Risk Management

Effective risk management is an integral element in the Reserve Bank achieving its strategic objectives and meeting its policy responsibilities. Accordingly, a risk and compliance management framework underpins effective decision-making in the Bank, while allowing enterprise-wide and emerging risks to be identified and managed in a way that is consistent with the Bank's risk appetite. This framework is overseen by the Risk Management Committee.

Objectives and governance structure

The Reserve Bank, like any organisation, cannot achieve its objectives without taking on some risk. To help manage risk, the Bank has implemented the 'three lines model'. Departments – the 'first line' – are responsible for evaluating their risk environment, putting in place appropriate controls and ensuring that these controls are implemented effectively. This is supported by a 'second line' of staff who provide additional expertise, monitoring and challenge (particularly in areas where the inherent risks are higher). Audit Department provides a 'third line' of independent assurance and advice.

The Reserve Bank identifies, assesses and manages risk at both an enterprise ('top-down') and business ('bottom-up') level – a process that is subject to ongoing review. Risks are managed to a level that is consistent with the Bank's risk appetite as articulated by the Bank's management. The Bank supports and promotes the development and maintenance of an active risk management culture that acknowledges the need for careful analysis and management of risk in all business processes.

Oversight of the Reserve Bank's arrangements for risk management is undertaken by the Risk Management Committee. The Committee is chaired by the Deputy Governor and comprises: the Assistant Governors for Business Services, Corporate Services and Financial Markets groups; the Chief Financial Officer; the Chief Information Officer; the Heads of the Audit, Human Resources, Information, and Risk and Compliance departments; and the General Counsel. The Risk Management Committee meets at least six times each year and informs the Executive Committee and the Reserve Bank Board Audit Committee of its activities.

The Risk Management Committee is responsible for ensuring the proper assessment and effective management of all the risks the Reserve Bank faces, with the exception of those arising directly from its monetary and financial stability policies and payments policy functions. These risks remain the responsibility of the Governor, the Reserve Bank Board and the Payments System Board. The risks associated with the Bank's ownership of Note Printing Australia Limited (NPA) are overseen by the Reserve Bank Board, while the risks of operating NPA are overseen by the NPA Board and management.

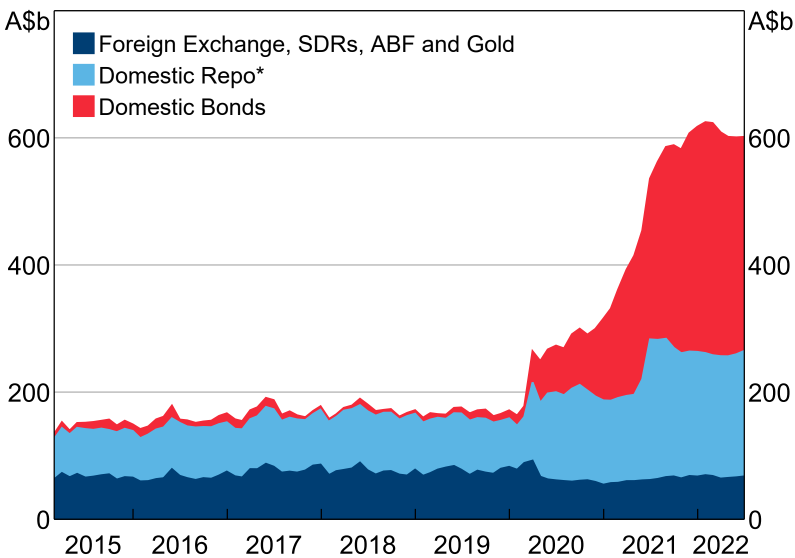
The Risk Management Committee is assisted in its responsibilities by Risk and Compliance Department. The Department also assists individual business areas manage their risk and compliance environment effectively within a framework that is consistent across the Bank. It monitors risk and performance associated with the Reserve Bank's activities in financial markets and supports the business areas by implementing Bank-wide control frameworks covering fraud, bribery and corruption, business continuity and compliance-related risks. The Head of Risk and Compliance Department reports directly to the Deputy Governor and the Chair of the Audit Committee.

Audit Department undertakes a risk-based audit program to provide independent assurance that risks are identified and key controls to mitigate these risks are well designed, implemented and working effectively. The Head of Audit Department reports to the Deputy Governor and the Chair of the Audit Committee. Audit Department's work is governed by the Audit Department Charter, which is approved by the Audit Committee.

Portfolio risks

The Reserve Bank holds domestic and foreign currency-denominated financial instruments to support its operations in financial markets in pursuit of its policy objectives. These instruments account for the majority of the Bank's assets and expose its balance sheet to a number of financial risks. The primary responsibility for managing these risks rests with Financial Markets Group. Risk and Compliance Department monitors these risks and assesses compliance with the approved risk framework. Within this framework, compliance with financial management guidelines and developments in portfolio risks are reported to the Risk Management Committee.

Composition of RBA Settled Portfolio

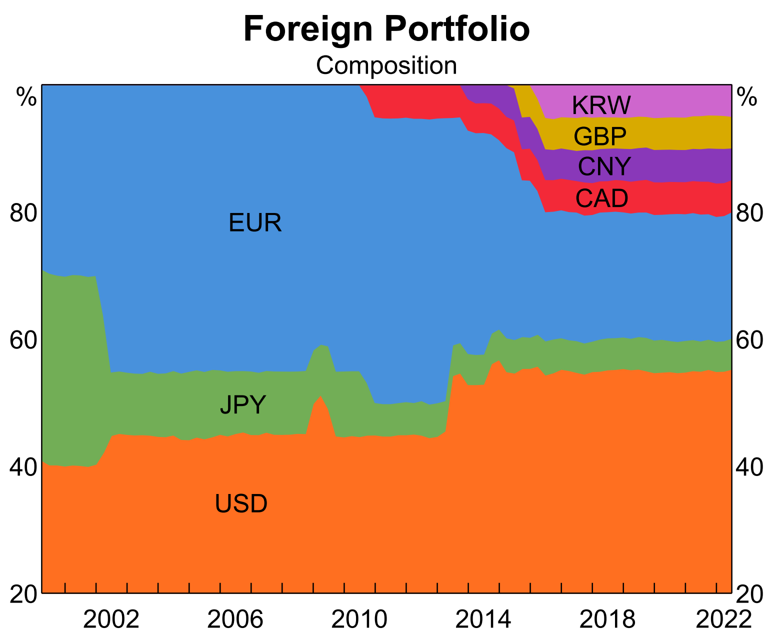


* Domestic repo is valued based on cash lent under repo.

Source: RBA

Exchange rate risk

The Reserve Bank is exposed to exchange rate risk as some of the Bank's assets are denominated in foreign currency, while most of the Bank's liabilities are denominated in Australian dollars. Foreign currency assets consist of outright foreign exchange holdings, assets funded by foreign exchange swaps, Special Drawing Rights (SDRs, an international reserve asset created by the International Monetary Fund (IMF)) and units in the Asian Bond Fund (an investment that is managed externally by the Bank for International Settlements). Outright foreign exchange holdings are the largest component of foreign currency assets. As these assets are held for policy purposes, the Bank does not seek to eliminate or hedge the associated foreign exchange exposure. However, the Bank mitigates some of this risk by diversifying these assets across various currencies. The foreign portfolio has target shares of 55 per cent in US dollars, 20 per cent in euros and 5 per cent each in Japanese yen, Canadian dollars, UK pound sterling, Chinese renminbi and South Korean won. These shares have been unchanged since 2016. The portfolio composition reflects the Bank's risk appetite and desired liquidity. Some limited deviation from target currency shares is permitted to simplify management and minimise transaction costs.



* Excludes assets funded by foreign exchange swaps.

Source: RBA

The Australian dollar value of the Reserve Bank's outright foreign exchange holdings increased modestly over 2021/22 owing to an overall depreciation of the Australian dollar against the currencies held. Based on the size of the outright foreign exchange portfolio as at 30 June 2022, a 10 per cent appreciation of the Australian dollar would result in a mark-to-market loss of $4.2 billion, little changed from the previous year.[1]

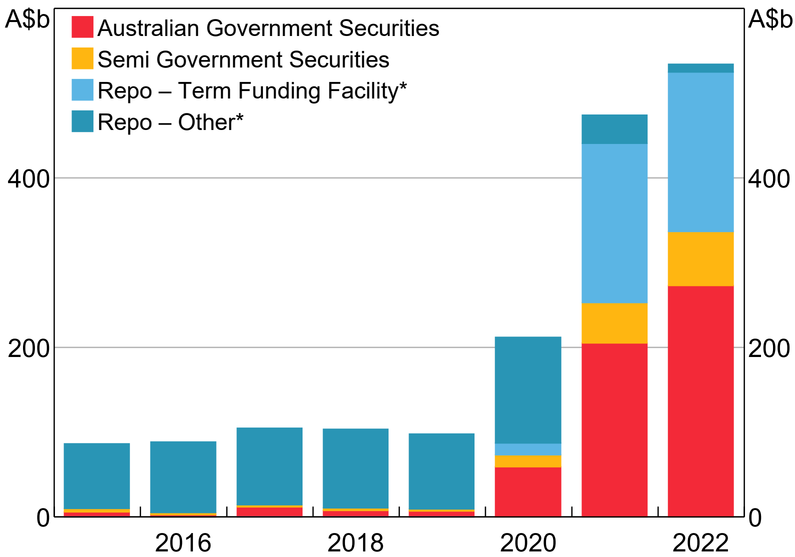
[1] Based on the Reserve Bank's total FX reserves exposure (including outright holdings of foreign exchange, SDRs, gold and the Asian bond fund) as at 30 June 2022, a 10 per cent appreciation of the Australian dollar would result in a mark-to-market loss of $5.4 billion, up slightly from the previous year.

Interest rate risk

The value of the Reserve Bank's financial assets is also exposed to movements in market interest rates. Interest rate risk on the Bank's portfolio rose to a historically high level over 2021/22, reflecting an increase in the size of the domestic portfolio.

Total holdings of domestic securities increased by $60 billion over 2021/22 to $534 billion. Domestic securities held outright increased by $84 billion to $337 billion, while those held on a temporary basis under repurchase agreements (repos) decreased by $24 billion to $197 billion.

Market Value of Domestic Assets Portfolio

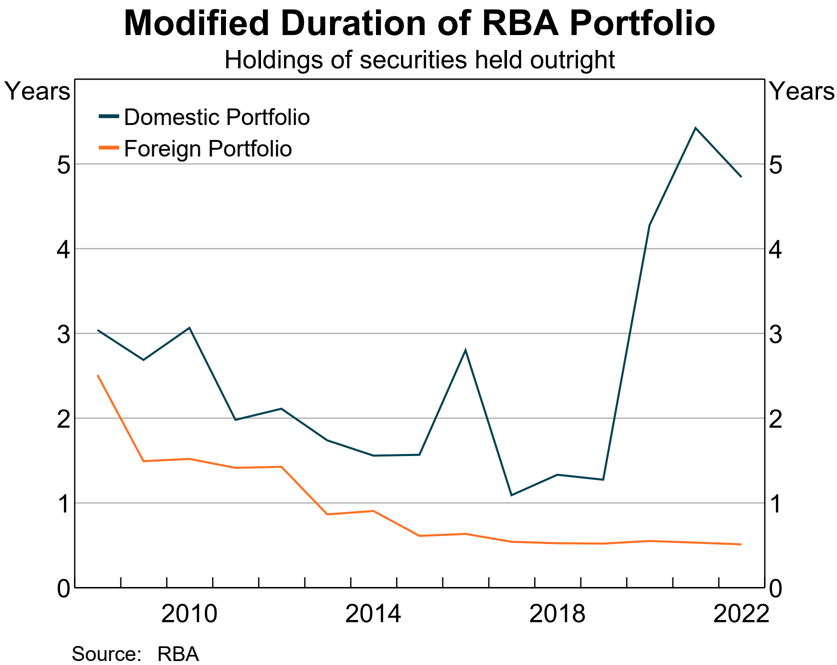


* Domestic repo is valued based on cash lent under repo.

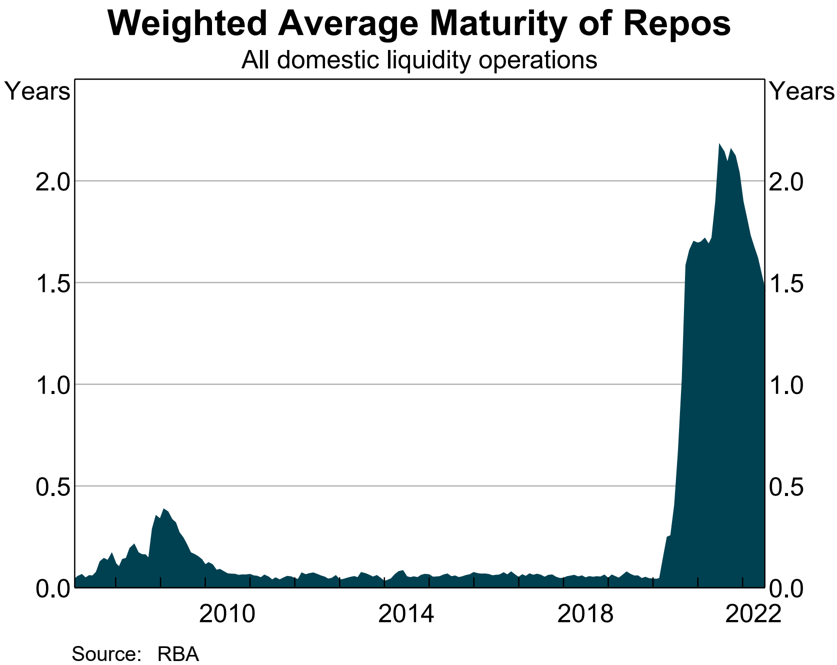
Source: RBA

The expansion in securities held outright was a result of the Reserve Bank's policy actions to support the Australian economy during the pandemic – in particular, purchases of Australian Government Securities (AGS) and semi-government securities (semis) in the secondary market to address dysfunction in the government bond market, support the three-year yield target, and as part of the bond purchase program, which focused on the 5–10 year segment of the yield curve. The Reserve Bank ceased all bond purchases under these programs by February 2022.

The interest rate sensitivity of outright holdings in the domestic portfolio, as measured by modified duration, decreased from around 5½ years to 5 years over 2021/22. The Reserve Bank intends to hold these bonds to maturity. Hence, the return the Bank will earn on these bonds will be determined by the yield on each bond at the time of purchase and will not change with valuation gains or losses that result from fluctuations in yields (see chapter on 'Earnings, Distribution and Capital').



The reduction in repos was mainly due to authorised deposit-taking institutions (ADIs) maturing open repos with the Reserve Bank that had previously been maintained to meet payment obligations. These repos were no longer considered necessary by many ADIs in the presence of high exchange settlement account balances with the Reserve Bank (see chapter on 'Operations in Financial Markets'). Nonetheless, repos remain high by historical standards due to outstanding repos under the Term Funding Facility (TFF). Under the TFF, the Bank provided three-year funding to ADIs under repurchase transactions between April 2020 and June 2021. The average term of all outstanding repos decreased over the year from a peak of a little over 2 years to 1½ years as the remaining term to maturity of outstanding repos under the TFF decreased.

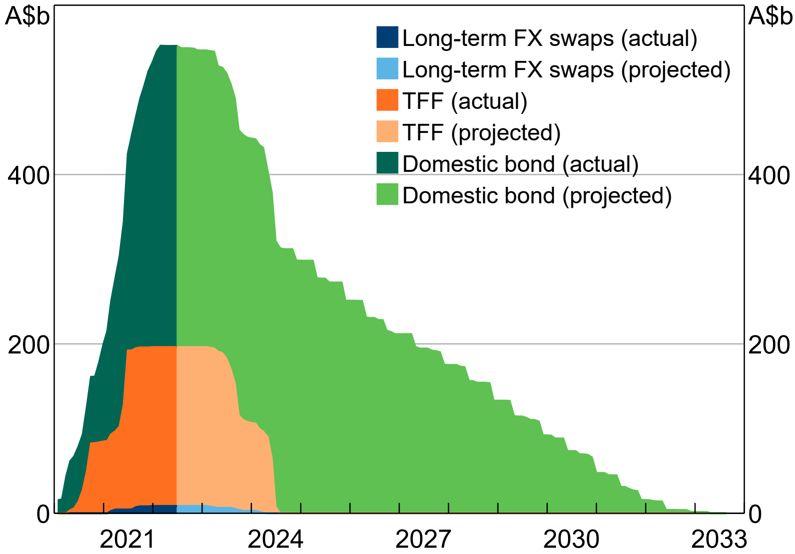


The Reserve Bank's foreign portfolio is comprised of assets denominated in the seven reserve currencies. Each asset portfolio is managed relative to a benchmark portfolio, with duration targets that reflect the Bank's long-term appetite for interest rate risk and return. These targets are reviewed periodically. During 2021/22, duration targets were unchanged in all seven asset benchmark portfolios. The duration targets are: 18 months for the Chinese and South Korean portfolios; six months for the European, Canadian and US portfolios; three months for the UK portfolio; and less than three months for the Japanese portfolio. Some limited variation in actual portfolio duration from these duration targets is permitted to reduce transaction costs and provide scope to staff to enhance portfolio returns. The weighted-average benchmark duration target for the Bank's total foreign portfolio was unchanged over 2021/22 at 6¾ months.

The Reserve Bank is also exposed to interest rate risk owing to a maturity mismatch between assets and liabilities. This risk increased substantially over the past two years as a result of the Bank's policy response to the pandemic. Liabilities include Exchange Settlement (ES) account balances held by ADIs, deposits held by the Australian Government and its agencies, and banknotes on issue. ES account balances have increased significantly since 2020 as a result of the TFF and asset purchase program. ES account balances have also increased as the Bank increased gross US dollar foreign exchange reserves by entering into long-term AUD/USD foreign exchange swaps with maturities of up to three years to fund the Bank's commitments to the IMF (see chapter on 'Operations in Financial Markets'). Interest paid on ES account balances, as well as deposits held by the Australian Government and its agencies, is based on an overnight rate that reflects the Bank's monetary policy settings. This rate increased by 75 basis points during 2021/22 as the Bank began to withdraw monetary stimulus provided in response to the pandemic. Historically, this interest cost has been broadly offset by interest earnings on the domestic asset portfolio, which was mostly comprised of short-term repos earning close to the overnight cash rate. However, earnings on most of the Bank's current asset holdings are fixed over longer terms; TFF repos earn a fixed rate over three-year terms, government bond holdings earn a fixed yield if held to maturity and long-term AUD/USD foreign exchange swaps attract a fixed rate on the AUD provided under swap. The mismatch in maturity between much of the Bank's domestic assets and liabilities is expected to persist until these fixed-rate assets mature. Banknotes on issue have declined modestly as a share of liabilities over the year from 18 per cent to 17 per cent and carry no interest cost to the Bank.

Domestic Bonds, TFF and Long-term Swaps

Maturity Profile*



* Assumes no further bond, TFF or long-term FX swap activity as of 30 June 2022.

Source: RBA

Credit risk

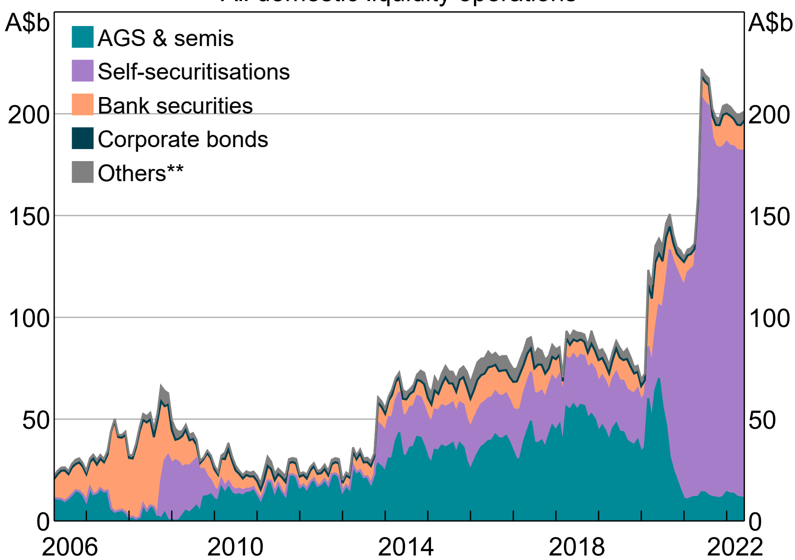
Credit risk is the potential for financial loss arising from the default of a debtor or issuer, or from a decline in asset values following a deterioration in credit quality. The Reserve Bank manages its credit exposure by applying a strict set of eligibility criteria to its holdings of financial assets and to counterparties with which it is willing to transact.

The Reserve Bank is exposed to very little issuer credit risk on its outright holdings in the domestic portfolio as it invests only in securities issued by the Australian Government or by state and territory government borrowing authorities. The Bank is exposed to a small amount of counterparty credit risk on domestic assets that are held under repo. The Bank would face a loss only if a counterparty failed to repurchase securities sold to the Bank under repo *and* the market value of the securities fell below the agreed repurchase amount. The Bank manages this exposure by requiring that these securities meet certain eligibility criteria and by applying an appropriate margin to the securities, which reduces the risk profile the Bank faces. The required margin is maintained throughout the term of the repo through daily two-way margining.

Alongside the establishment of the TFF in March 2020, the Reserve Bank relaxed constraints on certain ADIs posting eligible self-securitised asset-backed securities (ABS) (also called self-securitisations) as collateral.[2] Previously, only ADIs with access to the Committed Liquidity Facility were permitted to post self-securitisations as collateral under the Bank's standing facilities. Any eligible self-securitisation could be presented as collateral under the TFF. Following this adjustment to the policy, ADIs' use of self-securitisations as collateral increased significantly. These securities are related to the counterparty presenting them as collateral in a repo, implying that a default by the counterparty may be associated with a decline in the value of the securities held as collateral. However, this risk is mitigated because the issuing trust is bankruptcy remote,[3] the securities must be rated AAA and they attract a relatively high margin. Unlike other types of securities accepted as collateral in the Bank's operations, these securities are not typically traded in the market as they are held by ADIs solely for the purpose of accessing central bank liquidity. Risk and Compliance Department typically values these securities based on a pricing model that references prices in the public ABS market. However, when the TFF was established, the Reserve Bank froze prices of eligible self-securitisations until early 2023 for the purpose of valuing collateral accepted under repo. This was to ensure that modelled prices were not unduly affected by potential volatility in public ABS arising from the COVID-19 pandemic.

Collateral Held Under Repo*

All domestic liquidity operations



* Values based on cash lent under repo.

** Others include RMBS, ABS, supranational and corporate debt, securities with government guarantee and other AAA securities.

Source: RBA

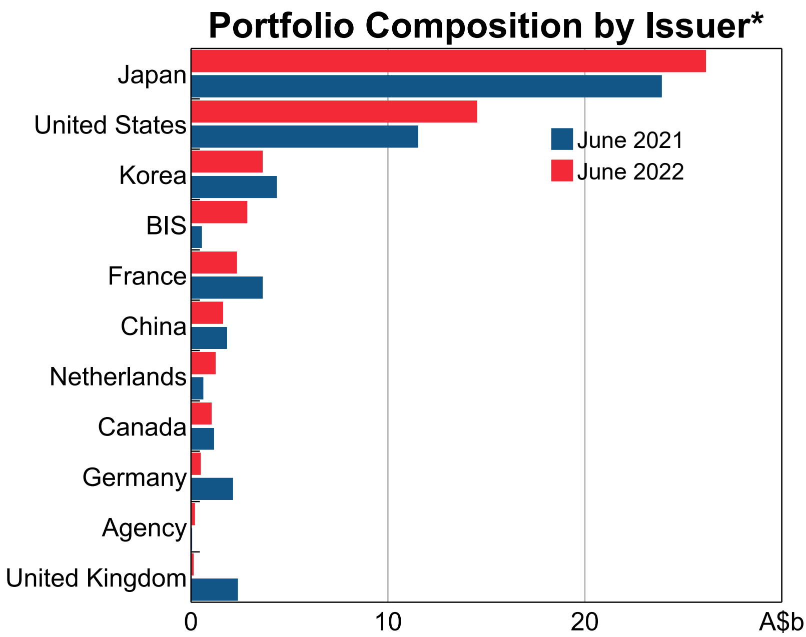
The counterparties of the Reserve Bank dealing in policy operations in the domestic market must be: members of the Reserve Bank Information and Transfer System (RITS); subject to an appropriate level of regulation; and able to settle transactions within the Austraclear system. Certain counterparties must also

[2] ABS are debt securities issued by a trust that are backed by a pool of assets such as residential mortgages. Investors that purchase the securities receive income funded by the principal and interest payments from the pool of assets. Self-securitisations are a type of ABS. A distinguishing feature of self-securitisations is that notes issued from the trust are typically not sold to the public; rather, they are held by the ADI that issued them to use as collateral to access central bank liquidity. The Bank accepts securities issued by eligible self-securitisations as collateral.

[3] That is, the assets sold into the trust are not at risk if the counterparty that sold those assets into the trust becomes bankrupt.

demonstrate a material connection to the bond and/or repo markets and be creditworthy to be eligible. Repo transactions with the Bank are governed by a Global Master Repurchase Agreement.

Investments in the Reserve Bank's foreign currency portfolio are typically confined to highly rated and liquid securities, as well as deposits with foreign central banks. The majority of the Bank's outright holdings are securities issued by the national governments of the United States, Germany, France, the Netherlands, Japan, Canada, the United Kingdom, China and South Korea, with modest holdings of securities issued by highly rated supranational institutions and government agencies. Gross holdings of Japanese yen-denominated assets remained the largest share of the Bank's foreign currency issuer exposures as at 30 June 2022. The majority of these assets are funded under short-term foreign exchange swaps between Japanese yen and other currencies in the Reserve Bank's portfolio. When the cost of hedging currency risk under short-term foreign exchange swaps is taken into account, yields on short-dated Japanese investments have generally been higher than those available in the other currencies in the Bank's portfolio (see chapter on 'Operations in Financial Markets'). A limit on the size of exposures to individual currencies serves to mitigate concentration risk.



* Includes assets held outright, funded by foreign exchange swaps, and held under repurchase agreements.

Source: RBA

The Reserve Bank holds a portion of its foreign currency portfolio in short-term repos. This exposes the Bank to the small amount of residual credit risk that is inherent in repos, as noted above. The Bank manages this risk by requiring 2 per cent over-collateralisation, which is maintained through two-way margining in the local currency, and accepting only high-quality and liquid securities as collateral. Credit exposure on foreign repos is further managed by imposing limits on individual counterparty exposures and requiring execution of a Global Master Repurchase Agreement (or Master Repurchase Agreement where appropriate) with each counterparty.

The Reserve Bank undertakes foreign exchange and gold swaps as part of its policy operations and as a means of enhancing returns on the foreign currency portfolio. The Bank commenced transacting in long-term foreign exchange swaps in February 2021 to manage existing and future foreign currency commitments to the IMF and the size of this foreign exchange swap position increased during 2021/22 as the IMF increased Australia's allocation of SDRs. These transactions involve swapping Australian dollars into US dollars for terms of up to three years. IMF commitments were previously funded from foreign currency reserves held outright.

Credit risk on foreign exchange and gold swaps is managed by transacting only with counterparties that meet strict eligibility criteria, including the requirement to have executed with the Reserve Bank an International Swaps and Derivatives Association agreement with a credit support annex. Exposures generated by movements in market exchange and interest rates and gold prices are managed through daily two-way margining in Australian dollars.

In addition to gold swaps, the Reserve Bank undertakes some limited lending of its gold holdings. The lending is either fully collateralised or the borrower has government support. As at 30 June 2022, 6.0 tonnes of gold, valued at $0.5 billion, was on loan.

Operational risk

The Reserve Bank faces a diverse range of operational risks reflecting its responsibilities as a central bank. These risks range from those related to fraud and corruption (where the Bank has no risk appetite for employees engaging in fraudulent and corrupt behaviour) to the availability of business and critical technology services (where the Bank has a limited risk appetite).

In 2021, the Reserve Bank refreshed its Risk Management Policy, including its risk appetite across its activities. The policy is published on the Bank's website.[4] The objective of the policy is to ensure that we manage risk to the best of our ability to enable the successful achievement of the Bank's objectives. The new policy is being embedded into the Bank's processes and culture.

The most significant operational risks the Bank is exposed to are:

- the management of its people and culture, including safety and wellbeing, talent and risk culture
- transacting in financial markets to implement monetary policy
- maintaining the infrastructure to facilitate real-time interbank payment and settlement services through RITS and the Fast Settlement Service
- providing banking facilities for a number of government entities, including the Australian Taxation Office, Medicare and Centrelink
- the provision of safe, secure and reliable Australian banknotes.

The Reserve Bank operates in a complex technology environment and seeks to innovate while managing risks appropriately. In 2021/22, the Bank executed 52,526 transactions, generating an average daily settlement value of around $26.2 billion; RITS settles around $202 billion every day on average. The risk management framework supports the identification, analysis and management of risks that could adversely affect these operations, and also promotes greater efficiencies and agility. These include: mechanisms by which emerging risks are identified; processes and systems by which subject matter

[4] See RBA (2021), 'Risk Management Policy', November.

experts consider these risks; and channels that facilitate these risks being raised with executives. Various metrics are used to highlight to executives how risks are being managed and whether risks are consistent with the Bank's risk appetite. These metrics range, for example, from availability targets for payment settlements systems to whether business resilience tests are performed regularly.

Considering these risks in more detail, the Reserve Bank's activities are highly dependent on information technology (IT) systems. The risk management and control framework supports an ongoing focus on managing the risks associated with complex IT systems. The IT Department collaborates with relevant business areas to facilitate the monitoring, assessment and management of IT-related risks and ensures IT-related initiatives are consistent with the Bank's Strategic Plan. This work is supported by ongoing evaluation of industry developments in order to ensure that the Bank's systems and procedures remain robust and conform to current IT standards. Assessment of appropriate resourcing, the adequacy of IT process controls and the level of security over information management are all incorporated in the risk management and control framework.

As part of the Reserve Bank's management of the risks associated with technology and operational systems, a strong focus is placed on the security of these systems. Cyber resilience is a key operational risk and managing this risk is supported by staff at all levels of the Bank. The Bank prioritises protecting digital assets from cybersecurity threats, while also providing a high-quality IT service. The Bank remains committed to a mature implementation of the Australian Signals Directorate Information Security Manual and relevant security standards, introducing innovative security technologies, and proactively searching for emerging threats in order to continually meet the Bank's strategic cyber resilience objectives. The Bank continues to work with peer central banks, the Australian Government and industry participants to increase the cyber resilience of national and international financial systems.

The Reserve Bank invests in significant security controls and risk assurance functions, which are supported by a regular assessment regime. The Bank receives regular independent assurance of its compliance with security strategies endorsed by the Australian Signals Directorate, and maintains independent certification for the ISO 27001 global standard for Information Security Management.

During the past year, the Reserve Bank continued to direct substantial resources towards the delivery or completion of a number of large and complex multi-year projects. These include constructing a third data centre in Canberra for the Bank's most critical systems to enhance our data resilience, and modernising the media publishing system to reduce the risk of problems related to publishing the cash rate. Successfully completing and embedding these projects will ensure high-quality services are maintained for the Bank's clients and the Australian public. Project risks are managed so that adequate resources are available, nominated project deadlines are met and change management is effective. Project steering committees play an important role in overseeing the management of these risks.

The Reserve Bank manages risks related to the handling of confidential and sensitive information and, in particular, ensuring that there are no unintended disclosures. While the primary focus is on ensuring that sufficient controls exist to prevent a breach occurring, the risk and control framework also seeks to ensure the Bank would respond appropriately if a breach were to occur.

The Reserve Bank does not tolerate dishonest or fraudulent behaviour and is committed to deterring and preventing such behaviour. It takes a very serious approach to cases, or suspected cases, of fraud. All staff involved in financial dealing have well-defined limits to their authority to take risks or otherwise commit the Bank. These arrangements are further enhanced by the separation of front-, back- and middle-office functions, where staff involved in trading, settlement and reconciliation activity remain physically apart and have separate reporting lines. For non-trading activities, several layers of fraud control are in place. A clear decision-making hierarchy, separation of duties and physical controls over systems and information have been established and are subject to regular review. Ongoing training and awareness programs are also conducted; the Bank requires all staff to undertake fraud awareness training. The Bank has arrangements in place for staff and members of the public to report concerns anonymously. All concerns are fully investigated. During 2021/22, there were no reported instances of fraud by employees.

The Reserve Bank remains strongly committed to maintaining and strengthening a workplace culture in which employees uphold the highest standards of behaviour. The Code of Conduct sets out requirements of the Bank's employees and others who are involved in its activities. The Bank has arrangements in place for staff to report concerns about breaches of the Code of Conduct, including channels by which concerns can be reported anonymously. Arrangements are in place to ensure staff are comfortable reporting concerns across a range of issues.

The effective management of compliance risk is central to the Bank's activities. Supporting this, staff complete regular training on areas such as privacy and workplace health and safety. Risk and Compliance Department collaborates with all business areas to ensure compliance risks are being managed effectively; it also keeps the Risk Management Committee informed regarding the level of compliance in key areas.

Notwithstanding these measures, events can occur from time to time that may lead to service disruption, or to financial or other costs. Timely reports on incidents and 'near misses' are provided to the Risk Management Committee. These reports outline the circumstances (including impact and cause) and identify areas where new controls may be needed, where existing controls should be strengthened or where more significant innovation efforts might be well placed.

The Reserve Bank continues to act as the administrator of the Guarantee of State and Territory Borrowing. Applications for new guaranteed liabilities under this scheme closed in 2010, although existing liabilities will continue to be guaranteed until maturity, at the latest in 2023. To date, a total of $429 million in fees has been collected for state and territory borrowing since the scheme commenced in 2009, with $1 million collected in 2021/22.

Business resilience

The resilience of critical business functions is a key focus area for the Reserve Bank. The Bank's policy is to maintain resilient arrangements when responding to any incident that has the potential adversely to affect its people, operations, assets or reputation, or compromise its physical security. The Bank undertakes ongoing testing of its business resilience arrangements to ensure it remains responsive to potential disruptive events.

Another major consideration is maintaining business resilience during a large project of building works at the Head Office at 65 Martin Place, Sydney between 2022 and 2024. Business contingency response arrangements have been refreshed to ensure staff are well briefed on their roles during the project, including effective communication. The Risk Management Committee is regularly overseeing this project to ensure operational risks are managed effectively.