Operations in Financial Markets

The Reserve Bank operates in domestic and international financial markets in order to achieve its policy objectives. These operations include implementing the monetary policy decisions of the Reserve Bank Board, facilitating the smooth functioning of the payments system, managing the nation's foreign exchange reserve assets and providing banking services to clients (mainly the Australian Government as well as foreign central banks).

Following the outbreak of COVID-19, in late February and through March there was a very sharp rise in the volatility of asset prices in Australia, as in other economies, as the economic outlook deteriorated and uncertainty increased. There were also periods of dysfunction across a number of financial markets, most notably government bond markets. In this environment, in mid March, the Reserve Bank Board announced a comprehensive package of policy measures to lower funding costs across the economy, to support the provision of credit, especially to small and medium-sized businesses, and to ensure the smooth functioning of key financial markets. The policy measures comprised:

- a 25 basis point cut in the cash rate to 0.25 per cent. This followed a reduction of 25 basis points earlier in March
- a target for the 3-year Australian Government bond yield of around 0.25 per cent, with purchases of government bonds in secondary markets to help achieve the yield target and address dislocations in government bond markets
- a Term Funding Facility (TFF) for the banking system, under which authorised deposit-taking institutions (ADIs) have access to funding from the Reserve Bank for three years at 25 basis points, with additional funding available if ADIs increase lending to businesses, especially small and medium-sized businesses
- Exchange Settlement (ES) balances at the Reserve Bank to be remunerated at 10 basis points, rather than zero, to mitigate the cost to the banking system associated with the large increase in banks' ES balances resulting from the above measures

The Reserve Bank also expanded its daily open market operations in size and in maturity in response to the large increase in demand for liquidity from the banking system and announced that it would continue to do so as long as market conditions warranted.

The policy measures have been working broadly as expected. They have helped to ease financial market conditions and improved functioning in government bond markets. The policy measures have reduced Australian banks' funding costs and supported a reduction in housing and business interest rates, which have all reached historic lows.

Lenders have also eased loan payment burdens for households and businesses whose incomes are affected by the disruptions brought about by the pandemic. Since April, the provision of liquidity through daily open market operations has declined as demand has abated, in part because a large amount of liquidity is being provided through the other policy measures. The Bank also scaled back its bond purchases in May and June, with market functioning returning to more normal levels and the yield target for the 3-year Australian Government bond achieved over that period.

Monetary policy implementation

Prior to 19 March 2020, the Reserve Bank Board's sole operational target for monetary policy was the cash rate – the rate at which banks borrow and lend to each other on an overnight, unsecured basis. The Board lowered the cash rate target four times during 2019/20, from 1.25 per cent at the start of the financial year to 0.25 per cent by the end of the financial year. Following the Bank's policy measures taken in response to the economic and financial effects of COVID-19 in March, including the provision of a large amount of liquidity to the banking system, the cash rate traded below the cash rate target and activity in the cash market declined. This was as expected and is discussed further below.

The funds traded in the cash market are the balances held by financial institutions in their Exchange Settlement Accounts (ESAs) at the Reserve Bank. These accounts are held by around 100 financial institutions and are used to settle payment obligations between these institutions. The aggregate level of ES balances changes as a result of payments made or received by customers of the Bank (principally the Australian Government) and ESA holders, and as a result of transactions undertaken by the Bank on its own behalf. These include undertaking repurchase agreements (repos) collateralised with eligible securities, buying or selling government securities on an outright basis, or using foreign exchange (FX) swaps involving Australian dollars.

A portion of ES balances arise from 'open repos'. These are repos contracted without a maturity date with the Reserve Bank by financial institutions to meet their liquidity needs outside of normal banking hours. As these balances are remunerated at the cash rate target and are held to facilitate the effective operation of the payments system, they have no implications for the implementation of monetary policy. At the end of June 2020, these balances were $28 billion. The remainder of ES balances, referred to as surplus ES balances, fluctuated between around $2 billion and $3 billion over the first eight months of 2019/20. As a result of the policy measures announced in mid March 2020 and in response to economic and financial market uncertainty, surplus ES balances rose significantly as banks' demand for cash increased. The Reserve Bank supplied cash via repos and outright bond purchases, with surplus ES balances reaching $89 billion in April. Surplus ES balances subsequently declined as financial conditions became more settled and demand for liquidity moderated, and stood at $46 billion at the end of June 2020. These changes are discussed further below.

As noted above, in response to the economic and financial disruption caused by the COVID-19 pandemic, on 19 March 2020 the Reserve Bank Board announced an additional monetary policy target – for the 3-year Australian Government bond yield to be around 0.25 per cent – to be achieved by purchasing government securities outright in the secondary market. Government bonds were also purchased to address market dislocations. As with the other components of the Reserve Bank's policy package, the aim of this policy was to lower funding costs across the economy, to support the provision of credit, and to ensure the smooth functioning of key financial markets. The Bank commenced purchases of Australian Government bonds and securities issued by the state and territory central borrowing authorities (known as semi-government securities or semis) on 20 March 2020. These purchases were conducted via a competitive reverse auction process, where the Bank announced which bond lines it intended to purchase and the total amount, and asked market participants to submit offers to sell that suite of bonds during a 5-minute window. By the end of June 2020, the Reserve Bank had purchased $40.25 billion of Australian Government bonds and $11.10 billion of semis. An additional policy tool was the TFF, which provides collateralised funding to ADIs at an interest rate of 25 basis points for a term of three years, also with the aim to lower funding costs across the economy and support the provision of credit. These policy tools are discussed further below.

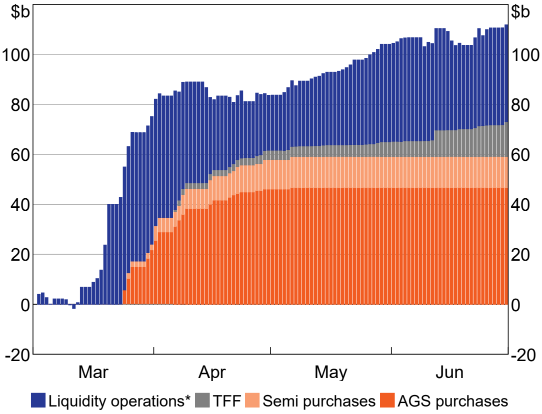
Open market operations

The Reserve Bank undertakes transactions in domestic financial markets to implement the policy decisions of the Reserve Bank Board and facilitate the smooth functioning of the payments system. Conventionally, an important aspect of implementing policy decisions involves the Reserve Bank transacting in domestic financial markets in its open market operations (OMO) to keep the standard operational target for monetary policy – the cash rate – consistent with the target set by the Reserve Bank Board. The cash rate is the interest rate on unsecured overnight loans between banks. The Reserve Bank is able to control the supply of funds in this market through transactions, affecting both the cash rate and liquidity provision to the financial system.[1]

1 The Bank publishes the aggregate results of its OMO dealing rounds on market data services and on its website. See <https://www.rba.gov.au/statistics/tables/>.

An important class of transactions that the Bank conducts in the domestic market are repos contracted as part of its regular morning OMO. Repos involve the purchase of high-quality collateral securities where the Bank acquires the securities for a period of time in return for providing cash (i.e. funds deposited into an ES account). As a result, there is very little risk of the Bank suffering financial loss in its OMO. The securities accepted by the Bank include securities issued by the Australian Government, the Australian states and territories, and certain approved international sovereign and supranational issuers. Securities issued by ADIs, asset-backed securities and corporate bonds are also eligible for repo in the Reserve Bank's OMO, with eligibility for corporate bonds widened in May as discussed below.

In conducting its operations, the Reserve Bank takes account of the liquidity needs of the financial system as well as of the pricing of the bids and offers received in the OMO dealing round. During the first eight months of 2019/20, the repo transactions conducted in these operations had an average maturity at origination of around 30 days and a maximum term of around three months. The Bank lent cash under repo to banks, insurance companies, non-bank securities firms and government institutions. From March 2020, in response to increased demand for liquidity by the banking system the Bank substantially increased the amount and maturity of its daily open market operations. The Bank provided as much as $50 billion of additional liquidity through repos and the average maturity of these repos at origination increased to around 75 days with a maximum term of around six months. As the banking system's initial surge in demand for liquidity was met by a significant increase in supply, and as demand eased with improvements in financial conditions more generally, the amount and maturity of the Bank's daily market operations declined.



* Liquidity injections net of drains and maturities; mainly contracted in OMOs and FX swaps

Source: RBA

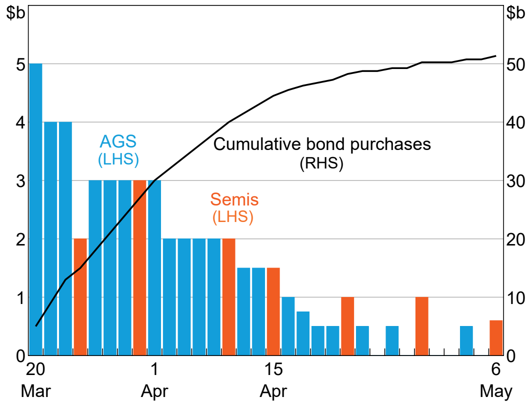
The Reserve Bank has the option of undertaking further rounds of market operations in the late afternoon, if required. Such additional rounds were announced, on average, four times per month during the first eight months of 2019/20, usually to inject additional liquidity into the system. In early March, additional rounds were frequently undertaken to withdraw excess liquidity from the system, after significant liquidity was injected in the regular morning dealing rounds. (Terms for these operations are typically shorter than the morning operations, with a maximum term of seven days over the past year.) However, no additional dealing rounds were conducted after 19 March 2020 as high surplus ES balances, and the associated downward pressure on short-term interest rates, were an intended effect of the Reserve Bank's accommodative monetary policy stance.

The Reserve Bank can also use foreign exchange swaps when managing system liquidity (swapping Australian dollars for foreign currencies increases the supply of ES balances in the same way as a repo transaction).[2] Over the first eight months of 2019/20, the amount of foreign currency held under swaps against Australian dollars ranged between $3 billion and around $25 billion. After early March, no new foreign exchange swaps were contracted because they became relatively expensive as stresses emerged in short-term US dollar funding markets. There was also less need to use swaps in managing system liquidity, because liquidity provided by other transactions rose substantially and the focus of daily market operations shifted away from stabilising ES balances.

As noted, the policy package announced on 19 March 2020 included purchases of longer-dated AGS and semis to achieve the yield target for the 3-year Australian Government bond of around 0.25 per cent and to address dysfunction in government bond markets. Between 20 March and early May 2020 these purchases amounted to $51.3 billion in face value. The purchases were spread across maturities of 1 to 10 years. The Bank's initial auctions in March entailed daily purchases of $4–5 billion worth of bonds. This was scaled back through April and early May as the yield target for the 3-year Australian Government bond was met and the functioning of government bond markets steadily improved. No bond auctions were judged to be required over the remainder of May and in June 2020. Auctions were well subscribed. Most bonds were bought at a higher yield (lower price) compared with prevailing mid-market yields (prices), indicating that the Bank's bond purchases helped to balance the supply and demand in these markets. In particular, the Bank's

2 While the use of foreign exchange swaps increases the Reserve Bank's holdings of foreign exchange, it has no effect on net foreign reserves, as the increased holdings of foreign exchange are matched with a commitment to sell foreign exchange at a predetermined price and date. For the same reason, the use of swaps has no effect on the exchange rate.

RBA Bond Purchases*



* Face value
Sources: RBA; Yieldbroker

bond purchases helped to alleviate the capacity constraints on bond dealers' balance sheets.[3]

The Reserve Bank also purchases near-dated government securities on an outright basis to assist in the management of large AGS maturities. This reflects the Bank's need to mitigate the system liquidity impact on the day when a bond matures arising from the funds that are paid out of the Australian Government's account at the Bank into ESAs (for the credit of the security holder). These purchases for liquidity management purposes are carried out for securities that have less than 18 months to maturity. To offset the liquidity effect of AGS maturities, the Bank purchased $8.2 billion of the October 2019 bond and $10.7 billion of the April 2020 bond prior to their maturity.

The Reserve Bank continues to operate a Securities Lending Facility on behalf of the Australian Office of Financial Management (AOFM). The securities available through the facility comprise all Treasury Bonds and Treasury Indexed Bonds currently on issue. The Bank lends these securities under intraday or open repos to the Reserve Bank's Information and Transfer System members eligible to participate in the Bank's domestic market operations. The Reserve Bank is also prepared to lend securities from its outright portfolio under repo in response to enquiries from eligible counterparties.

Term Funding Facility

ADIs have access to three-year funding through the Reserve Bank's TFF at a fixed rate of 25 basis points. This is substantially lower than ADIs' marginal cost of funding around that same maturity. For example, the estimated cost of sourcing three-year unsecured funding in domestic wholesale debt markets for the major banks was around 0.75 per cent at the end of June 2020, and somewhat higher for the non-major banks.

In addition to reducing ADIs' funding costs, the TFF aims to encourage ADIs to support businesses during a difficult period by providing access to additional low-cost funding if they expand their lending to businesses, with incentives particularly strong for lending to small and medium-sized enterprises (SMEs).

The total allowance available under the TFF to ADIs at the end of June 2020 was $135.1 billion. This comprised two components: initial allowances, which totalled $84 billion, which were fixed at the start of the scheme to be equivalent to 3 per cent of each ADI's total credit outstanding; and additional allowances, which totalled $51.1 billion at the end of June 2020, which are updated monthly and based on growth in each ADI's business lending. In particular, an ADI's additional allowance increases by one dollar for every extra dollar lent to large businesses and by five dollars for every extra dollar lent to SMEs. Under the rules of the TFF announced in March 2020, initial allowances were available for ADIs to draw down until end September 2020, and additional allowances until end March 2021.

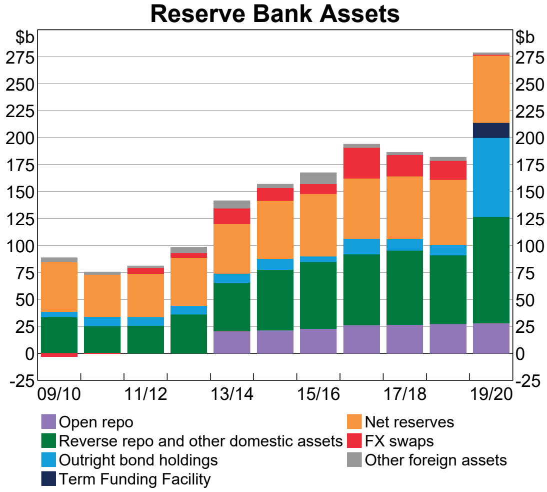
3 The bond purchases were explained further in a speech by Deputy Governor Guy Debelle in June 2020. See <https://www.rba.gov.au/speeches/2020/sp-dg-2020-06-30.html>.

As at the end of June 2020, 62 ADIs – around half of those eligible – had accessed $14.4 billion of funding through the TFF. On average, those ADIs that had accessed the facility had used around half of their allowances. Most ADIs smoothed their take-up of the TFF over the drawdown windows, reflecting their strong funding positions prior to the pandemic, the large amount of liquidity available through other sources and their desire to smooth their maturities in 2023 (when the three-year TFF repos expire).

Balance Sheet

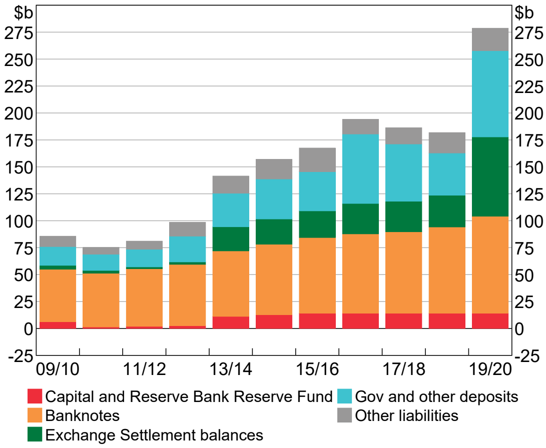
The Reserve Bank's balance sheet increased by $97 billion over 2019/20, due to the package of policy measures implemented since March 2020. The balance sheet ended the 2019/20 financial year at $279 billion, much larger than in recent years. On the assets side, government bond purchases, OMO, and to a lesser extent use of the TFF, resulted in an increase in securities held by the Bank outright and under reverse repo. On the liabilities side, ES balances rose significantly as a result of the Bank's purchases of government bonds and its OMO. Government deposits also rose significantly after the AOFM stepped up its issuance program and placed the proceeds on deposit at the Bank (ahead of using them to pay for government spending measures).

Reserve Bank Assets



Source: RBA

Reserve Bank Liabilities



Source: RBA

RBA Balance Sheet
$ billion, 30 June

	2019	2020
Assets	**182**	**279**
Foreign	81	65
Net reserves	61	62
FX swaps	17	1
Other	3	2
Domestic	100	214
Open repo	27	28
Outright bond holdings	9	73
Term Funding Facility	0	14
Reverse repo & other	64	99
Liabilities	**182**	**279**
Deposits	69	154
ES balances	29	73
Government & other	39	80
Banknotes	80	90
Other	19	21
Capital and Reserve Bank Reserve Fund	14	14

Source: RBA

Standing facilities

Separate from its OMO, the Reserve Bank also provides certain standing facilities, where eligible counterparties transact with the Bank on prearranged terms. These facilities are primarily to support the smooth functioning of the payments system, with liquidity made available via repos. The most frequently used standing facilities are those for the provision of intraday liquidity to ESA holders. The Bank can also extend overnight funding via repo where an ESA holder faces a shortage in ES balances that cannot be borrowed from another financial institution; such funding is extended at an interest rate of 25 basis points above the cash rate target. During 2019/20, these arrangements were used only occasionally, including for testing purposes and when an expected incoming cash payment to a bank was unexpectedly delayed owing to technical difficulties at another bank that prevented payments being made for a short period.

Open repos are provided under the Reserve Bank's standing facilities for ESA holders, and are mandatory for ESA holders that have to settle payment obligations outside normal business hours, such as 'direct-entry' payments and transactions through the New Payments Platform (see the chapter on 'Banking and Payment Services' for more detail). At the end of June 2020, 15 financial institutions had open repo positions with the Bank, valued at around $28 billion. To collateralise these open repos, the Bank has permitted the use of certain related-party assets issued by bankruptcy remote vehicles, such as self-securitised Residential Mortgage-backed Securities (RMBS).

Committed Liquidity Facility

Banks subject to the Liquidity Coverage Ratio (LCR) under Basel III prudential standards are required to hold sufficient high-quality liquid assets (HQLA) (which, in the Australian context, consist of AGS and semis) to meet outflows during a period of stress of 30 days. Given the relatively low levels of government debt outstanding in Australia in recent years, there has been a shortage of HQLA securities. To address this, the Reserve Bank provides some institutions with a contractual commitment to provide repo funding – the Committed Liquidity Facility (CLF) – subject to certain conditions. These conditions include a fee that financial institutions pay on the committed amount. In addition, any bank seeking to use the CLF must have positive net worth. The banks are able to contract these repos using securities eligible in the Bank's domestic market operations. The full terms and conditions of the facility are available on the Bank's website.[4]

The Reserve Bank administers the CLF, while the Australian Prudential Regulation Authority (APRA) determines which banks have access and the amount available (in aggregate and to each bank). During 2019/20, 15 banks were eligible to access the CLF, with their available CLF amounts counting towards their LCR requirements. The aggregate size of the CLF is the difference between APRA's assessment of banks' overall LCR requirements and the Bank's assessment of the amount of HQLA securities that could reasonably be held by the banking system, without unduly affecting market functioning.

In determining the amount of HQLA securities that LCR banks can reasonably be expected to hold, the Reserve Bank takes into account factors such as the total stock of HQLA securities, holdings of other market participants and the effect of LCR banks' holdings on the liquidity of HQLA securities in secondary markets. For the past few years, the stock of HQLA securities has risen and they have become more readily available in bond and repo markets. Given this, in 2019 the Reserve Bank assessed that the LCR banks can increase their holdings from 25 per cent to 30 per cent of the stock, commencing with an increase to 26 per cent in 2020 and increasing by 1 percentage point per year until 2024.

4 The CLF legal documentation is available at <https://www.rba.gov.au/mkt-operations/resources/tech-notes/pdf/clf-terms-and-conditions.pdf> and <https://www.rba.gov.au/mkt-operations/resources/tech-notes/clf-operational-notes.html>.

The total size of the CLF in 2020 was $226 billion, down from $243 billion in 2019. This was largely due to an increase in the value of HQLA securities that LCR banks can reasonably hold.[5] The Reserve Bank will conduct its assessment of LCR banks' reasonable holdings of HQLA securities for 2021 in late 2020.

The CLF fee is set so that the banks face similar financial incentives to meet their liquidity requirements through the CLF or by holding HQLA. From 2015 to 2019 the Reserve Bank charged a fee of 15 basis points per annum on the commitment to each bank. Following a review in 2019, the Bank assessed that the CLF fee should be increased gradually, to 17 basis points on 1 January 2020 and to 20 basis points on 1 January 2021.[6]

Eligible securities

In early May 2020, to assist with the smooth functioning of Australian capital markets, the Bank broadened the range of eligible collateral for its daily market operations to include Australian dollar securities issued by non-bank corporations with an investment grade credit rating.[7] Previously, the minimum requirements for repo eligibility of corporate securities were an average credit rating of AAA for long-term securities and A-1 for short-term paper. The broadening attracted considerable interest, with repo eligibility applications for 185 corporate securities across 71 corporate issuers received in the period to 30 June 2020.

To protect against a decline in the value of the collateral securities should the Bank's counterparty not meet its repurchase obligation, the Bank requires the value of the securities to exceed the cash lent by a specific margin. These margins, which are listed on the Bank's website, are considerably higher for securities that are not issued by governments.[8]

Participants in the Reserve Bank's market operations tend to be the fixed-income trading desks of banks and securities firms, as well as bank treasuries. Reflecting this, over half of the securities held by the Bank (excluding those under open repo and the TFF) are government-related obligations, with most of the remainder being bank-issued debt securities.

Domestic securities purchased by the Reserve Bank are held in an account that the Bank maintains in Austraclear, the central securities depository operated by the Australian Securities Exchange (ASX). Securities transactions conducted between the Bank and its counterparties are settled in the Austraclear system, mostly on a bilateral basis. The Bank also settles repo transactions contracted in its OMO within ASX Collateral, a collateral management service. During 2019/20, around 40 per cent of the value of securities the Bank purchased under repo was settled within ASX Collateral, up from around 36 per cent in 2018/19. The use of this system reduces the manual processing that would otherwise be required to manage this collateral, including marking it to market and maintaining margins.

Asset-backed securities form a significant share of the securities that the Reserve Bank purchases under open repo and under the TFF. Around 90 per cent of the outstanding value of open repos is backed by self-securitised RMBS, while for the TFF the figure is around 75 per cent. (Self-securitised RMBS are not eligible as collateral for daily OMO repos.) Self-securitised RMBS do

5 See <https://www.rba.gov.au/mkt-operations/committed-liquidity-facility.html>.

6 The adjustments made to the CLF were explained in a speech by Christopher Kent, Assistant Governor (Financial Markets), in July 2019, with further details provided in a *Bulletin* article. See <https://www.rba.gov.au/speeches/2019/sp-ag-2019-07-23.html> and <https://www.rba.gov.au/publications/bulletin/2019/sep/the-committed-liquidity-facility.html>.

7 See <https://www.rba.gov.au/mkt-operations/resources/tech-notes/eligible-securities.html>.

8 See <https://www.rba.gov.au/mkt-operations/resources/tech-notes/margin-ratios.html>.

not have directly observable market prices. As a result, the Bank uses an internal valuation model for self-securitised RMBS based on observed market prices of similarly structured RMBS; this internal model has been reviewed externally.

Asset-backed securities – particularly self-securitised RMBS – are also the major asset held as collateral for the CLF (see above). Given the importance of asset-backed securities to the Reserve Bank's operations, the Bank has mandatory reporting requirements for securitisations to remain eligible for repo. In 2019/20, the Bank received around 4,250 data submissions monthly on around 360 asset-backed securities from issuers or their appointed information providers. For eligible RMBS, this covers 2 million underlying individual housing loans with a combined balance of around $700 billion, which is around two-fifths of the total value of housing loans in Australia. The required data include key information on the structure of the RMBS and the relationships among counterparties within the RMBS structure; the required data also include anonymised information on each of the residential mortgage loans and the underlying collateral backing the RMBS structures.

Reflecting the Reserve Bank's interest in promoting transparency for investors in asset-backed securities, issuers are also required to make securitisation information available to investors and other permitted users. The data provided to these users are broadly similar to the data provided to the Bank; however, issuers may redact particular fields where the information poses a potential risk to privacy obligations and provide aggregated data instead. The mandatory reporting requirements allow the Bank (and other investors in RMBS) to analyse in detail the underlying risks in asset-backed securities and to price and manage risk for such securities accurately.

Australian Dollar Securities Held under Repurchase Agreements[(a)]
30 June

	2017		2018		2019		2020	
	$ billion	per cent of total	$ billion	per cent of total	$ billion	per cent of total	$ billion	per cent of total
AGS	43.8	43	49.9	48	36.5	37	47.4	31
Semis	6.2	6	8.7	8	12.7	13	25.2	16
Supranational	3.5	3	3.6	3	2.8	3	3.4	2
ADI issued	12.5	12	8.1	8	12.9	13	27.8	18
Corporate issued	0.0	0	0.0	0	0.0	0	0.3	0
Asset-backed securities	35.6	35	32.7	32	33.5	34	50.0	32
– Of which for open repo	33.5	33	32.3	31	32.4	33	32.4	21
– Of which for TFF	0.0	0	0.0	0	0.0	0	14.7	9
Other	0.6	1	0.6	1	0.4	0	1.1	1
Total	102.2	100	103.7	100	98.8	100	155.2	100
– Of which for open repo	35.7	35	34.2	33	34.5	35	35.3	23
– Of which for TFF	0.0	0	0.0	0	0.0	0	17.7	11

(a) Market value of securities before the application of margins; includes securities held under triparty repurchase agreements
Sources: RBA

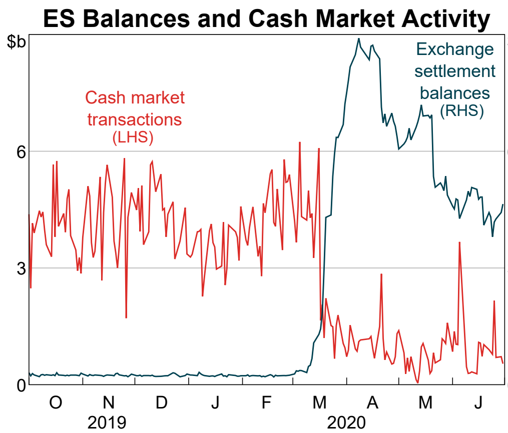
The cash rate

The Reserve Bank is the administrator of the cash rate, which is a significant financial benchmark referenced in overnight indexed swaps and the ASX's 30-day interbank cash rate futures contracts. The Bank publishes the Cash Rate Procedures Manual, which sets out the Bank's arrangements for administering the cash rate and the procedures for handling errors and complaints.[9] In 2020, the Bank made amendments to the Cash Rate Procedures Manual regarding fall-back procedures for the cash rate in case of insufficient cash market transactions to calculate a transaction-based cash rate reliably on any given day. The fall-back options are to use: the last cash rate published; or the new cash rate target should one be announced by the Reserve Bank Board; or another rate that reflects the interest rate relevant to unsecured overnight funds for cash market participants as determined by the cash rate administrator, in its expert judgement and based on market conditions.

In the first eight months of 2019/20 there was an average of 34 cash market transactions each day, with aggregate daily activity in the cash market averaging around $4 billion. The cash rate traded at the cash rate target throughout this period.

Activity in the cash market fell significantly following the large increase in ES balances beginning in March 2020, as had been expected. On several days activity was below the thresholds required to calculate a reliable cash rate based on market transactions. In accordance with the published fall-back procedures, the published cash rate on these days was the last cash rate published based on sufficient transactions (11 occasions), or another rate that reflected the interest rate relevant to unsecured overnight funds for cash market participants as determined by the cash rate administrator, in its expert judgement and based on market conditions (1 occasion).

From late March 2020, the traded cash rate declined below the target of 25 basis points, to stabilise at around 13–14 basis points, a little above the rate of 10 basis points at which the Bank remunerates ES balances.[10] The decline was an expected consequence of the mid-March 2020 policy package, which led to a rise in ES balances to be above the level needed to satisfy demand for cash. With supply greater than demand, the price to clear the cash market – that is, the cash rate – declined. This is consistent with the experience of other central banks that have pursued programs that significantly increased cash reserves in the banking system.



Source: RBA

Foreign Exchange Operations

The Reserve Bank transacts in the foreign exchange market on almost every business day. The majority of these transactions are associated with providing foreign exchange services to the

9 See <https://www.rba.gov.au/mkt-operations/resources/cash-rate-methodology/cash-rate-procedures-manual.html>.

10 For many years in Australia, there had been a market convention for overnight cash market transactions to be conducted at the target cash rate. However, given the very high level of ES balances, with most banks' balances well above holdings sufficient for usual payment activities, this convention changed and market participants instead began to trade below the cash rate target of 25 basis points when lending cash overnight.

Bank's clients, the most significant of which is the Australian Government.

The Reserve Bank typically purchases the necessary foreign currency in the spot market. During 2019/20, the Bank bought $11 billion in the spot market to facilitate its customer business. However, the Bank retains the option – especially during periods of market stress – to use its existing stock of foreign currency reserves to fund its customer business, subsequently replenishing those reserves when market conditions have stabilised. Using foreign currency reserves in this manner has not been considered necessary since 2008, at which time global financial market functioning was significantly impaired. As a result, the Bank has not intervened in the foreign exchange market since 2008. The Bank nevertheless retains the discretion to intervene in the foreign exchange market to address any dysfunction and/or a significant misalignment in the value of the Australian dollar. At the time each Annual Report is published, intervention data for the year under review are published on the Bank's website.

During 2019/20, the outbreak of COVID-19 led to episodes of heightened volatility and illiquidity in the market for Australian dollars. This was most apparent in March 2020. The Bank's assessment was that the impairment in market functioning at this time was sufficiently short-lived and it was not necessary to support market liquidity through its own transactions.

The Reserve Bank also transacts in the foreign exchange market when managing its foreign currency reserves. As discussed below, the relative weightings of foreign currencies in the Bank's portfolio are tightly managed against a benchmark. To maintain the portfolio at these benchmark weights, or to accommodate discrete changes in the weights, the Bank transacts in spot foreign exchange markets. The final settlement of these rebalancing flows may be deferred through the use of foreign exchange swaps, whereby one currency is exchanged for another with a commitment to unwind the exchange at a subsequent date at an agreed (forward) rate. Swaps can also be an efficient way to manage the shorter-term investments within the reserves portfolio. During 2019/20, the Bank generally maintained around $20 billion in swaps for these purposes.

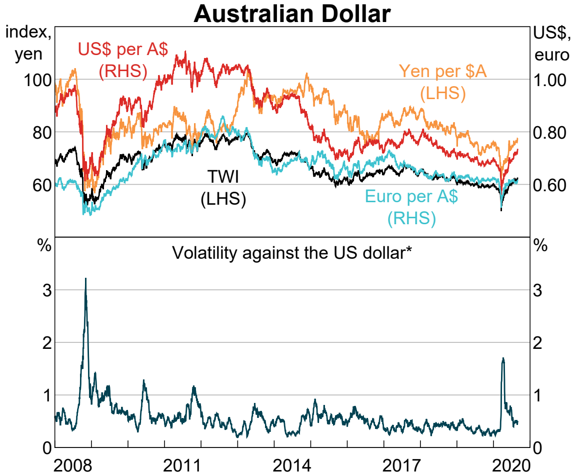
As discussed above, the Reserve Bank also makes use of foreign exchange swaps in its domestic market operations. Swapping Australian dollars for foreign currencies does not affect the exchange rate, but alters the supply of ES balances in the same way as the Bank's repo transactions. In 2019/20, the amount of foreign currency held under swaps against Australian dollars peaked at $29 billion, before declining to zero as the nature of the Bank's domestic market operations changed following the March policy announcements.

Foreign currency swaps executed by the Reserve Bank are generally for no more than three months' duration. The resulting forward foreign exchange positions with each of the Bank's counterparties are marked to market daily and collateral is held against net exposures. The terms under which collateral is exchanged are defined in two-way credit support annexes to the International Swaps and Derivatives Association (ISDA) Master Agreements that the Bank has executed with each of its counterparties (see the chapter on 'Risk Management' for more detail).

The Reserve Bank's activities in the foreign exchange market are conducted in a manner consistent with the principles of the FX Global Code. A 'Statement of Commitment to the FX Global Code' has been signed on behalf of the

Bank.[11] Further, the Bank transacts in the foreign exchange market only with counterparties that have also signalled their adherence to the code by signing such statements.

Australian Dollar



* Daily absolute percentage change, 22-day rolling average
Sources: RBA; Refinitiv

Reserves management

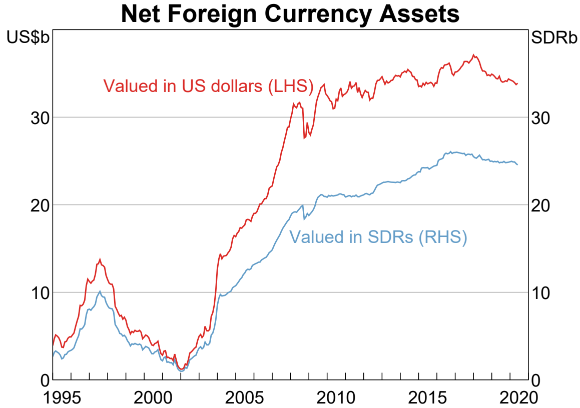
Australia's official reserve assets include foreign currency assets, gold, Special Drawing Rights (SDRs – an international reserve asset created by the International Monetary Fund (IMF)) and Australia's reserve position in the IMF. At 30 June 2020, these assets totalled $61.5 billion. All components of official reserve assets are owned and managed by the Reserve Bank, with the exception of Australia's reserve position in the IMF, which is an asset of the Australian Government.

Official reserve assets are held by the Reserve Bank to facilitate various policy operations, including in the foreign exchange market (described above) and to assist the Australian Government in meeting its commitments to the IMF (discussed below). The Bank's capacity to undertake such operations is best measured by its foreign currency assets net of any short-term forward commitments (such as foreign currency the Bank has obtained from short-term swaps against the Australian dollar). As at 30 June 2020, these net foreign currency assets were SDR24.6 billion or US$33.9 billion. (In Australian dollar terms, net foreign currency assets totalled $49.4 billion, a decrease of $0.1 billion since 30 June 2019, with earnings on assets offset by sales of foreign currency to the Australian Government to meet IMF commitments.) The amount held represents the level assessed as necessary to meet policy requirements.

To ensure a strong balance sheet, the Reserve Bank holds capital against certain risks arising from its reserve assets (see the chapter on 'Earnings, Distribution and Capital' for more detail). These assets can expose the Bank to market, liquidity and credit risk, which the Bank seeks to mitigate where possible, such as by holding a diversified portfolio and investing only in assets of high credit quality and appropriate liquidity (see the chapter on 'Risk Management' for more detail).

The composition of the Reserve Bank's net foreign currency assets is managed against an internally constructed benchmark that reflects the Bank's need to maintain effective intervention capacity. Subject to this constraint, and the Bank's

Net Foreign Currency Assets



Source: RBA

11 For the Reserve Bank's Statement of Commitment, see <https://www.rba.gov.au/mkt-operations/pdf/statement-of-commitment-to-fx-global-code.pdf>.

Foreign Assets

30 June 2020

	A$m
Official Reserve Assets	61,508
Foreign Currency	47,455
Gold	4,612
SDRs	6,351
Reserve Position in the IMF	3,090
Other Foreign Currency Assets	106
Net Forward Commitments	3,810
Foreign currency	1,806
Gold loans and swaps	2,002
Net Foreign Reserves	65,423
Memo item:	
Net Foreign Currency Assets	*49,366*

Source: RBA

overall risk tolerance, the benchmark is assessed to be the combination of foreign currencies and foreign currency assets that maximises the Bank's expected returns over the long run.

The structure of the benchmark is reviewed periodically and in response to significant changes in market conditions. Notwithstanding significant volatility in financial markets in early 2020, the existing structure of the benchmark portfolio remains suitable for the Reserve Bank's needs. Within the portfolio, the largest allocation is to the US dollar (55 per cent), reflecting the significant liquidity in US dollar currency and asset markets.

Given the extraordinarily low level of global interest rates, duration targets have remained short for most of the foreign currency portfolios. Short duration targets reduce the risk of capital losses in the event yields in these currencies increase in the future.

Investments in the benchmark currencies are limited to deposits at official institutions (such as central banks) and debt instruments issued (or guaranteed) by sovereign entities, central banks and supranational agencies. Debt instruments issued by quasi-sovereign entities can also be accepted as collateral under reverse repos.

Sovereign credit exposures are currently limited to the United States, Germany, France, the Netherlands, Canada, Japan, China, the United Kingdom and South Korea.

As has been the case for some years, when the cost of hedging currency risk is taken into account, yields on short-dated Japanese investments have generally exceeded those available in the other currencies in the Reserve Bank's portfolio. Reflecting this, when the Bank obtained foreign currency from swaps against Australian dollars during 2019/20, the bulk of it was Japanese yen.

The Reserve Bank also swaps other currencies in its foreign exchange reserves portfolio against the yen and South Korean won to enhance returns. As a consequence, while the Bank's exposure to changes in the value of the yen and won remains small (consistent with 5 per cent allocations in the benchmark to each of these currencies), an additional $16.4 billion of yen and

Benchmark Foreign Currency Portfolio

30 June 2020

	US dollar	Euro	Japanese yen	Canadian dollar	Chinese renminbi	UK pound sterling	South Korean won
Currency allocation (per cent of total)	55	20	5	5	5	5	5
Duration (months)	6	6	<3	6	18	3	18

Source: RBA

$2.5 billion of won was held at the end of June 2020 as a result of swaps against other foreign currencies in the portfolio.

A small component of the Reserve Bank's net foreign currency reserves sits outside the benchmark framework. These assets encompass investments in a number of Asian debt markets through participation in the Executives' Meeting of East Asia Pacific Central Banks (EMEAP) Asian Bond Fund Initiative. This initiative was established following the Asian currency crisis in the late 1990s to assist in the development of bond markets in the region. At the end of June 2020, the total allocation of the Bank's reserves to these funds was $760 million and the return on these investments since the end of June 2019 was 7.2 per cent when measured in SDR terms, largely reflecting interest earnings and capital gains on bond holdings.

Measured in SDRs, the overall return on the Reserve Bank's foreign currency assets over 2019/20 was 1.7 per cent. This return was broadly in line with returns observed in recent years, with a lower average level of yields on short-term securities offset by capital gains on securities as yields fell. The average running yield on the benchmark portfolio fell from 1.4 per cent to 0.1 per cent over 2019/20, driven by sharp falls in yields for most of the Bank's reserve currencies. Yields remained negative and relatively stable for the euro portfolio.

The Reserve Bank's holdings of SDRs at 30 June 2020 amounted to $6.3 billion, $0.2 billion higher than the previous year, mainly owing to the depreciation of the Australian dollar against the SDR. Under voluntary arrangements with the IMF, the Bank is willing to transact in SDRs upon request from other countries or prescribed holders. In these transactions, the Bank will generally either buy or sell SDRs in exchange for foreign currencies (such as euros or US dollars). While such transactions do not alter the level of Australia's reserve assets (only the respective proportions held in SDRs and foreign currency), the Bank may replenish foreign currency sold in exchange for SDRs by purchasing additional foreign currency against Australian dollars.

Australia's reserve position in the IMF comprises that part of Australia's quota in the IMF that is paid in foreign currency as well as other credit that Australia has extended to the IMF in support of its lending programs. At the end of June, Australia's reserve position in the IMF was $3.1 billion, $1.1 billion larger than a year earlier, mainly reflecting greater provision of foreign currency to the IMF. As noted above, Australia's reserve position in the IMF is not held on the Reserve Bank's balance sheet. However, the Bank will sell to (or purchase from) the Australian Treasury the foreign currency the Treasury needs to complete its transactions with the IMF. In contrast to other foreign exchange transactions with the Australian Government, the Bank will typically draw on (or add to) its foreign currency reserves when providing (or receiving) foreign currency for IMF-related purposes because these transactions do not alter the level of Australia's reserve assets. Nevertheless, as with SDR transactions, on certain occasions the Bank may offset the impact on foreign currency holdings of these IMF transactions by buying or selling foreign currency in exchange for Australian dollars.

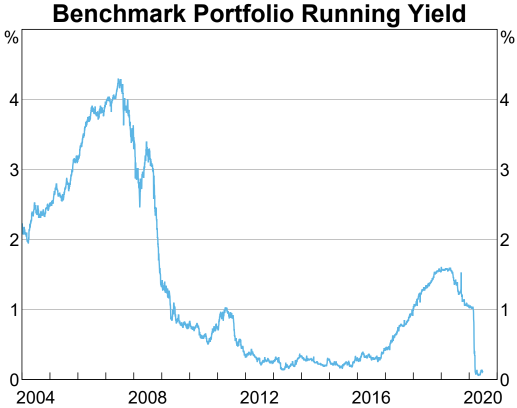
Gold holdings (including gold on loan) at the end of June 2020 were around 80 tonnes, unchanged from the previous year. Gold prices rose by 28.2 per cent in Australian dollar terms over 2019/20, increasing the value of the Reserve Bank's holdings of gold by around $1.4 billion to $6.6 billion. Returns from gold lending totalled $1.7 million, almost double the return of the prior year. The higher returns were due to an increase in lending activity, following the operationalisation

Foreign Currency Assets[a]
A$ million, 30 June 2020

Currency	Securities held outright	Securities lent under repurchase agreements	Deposits at official institutions[b]	Total (gross)	Forward FX commitments[c]			Total (net)
					Against A$	Against other currencies	Other	
US dollar	8,851	–	806	9,657	63	15,036	1,930	26,685
Euro	6,263	–	245	6,508	–14	2,481	821	9,796
Japanese yen	4,843	–	14,859	19,703	–	–16,398	–884	2,420
Canadian dollar	963	–	4	967	–	1,442	–	2,410
Chinese renminbi	2,105	–	329	2,433	–	–	–	2,433
UK pound sterling	2,429	–	6	2,436	–1	–48	–	2,387
South Korean won	4,927	–	6	4,933	–	–2,461	–	2,472
Total	30,382	–	16,256	46,638	48	51	1,867	48,604

(a) Excludes gold, special drawing rights, the reserve position in the IMF, investments in the Asian Bond Fund, balances with overseas banks, futures margins and non-reserve currency holdings
(b) Includes deposits at foreign central banks and the Bank for International Settlements (BIS)
(c) In accordance with IMF guidelines, 'forward commitments' reflect notional values of unsettled spot and forward transactions, converted to Australian dollars at the prevailing forward exchange rate. Other forward commitments largely reflect cash lent under repurchase agreements. This excludes forward commitments for non-reserve currencies and gold on loan.
Source: RBA

Benchmark Portfolio Running Yield



Source: RBA

of gold swaps, where the Reserve Bank's gold lending is fully collateralised by cash (either Australian dollars or foreign currency). The Bank's activities in the gold market are conducted in a manner consistent with the principles of the Global Precious Metals Code, and a 'Statement of Commitment to the Global Precious Metals Code' has been signed on behalf of the Bank.[12]

Bilateral currency swaps

In February 2020, the Reserve Bank renewed its bilateral local currency swap agreement with the Bank of Korea. The agreement with the Bank of Korea allows for the exchange of local currencies between the two central banks of up to A$12 billion or KRW 9.6 trillion. This agreement is for a further three years and can be extended by mutual consent. The Reserve Bank has similar agreements with the People's Bank of China, Bank Indonesia and the Bank of Japan. The purpose of these agreements is to allow each

12 For the Reserve Bank's Statement of Commitment, see <https://www.rba.gov.au/mkt-operations/pdf/statement-of-commitment-to-the-global-precious-metals-code-february-2019.pdf>.

central bank to support trade settlement in local currencies, particularly in times of market stress, or to support financial stability.

A temporary swap line with the US Federal Reserve was established in March 2020 as the COVID-19 outbreak led to US dollar funding pressures within global financial markets.[13] The Federal Reserve established temporary arrangements with eight other central banks at the same time, in addition to the standing US dollar swap lines it maintains with five major central banks. The Reserve Bank's US$60 billion swap line allowed it to exchange Australian dollars for US dollars. The US dollars were made available to Australian market participants through repos against Australian dollar-denominated securities. The US dollars were allocated by the Reserve Bank through an auction process, with the interest rate set by the Federal Reserve. Usage of the swap line was modest – amounting to only US$1.17 billion – as local market participants were able to continue meeting any US dollar funding needs in the market. The agreement with the Federal Reserve is due to expire in March 2021.

RBA Bilateral Local Currency Swap Agreements
June 2020

	Expiry	Size (A$b)
Bank of Indonesia	December 2021	10
Bank of Japan	March 2022	20
Bank Korea	February 2023	12
People's Bank of China	April 2021	40
US Federal Reserve	March 2021	87

Source: RBA

13 A prior swap agreement with the Federal Reserve expired in 2010.