Speech

# The Future System for Monetary Policy Implementation

RESERVE BANK OF AUSTRALIA

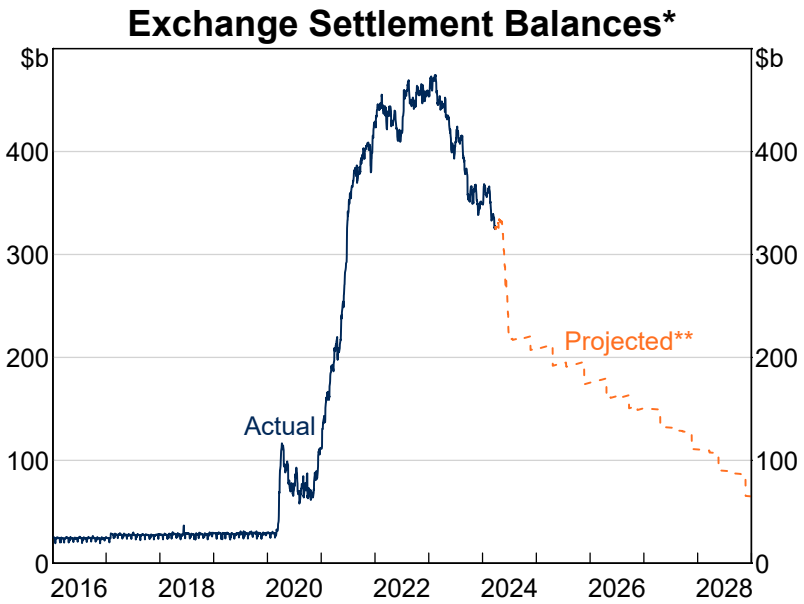
**Christopher Kent**[*]
Assistant Governor (Financial Markets)

**Bloomberg Australia Briefing**
Sydney – 2 April 2024

I'd like to start by thanking Bloomberg for hosting this event.

Today, I'll be speaking about the future system for monetary policy implementation – that is, the method by which the Reserve Bank of Australia (RBA) controls the cash rate. Planning for the future system is important given that the unwinding of unconventional monetary policies is leading to a decline in Exchange Settlement (ES) balances – otherwise known as reserves (Graph 1). Reserves held by banks in their ES accounts at the RBA play a central role in policy implementation. Banks use these funds to settle payments with other banks and with the RBA. They can also lend surplus funds to other banks in the overnight cash market. Those transactions go into the determination of the cash rate.

**Graph 1**




* Includes minimum required balances to meet after–hours payments.
** Assumes RBA bond holdings are held to maturity and no net change in RBA liquidity operations.
Source: RBA

At its March meeting, the Reserve Bank Board considered three options for the future system for the implementation of monetary policy:

1. maintain the current 'floor' system with an excess of reserves;
2. return to a 'corridor' system with scarce reserves, as used prior to the pandemic; or
3. transition to a new system of ample reserves that lies somewhere between these two.

The Board endorsed a plan to move to an ample reserves system with full allotment repurchase agreement (repo) auctions for our Open Market Operations (OMOs). The Bank of England, the European Central Bank and the Swedish Riksbank have announced they will be operating similar systems.[1]

I want to emphasise that this decision has no implications for the current or future stance of monetary policy. Rather, it is only relevant to the way in which we will achieve the desired stance of monetary policy through our operations. Nor does it have a bearing on the Board's current approach to quantitative tightening, which is to allow bonds purchased during the pandemic to run down as they mature and to periodically review the case to actively sell bonds.

Today I'll explain the three options for policy implementation, discuss some of the reasons why the Board has chosen to pursue the ample reserves system, and lay out the next steps as we move to that approach.

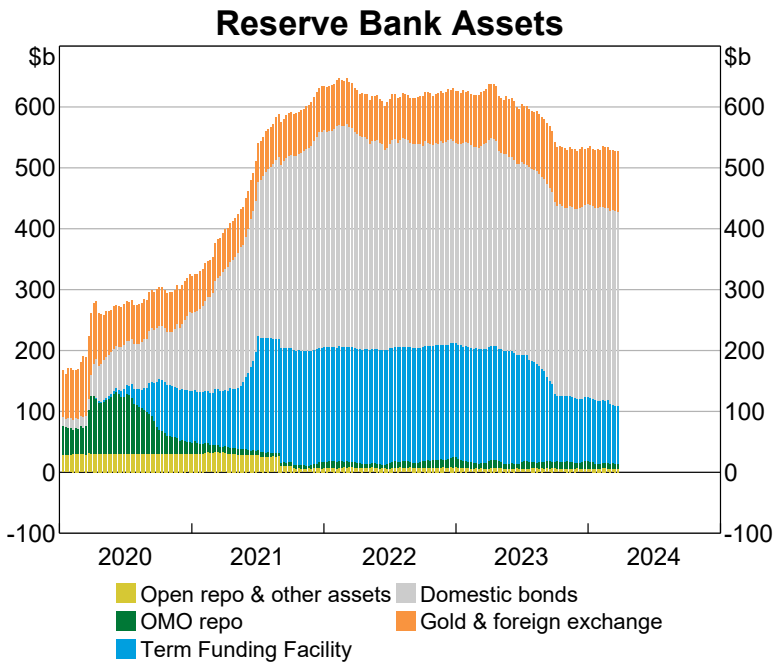
# Three options for policy implementation

## Option 1: A floor system with excess reserves – Our current approach

One option is to stay with the current approach. Namely, an excess supply of reserves that leads the cash rate to be close to a floor. This floor is the rate paid to banks on funds left overnight in their ES accounts – the ES rate.

The shift to this approach from the earlier system of scarce reserves began in mid-March 2020, as growing concerns about the economic effects of the pandemic led to stresses in global financial systems, including in Australia. As a first response, the RBA increased the extent of liquidity we were providing to banks (Graph 1; Graph 2; Graph 3).[2] Settlement balances quickly ramped up as the RBA met additional demand at our daily OMOs and bought government bonds in support of the functioning of those markets. Reserves grew further with the advent of the Term Funding Facility (TFF) and bond purchases in support of the yield target, and then later in 2020 through the bond purchase program.[3]

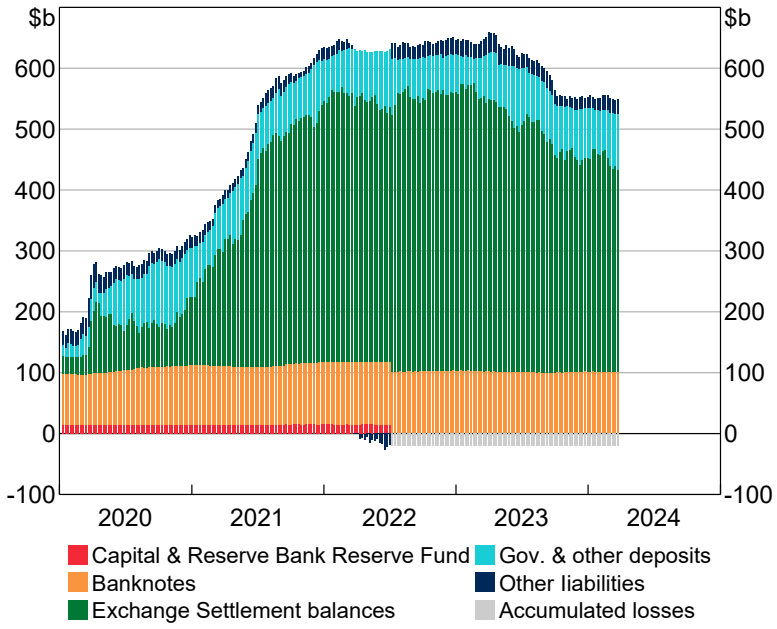
**Graph 2**




Source: RBA.

**Graph 3**

**Reserve Bank Liabilities**




Source: RBA.

As ES balances rose to high levels and the initial financial stresses in markets eased, most banks found they had a surplus of funds in their ES accounts. Therefore, the demand from banks to borrow from one another in the cash market to meet their payments and other needs declined. As a result, the cash rate became closely anchored to the ES rate and activity in the cash market fell away markedly.[4]

ES balances stabilised at around $460 billion in 2022, following the end of the bond purchase program, and since February 2023 have been declining as some of the bonds held have matured and the first tranche of the TFF was repaid by September 2023. ES balances will decline further when the remaining $96 billion of the TFF is repaid by the middle of this year, and as the RBA's bond portfolio continues to decline.

We are confident that the current high level of ES balances is still well in excess of what the banking system as a whole needs to satisfy underlying demand (to meet banks' payment and minimum liquidity needs). But as ES balances decline further, there will come a point where reserves are no longer in excess of underlying demand.

Some central banks have decided to retain a system of excess reserves.[5] To ensure that reserves remain in excess of underlying demand, at some point these central banks will need to offset the decline in reserves associated with the unwinding of their unconventional monetary policies. They can do this in a number of ways, but in general they will need to buy assets, such as government bonds (either outright or under repurchase agreements) or through foreign exchange transactions (e.g. via FX swaps). These central banks will work to maintain a buffer of reserves over and above the underlying demand for reserves. If the buffer isn't sufficient, it could lead to volatility in a range of money markets.[6] To avoid that, these central banks will be monitoring conditions in money markets very closely and responding if needed, noting demand can change over time and sometimes quite quickly.

The Board has decided not to maintain the current floor system with excess reserves. One reason is that it would require the RBA to hold a sizeable buffer of reserves over underlying demand, necessitating a relatively large balance sheet on an ongoing basis. Compared with the other options, this implies some additional risk to the RBA (such as interest rate risk) and a more sizeable footprint in markets.

## Option 2: An interest rate corridor with scarce reserves – Our pre-pandemic approach

What about the option of returning to our earlier system of scarce reserves to guide the cash rate to the target?

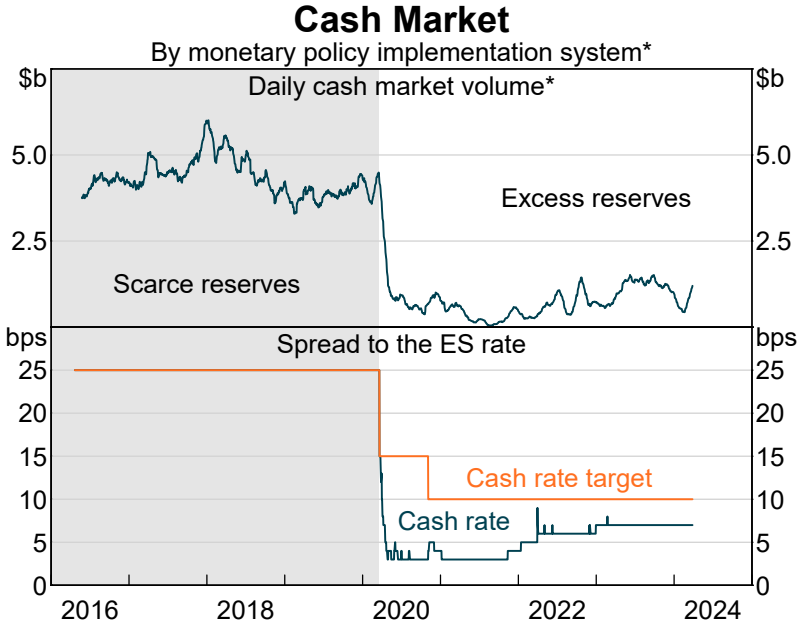
This system was in use for many years before March 2020.[7] It entails the central bank supplying just enough reserves to meet the underlying demand of the banking system, and providing standing facilities to ensure that the policy rate trades in a corridor around the target. In Australia, banks with surplus reserves could leave them on deposit with the RBA at the ES rate, which used to be 25 basis points below the cash rate target. Banks with a shortage of reserves could borrow them overnight from the RBA at a rate that was 25 basis points above the target. Banks had no reason to pay a rate above the top of the corridor for borrowed reserves, nor would they lend reserves at a rate below the floor of the corridor.

To keep the cash rate near the target, the RBA needed to accurately estimate the demand for reserves, forecast changes in the supply of reserves, and conduct OMOs daily (and sometimes more than once in a day).

The system worked well for many years, with the cash rate almost always at the cash rate target. Compared with the other two options, this system has a couple of attractive features. Because it entails a smaller balance sheet than under excess or ample reserves systems, it naturally implies lower interest rate risk for the RBA. Similarly, it implies a smaller footprint of the RBA in financial markets. Indeed, this system supports more cash market activity than the other options because on any given day it is more likely that some banks are facing a shortage of reserves and need to borrow from other banks to meet their needs.

Despite these benefits, the Board has decided not to return to a scarce reserves system. Such a system entails the highest risk of the banking system running into liquidity shortages. A scarce reserves system requires the central bank to have accurate estimates of reserve demand and supply on a daily basis and respond actively to short-term fluctuations as needed. In the past, this appeared to be very successful, with only a few trivial deviations in the cash rate from the target (Graph 4). However, a large part of that may have been because of the convention by cash market participants to almost always conduct trades in the cash market at the target rate set by the Board. Having moved away from that environment, such a convention may not re-emerge.

**Graph 4**



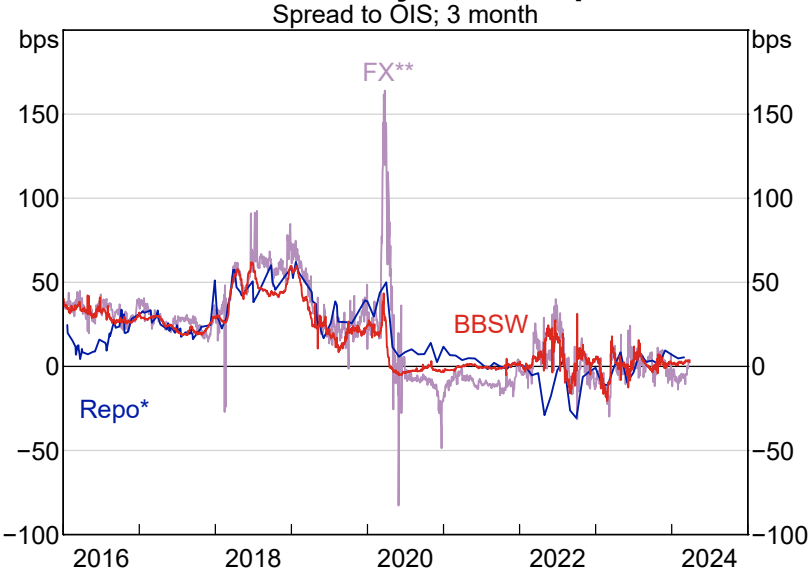

* Rolling 30−day average.
Source: RBA.

Moreover, even though the cash rate in the past would trade close to target, there were lengthy periods when liquidity was tight in broader money markets, such as for repo and bank bills. This was evident when market rates traded noticeably above the cash rate or overnight index swaps (which measure expectations for the future cash rate), even though the cash rate was trading at the target (Graph 5). This tightening in financial conditions reflected, in part, the fact that some money market participants did not have access to the cash market and borrowed in other short-term markets. At the same time, banks were often reluctant to lend large volumes of reserves in money markets until late in the day, once they were confident in their capacity to meet their own liquidity needs.[8]

**Graph 5**

**Australian Money Market Spreads**

Spread to OIS; 3 month




* RBA OMO repos used prior to 2020, private market HQLA repos used from 2020.
** Implied AUD rate based on covered interest parity.
Sources: APRA; ASX; Bloomberg; RBA; Tullett Prebon; US Federal Reserve.

Having moved away from scarce reserves after the onset of the pandemic, banks appear to have adapted their operations to an environment of higher reserves, simplifying their liquidity management and facilitating smoother daily payment processes.[9] In other words, the underlying demand for reserves is likely to have increased compared with pre-pandemic days. It is difficult to accurately estimate underlying demand in any system, but small errors of estimation would be more problematic in a system of scarce reserves, since they can lead to considerable volatility in cash and other money markets (without very active responses from the central bank).

Another issue is that a scarce reserves system is not resilient in the face of a sharp rise in the demand for liquidity in the banking system during occasions of considerable financial market stress. The RBA may be faced with such a scenario in the future and need to provide a large increase in reserves. This occurred at the onset of the pandemic when the RBA met all reasonable demands for liquidity from participants at our OMOs, much like the way in which our full allotment auctions work currently. Reserves also increased with the RBA's purchases of bonds to address the dysfunction in government bond markets at the time.

In short, scarce reserves systems are ill-suited to environments where demand for reserves is volatile and difficult to estimate accurately and where supply may change substantially depending on the need for the central bank to use balance sheet policies. For all these reasons, no other advanced economy central bank has indicated a return to a scarce reserves system.

### Option 3: Ample reserves with full allotment OMO – A new approach

The third option, which the Board has endorsed, is an ample reserves system in which banks' demands for reserves are satisfied via open market repo operations at a price near the cash rate target, in what are known as full allotment auctions. Together with the floor provided by the ES rate, these operations should keep the cash rate close to target. Setting the price of reserves in this way is in contrast with the scarce and excess reserve systems, where the central bank sets the quantity of reserves in order to affect the price. Under the ample reserves system, the supply of reserves can rise and fall in line with changes in demand, with minimal effects on the cash rate and other money market rates.

The Board sees a number of advantages with this new approach. Since the supply of reserves from the RBA will respond to changes in demand, we do not need to accurately estimate demand nor control the quantity of reserves; in short, it is simpler to operate than a scarce reserves or excess reserves system. An ample reserves system also reduces the risk of unnecessary volatility or disruption to conditions in money markets. Similarly, it is more resilient to any future expansion in the RBA's balance sheet if, for example, there was a need to address extreme stresses affecting bond markets, such as at the onset of the pandemic. That said, in this system, banks will still need to ensure they manage their liquidity carefully, including by obtaining sufficient liquidity at OMOs.

An ample reserves system is likely to lead to more activity in cash and other money markets compared with an excess reserves system, although not as much as under scarce reserves. With the supply of reserves just sufficient to satisfy underlying demand, the RBA's balance sheet will be no larger than it needs to be in order to implement monetary policy, and our footprint in financial markets will be smaller than in an excess reserves system.

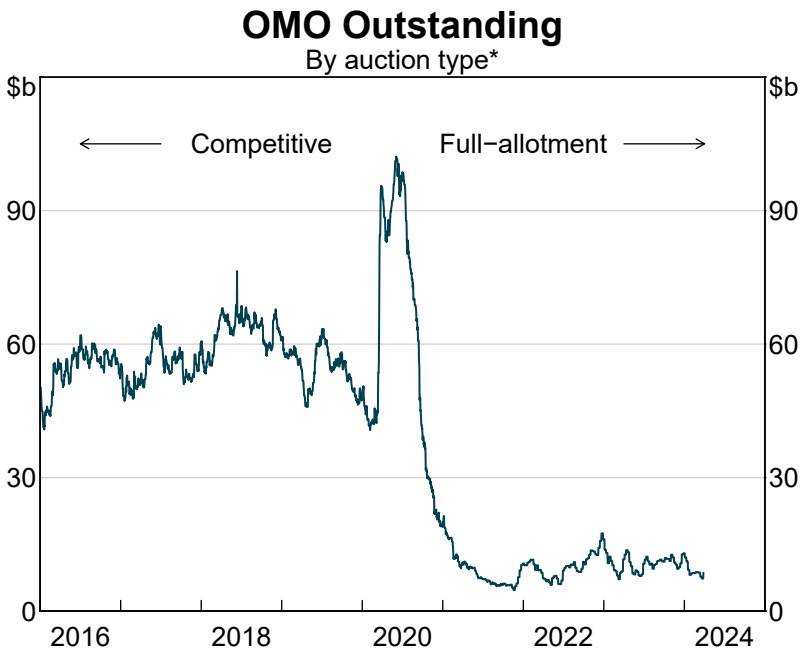
The RBA will use repurchase agreements to supply reserves, which as of February this year are based on a floating rate (as a spread to the cash rate target), thereby removing interest rate risk for the RBA. Other operations could also be used to supply reserves, such as purchases of short-dated government bonds and/or FX swaps. We used these types of operations prior to the pandemic and they can also be structured to minimise interest rate risk. This is in contrast with an excess reserves system, for which it may be more difficult to supply sufficient reserves while also limiting the interest rate risk held on the RBA's balance sheet and avoiding an overly large footprint in some markets.[10]

## The transition from excess to ample reserves

The RBA has been running full allotment OMO repo auctions since shortly after the onset of the pandemic, so from our counterparties' perspective there will be no immediate changes in our operations.

Currently, the supply of reserves is in excess of underlying demand, which means that most banks have no need to obtain liquidity through OMOs. Participation is therefore relatively low compared with pre-pandemic levels (Graph 6). As the level of reserves falls, however, we will at some point transition from an excess of reserves to an environment of ample reserves. As this happens, we expect to see cash market activity increase, perhaps with some rise in the cash rate, and potentially some pressure in other money markets. By design, however, any such pressures should, to a large extent, be tempered as banks naturally respond to higher market interest rates by borrowing more at OMO repo at the price set by the RBA. As always, the RBA will be monitoring market conditons closely, particularly around the upcoming maturity of the TFF. And we have the ability to respond to market stresses if the need arises, including by conducting OMO more frequently than once a week.

**Graph 6**




* Auction sizes increased in March 2020 in response to the COVID−19 pandemic.
Source: RBA.

## What's next?

The Board has endorsed a plan to move to an ample reserves framework with full allotment OMO repo as the RBA's future monetary policy implementation system. The next steps are for the RBA to determine the more detailed aspects of the system, including: the pricing, frequency and other aspects of our OMO repos; and what other instruments we might use to supply reserves. In addition to repo via full allotment auctions, the demand for reserves could be accommodated via a mix of FX swaps and purchases of short-dated government bonds. Among other considerations, this will depend on how the RBA wants to structure the composition of its balance sheet over the medium term. Also, a range of instruments would help to avoid an overly large presence in any single market, which might otherwise crowd out private sector activity. Under the earlier system of scarce reserves, all of these means of managing reserves – repo, FX swaps and outright bond holdings – were commonplace, though the outstanding balances for these instruments may well be greater under ample reserves.

One issue we will be looking at closely is how banks adjust to the progressive withdrawal of liquidity implied by the run down in reserves. Hence, the accessibility of reserves at OMO, and in particular the price to borrow reserves under repo, will be a point of interest, including because it involves trade-offs. For example, an OMO repo rate with a low spread over the ES rate will provide banks with an incentive to demand more reserves than otherwise, which may facilitate more efficient payments and reduce risks to financial stability. However, this will reduce the incentives for banks to source liquidity from private markets (including the overnight cash market), with the RBA having a larger footprint in markets and a larger balance sheet. Conversely, an OMO rate further above the ES rate will provide banks with an incentive to hold fewer reserves than otherwise and obtain more liquidity from private markets, including in the cash market. But this could leave banks with smaller buffers to deal with sudden and unexpected increases in their need for reserves and result in more volatility in money markets.

The Board will consider these issues in due course, aided by the results of a public consultation and liaison with market participants that will commence shortly. In the meantime, our operations in financial markets will continue as they are. Namely, weekly full allotment repo OMO operations at a 28-day term and priced at a floating rate of 5 basis points above the cash rate target.

Finally, let me stress again that all of this is about the plumbing underpinning the monetary system. It is not about the stance of monetary policy.

## Endnotes

[*] I thank Sean Dowling, Gian-piero Lovicu and Sam Batchelor for their excellent assistance in helping me to prepare this speech.

[1] See Ramsden D (2018), 'Finding the Right Balance', Speech at the Society of Professional Economists Annual Conference, London, 28 September; Schnabel I (2024), 'The Eurosystem's Operational Framework', Speech at the Money Market Contact Group, Frankfurt, 14 March; Riksbank (2019), 'The Riksbank's New Operational Framework for the Implementation of Monetary Policy', July.

[2] See Kent C (2022), 'Changes to the Reserve Bank's Open Market Operations', Remarks to the Australian Financial Markets Association, Sydney, 22 February.

[3] Debelle G (2021), 'Monetary Policy During COVID', Shann Memorial Lecture, Online, 6 May.

[4] We had reduced the gap between the ES rate and the cash rate target to 10 basis points, from 25 basis points under the earlier corridor system. So by design the cash rate, anchored to the ES rate, was close to the cash rate target.

[5] The US Federal Reserve, Bank of Canada and Reserve Bank of New Zealand all intend to operate floor systems with excess reserves. See US Federal Reserve (2022), 'Principles for Reducing the Size of the Federal Reserve's Balance Sheet', Press Release, 26 January; Jefferson PN (2023), 'Implementation and Transmission of Monetary Policy', H Parker Willis Lecture, Virginia, 27 March; Bank of Canada (2022), 'Bank of Canada Provides Operational Details for Quantitative Tightening and Announces that it Will Continue to Implement Monetary Policy Using a Floor System', Notice, 13 April; Gravelle T (2024), 'Going Back to Normal: The Bank of Canada's Balance Sheet After Quantitative Tightening', Remarks at the CFA Society, Toronto, 21 March; RBNZ (2022), 'Reserve Bank Optimising New Zealand's Monetary Policy Implementation Framework', Media Release, 6 May; Callaghan M, C Haworth and K Poskitt (2023), 'How the Reserve Bank Implements Monetary Policy', RBNZ *Bulletin*, June.

[6] As was the case in the United States during September 2019. For a comprehensive account of this episode, see Afonso G *et al* (2021), 'The Market Events of Mid-September 2019', *Economic Policy Review*, 27(2).

[7] Debelle, n 3. For a fuller explanation of the RBA's pre-pandemic system for implementing monetary policy, see Domestic Markets Department (2019), 'The Framework for Monetary Policy Implementation in Australia', RBA *Bulletin*, June.

[8] In principle, they could have lent earlier if borrowing cash overnight from the RBA was treated similarly to leaving cash on deposit with the RBA – after all, the pricing of both was symmetric, at 25 basis points away from the cash rate target. But in reality borrowing from the RBA overnight was discouraged, and banks avoided this when they could. That is, arbitrage between the cash market and other money markets was somewhat limited, which resulted in other money market rates sometimes diverging materially from the cash rate.

[9] This is evident in Australia and other advanced economies. For discussions on the increase in banks' demand for reserves in the Euro Area and United States, respectively, see Schnabel I (2023), 'Back to Normal? Balance Sheet Size and Interest Rate Control', Speech at Columbia University and SGH Macro Advisor, New York, 27 March; Acharya VV and R Rajan (2023), 'Liquidity, Liquidity Everywhere, Not a Drop to Use – Why Flooding Banks with Central Bank Reserves May Not Expand Liquidity', NBER Working Paper No 29680. For discussion on how changes to US banks' liquidity management preferences during a period of excess reserves may have increased their underlying demand for liquidity, see Lopez-Salido D and A Vissing-Jorgensen (2023), 'Reserve Demand, Interest Rate Control, and Quantitative Tightening', 27 February. There is also evidence that more reserves have led to faster settlement of payments in the United States (see Bech ML and RJ Garratt (2012), 'Illiquidity in the Interbank Payment System Following Wide-scale Disruptions', *Journal of Money, Credit and Banking*, 44(5), pp 903–929). Payments efficiency has also increased in Australia, albeit to a lesser extent than the United States, since operating with a higher level of reserves (see Kopec K and C Rao (2022), 'The Evolution of Interbank Settlement in Australia', RBA *Bulletin*, March).

[10] In particular, under an excess reserves system the supply of reserves is greater than the underlying demand of the banks, and so a central bank cannot rely on demand at OMO operations to push the supply into 'excess' territory. To do this, the central bank may need to either buy a large share of short-dated bonds (with risks to market functioning) or buy longer dated bonds (with the associated interest rate risk).