

NY Fed

SPEECH

The Ample Reserves Framework and Balance Sheet Reduction: Perspective from the Open Market Desk

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Thank you, Neil, for the kind introduction, and to the Cato Institute for the opportunity to share some thoughts on the Federal Reserve's operating system. In 2019, the Federal Open Market Committee (Committee) formally adopted an ample reserves framework to implement monetary policy. In this system, an ample supply of reserves ensures that administered rates exert control over short-term interest rates.¹ The Federal Reserve had been effectively implementing policy with administered rates since reserves first became abundant during the Global Financial Crisis. As such, the Committee's decision reflected not only significant study and deliberation, but also years of practical experience. In the short time since the formal adoption of this framework, there have been extraordinary changes in the operating environment, providing an even wider range of economic and financial conditions in which to view its performance. Now is a good time to reflect on those experiences and outline some key issues ahead.

Today, I would like to share my perspective on how the ample reserves framework's flexibility has helped provide effective interest rate control. I will also discuss how it should facilitate adjustments in money markets as the Committee reduces the size of the Federal Reserve's balance sheet. These reflections are based on my experience working on the Open Market Desk (the Desk) at the Federal Reserve Bank of New York for many years, most recently serving as Deputy Manager of the System Open Market Account (SOMA) and now as SOMA Manager pro tem.

I hope this will provide helpful context for the discussion that the other speakers will have after their remarks. While I expect they will cover a broader range of issues in their discussion, my focus today is on monetary policy implementation.

Before going further, I would like to note that these remarks reflect my views and not necessarily those of the Federal Reserve Bank of New York or the Federal Reserve System.

Implementing monetary policy with ample reserves

The Committee's Statement on Longer-Run Goals and Monetary Policy Strategy affirms that the Committee's primary means of adjusting the stance of monetary policy is through changes in its target range for the federal funds rate.² In January 2019, the Committee communicated its intention to implement monetary policy in a regime in which an ample supply of reserves ensures that control over the level of the federal funds rate and other short-term interest rates is exercised primarily through the setting of the Federal Reserve's administered rates.

The Federal Reserve's two main administered rates—the interest on reserve balances (IORB) rate and the offering rate on the overnight repurchase agreement (ON RRP) facility—provide strong incentives in

money markets. IORB sets a benchmark against which banks evaluate their lending and borrowing opportunities. The ON RRP facility provides a soft floor for the overnight money market activity of a broader set of market participants. It supports control of the federal funds rate, in particular when the supply of reserves is abundant and the availability of alternative investments, like Treasury bills, is relatively limited. The ON RRP facility increases bargaining power for its counterparties and, when needed, broadens the holders of Federal Reserve liabilities beyond banks, easing pressures on bank balance sheets that may result from elevated reserve levels.

In 2021, the Committee made an important addition to the ample reserves framework by establishing a new backstop tool—the standing repo facility (SRF)—to support effective policy implementation. The SRF was established to complement the discount window and serve as a liquidity backstop to make the framework more resilient to occasional disturbances that can occur in money markets.³ The SRF is available as a backstop to address upward pressures in the repo market that can spill over to the federal funds market and, when needed, to flexibly add reserves.⁴

The ample reserves framework adjusts to changing environments

The success of any implementation framework depends on its ability to work within the money market ecosystem to achieve interest rate control. For many years, the federal funds rate has remained within the Committee's target range on almost all occasions and has been responsive to changes in the Federal Reserve's administered rates, including when the Committee raised its target range at each of its last four meetings.⁵ The federal funds rate has also remained highly correlated with other overnight interest rates—a hallmark of effective interest rate control. I would like to highlight three areas where the framework's flexibility helps it adapt through different environments and meet the Committee's interest rate control objectives.

First, the framework aims to supply reserves in amounts demanded by banks to meet their liquidity needs. Following the Global Financial Crisis, banks fundamentally altered their liquidity management practices. The largest banks, in particular, now hold much larger liquidity buffers to meet not only daily payment flows, but also potential outflows in stressed market environments. Although these banks can hold a range of high-quality liquid assets to meet their liquidity needs, reserves are the safest and most liquid asset and are immediately available to meet outflows. The evolution of liquidity management practices in the U.S. banking system was evident during the COVID-19 pandemic, when banks, having stronger liquidity positions and less reliance on fragile funding, were able to meet the extraordinary liquidity demands of U.S. households and businesses.⁶

Supplying reserve balances in quantities demanded promotes interest rate control by ensuring that administered rates continue to provide strong incentives in money markets. A feature of banks' new liquidity management practices is that the demand for reserves can vary over time with shifts in their balance sheets and in different market environments. Additionally, mechanisms, such as direct trading between banks, that can quickly redistribute reserves through the banking system in response to payment shocks have become less favored by many institutions. These dynamics suggest that maintaining ample conditions requires supplying reserves somewhat in excess of the aggregate amount that individual banks would want to hold on a typical day.

Second, the ample reserves framework allows for more variability in the Federal Reserve's other liabilities, which helps maintain interest rate control even when shifts in these liabilities change the supply of reserves.⁷ The Federal Reserve offers accounts to certain official sector institutions. Balances in these accounts, and the ability to change them quickly, provide important liquidity management benefits to

these institutions. In particular, the U.S. Treasury seeks to maintain a balance in its Treasury General Account (TGA) sufficient to cover at least one week of cash needs.⁸ The size of the TGA can also vary significantly due to changes in tax payments and fiscal flows, and the ample reserves framework can accommodate such swings without active management of the supply of reserves.⁹

Third, and importantly, the ample reserves framework maintains interest rate control while accommodating policies that meaningfully expand the Federal Reserve's balance sheet. Asset purchases employed to foster accommodative financial conditions are now a standard tool in the Committee's toolkit and support attainment of its dual mandate objectives when the federal funds rate is constrained by its effective lower bound. In exceptional circumstances, asset purchases can also be used to address severe strains in market functioning that may disrupt the flow of credit to the U.S. economy, as was the case at the onset of the pandemic in 2020.¹⁰ And, in stressed market environments, liquidity provision through the discount window, dollar liquidity swap lines, or other facilities may also expand the Federal Reserve's balance sheet.

The Committee's ample reserves framework has been resilient during the extraordinary period associated with the pandemic—providing effective interest rate control during a time when the size of the Federal Reserve's balance sheet grew from \$4 trillion to nearly \$9 trillion. In the early part of the pandemic, repo operations and asset purchases, in concert with liquidity providing operations, helped meet the unprecedented demand for funding and market liquidity across the financial system, and IORB and the ON RRP facility worked together to support interest rate control. The framework also facilitated an expansion of the TGA, so the U.S. Treasury could prepare for large outflows related to the pandemic response. Over time, as the balance sheet continued to grow and the supply of Treasury bills fell, the ON RRP facility's expansion also broadened the base of Federal Reserve liability holders beyond the banking system.

Nonetheless, this substantial expansion in Federal Reserve liabilities since the onset of the pandemic is not a permanent feature of the framework, but a result of balance sheet policies employed to support the economy during a time of exceptional stress in financial markets and a deep economic downturn. It is the path to a smaller balance sheet that I would like to discuss next, and how the ample reserves framework can flexibly support interest rate control during this transition.

Incentives provided by the framework as the balance sheet declines

Early this year, the Committee issued principles for significantly reducing the size of the Federal Reserve's balance sheet as part of its plans to tighten the stance of monetary policy.¹¹ In June, the Committee commenced runoff, directing the Desk to begin allowing securities in the SOMA to mature without reinvestment up to monthly redemption caps. An increase in the pace of balance sheet reduction is underway, with monthly redemptions of up to \$60 billion of Treasury securities and \$35 billion of agency mortgage-backed securities (MBS).¹² The decline in SOMA securities holdings can be tracked through public data sources, as described in a post published this morning by the Federal Reserve Bank of New York.¹³

The Federal Reserve has prior experience reducing the size of its balance sheet. Between 2017 and 2019, the balance sheet shrank by \$700 billion, and this runoff proceeded smoothly, during the period when reserves were ample. Nonetheless, there are several differences between the current environment and our prior experience. Compared with the prior period, the size of the Federal Reserve's balance sheet is considerably larger, and the pace of runoff will be faster.¹⁴ The composition of liabilities is also different. ON RRP balances of around \$2.2 trillion currently comprise about a quarter of the Federal

Reserve's liabilities. In contrast, when the prior period of balance sheet reduction began, ON RRP balances averaged less than \$125 billion, accounting for only 3 percent of liabilities.[15](#)

This different composition of liabilities will necessitate a more complex set of adjustments in private-sector balance sheets than during the last episode. However, just as use of the ON RRP facility expanded as the balance sheet grew, shifts in money markets that accompany balance sheet runoff, along with incentives provided by administered rates, should result in ON RRP balances declining from currently elevated levels over time.

The relative pace at which reserves and ON RRP balances decline will depend on the actions of a broad range of money market participants. These adjustments are likely to take time to play out given the size of the ON RRP facility. While ON RRP balances may remain elevated in the near term, we are already observing modest shifts in money markets that should lead to smaller ON RRP balances over time.

First, as a repo market investment, the ON RRP facility's balances are influenced by the relative yields on alternative short-term money market instruments. Over the first half of the year, a declining supply of Treasury bills and uncertainty about the path of policy put downward pressure on short-term interest rates relative to the ON RRP rate, increasing demand for the facility.

In the coming months, the supply of safe, short-term investments may grow. Net Treasury bill issuance has risen by about \$250 billion from its trough in mid-July and is projected to rise modestly through the end of the year. This has lifted Treasury bill yields relative to other money market interest rates from the very low levels observed this summer. Over time, the faster pace of SOMA runoff may further expand the supply of alternative money market investments by increasing the amounts of Treasuries and agency MBS funded in private repo markets.

In addition, over time, greater certainty about the economic outlook and the path of policy may also moderate demand for the shortest tenor money market instruments. The weighted-average maturity of government money market fund portfolios has fallen notably, from 31 days in March to 21 days in August, as many funds limited the interest rate risk associated with longer-term money market investments. As the outlook becomes more clear, demand for very short-term investments like the ON RRP facility may decline.

Second, banks have an important role to play in the relative pace of decline in reserves and ON RRP balances, as they respond to the changing environment by shifting their liability management. Year to date, reserves have declined by a little more than \$900 billion, as many banks felt comfortable allowing their balances to fall from elevated levels. And, with \$3.1 trillion in reserves still in the system, most banks continue to maintain significant amounts of liquidity. However, in the current environment of rapidly rising short-term interest rates and expanding loan demand, there are signs of greater competition for deposits and an increase in wholesale borrowing by some banks.[16](#) For example, there has been fairly notable growth in demand for advances from Federal Home Loan Banks (FHLBs), and we have also seen a modest increase in borrowing by domestic banks in the federal funds market.[17](#)

Changes in behavior by banks have broad influence across money markets. Greater advance demand lifts FHLB borrowing in money markets and expands the supply of money market instruments. So far this year, FHLB discount notes outstanding have increased by around \$230 billion.[18](#) Higher deposit rates can also make bank deposits more attractive relative to other money market investments, such as money market

funds. Over time, the increase in banks' wholesale borrowing, along with more competitive deposit rates, should help draw funds out of the ON RRP facility.

Overall, as the Federal Reserve's balance sheet declines, I expect money market interest rates to rise relative to the ON RRP rate and for market participants to shift investments away from the facility over time, moderating the decline in reserves. This will necessitate significant adjustments across a wide range of private-sector balance sheets. The pace of these adjustments may occur at different rates across different institutions, depending on their responsiveness to changing conditions. Staff at the Federal Reserve will closely monitor money markets to help assess whether these adjustments are proceeding smoothly.

Ultimately, the Committee has stated its intention to slow and then stop the decline in the Federal Reserve's balance sheet when reserve balances are somewhat above the level it judges to be consistent with ample reserves. As I noted before, the level of reserves needed to maintain ample conditions is uncertain and varies over time. Bank balance sheets have grown markedly since the beginning of the pandemic. It is unclear the degree to which banks' reserve demand has also shifted—in the most recent Senior Financial Officer Survey, around 40 percent of banks suggested that the lowest level of reserves they would seek to maintain at rates near the IORB rate has increased since 2019, but nearly all of the remainder suggested that it stayed roughly the same.¹⁹ The Committee has indicated that money market conditions will be an important gauge of when reserves are approaching the level needed to maintain ample conditions, and will stop balance sheet runoff when reserves are somewhat above that level. The experience of 2019 provides a useful guide to inform this assessment, and staff will monitor a broad range of money market indicators. In addition, the SRF is now available, along with the discount window, to address shocks that could unexpectedly arise. Ultimately, the Committee will manage securities holdings as needed to maintain ample conditions over time.²⁰

Conclusion

I appreciate the opportunity to share some reflections on the Federal Reserve's operating system and how it works within the money market ecosystem to achieve interest rate control through a broad range of money market environments. In recent years, the ample reserves framework supported the Committee's ability to address the extraordinary shock from the pandemic. I expect that it will support effective policy implementation as the balance sheet declines and continue to do so going forward.

¹ See [Statement Regarding Monetary Policy Implementation and Balance Sheet Normalization](#), Board of Governors of the Federal Reserve System (January 30, 2019).

² See [Historical Statements on Longer-Run Goals and Monetary Policy Strategy](#), Board of Governors of the Federal Reserve System.

³ See [Statement Regarding Repurchase Agreement Arrangements](#), Board of Governors of the Federal Reserve System (July 28, 2021). Currently, the SRF's minimum bid rate and the discount window's primary credit rate are set at the top of the Committee's target range for the federal funds rate.

⁴ Additionally, in 2021, the Committee established a standing repo facility for foreign and international monetary authorities (FIMA Repo Facility) to help address global dollar funding pressures that can emerge. The FIMA Repo Facility provides an alternative for foreign official institutions to obtain liquidity against their holdings of Treasury securities other than through outright sales and complements the existing U.S. dollar liquidity swap lines.

⁵ Since the Committee initially raised its target range for the federal funds rate off the effective lower bound in December 2015, the effective federal funds rate has printed in the Committee's target range on all but two days.

⁶ Quarles, Randal (October 15, 2020), [What Happened? What Have We Learned From It? Lessons from COVID-19 Stress on the Financial System](#), remarks at the Institute of International Finance, Washington DC.

⁷ Under the monetary policy implementation framework in place in the years ahead of the Global Financial Crisis, variability in non-reserve liabilities was limited, as shifts in these liabilities could pose a challenge to effective interest rate control.

⁸ The TGA, the U.S. Treasury's account at the Federal Reserve, effectively serves as the U.S. government's checking account.

⁹ Since the beginning of 2015, the size of the TGA has varied widely, with multiple instances of weekly changes in the TGA exceeding \$100 billion over that period. See [Factors Affecting Reserve Balances – H.4.1](#), Board of Governors of the Federal Reserve System.

¹⁰ At the onset of the COVID-19 pandemic, the Committee employed large-scale asset purchases to address extraordinary market functioning challenges and continued to expand the Federal Reserve's balance sheet to support the economy during the deep economic downturn associated with the pandemic.

¹¹ See [Principles for Reducing the Size of the Federal Reserve's Balance Sheet](#), Board of Governors of the Federal Reserve System (January 26, 2022), and [Plans for Reducing the Size of the Federal Reserve's Balance Sheet](#), Board of Governors of the Federal Reserve System (May 4, 2022).

¹² Redemption is the process of allowing securities to mature without reinvestment. The redemption caps establish the maximum amount of redemptions of maturing securities in each monthly period. Monthly redemptions of Treasury securities and agency MBS may fall below their respective caps if monthly principal payments are less than the cap. The redemption cap on agency securities formally covers both agency MBS and agency debt securities, but SOMA's holdings of agency debt securities are de minimis, currently accounting for less than 1 percent of SOMA's holdings of agency securities. See [Factors Affecting Reserve Balances – H.4.1](#), Board of Governors of the Federal Reserve System.

¹³ See [The "How and When" of the Fed's Balance Sheet Runoff](#), Federal Reserve Bank of New York (September 8, 2022).

¹⁴ In October 2017, when the prior period of reductions in the SOMA's securities holdings began, total assets on the Federal Reserve's balance sheet were roughly \$4.5 trillion, of which securities held outright in the SOMA were \$4.2 trillion. In June 2022, total assets were approximately \$8.9 trillion, of which securities held outright in the SOMA were \$8.5 trillion. See [Factors Affecting Reserve Balances – H.4.1](#), Board of Governors of the Federal Reserve System.

¹⁵ In October 2017, when the prior period of reductions in the SOMA's securities holdings began, liquidity in the system (reserves plus ON RRP balances) was approximately \$2.4 trillion, with ON RRP balances only accounting for about 5 percent of the total. Currently, total liquidity in the system is roughly \$5.5 trillion, with ON RRP balances accounting for about 40 percent of the total. The Federal Reserve also has other liabilities, such as currency in circulation, that make up the balance of aggregate liabilities. See [Reverse Repo Operations](#), Federal Reserve Bank of New York and [Factors Affecting Reserve Balances – H.4.1](#), Board of Governors of the Federal Reserve System.

¹⁶ As of mid-August, deposits at commercial banks have declined by around \$400 billion from a local peak in April 2022. Over the first eight months of the year, loans and leases at commercial banks have increased about \$700 billion. See [Assets and Liabilities of Commercial Banks in the United States – H.8](#), Board of Governors of the Federal Reserve System.

¹⁷ The Federal Home Loan Banks [Combined Financial Report for the Quarterly Period Ended June 30, 2022](#), reported an increase in advances outstanding of roughly \$167 billion over the first half of 2022.

¹⁸ The Federal Home Loan Banks Office of Finance reported an increase in FHLB discount notes outstanding of \$231 billion over the first eight months of 2022, with the total supply of [FHLB debt outstanding](#) increasing \$306 billion over that period.

¹⁹ See [May 2022 Senior Financial Officer Survey](#), Board of Governors of the Federal Reserve System.

²⁰ See [Plans for Reducing the Size of the Federal Reserve's Balance Sheet](#), Board of Governors of the Federal Reserve System (May 4, 2022).