

Box A

Recent International Bank Failures – Causes, Regulatory Responses and Implications

Three US banks failed in March 2023:

- **Silvergate Bank** (Silvergate), a crypto-focused bank, announced its intent to wind down operations and voluntarily liquidate the bank in an orderly manner.
- **Silicon Valley Bank** (SVB) was closed by US regulators, with the Federal Deposit Insurance Corporation (FDIC) appointed as receiver. UK regulators also facilitated the sale of SVB's UK subsidiary. SVB's customers were primarily technology and life science companies (including startups).
- **Signature Bank** (Signature) was closed by US regulators, with the FDIC appointed as receiver. Signature served mainly commercial customers across a range of industries but had been increasingly focused on serving crypto customers in recent years.

A run on these banks' deposit bases, which were concentrated and largely uninsured, was in part due to concerns that large unrealised losses on banks' asset holdings would impair their capital positions (particularly for SVB). These failures were in part enabled by poor risk-management practices and a less stringent regulatory regime. They also caused spillovers to other banks, particularly those with pre-existing vulnerabilities:

- **Credit Suisse** was taken over by UBS on 19 March in a 'voluntary transfer' resolution orchestrated by Swiss authorities. While Credit Suisse did not

have the same vulnerabilities as the US banks above, it had faced multiple high-profile risk and governance-related incidents over many years that had severely damaged the bank's profitability and reputation.

- Certain other regional US banks have remained under stress, most notably **First Republic Bank** (First Republic). These banks have generally shared similar (though less pronounced) vulnerabilities in their asset and funding mix as the failed US banks.

Central banks and banking regulators responded promptly to these events, stepping up liquidity support for solvent financial institutions and taking measures to ensure bank resolutions are conducted in a way that preserves the stability of the financial system. Most banks, including global systemically important banks, have entered this period with strong capital and liquidity positions as a result of post-GFC reforms. Nevertheless, regulators internationally – including in Australia – are considering the lessons to be drawn from this episode. Investor and depositor confidence is likely to remain fragile for some time, particularly for banks with pre-existing vulnerabilities or that have a business model more exposed to risks from higher interest rates. There is also a plausible risk that recent events will result in a tightening of credit conditions, which will further weigh on economic activity – and ultimately affect loan quality – in the period ahead.

Australian banks are entering this more challenging environment for global financial stability in a strong position. This is a result of banks' significant capital and liquidity buffers, well-established risk controls and a strong domestic regulatory and supervisory framework administered by the Australian Prudential Regulation Authority (APRA).

The US bank failures were triggered by similar vulnerabilities

Concentrated deposits

The failures of SVB, Signature and Silvergate were triggered by a run on their deposit bases. All three banks had a large share of uninsured deposits (i.e. those above the \$250,000 threshold for deposit insurance in the United States), which were largely held by commercial customers concentrated in a relatively small number of (mostly technology-related) industries (Graph A.1). This concentration risk had two elements: first, depositors were more likely to respond quickly and in a common way to signs of potential stress at these banks; and second, the banks were exposed to a narrow set of shocks that affected most of their depositors at the same time. For example, the collapse of the crypto exchange FTX in November 2022 resulted in deposit outflows and investor nervousness for Silvergate and Signature, which had provided banking services to the exchange.

Large valuation losses on securities holdings

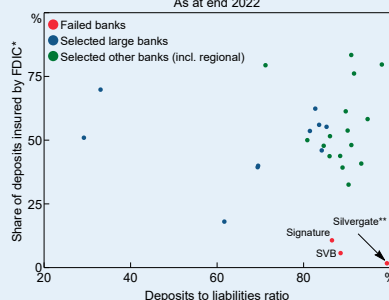
The key trigger for stress at SVB and Silvergate was large valuation losses on their unhedged holdings of long-term fixed-rate debt securities (e.g. government and mortgage-backed bonds) as interest rates

increased. For SVB, the debt securities were primarily classified as 'held to maturity'. Under US and international accounting standards, banks are not required to recognise changes in the value of held-to-maturity portfolios as income (although the interest rate risk on these positions can have regulatory capital implications, particularly for large banks). This is because, although the value of the underlying securities can fluctuate over time, they have a known fixed rate of return if held to maturity (Graph A.2). However, a bank may need to recognise 'mark-to-market' gains or losses if the portfolio is reclassified as 'available for sale' (e.g. to meet deposit outflows). If these losses are large, they could leave the bank undercapitalised.

Most banks hold long-term debt securities and have sustained valuation losses on their securities portfolios over the past year. However, for SVB the valuation losses were unhedged and very large – around 130 per cent of the bank's Common Equity Tier 1 (CET1) capital – which gave rise to concerns about the solvency of the bank if the losses had to be realised (by selling bonds whose price had fallen well below the purchase price to meet deposit outflows).

Graph A.1

US Bank Deposits
As at end 2022



* FDIC estimates.

** Silvergate data is from the end of 2021, as deposits began to fall sharply after this date.

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

The likelihood that SVB would need to realise these losses was increased by its concentrated and largely uninsured deposit base. By contrast, other US and global banks – particularly larger banks – tend to have more diversified deposits with a higher share of insured retail customers, as well as higher capital levels and access to a broader range of funding sources.

Poor risk management and less stringent regulation and supervision

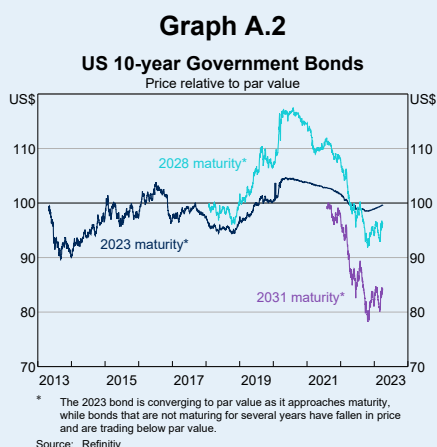
These vulnerabilities were exacerbated by poor risk management practices, combined with a less stringent regulatory and supervisory regime relative to larger US banks and many banks overseas. SVB and Silvergate were particularly sensitive to a rise in interest rates, both directly (via large unhedged exposures to long-term fixed-rate debt securities) and indirectly (because higher interest rates increased pressures in the crypto and technology start-up sectors that accounted for much of their deposit base). All three banks were below the \$250 billion asset threshold to be considered systemically important in the United States (following an increase in this threshold from \$50 billion in

2018) and were subject to less stringent regulatory and supervisory requirements as a result. This included exemptions from maintaining and publicly reporting standard risk metrics like the Liquidity Coverage Ratio (LCR) or Net Stable Funding Ratio (NSFR).

US regulators intervened promptly, but damage to market sentiment caused spillovers to some other US banks ...

As deposit flight ensued, US regulators took prompt action to limit the potential for system-wide stress:

- **Authorities increased the coverage of deposit guarantees.** The US Treasury, the Federal Reserve and the FDIC issued a joint statement announcing a ‘systemic risk exception’ for SVB and Signature, which allowed the FDIC to guarantee all deposits at the banks (including balances above US\$250,000). The announcement set out that while no losses would be directly borne by taxpayers, shareholders and certain unsecured debtholders would suffer losses; losses arising from the protection of uninsured depositors would be recovered by levying a ‘special assessment’ on banks. Losses from the sale of SVB are expected to be around US\$20 billion.
- **The US Federal Reserve announced a new liquidity facility,** the Bank Term Funding Program (BTFP). Similar to the Federal Reserve’s Discount Window facility, the BTFP is a secured lending facility open to depository institutions in generally sound financial condition. Loans under the BTFP can be up to one year and collateral is valued at ‘par’. The latter feature increases the borrowing capacity of some banks under the BTFP,



as a large share of outstanding eligible collateral is trading below par due to increases in interest rates.

Despite these interventions, some regional US banks with vulnerabilities in their asset and funding mix (though less pronounced than SVB) have remained under stress since the failures. Most notably, First Republic's share price declined by nearly 90 per cent since SVB's failure, alongside a reported 40 per cent decline in its deposits since the start of 2023 and large unrealised losses on its securities and real estate lending portfolios. The bank remained under stress despite 11 large US banks depositing \$30 billion to improve the bank's liquidity and shore up depositor confidence. First Republic and other US regional banks have sought liquidity assistance from the US Federal Reserve, with the combined outstanding balance of the Discount Window and BTFP reaching a record high of US\$165 billion in the week to 15 March and only decreasing slightly in the weeks after (Graph A.3).

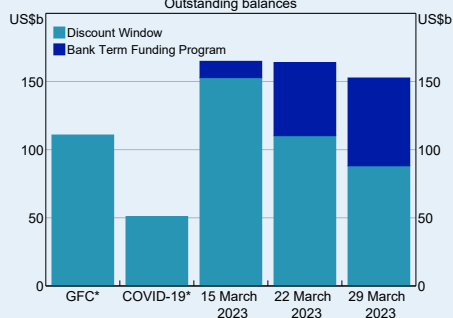
... and contributed to the failure of Credit Suisse after a prolonged period of low profitability, amid risk control and governance concerns

Global market sentiment deteriorated in the week following SVB's failure, at which time Credit Suisse, a global systemically important bank, came under severe stress. Credit Suisse did not have the same vulnerabilities as SVB – for example, the bank's securities portfolio comprised a much smaller share of total assets (around 25 per cent), it had hedged a large share of its interest rate risk and had high levels of capital and liquidity. However, it had faced multiple high-profile incidents over several years, including large losses from the failures of Archegos and Greensill Capital. These incidents severely damaged the bank's profitability and reputation. Some business lines had also experienced profitability challenges for some time and analyst commentary had focused on the need for Credit Suisse to exit certain activities as a result. Prior to SVB's failure, Credit Suisse's market capitalisation had already declined by around 75 per cent since January 2018, resulting in a price-to-book ratio of 25 per cent at the beginning of March 2023 (Graph A.4). It had also experienced previous episodes of more acute stress, including deposit outflows and a sharp rise in its credit default swap spreads in October 2022 (indicating elevated market expectations of default).

In the week after SVB's collapse, Credit Suisse's equity price dropped by more than 20 per cent and its bond prices fell sharply to distressed levels. Sentiment worsened when the bank's largest shareholder indicated it was not willing to provide any additional capital. Daily deposit outflows reportedly exceeded CHF10 billion (relative to total

Graph A.3

US Federal Reserve Liquidity Facility Usage
Outstanding balances



* Peak outstanding balances during previous stress periods.
Source: US Federal Reserve

deposits of CHF233 billion as of end-2022) in the few days before its failure. This continued despite the Swiss National Bank (SNB) announcing it would provide liquidity to the bank, and Credit Suisse announcing it was planning to exercise this option by borrowing CHF50 billion.

Regulators were concerned that allowing the bank to continue trading could see it rapidly become illiquid or insolvent, which would have had severe consequences for the bank's customers and the stability of the broader domestic and global financial system. In response, UBS announced on 19 March that it would be taking over Credit Suisse at the request of Swiss authorities, supported by measures taken by the Swiss Government and regulators:

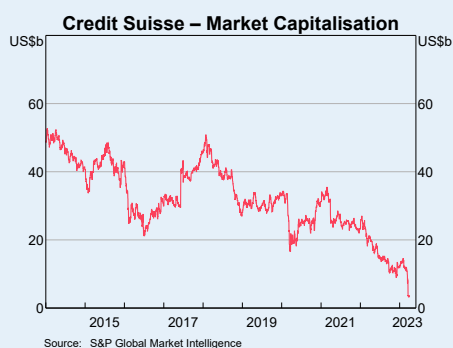
- Swiss regulators applied emergency rules to allow UBS and Credit Suisse to expedite the takeover (e.g. by allowing it to occur without the approval of shareholders).
- The SNB provided each bank with access to an unsecured liquidity assistance loan for a total amount of up to CHF100 billion. These loans would have 'privileged creditor status' in bankruptcy (behind certain highly preferential claims

such as employees and pension funds). The SNB also provided Credit Suisse with an additional unsecured liquidity assistance loan of up to CHF100 billion, which was backed by a federal government default guarantee.

- The Swiss Government provided UBS with a CHF9 billion guarantee against potential losses from the wind-down of certain Credit Suisse assets above a CHF5 billion threshold.
- Switzerland's financial regulator determined that the extraordinary government support provided would trigger a full writedown of Credit Suisse's Additional Tier 1 (AT1) capital of around CHF16 billion. This resulted in losses for investors and initially triggered sharp falls in prices of AT1 securities for banks in Europe and other overseas jurisdictions (although not in Australia where AT1 securities tend to have a different conversion structure to those issued by Credit Suisse). Sentiment around AT1 instruments stabilised following comments from Canadian, EU, Hong Kong, Singaporean and UK authorities clarifying that shareholders would bear losses ahead of AT1 security holders in their jurisdictions.

The merger of Credit Suisse and UBS will be highly complex given the size and global reach of the two banks. The transaction will require parliamentary approval in Switzerland and regulatory approval in many overseas jurisdictions, though it is expected to close towards the end of 2023. UBS' capital requirements will increase following the merger due to its increased size, although the Swiss financial regulator has granted UBS 'appropriate transitional periods' to build this capital.

Graph A.4



Post-GFC reforms have strengthened the resilience of banking systems and limited contagion from the failures, but confidence in some banks remains fragile

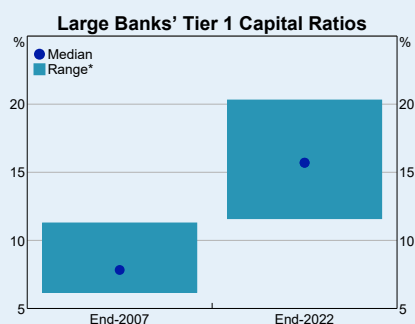
The failures of Credit Suisse, SVB, Signature and Silvergate represent the most severe stress event for the global banking system since 2008. Global regulators – including APRA in Australia – are considering the implications of the failures for banking regulatory frameworks, and US regulators have stated that they are considering strengthening regulatory requirements (particularly for mid-size and small banks). Nevertheless, the failures have been significantly less disruptive than the 2008 episode of bank stress. This reflects several factors:

- The failure of Lehman Brothers in 2008 precipitated larger losses and extreme liquidity stress across the banking system, at a time when underlying loan quality was already under pressure. Banks' large and opaque exposures to the subprime mortgage and structured credit markets, and the difficulty in valuing these assets in a timely fashion, led to extreme uncertainty and risk aversion. This resulted in an abrupt disruption to the interbank funding markets, and bank liquidity and capital buffers proved inadequate. By contrast, the 2023 bank failures have not resulted in material losses to other banks, and banks' mark-to-market losses on securities portfolios are largely known and manageable.
- The resilience of the global banking system has improved significantly since 2008 as a result of post-GFC reforms. Bank CET1 capital ratios have increased by

8 percentage points on average across advanced economies since 2008 (Graph A.5). Banks are also required to hold much higher levels of liquidity (governed by the LCR requirement) and to maintain stable funding sources that better align with the duration of their asset holdings (as captured by the NSFR requirement). Banks are required to maintain updated recovery plans, and regulators have access to a wider range of supervisory and resolution tools that both decrease the probability of bank failure and minimise the impact (including on taxpayers) should a failure occur. This improved resilience increases confidence in the ability of the banking system as a whole to absorb major shocks, thereby reducing the likelihood of severe contagion.

Nevertheless, sentiment is likely to remain fragile for some time and, in such an environment, the security prices of even strongly capitalised and liquid banks could also come under pressure. The equity prices of many banks have fallen sharply across advanced economies, reflecting increased investor risk aversion and the possibility that

Graph A.5



* 5th to 95th percentile of Tier 1 capital ratios across 74 large advanced economy banks from Australia (4), Canada (6), the United Kingdom (4), the United States (10), Japan (4), euro area (34) and other Europe (12).

Sources: RBA; S&P Global Market Intelligence

the failures could lower bank profitability in the period ahead due to higher funding costs and a weaker economic outlook (Graph A.6). Volatility in bank funding markets has also picked up, prompting the US Federal Reserve and five other central banks to increase the frequency of US dollar swap line operations; so far, this move has been viewed as largely precautionary in nature, with few drawdowns (see 'Chapter 1: The Global Financial Environment').

Australian banks have been less affected than those overseas

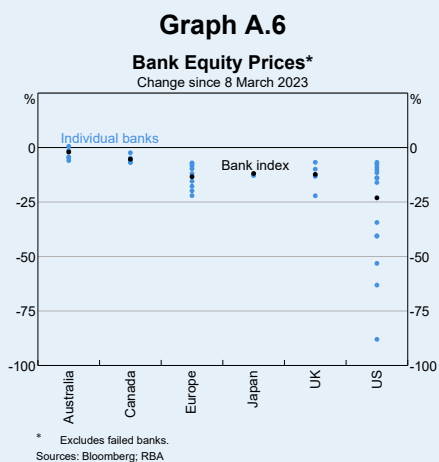
There have been limited flow-on effects to Australian banks from recent events in the United States and Europe. Australian banks' strong capital and liquidity positions, a robust domestic regulatory and supervisory framework involving close oversight by APRA, and the different nature of Australian banks' main activities make it less likely that the issues unfolding internationally will surface domestically. The market reaction to date reflects this, with Australian bank share and bond prices falling by considerably less than for banks in the United States and Europe,

and there is no sign of stress in the Australian interbank and money markets (Graph A.6).

Australian banks have high levels of resiliency to liquidity and funding shocks

The strength of Australian banks reflects both the voluntary (precautionary) response by banks to the GFC and their response to new regulations (see 'Chapter 2: The Australian Financial System'). After the GFC, banks reduced their reliance on short-term offshore wholesale funding because of the higher rollover risk associated with this funding source (particularly in periods of generalised liquidity stress); instead, they shifted towards more stable funding sources such as domestic deposits. Within deposit funding, a large share of Australian banks' deposits are from households, which tend to be more stable compared with other sources of deposits (Graph A.7). The Basel III liquidity reforms require banks to ensure they have sufficient high-quality liquid assets (HQLA) to meet cash outflows over a stress period (the LCR requirement) and a minimum level of stable funding for their assets (the NSFR requirement). Australian banks have maintained ratios comfortably above regulatory requirements for some time, supporting their resiliency to funding shocks.

Australian banks' capital positions are robust. APRA's 'unquestionably strong' capital framework came into effect on 1 January 2023, which has strengthened the resiliency of Australian banks to shocks. Banks hold levels of capital that are well in excess of these requirements and are high by international standards, further enhancing their loss-absorbing capacity.



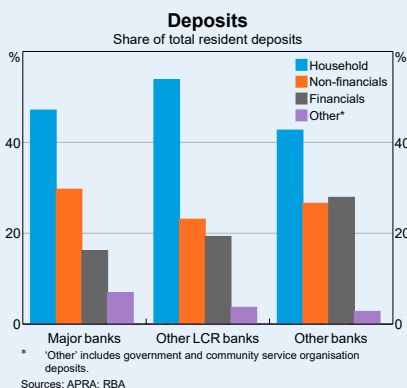
Australian banks' balance sheets are relatively less exposed to interest rate risk

One of the issues highlighted by the SVB failure was banks' sensitivity to interest rate risk resulting from large holdings of fixed-income securities. Holdings of securities tend to be a smaller share of Australian banks' assets, so they are relatively less exposed to this risk. On average, Australian banks' holdings of securities represent about 9 per cent of their domestic assets (Graph A.8). Australian banks' securities portfolios are also shorter duration than was the case for SVB, which further reduces exposure to interest rate risk. Australian bank balance sheets are also in part naturally hedged as a result of holding assets (such as variable-rate mortgages) that can be repriced quickly following increases in funding costs. Regulation in Australia requires banks to hold capital for interest rate risk in the banking book, which also incentivises banks to hedge their residual interest-rate risk exposure, leaving little interest rate risk on their balance sheet. Australian banks that are required to meet the LCR must include their holdings of HQLA at market value when calculating compliance with regulatory requirements.

Australia has a robust domestic regulatory and supervisory framework

All Australian banks are held to high liquidity and capital standards, and are closely monitored by APRA. Banks required to meet the LCR and NSFR account for 86 per cent of Australian banking system assets. The remaining banks are also subject to prudent liquidity management requirements, including the minimum liquidity holdings requirement. APRA closely supervises banks and can require them to hold additional liquidity or capital if it has concerns about the bank's risk profile or the quality of its risk management. This is in contrast with the United States, where banks with less than \$250 billion in assets and less than \$50 billion in weighted short-term wholesale funding are exempt from standardised liquidity requirements, including the LCR and NSFR. Some of these banks – including the failed US banks – are still required to report certain liquidity metrics monthly and conduct internal liquidity stress tests, although the smallest US banks are also exempt from those requirements. Even with the strong regulatory framework in place in Australia, APRA, like other regulators around the world, is considering the lessons to be drawn from the recent bank failures. ✎

Graph A.7



Graph A.8



