However, these ratios are still considerably below their pre-COVID-19 levels, reflecting a decline in the earnings outlook and a reduction in investors' risk appetite.

... and stress tests suggest they should remain above minimum capital levels even in a prolonged recession

Stress test simulations on the banking system estimate the change in bank capital in specific economic scenarios. Under a baseline scenario in which GDP and the unemployment rate evolve in line with the baseline scenario from the August 2020 *Statement on Monetary Policy* (SMP), while property prices are assumed to fall only slightly, CET1 capital ratios for major and mid-sized banks are estimated to decline by 140 basis points (Graph 3.6). The decline in capital would be materially larger, at almost 200 basis points, if GDP and the unemployment rate evolve as in the downside scenario from the SMP, and property prices are assumed to fall by around 20 per cent. Capital depletion of this magnitude would be much larger than at any time since 1990/91, but given banks' substantial

Graph 3.5



capital holdings would still leave their CET1 ratios comfortably above their capital conservation buffers.

The stress test model highlights several characteristics of the sensitivity of banks' capital to macroeconomic outcomes:

- Capital losses in the model accelerate as the assumed shock to the economy deepens. For example, increasing the fall in GDP and property prices and the rise in unemployment by 25 per cent causes capital losses to rise by 20 per cent, but increasing the change in these variables by 75 per cent causes capital losses to rise by 80 per cent.
- The model highlights how the interaction between rising unemployment and falling GDP with falling property prices results in larger capital losses. Intuitively this is because if a borrower loses their job but has positive equity, they can sell their home to repay their loan or, if they have negative equity but retain their job, they can continue to pay their mortgage. However, if they lose their job *and* have negative equity, the bank is likely to incur a loss. As a result, the capital loss when the fall in GDP, the rise in

unemployment and the fall in property prices are *all* 75 per cent larger than in the downside scenario is larger than the sum of the impacts when each of these variables are *individually* shocked.

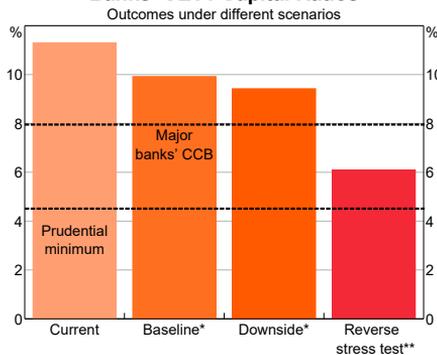
- While a more prolonged economic contraction results in larger losses, it also provides banks with longer to earn profits from their performing loans, thereby generating capital. These effects are broadly offsetting in many situations.

These stress test simulations are subject to considerable uncertainty due to a combination of factors. One is the lack of recent experience in Australia with substantial bank losses, meaning the estimated relationships between economic outcomes and loss rates are untested. This could result in the decline in capital being materially larger than forecast, even if economic conditions evolve as assumed. This uncertainty is amplified, because as noted above, capital losses become disproportionately larger as economic contractions become more severe. A second factor is that the unusual nature of this recession means the historical relationships between GDP, the unemployment rate and house prices may not hold tightly. A third factor driving imprecision in model-based capital projections stems from the considerable uncertainty about the economic outlook.

Given the substantial uncertainty about the economic outlook, and noting the caveats of the imprecision of the stress test model, it is informative to consider how severe economic conditions would need to be for bank capital to breach particular levels. Such a 'reverse stress test' suggests that for a major bank's CET1 ratio to fall below 6 per cent, conditions would need to deteriorate substantially more than currently envisaged. One scenario that results in a major bank's CET1 falling below 6 per cent is property prices declining by 50 per cent, GDP declining by 20 per cent and the unemployment rate rising to 20 per cent. A downturn of this

Graph 3.6

Banks' CET1 Capital Ratios



* GDP and unemployment evolve as per the August SMP baseline and downside scenarios; additionally, property prices (housing and commercial) fall around 5 per cent in the baseline and 20 per cent in the downside scenarios

** Scenario required for one bank's CET1 ratio to breach 6 per cent; this involves GDP falling by around 20 per cent, the unemployment rate rising to around 20 per cent and property prices falling 50 per cent

Sources: APRA; RBA

magnitude has not been observed since the Great Depression, suggesting that the likelihood of an Australian major bank failing is very low. The modelled resilience to extreme stress results from banks' \$100 billion in surplus CET1 capital (over this 6 per cent level), close to \$1 trillion in excess collateral and that they generate \$40 billion in pre-provision profits each year.

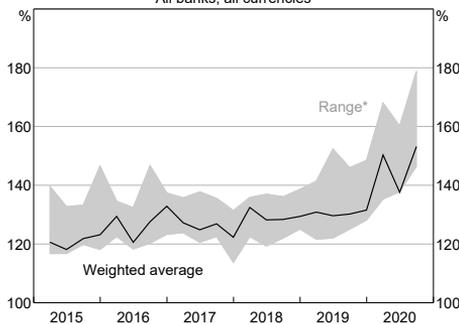
Banks' liquidity positions have strengthened considerably

Strong growth in household and business deposits, along with the additional funding made available by the Reserve Bank's TFF, which was expanded and extended in September, has helped ensure that banks currently have ample funding. Excess funding is being invested in high-quality liquid assets. In combination with the undrawn portion of the TFF, this has caused banks' liquidity coverage ratios – which measure holdings of liquid assets relative to the potential outflows that could occur in a short-lived but severe stress scenario – to rise (Graph 3.7). This accumulation of liquid assets has been only partly offset by a rise in forecasts for potential net cash outflows in a stress scenario, as deposits by superannuation funds and non-financial businesses (both of which are treated as more likely to be withdrawn) have increased considerably.

Graph 3.7

Liquidity Coverage Ratio

All banks, all currencies



* From the 20th to 80th percentile
Sources: APRA; RBA

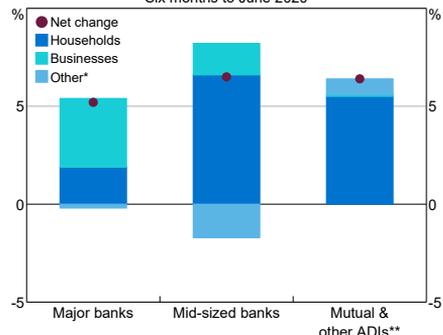
Deposit growth, particularly in household and non-financial business deposits, has been strong for all categories of banks over the first half of the year (Graph 3.8).^[3] Deposits increased most rapidly in the early stages of the pandemic, but have continued to grow in recent months. As a result, the share of household and non-financial business deposits in major and mid-sized banks' total funding (on a globally consolidated basis) has risen by 2 percentage points since the start of the year, with a corresponding decline in the share of wholesale funding, particularly offshore wholesale funding.

Around \$45 billion of bonds issued by major and mid-sized banks have matured since the beginning of April, and a further \$100 billion will mature over the next nine months. For most of these banks, these maturities are fully offset by their TFF allowances. Major and mid-sized banks collectively withdrew their \$70 billion of initial TFF allowance before the initial draw-down period expired at the end of September. Under the expanded TFF, these banks have \$77 billion in additional and supplementary allowances remaining to draw by June 2021. Credit spreads in secondary markets have narrowed considerably, partly due to the lack of recent and prospective bond issuance, implying that banks

Graph 3.8

Deposit Growth

Six months to June 2020



* Includes financial institutions and other deposits (domestic and offshore); excludes foreign currency, intragroup deposits and non-negotiable certificates of deposit

** Excludes foreign banks
Sources: APRA; RBA

could issue new bonds at relatively low cost if needed. The scale of TFF borrowings will create a large refinancing task for these banks in 2023/24. However, banks have considerable flexibility to manage this by pre-emptively issuing bonds and/or repaying TFF funds early, should they be concerned about the capacity of bond markets to absorb the required issuance.

Some smaller ADIs could record sizeable losses, but are well capitalised

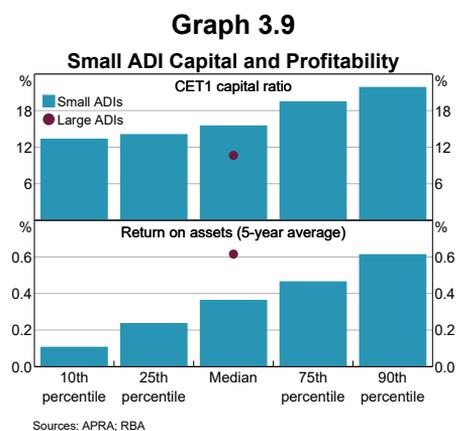
The majority of smaller authorised deposit-taking institutions (ADIs) – those with less than \$50 billion of assets – have CET1 capital ratios of at least 15 per cent (Graph 3.9). This provides them with considerable resilience to withstand the economic effects of the pandemic. However, these ADIs can be more susceptible to losses than their larger counterparts, as they tend to generate lower earnings that can be used to offset credit impairments. Some small ADIs also have exposures that are more concentrated either geographically or to borrowers who work in specific industries, making losses more likely if these regions or industries are significantly affected by the pandemic. These factors suggest that some smaller ADIs could become unprofitable in a weak economic recovery, such as the downside scenario discussed above. However, the strong capitalisation of small ADIs means that for their capital ratios to fall below minimum requirements, their loss rates would need to be much higher than estimated in the downside stress test simulations discussed above.

Policy support has significantly alleviated funding constraints for non-bank lenders, allowing them to resume lending

Asset-backed securities (ABS) markets experienced some dysfunction during the height of market stress in March and early April, causing some non-bank lenders to cancel

planned residential mortgage-backed securities (RMBS) issuance. There was also limited ability for these firms to expand their warehouse funding from banks at that time. In response to the associated uncertainty about the future availability of funding, many non-bank lenders actively slowed their lending. Funding availability has since improved, partly as a result of the Government’s Structured Finance Support Fund (SFSF), which is administered by the Australian Office of Financial Management. The SFSF has purchased ABS directly at issuance and in the secondary market (freeing up capacity for investors to recycle these funds into new issuance), and invests in securitisation warehouses. RMBS (and other ABS) issuance by non-bank lenders has now resumed and is at similar levels to recent years, although pricing is still at higher spreads than prior to the pandemic (Graph 3.10). This improvement in funding availability has allowed non-bank lenders to start pricing loans more competitively.

Reduced investor appetite for higher-risk lending has also affected non-ADIs that do not fund their lending with securitisations. These firms mostly lend to businesses. For some, support from the SFSF (in the form of investments in warehouses) has reduced pressure. However others, including those that rely on equity funding, are likely to be facing more difficulty. This includes real estate



investment funds lending for commercial property development (see 'Chapter 2: Household and Business Finances in Australia'). Nonetheless, liaison suggests that these firms are well placed to withstand a period of reduced activity and resume lending when conditions recover.

General insurance profits have declined, but insurers remain well capitalised ...

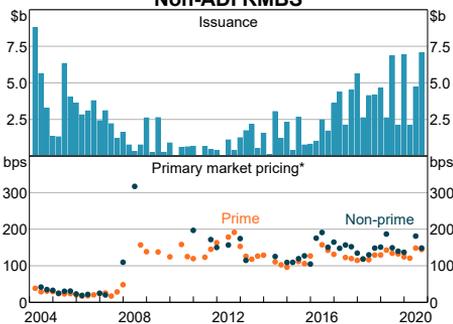
General insurers' profitability more than halved in the first half of 2020, only part of which reflects the effects of the pandemic. The most significant effect of the pandemic has come through large losses on investments due to falls in asset prices. In addition, insurers paid out a modest amount of claims for travel and landlord insurance, and have provisioned for potentially sizeable future claims in business interruption and trade credit insurance. Underwriting performance in the first half of 2020 was mainly affected by factors unrelated to the pandemic. In particular, claims from natural disasters (including hailstorms, floods and bushfires) were much higher than expected, and an increase in personal injury litigation payments has forced insurers to increase their provisions for some long-tailed insurance claims.^[4] Collectively, these factors lifted the ratio of net claims to revenue to its highest level in almost a decade,

and lowered ROE to its lowest level in at least 20 years (Graph 3.11).

The financial effects of the pandemic on insurance are likely to continue to be manageable. However, the extent of insurers' exposures to business interruption policies presents some uncertainty. While business interruption policies were mostly written with an intent to exclude pandemics, there is some uncertainty about whether pandemic exclusions will apply in practice and clarity is being sought from courts about insurers' legal position. In the meantime, many insurers have provisioned for the possibility of some future payouts. Similarly, there has not yet been an acceleration in trade credit claims, consistent with stable insolvency numbers. This could start to increase when insolvent trading laws are reinstated and as policy stimulus winds down. However, neither category of insurance is large enough to challenge the solvency of insurers.

General insurers' ongoing underlying profitability and strong capital positions make them well placed to absorb the impact of higher claims. Many Australian insurers have also strengthened their reinsurance against natural disasters, despite an increase in reinsurance costs, and reduced risk in their investment

Graph 3.10
Non-ADI RMBS

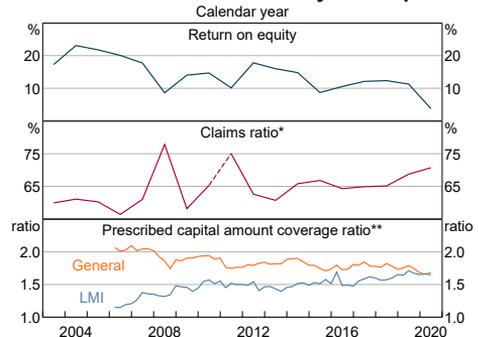


* Face-value weighted monthly average of the primary market spread to bank bill swap rate for AAA rated notes

Sources: Bloomberg; RBA

Graph 3.11

General Insurers' Profitability and Capital



* Ratio of net incurred claims to net premium; change in reporting basis after June 2010

** Eligible capital as a multiple of prescribed capital amount, or minimum capital requirement (prior to March 2013)

Sources: APRA; RBA

portfolios by reducing their holdings of equities and sub-investment grade bonds. A number of insurers have also restricted or suspended dividends to ensure they maintain solid capital buffers. Overall, the industry's capital is now equivalent to 1.7 times APRA's prescribed amount.

Lenders' mortgage insurers (LMIs) are more exposed to the impacts of the pandemic, given expectations for a rise in losses on mortgage lending. LMI profits have already declined because of an increase in claims frequency and COVID-19-related revisions to the expected future value of mortgage insurance payouts. Revenue has also been affected by an industry-wide strengthening of lending standards. However, LMIs are very well capitalised and their internal stress tests suggest they can withstand a substantial rise in payouts.

... while conditions remain challenging for life insurers

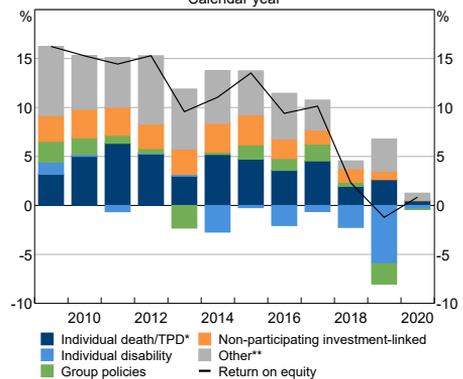
The pandemic has had a limited impact on life insurers' profits, other than depressing returns on investment income. However, long-standing issues continue to depress life insurers' profitability (Graph 3.12). Individual disability income insurance (DII) has been the main contributor to the poor profitability of the industry over recent years, reflecting substantial underpricing, loose product definitions and higher-than-expected claims, particularly for mental health. This issue is expected to persist for some time given the long-term nature of these insurance contracts, the potential for increased mental health issues arising from the pandemic and the pressure to retain market share in a competitive industry. APRA intervened late last year to improve the sustainability of DII insurance by implementing a series of measures to address flaws in product design and pricing, including increasing capital charges.

Superannuation and managed funds have been able to satisfy additional demands for liquidity

Around 3 million requests for access have been approved under the superannuation early release scheme announced in March, with withdrawals to date totalling \$34 billion, or 1.8 per cent of total assets under management. Funds have been able to meet these withdrawals, despite initial concerns for some, because withdrawals have been spread over time and resilient market conditions have enabled funds to easily sell fixed income securities and equities. Funds also fulfilled an elevated number of member requests to reallocate assets towards cash, as falls in investment income prompted members to switch from high- to low-risk investment options. In addition, funds had accumulated large amounts of cash in late March as they chose to not reinvest cash collateral returned by derivative counterparties as the Australian dollar recovered from its mid-month lows.

Managed funds were likewise able to meet sizeable requests for redemptions in March and April. Almost all funds were able to do this without needing to impose limits on withdrawals to cope with these requests or

Graph 3.12
Contributions to Life Insurers' Profitability
Calendar year



* TPD = total and permanent disability
** Includes profit from other non-risk business
Sources: APRA; RBA

receive policy support, in contrast to international peers (see 'Box A: Risks from Investment Funds and the COVID-19 Pandemic'). The imposition of investment gates at a handful of smaller funds did not lead to pre-emptive redemption runs elsewhere or affect the underlying markets more broadly.

Financial market infrastructure dealt effectively with risks arising from increased market volatility and trading volumes

Central counterparties (CCPs) and securities settlement facilities were largely able to clear and settle record volumes of trades in some markets during March 2020, with little interruption to their critical services (Graph 3.13). However, the record volumes of equity trades in March did result in processing delays in ASX's CHESSE clearing and settlement system. Although CHESSE has maintained high levels of system availability in recent years, its age means that it is increasingly difficult to support. ASX plans to replace the CHESSE system with more modern technology and the Reserve Bank's 2020 Assessment of ASX recommends that the system be replaced as soon as this can be safely achieved.^[5] To manage the short-term risk of further capacity constraints in CHESSE, the Australian Securities and Investments Commission (ASIC) placed temporary restrictions on the trading volumes of the nine largest equity market participants, which were revoked in May.

Similarly, the Reserve Bank Information and Transfer System (RITS) was able to smoothly process high levels of wholesale payments in the early stages of the pandemic. RITS also introduced arrangements to reduce the risk that the pandemic will create operational challenges. As discussed in the 2020 Assessment of RITS, most Bank staff transitioned to working-from-home arrangements, while a small number of personnel occupying critical roles remained

onsite at each of the Bank's two operating centres.^[6] Additional personnel were trained and certified to fill critical roles in the event that a large number of Bank staff were infected with or exposed to the virus. The Bank also communicated with RITS members and major RITS feeder systems to ensure a clear understanding of the operational arrangements within the RITS environment.

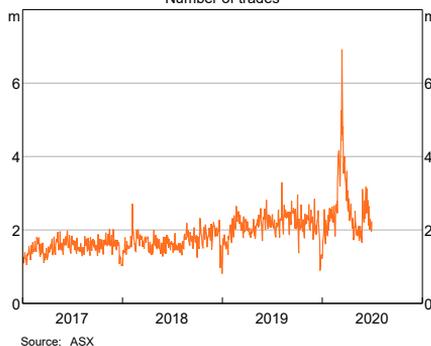
The ASX CCPs have remained financially resilient, but the extreme volatility has highlighted some areas of potential vulnerability that are discussed in the RBA's 2020 Assessment of ASX. These include the potential for ASX's margin models to generate large payment obligations for its participants during times of stress, and limitations on ASX's ability to collect margin against exposures that arise very late in the day. The RBA is working with ASX to address these issues, as well as to consider whether there are any additional stress scenarios that should be taken into account when sizing the CCPs' financial resources.

There remain some longer-term challenges to address as the economy recovers

One ongoing challenge for the financial system is the financial risks arising from climate change. Climate change is exposing financial institutions,

Graph 3.13

CHESSE Cash Equities Trades
Number of trades



and the financial system more broadly, to risks that will rise over time and, if not addressed, could become considerable. These risks for financial stability may arise from both the physical and transition risks of climate change.^[7] Addressing these early will help to both mitigate the transition risks and reduce the scale of the challenge that physical risk poses to financial stability in future. While some work to address the financial risks of climate change has been delayed by the pandemic, including APRA's climate risk vulnerability assessment, other work is continuing. For instance, the Climate Measurement Standards Initiative – an industry-led, collaborative framework that collects a more comprehensive and harmonised disclosure of data on future physical risks and exposures posed by climate change – was recently launched.

Risks to financial institutions' IT systems – from both malicious attacks and malfunction – also require ongoing attention. These risks are heightened as a result of remote working arrangements and associated delays to software updates and patch deployments, but are rising even without that, as systems have become more complex and digital platforms more ingrained. The constantly evolving nature of these risks means it is critical that financial institutions regularly update and upgrade their

defences – including reviewing any short-term solutions established to accommodate the swift transition to working from home. While cyber attacks and incidents are most likely to involve manageable financial losses for specific institutions, if they are broad, and impact confidence, they could have systemic implications.

Finally, financial institutions need to continue to address the culture and governance issues that have become apparent over recent years. If not addressed, these cultural problems can significantly erode financial institutions' profitability through remediation costs and penalties (such as Westpac's recent \$1.3 billion settlement with the Australian Transaction Reports and Analysis Centre) as well as potentially tighter restrictions on their operations. Appropriate culture will be especially important as banks face the challenging task of dealing with customers' loan repayment deferrals and responding more broadly to the economic contraction. In recognition of the importance of these issues, APRA will soon restart work on ensuring remuneration arrangements encourage good practice and culture. ✎

Endnotes

- [1] When making historical comparisons, it is important to bear in mind that the structure of the Australian banking system has changed over time. Relative to today, loss rates in the 1990s recession were inflated by weak lending standards, especially at state-owned banks, and banks' balance sheets were much more business focused and had less collateral backing.
- [2] See Dagher J, G Dell'Ariccia, L Laeven, L Ratnovski and H Tong (2016), 'Benefits and Costs of Bank Capital', *IMF Staff Discussion Note* No 16/04. Available at: <<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Benefits-and-Costs-of-Bank-Capital-43710>>.
- [3] For more details on the growth in domestic deposits, see RBA (2020), 'Recent Growth in the Money Supply and Deposits', *Statement on Monetary Policy*, August.
- [4] Insurers increased their reserves for long-tail personal injury claims in response to a recent increase in the number of class action claims.
- [5] RBA (2020), 'Assessment of the ASX Clearing and Settlement Facilities', *Assessment Report*, October.
- [6] RBA (2020), 'Assessment of the Reserve Bank Information and Transfer System', *Assessment Report*, May.

- [7] For more details see RBA (2019), 'Financial Stability Risks from Climate Change', *Financial Stability Review*, October.

Box C

The Use of Banks' Capital Buffers

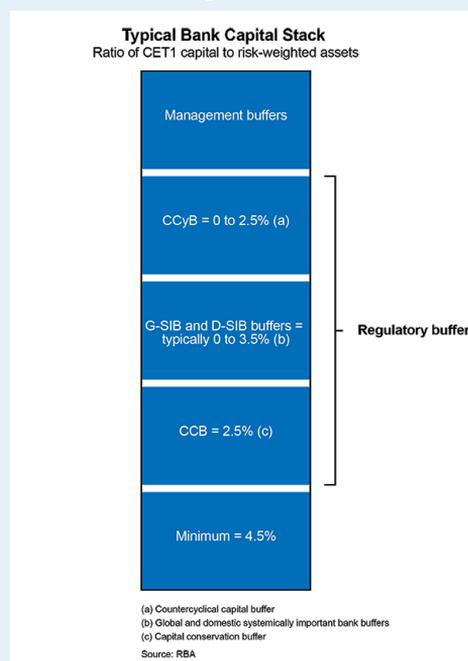
In addition to their regulatory minimum capital requirements, banks hold regulatory and voluntary buffers that can absorb losses, enabling them to continue lending in times of stress. Over the past decade, these buffers have substantially increased for Australian banks and their global peers. These larger buffers will enable banks to absorb the credit losses expected as a result of the pandemic-induced economic contraction and the rise in the risk weights of banks' assets as credit quality deteriorates. With sufficiently large buffers, Australian and international banks can accommodate these reductions to capital and still continue lending. Bank regulators globally have emphasised that buffers are available to be used, and banks should continue to write new loans even while capital ratios fall into their buffers. If banks were to cease lending in an attempt to conserve their capital buffers, the reduction in credit availability would have a significant contractionary impact on the economy. By amplifying the downturn, this contraction in credit supply would ultimately be detrimental to the banking system.

Capital buffers exist for stressed situations such as the COVID-19 shock

Two regulatory capital buffers are designed specifically to support lending in bad times: the capital conservation buffer (CCB) and the countercyclical capital buffer (CCyB). These regulatory buffers were introduced as part of the Basel III reforms of bank regulation that followed the global financial crisis (GFC). They

were designed to ensure that banks have additional layers of capital which can be drawn down when losses occur, enabling them to continue lending and so supporting the economy. Banks are subject to restrictions on earnings distribution if they fall into their regulatory buffers. Banks typically also choose to hold voluntary or 'management' buffers, which are discretionary buffers held on top of the CCB and CCyB. Banks hold voluntary buffers to reduce the chance that they fall into their regulatory buffers, and this provides banks with greater capacity to absorb losses during a downturn (Figure C.1).

Figure C.1



However, for a number of reasons some banks may be unwilling to draw down their buffers, especially in the current environment.^[1] First, banks may want to maintain capital buffers so that they are not constrained in making payments to investors in their Additional Tier 1 capital instruments or distributing profits to shareholders through dividends or buying back shares. Once regulatory buffers are entered, banks face automatic restrictions on the share of earnings that can be distributed. Second, lower capital ratios may cause market participants to question the soundness of individual banks, which could increase their cost of, or limit access to, debt and equity funding. Third, in an uncertain environment such as the current COVID-19 shock, banks may take a conservative approach to capital management by protecting themselves against the risk that credit losses turn out to be larger than the amount they have provisioned. Finally, some banks internationally may be uncertain about, and want to avoid, other regulatory repercussions of accessing their capital buffers, such as heightened supervision. Banks may be concerned that regulators will require a quick restoration of capital buffers after the stress has passed.

Globally, regulators have taken a range of measures to encourage banks to use their capital buffers to continue lending. The Basel Committee on Banking Supervision, the global prudential standard setter for the banking system, has stated several times recently that buffers are there to be used, especially in the current episode. Similarly, prudential authorities in many jurisdictions have released guidance stating that banks are free to draw upon their buffers in the current environment, and that banks will only

be required to rebuild these buffers gradually. Guidance has often also stated that buffer drawdowns should not fund discretionary distributions to shareholders (notably dividends), with several jurisdictions placing blanket restrictions on these distributions. As a result, funds which would have otherwise been paid to shareholders are now available to absorb both credit losses and increases in credit risk weights, as well as finance new lending.

Some regulators have been able to emphasise the usability of regulatory capital buffers by ‘releasing’ them. A number of jurisdictions with non-zero CCyBs have lowered them, while others have postponed or cancelled planned increases in their CCyB.^[2] Some jurisdictions have also released other buffers such as requirements for domestic systemically important banks. However, many jurisdictions do not have readily adjustable buffers, or their default CCyB rate is set at zero.

The response by the Australian Prudential Regulation Authority (APRA) has been in line with that of its international counterparts. APRA has released guidance that the priority is for banks to maintain lending during the pandemic, and encouraged them to use capital buffers and any additional management buffers to support lending.^[3] APRA has also provided firm guidance on distributions to shareholders, stating that it expects Australian banks to retain at least half of their earnings for the remainder of 2020, and actively use capital management initiatives to partially offset any distributions.^[4] In addition, APRA informed banks that they will not be expected to meet the ‘unquestionably strong’ capital requirements until this can be achieved without constraining economic activity.^[5]

Buffers will decline because of COVID-19 but remain large enough to support lending

Banks' buffers will decline due to expected losses on loans during the downturn, and an increase in risk weights applied to assets. Credit losses on loans to households and businesses are expected to rise, particularly once loan repayment deferrals end, though the extent of the increase is uncertain.

In Australia, the four major banks have raised provisions of around \$7½ billion to cover expected losses since the start of the year. This takes their overall provision coverage to 0.8 per cent of gross loans and advances (GLA). Their financial disclosures suggest that provisions would increase to 1.2 per cent of GLA in their most severe (but plausible) scenarios of the current economic contraction. This equates to a further 40–70 basis points of Common Equity Tier 1 (CET1) capital ratios, relative to their current management buffers of 250–350 basis points.

Capital requirements will also rise because risk weights applied to their existing exposures will increase. For example, falls in the prices of property and other collateral, or downgrades of customers' credit rating, can increase the risk weights of mortgage and business lending. The major Australian banks have estimated that these types of increases in risk weights could subtract 70–180 basis points from CET1 capital ratios over the next two years, depending on the scenario used.

These two factors in combination could result in a 110–250 basis point decline in capital ratios over the next couple of years. However, even before taking into account banks' ability to generate new capital over this period, these estimates suggest that, even under the major banks' most severe

scenarios, they will still have sufficient buffers available to support further lending.

There is significant uncertainty about the impact that the pandemic will have on banks' credit losses and risk weights, and whether it could affect banks' capital in other ways. Nevertheless, capital buffers at Australian banks should remain at a sufficiently high level to support continued lending. Analysis using the Reserve Bank's stress testing model, suggests that – assuming that banks maintain a moderate pace of lending growth – the combined impact of credit losses and higher risk weights would subtract around 2 percentage points from major and mid-sized banks' capital ratios under the downside scenario for the economy in the Bank's August 2020 *Statement on Monetary Policy*.^[6] As discussed in 'Chapter 3: The Australian Financial System', more pronounced falls in GDP, employment or property prices could result in a materially larger fall in capital ratios. However, the economic downturn would need to be much more severe than is currently envisioned for banks' capital ratios to approach regulatory minima.

Internationally, stress tests by regulators indicate that banks in the major advanced economies have enough capital to absorb losses and continue lending. For example, stress tests by the European Central Bank (ECB) and the US Federal Reserve found that most banks have sufficient capital to withstand losses in downside COVID-19 scenarios, though several would experience substantial losses and could approach minimum capital requirements. Similarly, the Bank of England found that UK banks are resilient to a wide range of outcomes.

These conclusions are consistent with Reserve Bank calculations based on a simple

stress test model for international banks. The model uses country-level data and draws on past banking crises to simulate the effect of the economic downturn on banks. The scenario presented here is intended to be realistic but more adverse than central projections: credit growth is maintained at its average rate for the past three years, credit loss rates rise by about 3 percentage points on average, risk weights increase by about 14 per cent and other income declines (but remains positive).^[7]

Estimates from this model suggest that capital ratios could decline by an average of around 3.6 percentage points for advanced economy banks, after accounting for an average pace of loan growth (Graph C.1). However, outcomes vary considerably across countries depending particularly on GDP forecast revisions and initial loan loss rates. The analysis also suggests that emerging market economy (EME) banks could experience larger declines in capital ratios, of about 5.4 percentage points on average. If this were to occur, some EME banks may need to slow lending growth or raise capital to maintain capital ratios. According to the model, credit losses could be in the range of 1.5–4.25 per cent of loans for advanced economy banks (detracting 2.6 percentage points from capital) and 4–12 per cent for EME banks (detracting 5.3 percentage points). Rising risk weights are estimated to detract about 1.6 percentage points from capital ratios for both advanced economy and EME banks.

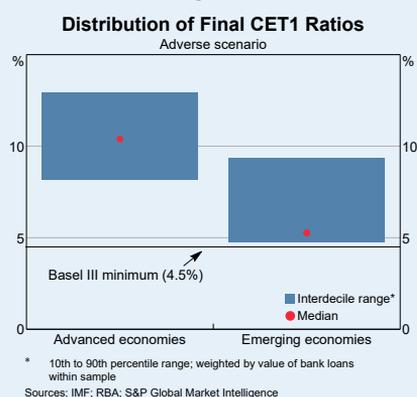
Stronger lending may not lower capital ratios if it supports the economy

If banks were to significantly curtail the supply of credit to preserve their capital, it

would be likely to materially worsen economic conditions. Lower spending by households and businesses, and so incomes, would in turn lead to higher borrower defaults and larger losses for banks. The capital benefits of reducing lending, while seemingly apparent for an individual bank, are therefore likely to be low for the banking system as a whole if all banks simultaneously pull back on the supply of credit. Internal analysis finds that in a severe macroeconomic scenario, consistent with that discussed in ‘Chapter 3: The Australian Financial System’, moderately faster credit growth need not result in lower capital ratios. This is because faster credit growth results in improved macroeconomic outcomes that contribute to lower credit losses and a smaller increase in average risk weights. Based on the specific calibration, these effects fully offset the increase in risk-weighted assets from additional loans, leaving capital ratios broadly unchanged. This suggests that the long-term cost of using buffers is therefore likely to be small. The ECB found similar results for the euro area.^[8]

The risk that negative investor perceptions of buffer use materially affects Australian banks is also low because of their reduced funding

Graph C.1



needs in the immediate future. Australian banks have strong funding positions following an increase in deposits and their use of the Bank's Term Funding Facility. They are therefore not expected to issue much wholesale debt over the next couple of years, reducing the impact that market perceptions could have on funding costs. APRA's decision to allow capital ratios to remain below the 'unquestionably strong' benchmarks until these ratios can be achieved without

unnecessarily disrupting the economy gives banks time to rebuild capital buffers organically, which reduces the likelihood that they will need to issue equity at unfavourable pricing. It is therefore unlikely that there will be much of a short-term cost of using buffers, even if it causes capital ratios to be temporarily lower. ✎

Endnotes

- [1] Financial Stability Board (2020), 'COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken', Report submitted to the G20 Finance Ministers and Governors, July. Available at <<https://www.fsb.org/wp-content/uploads/P150720-2.pdf>>.
- [2] For more information, see Stojkov K (2020), 'Different approaches to implementing a Countercyclical Capital Buffer', RBA *Bulletin*, September.
- [3] APRA (2020), 'APRA adjusts bank capital expectations', Media Release, 19 March. Available at <<https://www.apra.gov.au/news-and-publications/apra-adjusts-bank-capital-expectations>>.
- [4] APRA (2020), 'APRA updates guidance on capital management for banks and insurers', Media Release, 29 July. Available at <<https://www.apra.gov.au/news-and-publications/apra-updates-guidance-on-capital-management-for-banks-and-insurers>>.
- [5] The 'unquestionably strong' benchmarks comprised CET1 ratios of 10.5 per cent for the four major Australian banks; 9.5 per cent for other banks using the internal ratings-based approach for credit risk; and 8.5 per cent for other banks.
- [6] While also assuming a 20 per cent fall in property prices. For details on the stress test model, see RBA (2017), 'Box D: Stress Testing at the Reserve Bank', *Financial Stability Review*, October.
- [7] The simple stress test model uses data on almost 4,000 banks aggregated to the country level. The scenario covers a two-year period and the parameters vary for advanced and emerging market economies. The scenario draws on information on past banking crises summarised in Hardy DC and C Schmieder (2013), *Rules of Thumb for Bank Solvency Stress Testing*, International Monetary Fund (IMF) Working Paper No. 13/232, November. Credit loss rates for each country vary based on the size of Consensus GDP growth forecast revisions in 2020. While credit growth typically declines in economic downturns, it is held constant at the country level in the scenario to simulate a situation where banks make extraordinary efforts to continue lending.
- [8] ECB (2020), 'Buffer Use and Lending to the Real Economy', July. Available at <https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm~de7bd6b109.buffer_use_and_lending_to_the_real_economy_annex2007.pdf>.

4. Regulatory Developments

Since March, the economic and financial effects of the COVID-19 pandemic have been the central focus of Australia's financial regulators as well as key overseas bodies. Domestically, the agencies on the Council of Financial Regulators (CFR) met frequently to exchange information, assess developments and coordinate policy actions. As conditions in financial markets have normalised and physical restrictions eased, the focus of the CFR has shifted from the initial policy response to how the financial system can support the economic recovery. Key elements of a successful transition will be the continued supply of credit by financial institutions and careful management of the end of loan repayment deferrals offered by Australian authorised deposit-taking institutions (ADIs). The CFR has also recently resumed its work on other key focus areas, including cyber and climate change risk.

Globally, key bodies such as the G20 and the Financial Stability Board (FSB) continued to focus on the effects of the pandemic on the global economy and financial system. This work has mainly related to exchanging information, including on the design and effectiveness of support measures used by countries and coordinating appropriate policy responses to the pandemic. Global bodies and national authorities had deferred implementing or progressing selected earlier agreed reforms, so as to reduce the burden on financial institutions, allowing them to focus on mitigating the effects of the pandemic. However, work has continued on more pressing reform areas, including

encouraging the transition away from the London Inter-Bank Offered Rate (LIBOR) ahead of its cessation at the end of 2021. Work on other reform areas will likely resume or intensify in coming months as conditions further normalise.

Cooperation through the CFR has focused on assessing and mitigating the pandemic's effects, and supporting a return to economic growth

The fast pace of developments since the onset of the pandemic has made it crucial that regulatory agencies communicate effectively on key developments and their own activities. This helps agencies to better tailor and coordinate their responses, as well as to anticipate emerging issues. For Australia's main financial regulatory agencies, this coordination occurs primarily through the CFR – which brings together the agency heads of the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC), the Reserve Bank and the Australian Treasury.

The frequency of CFR meetings at agency head level, and engagement at other levels within the CFR agencies, have increased substantially since March. This has included high frequency meetings at the Deputies level, new ad hoc working groups and increased bilateral cooperation between agencies. The CFR has met with the Treasurer and, in June, met with executives from the Australian Competition and Consumer Commission (ACCC), the Australian Taxation Office (ATO) and the Australian

Transaction Reports and Analysis Centre (AUSTRAC) – with these meetings also focused primarily on pandemic-related issues.

Early in 2020 the CFR's focus was on rapidly unfolding events, including the substantial disruption that had occurred in financial markets, the effects of shutdowns on households, businesses and financial institutions, and the design and implementation of public and private sector support initiatives. Its public statements during this time emphasised the strength of the financial system and the coordinated actions being taken to deal with the crisis. Members highlighted their willingness to provide relief or waivers from regulatory requirements where appropriate and to adjust the timing of regulatory initiatives to allow financial institutions to focus on their businesses and assisting customers.

After this initial phase, the CFR's focus shifted to monitoring potential pressure points in the financial system. This included, for instance, the impact on markets and superannuation funds' liquidity of the early withdrawal of superannuation. In the event, superannuation funds have managed these withdrawals in an orderly way, with little impact on markets. The CFR also discussed the functioning of capital markets and the capacity of Australian firms to raise funds. Members concluded that maintaining open markets and robust disclosure arrangements had contributed to confidence in capital markets in Australia. The CFR also discussed the effects of the pandemic on the commercial property market and risks arising from legal uncertainty facing providers of business interruption insurance. The latter is currently the subject of a test case in the courts being run by the industry.

Financial institutions have played an important role in cushioning the effects of the pandemic. In recent months, CFR members have discussed factors likely to affect ADIs' capital buffers, including reduced credit quality of borrowers

(and the impact this has on risk weights), loan losses and dividend policies. In its June quarterly statement, the CFR highlighted ADIs' large capital buffers and encouraged institutions to be prepared to make use of those buffers in order to continue supporting businesses and households through the supply of credit. CFR members have also discussed APRA's stress testing analysis, which provides insights into the possible effects of a range of economic scenarios on ADIs' capital. This analysis will assist APRA in considering its supervisory approach in the period ahead.

The CFR has increasingly focused on the period of transition as more physical restrictions are eased and support measures adjusted. Loan repayment deferrals are a key component of this, given their importance to both borrowers and financial institutions. As noted in 'Chapter 2: Household and Business Finances in Australia', deferrals started expiring in late September with most due to expire before the end of October, but lenders have agreed to extend them for some borrowers and APRA has extended its concessionary capital treatment of those loans. The CFR is continuing to closely monitor this transition and the implications for households, businesses and financial institutions.

While the pandemic has been the main focus of the CFR this year, the CFR has also addressed several other critical issues. In September, the CFR met with the Department of Home Affairs to discuss the government's strategy for protecting critical infrastructure and how this will interact with financial sector regulation. It also discussed APRA's Cyber Security Strategy, which includes additional areas of collaboration between CFR agencies on managing and responding to cyber risk. The CFR has also continued its work on reform of the regulatory framework for financial market infrastructures (FMIs). The proposed reforms seek to strengthen the regulators' powers, streamline decision-making authority and introduce a crisis

management regime to resolve a distressed clearing and settlement facility. Following a public consultation period, the CFR has provided proposals for enhancements to the regulatory regime for FMIs to the Australian Government.

In September, the CFR discussed the annual stocktake undertaken by its Climate Change Working Group. This highlighted the range of activities undertaken by CFR agencies to understand climate risks and to promote understanding and management of those risks by regulated financial entities. A key focus in the period ahead will be the climate change financial risk vulnerability assessment announced by APRA in February. The assessment will involve ADIs estimating the potential physical impacts of a changing climate on their balance sheets, as well as the risks that may arise from the global transition to a low-carbon economy. (The potential effects of climate change on financial stability are discussed further below.) This work is being coordinated by APRA in conjunction with the CFR. The CFR also maintains an interest in international financial risk and policy developments and has recently enhanced its coordination arrangements to allow more effective representation and input by Australian agencies on international policy issues.

Cooperation has extended to other government agencies in Australia and New Zealand

CFR members engage with other regulators with an interest in the financial sector, both domestically and in particular in New Zealand. Since 2017, the CFR agencies have been meeting annually with the agency heads of the ACCC, the ATO and AUSTRAC. The June 2020 meeting covered the responses of regulatory agencies to the pandemic, the role of financial sector competition in supporting economic recovery, and the operational resilience of regulated entities. Discussions also

highlighted the importance of robust consumer protection mechanisms during the pandemic, particularly in light of increased susceptibility to scams, false and misleading advertising and inappropriate financial advice. Participants discussed other areas for further cooperation and joint work, including effective systems for establishing and verifying digital identity.

The CFR recently formed a working group with the ACCC and the Australian Registrars' National Electronic Conveyancing Council (which comprises the state and territory registrars) to review elements of the regulatory framework for e-conveyancing platforms. The review reflects the shift towards e-conveyancing, with a number of states now mandating its use. It highlights the importance of having an appropriate regulatory framework that promotes a safe, competitive and efficient market for the conduct of property transactions, including strong consumer protections.

As with the CFR, the frequency of meetings of the Trans-Tasman Council on Banking Supervision also increased during the pandemic. This grouping includes the CFR agencies, the Financial Markets Authority of New Zealand, the Reserve Bank of New Zealand and the New Zealand Treasury. The focus of discussions has shifted from longer-term issues to issues of common interest during the pandemic, including stress testing, household balance sheets and managing consumer hardship.

International focus on assessing COVID-19 related vulnerabilities continues

There has been significant work at the global level to assess cross-border vulnerabilities, coordinate policy responses and exchange information. The FSB has been a key part of this global effort, given its mandate to assess vulnerabilities in the global financial system.

In the initial stages of the crisis, the FSB focused on the resilience of four key nodes of the global financial system. Weaknesses in these nodes could disrupt the provision of financial services and lead to financial instability. The four critical nodes are the ability: of the financial system to finance the real economy; of market intermediaries to obtain US dollar funding; of financial intermediaries to meet liquidity needs without forced assets sales; and of market participants, in particular central counterparties (CCPs), to effectively manage counterparty risks. The work broadly found that the impact of COVID-19 on new and pre-existing vulnerabilities, including elevated asset price levels, and greater interconnectedness between banks and non-banks, was cause for concern. The FSB also suggested that authorities needed to prepare for more severe shocks. The FSB continues to monitor developments in these four critical areas. As a member of the FSB, and in particular its committee assessing vulnerabilities, the Bank has been contributing to these recent assessments. As a member of the International Organization of Securities Commissions (IOSCO), ASIC has been contributing to the FSB's assessments around liquidity and CCP risk. (The FSB's work in these areas benefited from input from IOSCO.)

In a July 2020 report to the G20, the FSB outlined its more recent focus on three new areas of concern.

- Ratings downgrades to financial and non-financial firms could have procyclical effects and magnify downside risks in the current environment. The COVID-19 pandemic has seen both deteriorating credit quality and rising credit demand in the period after the peak market turmoil in March. This combination makes credit ratings downgrades highly likely. Firms facing ratings downgrades face higher funding costs, and downgrades could lead to forced selling of debt, especially the debt of firms

downgraded from investment grade to non-investment grades.

- The acute liquidity stress from the initial COVID-19 outbreaks was characterised by low trading volumes and price dislocations. Due to large-scale policy actions, these initial stresses have largely subsided. However, the global financial system remains vulnerable to another round of liquidity strain.
- The pandemic has resulted in the largest contraction in global economic activity in decades. This will drive a substantial deterioration in the solvency of non-financial firms, particularly in industries where customers ordinarily congregate in large numbers and those affected by restrictions on movement (such as airlines and international tourism-reliant businesses). This in turn will likely create losses for banks and other lenders. The Bank participates in the working group conducting this work.

The standard-setting bodies and the FSB are also focusing on other potential areas of stress.

- The Basel Committee on Banking Supervision (BCBS) continues to monitor the impact of the pandemic on banks. It has urged banks and supervisors to remain vigilant to the risks and vulnerabilities stemming from the pandemic to ensure that the global banking system remains financially and operationally resilient. It has also responded directly to the crisis by implementing certain measures (such as clarifying that loan repayment deferrals do not count as defaults) and it has encouraged banks to use capital buffers to absorb losses while still maintaining credit (see below).
- The FSB and IOSCO are examining potential sources of broader stress in the non-bank sector, with investment fund vulnerabilities – such as leverage and liquidity mismatches – being particular focus areas given the volatility seen in this sector during March

(see 'Box A: Risks from Investment Funds and the COVID-19 Pandemic'). As a member of IOSCO, ASIC is contributing to this work.

Relatedly, ASIC is on an FSB working group mapping the interconnections between the banking and non-banking sectors. This work aims to identify vulnerabilities and potential routes of contagion. This is part of ongoing work by the FSB to improve the resiliency of the non-bank financial sector.

- The Committee on Payments and Market Infrastructures (CPMI) and IOSCO have been discussing international policy responses to COVID-19 for FMIs, especially CCPs. The CPMI and the CPMI-IOSCO Steering Group have been meeting more regularly to discuss matters including business continuity, operational resilience and credit and liquidity risk management by FMIs, as well as to consider a work plan to focus on some of the short-term risks and policy implications, while seeking to reduce lower-priority demands on industry stakeholders. In related work, during the market stress and volatility caused by the crisis, IOSCO was examining margin and other risk management aspects of central clearing for financial derivatives and other securities.

As in Australia, financial regulators and standard-setting bodies globally have taken steps to support the financial system and wider economy

Complementing the extensive global monetary and fiscal stimulus in response to the pandemic, prudential authorities have also taken a range of actions to enhance bank resilience and to support the economy. An early measure involved some authorities lowering the countercyclical capital buffer (CCyB) requirement where the CCyB had previously applied with a non-zero rate, thereby releasing capital to support the flow of credit to the economy.^[1] Many prudential regulators, including in

jurisdictions – such as Australia – where the CCyB could not be lowered as it was already at zero, also released guidance stating that capital buffers are designed to be drawn on during times of stress – such as now – in order to maintain lending to the real economy. Some authorities have applied comprehensive restrictions on banks' discretionary distributions such as dividends, share buybacks and executive bonuses. These issues are discussed further in 'Box C: The Use of Banks' Capital Buffers'. Prudential authorities have also sought to mitigate some of the procyclical effects of the pandemic-induced downturn by issuing guidance on certain accounting standards, particularly the treatment of expected credit losses, definition of default and calculation of regulatory capital.

Many jurisdictions have also introduced deferrals or holidays on loan repayments, which allow a borrower to stop making repayments on their loan for an agreed period of time. During the holiday, interest generally continues to accrue, but the borrower's credit rating is not affected. The objective is to prevent large-scale defaults and provide cash flow relief for households and businesses until more normal conditions are restored. In many cases regulators have clarified the prudential treatment of loans which are currently covered under the deferrals, typically concerning whether loans are classified as non-performing.

Securities markets regulators have also worked to ensure financial markets remained resilient and that any disruptions were minimised. Domestically, ASIC has also stressed the importance of correctly valuing managed fund assets given increased economic and financial uncertainties due to the COVID-19 pandemic. Valuations of managed fund assets, including illiquid assets, should be regular, robust and reasonable notwithstanding the difficulties that arose due to the pandemic. ASIC has provided some relief for managed funds to assist with

withdrawals by members that are facing financial hardship. It has also been engaging with ASX about managing the trading and settlement load at ASX and to facilitate capital raising relief. ASIC has provided relief to companies about holding annual general meetings and some aspects of financial reporting by companies. In addition, it issued additional guidance about responsible lending guidance as well about its expectations of financial firms when dealing with hardship matters and consumer complaints.

In taking these measures, global and national bodies have generally worked within the flexibility already built into international standards (such as those applying to capital buffers). Indeed, in April, G20 countries agreed to act consistently with international standards and not roll back reforms or compromise the underlying objectives of existing global standards. Nonetheless, the FSB in cooperation with the standard-setting bodies, has work underway to monitor the consistency of COVID-19 related policy measures with international standards, especially those agreed and implemented in response to the global financial crisis. A further review of policy measures will be carried out ahead of the November 2020 G20 Leaders' Summit. G20 members also agreed to coordinate on the future timely unwinding of the temporary measures taken in response to the pandemic.

Selected other regulatory developments

As noted in the April 2020 *Review*, global standard-setting bodies and national regulators had delayed policy implementation timelines for selected global reforms and/or given banks and other financial entities waivers or regulatory relief. This was to reduce the operational burden on banks and financial market participants as they respond to the pandemic. However, work

has continued in selected key areas, including the following.

LIBOR transition

The UK Financial Conduct Authority, the Bank of England and the Working Group on Sterling Risk-Free Reference Rates have reiterated that, despite the disruption caused by COVID-19, the earlier stated timeline of no longer sustaining LIBOR beyond the end of 2021 remains in place. Given this timeline, the G20 and the FSB have stressed in recent statements the importance of entities transitioning away from LIBOR to alternative reference rates. The G20 has stated that 'urgent work' is needed by the private sector, supported by the public sector, to manage this transition, given the risks that may arise if parties are insufficiently prepared for the scheduled discontinuation of widely used LIBOR benchmarks. The G20 noted that the impact of COVID-19 has highlighted that the underlying markets that LIBOR seeks to measure are no longer sufficiently active.

A recent report by the FSB and the BCBS assessed the readiness of market participants and authorities regarding the transition away from LIBOR. It found that, while most FSB jurisdictions have a strategy in place to address the transition, only half of the surveyed non-FSB jurisdictions do. Authorities in jurisdictions which commonly reference LIBOR, such as the euro area, Japan, Switzerland, the United Kingdom and the United States, are relatively more advanced in facilitating and monitoring benchmark transition, although significant challenges remain, including the need to develop products referencing alternative reference rates and increasing liquidity in these products. The report proposed recommendations for addressing these and other challenges.

The Bank, ASIC and APRA are engaged in the international official sector's work on LIBOR transition and benchmark reform more

generally. In Australia, APRA and ASIC continue to monitor progress on LIBOR transition by supervised entities and other relevant stakeholders and engaging to ensure that appropriate progress is being made. Including robust fallback provisions in contracts is an important step towards an orderly transition away from LIBOR. Accordingly, Australian financial and non-financial firms are expected to adhere to the forthcoming International Swaps and Derivatives Association (ISDA) IBOR Fallback Protocol. As well as covering LIBOR, the protocol covers the Australian credit-based benchmark, the bank bill swap rate (BBSW). While BBSW remains a robust benchmark, the inclusion of robust fallbacks in contracts is an important contingency. Accordingly, once the ISDA IBOR Fallback Protocol is published, the Bank will be requiring newly issued floating rate notes that reference BBSW to include the relevant ISDA fallback provisions in order to be eligible collateral in the Bank's market operations. The implementation of this requirement will be determined with input from industry.

Stablecoins

As discussed in recent *Reviews*, global and national bodies have been assessing the implications of 'stablecoins', which are crypto-assets designed to maintain a stable value relative to another asset, typically a unit of currency or a commodity. While the risks associated with stablecoins are currently limited by the small scale of existing arrangements, they may pose financial stability, consumer and other risks if they became widely adopted, particularly across jurisdictions. In April, the FSB issued for consultation several recommendations to address challenges raised by 'global stablecoin' (GSC) arrangements. The recommendations call on relevant authorities to, where necessary, clarify regulatory powers and address potential gaps in their domestic frameworks to adequately address the risks posed by GSCs.

They also stress the importance of regulatory responses being technology neutral and proportionate to the risks, and incorporating appropriate cross-border cooperation and information-sharing arrangements that account for the global reach of stablecoin arrangements. The report also highlighted key international financial regulatory standards that could apply to GSCs, including banking and anti-money-laundering standards. The final recommendations, taking on board feedback from the consultation, will be published soon.

Climate change

There is ongoing work to assess the implications of climate change for the financial system. In April 2020, IOSCO published a report on sustainability and climate change which found that many issuers and asset managers operating cross border may be subject to different regulatory regimes or participate in multiple regional or international third-party initiatives. This wide variety of regulatory regimes and initiatives, often with inconsistent objectives and requirements, may prevent stakeholders from fully understanding the risks and opportunities that sustainable business activities entail. One of IOSCO's objectives is to improve the quality of climate-related disclosures. Also in April, the BCBS issued a stocktake report on the regulatory and supervisory initiatives on climate-related financial risks being undertaken by BCBS member and observer jurisdictions. These included the measurement of climate-related financial risks and raising awareness with banks and external stakeholders. In July, the FSB also published a stocktake report which drew on the results of a survey of 24 members, the Network for Greening the Financial System (NGFS, see below) and international organisations, as well as information from a workshop with the private sector. While the BCBS stocktake examined how regulators and banks account for, and manage, climate-related financial risks, the focus of the

FSB stocktake was more on how authorities are including climate-related risks in their financial stability monitoring. Three-quarters of FSB survey respondents consider, or are planning to consider, climate-related risks as part of their financial stability monitoring, with most focusing on the implications for asset prices and credit quality. The implications of climate change for underwriting, legal, liability and operational risks are also being considered by some authorities. A key challenge is quantifying climate-related risks, which is hampered by a lack of consistent data on financial exposures to climate risks and difficulties translating climate change outcomes into changes in those exposures.

The NGFS is a group of supervisors and central banks (including the Bank), which aims to contribute to the development of environmental and climate risk management in the financial sector and to support the transition to a sustainable economy. In June, the NGFS published a set of climate scenarios for climate risks assessment, and a report on the potential impact of climate change on monetary policy. The scenarios have been developed to provide a common starting point for analysing climate risks. The three scenarios are classified as orderly, disorderly and finally a 'hot house world' scenario which has significant global warming. Accompanying the climate scenarios is a guide which provides practical advice for central banks and supervisors on using scenario analysis to assess these risks to the economy and financial system. The report on monetary policy describes how climate change affects key macroeconomic variables and the effects on monetary policy transmission. It also suggests that climate change could obscure the assessment of correct monetary policy settings. To address these risks, the report recommends that central banks strengthen their analytical toolkits and enhance their communication strategies to help accustom households, firms, governments and financial market participants to the risks of

climate change for the economy and the financial system.

In May 2020, the NGFS published a guide for supervisors which sets out five recommendations to integrate climate-related and environmental risks into their work. These include to:

- determine how climate-related and environmental risks transmit to the economies and financial sectors in their jurisdictions and identify how these risks affect supervised entities
- develop a clear strategy, establish an internal organisation and allocate adequate resources to address climate-related and environmental risks
- identify the exposures of entities that are vulnerable to climate-related and environmental risks and assess the potential losses should these risks materialise
- set supervisory expectations to create transparency for financial institutions in relation to the supervisors' understanding of a prudent approach to climate-related and environmental risks
- ensure adequate management of climate-related and environmental risks by entities and take mitigating action where appropriate.

The NGFS has also released a report on financial institutions' experiences with 'green', 'non-green' and 'brown' financial assets.^[2] This noted positive trends among financial institutions to better account for climate-related risks but also that there are some challenges in the classification of green assets, with definitions differing by jurisdiction. In September the NGFS released a report on environmental risk analysis (ERA) in the financial services industry. The report makes a number of recommendations to help mainstream ERA within financial services

including enhancing awareness and developing a taxonomy of economic activities. ✎

Endnotes

[1] For more detail on the countercyclical capital buffer, and its use during the COVID-19 pandemic, see Stojkov K (2020), 'Different Approaches to Implementing the Countercyclical Capital Buffer', Reserve Bank of Australia *Bulletin*, September.

[2] 'Green' and 'brown' assets are classified as such by their impact on the environment. Green assets are seen as having less environmental impact and brown assets more. However, the report notes significant definitional challenges.

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