The Role of Discount Window Policy in Balance Sheet Reduction

Jeffrey M. Lacker[1]

Shadow Open Market Committee at the Center for Financial Stability
October 30, 2026
New York, New York

The Federal Reserve's balance sheet is drawing renewed attention this year. Chairman Kevin Warsh, Treasury Secretary Scott Bessent and other policymakers and commentators have said that contracting it would be a constructive way to reduce the distortionary effects of the Fed's financial market "footprint."[2] Indeed, one of the five task forces announced by Chairman Warsh in June is devoted to "Balance Sheet Policy" and has been asked to "examine the costs, benefits, and institutional implications of the Federal Reserve's current balance sheet regime."[3] Many proponents of balance sheet reduction have suggested various measures that would make the process easier.[4] Some have proposed allowing banking organizations to count their unused discount window capacity toward various regulatory and supervisory liquidity requirements.[5] That proposal is unwise, because it would undermine the avowed purpose of those requirements and likely increase the moral hazard associated with the Fed's lending backstop. A better way to facilitate balance sheet reduction is for the Fed to reconsider its recently acquired antipathy to high-frequency fluctuations in money-market spreads. More fundamentally, the financial market distortions attributable to the Fed's "footprint" are more closely related to the composition of the Fed's balance sheet than its total size. A more effective approach to reducing those distortions would be to shift toward a bills-only portfolio by shedding agency mortgage-backed securities and longer-term Treasuries.

An array of regulatory and supervisory rules requires banks to hold enough liquid assets to meet various stipulated minimums. The Liquidity Coverage Ratio requires large banks to hold eligible "High Quality Liquid Assets" sufficient to cover total net cash outflows over 30 days in a "stress scenario."[6] The Net Stable Funding Ratio is a similar requirement applicable to large banks and

---

[1] Jeffrey M. Lacker is a member of the Shadow Open Market Committee at the Center for Financial Stability, a Senior Affiliated Scholar at the Mercatus Center at George Mason University, and the former President and CEO of the Federal Reserve Bank of Richmond. Email: jmlacker27@gmail.com. The author is grateful to Robert Hetzel, Peter Ireland and Bill Nelson for comments on an earlier draft. This paper also appeared as a Mercatus Center Policy Brief.

[2] (Bessent and McKernan 2026; Miran 2026; Nelson 2026; Waller, Christopher J. 2025; Warsh 2025; Mester 2025)

[3] (Board of Governors of the Federal Reserve System 2026)

[4] (Anderson et al. 2026; Beckworth 2026; Duffie 2026; Duke and Nelson 2026; Hammack 2025; Hill 2026; Nelson 2026; Logan and Schulhofer-Wohl 2025)

[5] (Anderson et al. 2026; Beckworth 2026; Bessent and McKernan 2026; Bowman 2026; Hill 2026; Miran 2026; Nelson 2026; Waxman 2025). See also Quarles (2020) and the *Discount Window Preparedness Act of 2026*, legislation introduced by Senators Mark Warner (D-VA) and John Kennedy (R-LA). (Warner 2026)

[6] For details see Department of the Treasury et al (2014).

utilizing a one-year stress horizon.[7] A somewhat different set of large banks is required to conduct Internal Liquidity Stress Tests and must hold "Highly Liquid Assets" sufficient to cover projected net stressed cash outflows over 30 days.[8] Liquidity standards associated with resolution planning ("living wills") can also effectively constraint liquidity holdings at large banking organizations.[9] For convenience, I will refer to these collectively as "liquidity constraints."[10] Proponents differ regarding which of these requirements discount window capacity should count toward. It should be noted that High Quality Liquid Assets and Highly Liquid Assets that have been pledged to a Reserve Bank's discount window but are *not* securing outstanding borrowing *do* count toward their respective liquidity constraints. What is in question is whether *unused* discount window capacity supported by pledged assets that do not qualify as HQLA should count toward liquidity constraints.

Why Are There Minimum Liquidity Requirements?

The liquidity constraints described above were created after the Great Financial Crisis under authority of the 2010 Dodd-Frank Act,[11] and the record shows that they were aimed at mitigating the moral hazard effects created by the expectation that Federal Reserve lending would be forthcoming in the event of financial distress. Their plain purpose was to counteract banks' incentive to hold too little by way of liquid assets. In the Congressional hearings leading up to the drafting of the Act, Secretary of Treasury Timothy Geithner noted that capital and liquidity standards had been "too low."[12] In the Federal Reserve's Congressional testimony, Governor Daniel Tarullo likewise pointed to the moral hazard associated with the "'too big to fail' problem" as a motivation stiffer capital and liquidity requirements.[13]

> Unless countervailing steps are taken, the belief by market participants that a particular firm is too big to fail, and that shareholders and creditors of the firm may be partially or fully protected from the consequences of a failure, has many undesirable effects. It materially weakens the incentive of shareholders and creditors of the firm to restrain the firm's risk-taking, provides incentives for financial firms to become very large in order to be perceived as too big to fail, and creates an unlevel competitive playing field with smaller firms that may not be regarded as having implicit government support. Creation of a mechanism for the orderly resolution of systemically important nonbank financial firms, which I will discuss later, should help remediate this problem. In addition, *capital,*

[7] For details see Department of the Treasury et al (2021).

[8] For details see Federal Reserve System (2014).

[9] (Federal Reserve System and Federal Deposit Insurance Corporation 2019, 1459). Strictly speaking, the liquidity standards associated with resolution planning (the Resolution Liquidity Adequacy and Positioning and Resolution Liquidity Execution Need) are supervisory guidance, but in practice many firms have internalized these as operating constraints.

[10] There are, in addition, requirements regarding liquidity- and funding-risk management, and funding plans are at the heart of resolution planning requirements. (Department of the Treasury: Office of the Comptroller of the Currency et al. 2010)

[11] These liquidity constraints are distinct from reserve requirements, which were set to zero in March 2020. (Board of Governors of the Federal Reserve System, n.d.-c)

[12] (Geithner 2009)

[13] Bernanke (2009) delivered identical remarks the following day.

> *liquidity, and risk-management requirements for systemically important firms will need to be strengthened to help counteract moral hazard effects*, as well as the greater potential risks these institutions pose to the financial system and to the economy. (Tarullo, 2009, emphasis added)

When the bill emerged in mid-2010, the authors pledged that "taxpayers must never again hear that a company is too big to fail," a message frequently invoked to justify Fed lending to forestall closure. To that end, they created a new body, the Financial Stability Oversight Council, "specifically charged with making sure our large, more complex institutions have more stringent capital requirements, leverage ratios, liquidity requirements, and risk management tools." (United States Congress, 2010, p. 5882)

When U.S. banking regulators, after passage of the Act, issued a notice of proposed rulemaking on liquidity standards, they tied the need for the liquidity coverage ratio directly to the moral hazard engendered by Federal Reserve lending.

> A maturity mismatch in a bank's balance sheet creates liquidity risk. Banks will typically manage this liquidity risk by holding enough liquid assets to meet their usual net outflow demands. The presence of a central bank that can serve as a lender of last resort provides an element of liquidity insurance, which, as is often the case with insurance, creates moral hazard. *Because of the presence of a lender of last resort, banks may not hold socially optimal levels of liquid assets.* The LCR buffer established by the proposed rule offsets the moral hazard to a degree, and lowers the probability of a liquidity crisis and may limit the severity of liquidity crises when they do occur. (Department of the Treasury et al. 2013, 71851, emphasis added)

When the agencies issued the final rule in October 2014, they again connected the need for the liquidity coverage ratio to expectations of lender-of-last-resort support.

> The agencies believe that the most recent financial crisis demonstrated that large, internationally active banking organizations were exposed to substantial wholesale market funding risks, as well as contingent liquidity risks, that were not well mitigated by the then-prevailing liquidity risk management practices and liquidity portfolio compositions. For a number of large financial institutions, this led to failure, bankruptcy, restructuring, merger, or *only maintaining operations with financial support from the Federal government*. The agencies believe that covered companies should not overly rely on wholesale market funding that may be elusive in a time of stress, *not rely on expectations of government support*, and not rely on asset classes that have a significant liquidity discount if sold during a period of stress…. Covered companies are expected to maintain appropriate levels of liquidity *without reliance on central banks acting in the capacity of lenders of last resort*. (Department of the Treasury et al. 2014, 61448, emphasis added)

In a speech shortly thereafter laying out a broad analysis of the emerging liquidity regulation regime, Governor Tarullo also tied the constraints to the incentive effects of the lender of last resort.

> The classic responses to this classic problem [of bank runs] have been a combination of deposit insurance and discount window access.... Regulatory requirements were imposed to guard against the moral hazard that both programs could create…. The U.S. banking agencies have worked with other regulators in the Basel Committee on Banking Supervision to develop two quantitative liquidity standards–the LCR and the NSFR. These standards complement the bank capital framework and resolution mechanisms that have been agreed internationally. *They will also help central banks limit the use of LOLR*. (Tarullo 2014, 3, 11, emphasis added)

Governor Michael Barr, who served in the U.S. Treasury from 2009 to 2011, when the Dodd-Frank Act was being crafted, provided a more recent portrayal of the original motivation for liquidity requirements:

> After the Global Financial Crisis (GFC), bank regulators designed and adopted rules that require the largest banks to hold a portfolio of HQLA in amounts calibrated to what their needs would be in stress scenarios. This approach, along with capital requirements, was designed to help the largest banks survive stress events. Rather than allowing these firms to threaten the viability of the financial system, necessitating their bailouts, we instead said they have to basically self-insure by holding an appropriate amount of HQLA. (Barr, 2026, p. 8)

Official commentary makes clear, then, that a central motivation for implementing liquidity constraints in the 2010s was that without them, banks would hold insufficient liquid assets in anticipation of being able to draw on central bank lending or other government support. Abundant commentary from outside of the regulatory sphere made the same point. To cite just one example, three economists at the Board of Governors, Mark Carlson, Burcu Duygan-Bump, and William Nelson, posted a paper in early 2015 directly addressing the relationship between liquidity regulations and the lender of last resort titled "Why Do We Need Both Liquidity Regulations and a Lender of Last Resort?" They argued that liquidity regulations "serve as a tax on liquidity risk by requiring banks to hold low-yielding assets in rough proportion to the amount of liquidity risk they take. As such, they provide an incentive for banks to internalize the externalities associated with liquidity crises, at least to some extent, and accordingly minimize their occurrence." [14] One of the externalities they identified is "LOLR lending" that is "rife with moral hazard and therefore best avoided if at all possible by having robust liquidity and capital regulations." (4) They also observed that liquidity buffers provide authorities with more time to respond to a potential default, assess the condition of the institution, and arrange a more orderly resolution.

[14] (Carlson et al. 2015, 5)

The Economics of Liquidity Constraints in Lending Arrangements

The most natural way to think about the connection between the discount window and liquidity constraints is to recognize that the discount window is a secured line of credit, closely analogous to a private line of credit that a bank might provide to a borrowing firm.[15] Through the discount window, a Federal Reserve Bank stands ready, under specified conditions, to provide credit at the initiative of the borrowing bank. Similarly, a private line of credit provider stands ready, under specified conditions, to lend at the borrower's request. A private line of credit commits the lender to extending credit at a pre-agreed spread over a reference interest rate and thereby provides some insurance against deterioration in the creditworthiness of the borrower. Similarly, the Fed's discount window provides credit at a posted "discount rate" that is set at a specific relationship to the Federal Open Market Committee's target range for the federal funds rate; since March 2020 the discount rate has been set at the top of the target range.

Private line of credit contracts generally include *loan covenants*, conditions that borrowers are required to meet in order to qualify for automatic credit extension. Loan covenants often include periodic financial reporting and maintenance of specified financial conditions such as capital ratios and minimum holdings of liquid assets.[16] Similarly, access to "primary credit" at a Federal Reserve Bank is limited to banks that are "in generally sound financial condition," a qualitative assessment linked to supervisory ratings and capital and liquidity measures.[17] In practice this is a fairly broad category. Banks that do not qualify for primary credit may qualify for "secondary credit" which carries a higher interest rate, currently 50 basis points above the rate on primary credit.

Liquidity covenants can tilt borrower's incentives toward more conservative liquidity management practices. Once a line of credit agreement is in place, the borrower may benefit from taking on risks that increase the lender's exposure. A liquidity covenant mandates an amount of self-insurance and limits risky behavior that is, ex post, disadvantageous to the lender.[18] Liquidity constraints play a similar role with banks that have access to the discount window, as noted in the liquidity regulation rationales quoted above. They require banks to bear more of the cost of insuring against liquidity stress and thereby offset, at least in part, the incentive to rely on central bank credit.

In competitive markets for private line of credit arrangements, borrower and lenders presumably choose contractual provisions that are efficient for them, ex ante, given the

[15] Goodfriend and Lacker (1999) explore this analogy in more depth.

[16] (Bradley and Roberts 2015; Dichev and Skinner 2002; Paglia and Mullineaux 2006)

[17] (Board of Governors of the Federal Reserve System, n.d.-a) The Federal Reserve's website says that "Reserve Banks rely on supervisory ratings and capital measures to determine whether an institution is in generally sound financial condition, but Reserve Banks may also consider other information when making this determination. In most cases, an institution must have a CAMELS composite rating of 3 or stronger and a PCA designation of "adequately capitalized" or stronger to be eligible for primary credit. (Board of Governors of the Federal Reserve System, n.d.-b)

[18] (Jensen and Meckling [1976] 2004; Smith and Warner 1979)

informational constraints and agency problems they face. The stringency of liquidity constraints and other private line of credit covenants presumably balance the benefits of improved alignment of borrower incentives against the costs associated with more prudent liquidity management. Similarly, the implementation of a set of formalized liquidity constraints for banking organizations following the Great Financial Crisis presumably reflects a post-Crisis assessment that the benefits of offsetting the moral hazard of access to central bank credit outweighed the cost of the additional restraints on bank liquidity management. Indeed, documentation surrounding various liquidity regulations published by the Basel Committee on Banking Supervision and by U.S. banking regulators explicitly describes the requirements in terms of such balancing, including their role in constraining the incentive effects of central bank credit.

From this perspective, counting unused discount window capacity toward a liquidity constraint would require an offsetting upward adjustment to the constraint if policymakers wished to preserve its original effectiveness. Consider a business with a $200 million private line of credit with a covenant requiring the borrower to hold $100 million in cash. If the borrower were permitted to count the unused line toward the covenant, the lender would have to raise the covenant to $300 million to preserve the original requirement that the borrower hold $100 million in actual cash. Without that adjustment, the change would weaken the agreement's original protections and reduce the self insurance required of the borrower.

The same reasoning applies to the liquidity constraints implemented following the Great Financial Crisis. Allowing unused discount window capacity to satisfy liquidity constraints without an offsetting increase would reduce the amount of liquid assets banks must hold. This would amount to a substantive loosening of liquidity requirements, not an innocuous technical clarification. I am not aware of any proposals to count unused discount window capacity toward liquidity constraints that include such an offsetting increase in liquidity requirements. Indeed, the explicit purpose of the proposals is to *reduce* required holdings of reserve account balances, in order to reduce aggregate demand for reserve balances and thereby facilitate reducing the overall size of the Federal Reserve's balance sheet.

The case for counting unused discount window capacity toward liquidity constraints without an offsetting adjustment is therefore equivalent to simply claiming that existing liquidity constraints are currently set too high.[19] That may or may not be true, but proponents have not, to my knowledge, provided an analytical case for that proposition. If such a case can be made, regulators should simply alter the liquidity regulations directly and transparently. Using discount window capacity to reduce liquidity constraints would obscure the actual policy shift while weakening the effects of those requirements.

[19] "One prominent proposal is to let banks count some percentage of non-HQLA assets they pledge to the discount window (such as corporate loans) to meet their liquidity requirements. This is really just a way to lower liquidity requirements, and it only reduces the amount of self-insurance and resilience the Fed requires of the largest banks." (Barr 2026, 9–10)

These proposals would undermine liquidity regulations that were explicitly designed to *discourage* discount window borrowing. As noted above, a major lesson legislators and regulators took from the financial crisis was that capital and liquidity standards had been too low. They implemented liquidity constraints specifically to counteract the tendency of banks, particularly large banks, to hold too few liquid assets and to rely too heavily on short-term wholesale funding that can disappear rapidly. Capital requirements were strengthened as well because run risk ultimately comes back to capital, which is what ultimately ensures that adverse liquidity events can be absorbed without undue strain. The post-crisis regulatory framework was thus specifically designed to encourage self-insurance and reduce reliance on the discount window during episodes of financial distress. Allowing unused discount window capacity to reduce required liquidity would weaken that framework without evidence.

A Historical Perspective

Proposals to count discount window access toward liquidity requirements should be viewed in the broader context of the history of Fed lending doctrine. It is true that the discount window was the at the center of Federal Reserve Bank operations envisioned by the founders, but it is clear from the historical record that lending was intended as a means of conducting monetary policy, that is, a means of engineering variations in the supply of high-powered money (reserve balances and paper note supply) in response to fluctuations in demand, something the preceding regime had failed to do reliably due to cumbersome legal restrictions on national bank note issue.[20] Open market operations soon began to eclipse the discount window as the principle monetary policy instrument, and after the Treasury-Fed Accord in 1951 the window took a subservient role in monetary policy operations. In the 1960s, the Fed began lending to rescue creditors of failing institutions at the behest of other bank regulators that were reluctant to shut them down, a practice that expanded over subsequent decades to create "To Big To Fail," the expectation that the Fed would intervene to mitigate ex post costs, both real and political, of resolving failing financial institutions.[21] Apparently, the Fed has found it difficult to limit ex post support to align with an ex ante optimal lending policy, a conclusion that is implicit in the 2009 testimony of Tarullo and Bernanke. The resulting sequence of expanding precedents incented fragile funding strategies at large financial institutions in the decades leading up to the GFC. Reflecting the influence of the "New Credit View" of the 1990s, Fed credit extension expanded dramatically during the crisis. The Dodd-Frank liquidity constraints were part of a broader effort to tighten ex ante regulations to prevent the occurrence of the events that tended to elicit Fed lending. Efforts to limit Fed lending were less robust.[22]

Sixteen years on from the DFA, the predictable cyclical backlash to regulatory tightening keeps gathering steam. Proposals to count discount window capacity toward liquidity constraints are

[20] (Lacker 2025)

[21] I called this lending doctrine "Reluctant Samaritan": "Federal Reserve lending decisions are made case-by-case, at its discretion, in order to: mitigate the ex post costs of resolving failing financial firms, especially banks; help the FDIC delay resolution of failing banks; avoid the political fallout of financial market turmoil that might arise if lending is withheld; and minimize the perceived departure from past precedent. Communication strives to minimize expectations of future intervention but preserve maximum discretion." (Lacker 2025, 419–20)

[22] (Baker 2012)

part of a broader movement to "normalize" the discount window and encourage tolerance of Fed credit allocation as a routine component of bank liquidity management. That effort gained traction after the failure of Silicon Valley Bank, when regulators cited impediments to SVB borrowing at the discount window, due to "stigma" and a lack of collateral pre-positioning, as contributing to the panicked nature of the resolution, downplaying the decision not to invoke the Dodd-Frank Act Orderly Liquidation Authority, SVB's fundamental solvency challenges and bank management failures.[23] Highlighting discount window readiness deflects attention from more fundamental supervisory failings and safety net incentive effects.

A More Useful Approach Would Be to Reassess "Ample Reserves"

Two further observations concerning the Fed's balance sheet are worth noting here. First, a direct and promising way to ease the path toward balance sheet reduction would be for the Fed to reconsider its analysis of the level and volatility of money market interest rate spreads. Twice in recent years the Fed has stopped reducing its balance sheet; once in response to an episode of repo rate volatility, and once as the spread between repo rates and the rate of interest on reserves widened. This aversion to money market volatility is a break from past practice. The Fed traditionally has "looked through" transitory high-frequency movements in money market rates, such as quarter- and year-end rate spikes, because longer-term rates (beyond one-month) were more essential to monetary conditions and remained anchored by expectations that the Fed would achieve its funds rate target, on average.[24] Longer term rates were anchored by the interest rate smoothing that characterized FOMC rate setting.[25] The same logic should apply now when the interest rate on reserves anchors market rates. In the September 2019, repo rate episode, for example, longer term yields were virtually unchanged.[26] If temporary money-market volatility has little effect on broader financial conditions, tolerating more of it could permit a smaller balance sheet without weakening liquidity regulation.

Similarly, the Fed has traditionally allowed market forces to determine average spreads between the policy rate and various money market rates, and the economic case for tightly managing those spreads is not obvious.[27] The Fed has been operating under the assumption that a stable demand curve relates the spread of the funds rate over the interest rate on reserves to the aggregate quantity of bank reserves, and that bank reserves must remain large enough to avoid the "steep" part of the demand curve. Econometric estimates of the position of the demand curve are uncertain, however. Moreover, the demand curve appears to have gradually shifted outward during quantitative easing as market participants adapted to a dramatically larger

[23] (Seru 2024; Jiang et al. 2024)

[24] (Meulendyke 1998)

[25] (Cook and Hahn 1986; Goodfriend 1987)

[26] Yields on 2-year Treasury securities changed little during the event and Lori Logan, then Manager Pro Tem of the System Open Market Account, reported to the FOMC that expectations of overnight funding rates three months ahead rose only about 2 basis points. (Board of Governors of the Federal Reserve System, n.d.-d, 83, 250) In FOMC discussions and other reports on the events, there was no mention of impacts on longer term interest rates. The spike in repo rates was viewed as purely transitory. For accounts of the money market events of September 2019, see Afonso et al (2021) and Paddrick et al (2023).

[27] (Lacker 2023, 2026)

aggregate supply.[28] This suggests that sustained reductions in supply would gradually induce analogous inward shifts over time as market participants adapted to emerging market-making opportunities, in which case spreads would tighten. William McChesney Martin's insight remains relevant here: the "natural strength and resilience" of market-making institutions and arrangements are endogenous with respect to monetary policy operations, and can be "inhibited by official 'mothering.'"[29] Chairman Warsh has similarly said that he wants "the architecture to drive the plumbing, not the plumbing to drive the architecture."[30] A critical re-examination of the economic implications of both secular and high-frequency movements in money market spreads should therefore ask whether suppressing every sign of scarcity prevents the very adaptation that would support a smaller balance sheet.

But Why Reduce the Balance Sheet?

The ultimate purpose of reducing the size of the Fed's balance sheet is to reduce the Fed's "footprint" in financial markets in order to minimize the distortionary effects of the Federal Reserve's financial market presence.[31] The *composition* of the Fed's portfolio, however, is arguably much more distortionary than the *size* of the balance sheet per se—especially its holdings of agency mortgage-backed securities and longer-duration Treasury securities.[32] Because reserve account balances are virtually perfect substitutes for Treasury bills in bank portfolios, market distortions could be reduced for any given-sized balance sheet by shifting assets into bills.[33] A Fed interested in minimizing financial market distortions caused by its footprint should follow the path laid out by William McChesney Martin toward a bills-only portfolio.

References

Afonso, Gara, Marco Cipriani, Adam M. Copeland, Anna Kovner, Gabriele La Spada, and Antoine Martin. 2021. "The Market Events of Mid-September 2019." *Federal Reserve Bank of New York Economic Policy Review* 27 (2): 1–24.

Afonso, Gara, Gabriele La Spada, and John C. Williams. 2022. "Measuring the Ampleness of Reserves." *Liberty Street Economics*, October 5.

Anderson, Alyssa G., Alessandro Barbarino, Anthony M. Diercks, and Stephen Miran. 2026. *A User's Guide to Reducing the Federal Reserve's Balance Sheet*. Finance and Economics Discussion Series Nos. 2026–019. Washington, D.C.: Board of Governors of the Federal Reserve System.

Baker, Colleen M. 2012. "The Federal Reserve as Last Resort." *University of Michigan Journal of Law Reform* 46 (1): 69–133.

[28] (Afonso et al. 2022; Nelson 2024; Mester 2025)

[29] (*United States Monetary Policy: Recent Thinking and Experience* 1954, 266)

[30] (*Barron's* 2026)

[31] (Schmid 2025; Bowman 2026; Anderson et al. 2026; Miran 2026)

[32] Moreover, it is not obvious what the two repo facilities that the Fed uses to manipulate money market spreads contribute to market efficiency. See Lacker (2026).

[33] As long as they do not exceed the banking system's total demand for liquid assets. (Ennis 2018)

Barr, Michael S. 2026. “Efficient and Effective Central Banking: Beyond the Balance Sheet.” Money Marketeers of New York University, New York, New York, May 14.

Barron’s. 2026. “Balance Sheet Shouldn’t Drive Monetary Policy.” July 15.

Beckworth, David. 2026. “More Buffer, Less Stigma: The Case for Discount Window Reform.” Substack newsletter. *Macroeconomic Policy Nexus*, March 16.

Bernanke, Ben S. 2009. “Regulatory Restructuring.” In *Board of Governors of the Federal Reserve System*. Testimony before the Committee on Financial Services, U.S. House of Representatives, Washington, D.C., July 24.

Bessent, Scott, and Jonathan McKernan. 2026. “Remarks: A Reset on Liquidity Regulation.” March 3.

Board of Governors of the Federal Reserve System. 2026. “Federal Reserve Announces the Leadership and Objectives of Its Task Forces to Advance the Conduct of Monetary Policy.” Press release. Board of Governors of the Federal Reserve System, July 9.

———. n.d.-a. “Discount Window.” Policy Tools. Accessed August 5, 2026.

———. n.d.-b. “Primary and Secondary Credit Programs.” Accessed August 16, 2026.

———. n.d.-c. “Reserve Requirements.” Policy Tools. Accessed August 5, 2026.

———. n.d.-d. *Transcript of the Meeting of the Federal Open Market Committee, September 17-18, 2019*.

Bowman, Michelle W. 2026. “Liquidity Resiliency, Financial Stability, and the Role of the Federal Reserve.” Speech presented at The Roundtable on Liquidity and Lender of Last Resort sponsored by the Committee on Capital Markets Regulation, Washington, D.C., March 3.

Bradley, Michael, and Michael R. Roberts. 2015. “The Structure and Pricing of Corporate Debt Covenants.” *Quarterly Journal of Finance* 05 (02): 1550001.

Carlson, Mark, Burcu Duygan-Bump, and William R. Nelson. 2015. “Why Do We Need Both Liquidity Regulations and a Lender of Last Resort? A Perspective from Federal Reserve Lending during the 2007-09 U.S. Financial Crisis.” *Finance and Economics Discussion Series* 2015 (011): 1–37.

Cook, Timothy, and Thomas Hahn. 1986. *The Reaction of Interest Rates to Unanticipated Federal Reserve Actions and Statements, 1977-1984: Implications for the Money Announcement Controversy*. Nos. 86–2. Working Paper. Federal Reserve Bank of Richmond.

Department of the Treasury, Federal Reserve System, and Federal Deposit Insurance Corporation. 2013. “Liquidity Coverage Ratio: Liquidity Risk Measurement, Standards, and Monitoring.” “November 29, 2013.” *Federal Register* 78 (230): 71818–68.

———. 2014. “Liquidity Coverage Ratio: Liquidity Risk Measurement Standards.” *Federal Register* 79 (197): 61440–541.

———. 2021. “Net Stable Funding Ratio: Liquidity Risk Measurement Standards and Disclosure Requirements: Final Rule.” *Federal Register* 86 (27): 9120–221.

Department of the Treasury: Office of the Comptroller of the Currency, Federal Reserve System, Federal Deposit Insurance Corporation, Department of the Treasury: Office of Thrift Supervision, and National Credit Union Administration. 2010. “Interagency Policy Statement on Funding and Liquidity Risk Management: Final Policy Statement.” *Federal Register*, March 22, 13656–66.

Dichev, Ilia D., and Douglas J. Skinner. 2002. “Large–Sample Evidence on the Debt Covenant Hypothesis.” *Journal of Accounting Research* 40 (4): 1091–123.

Duffie, Darrell. 2026. “The Payment System Puts a Floor on the Fed’s Balance Sheet.” *Brookings Papers on Economic Activity* (Washington, D.C.), March 18.

Duke, Betsy, and Bill Nelson. 2026. “The Discount Window Needs Repair.” *The Floor Is Yours*, June 29.

Ennis, Huberto M. 2018. “A Simple General Equilibrium Model of Large Excess Reserves.” *Journal of Monetary Economics* 98 (October): 50–65.

Federal Reserve System. 2014. “Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations: Final Rule.” *Federal Register* 79 (59): 17240–338.

Federal Reserve System and Federal Deposit Insurance Corporation. 2019. *Final Guidance for the 2019 Resolution Plan Submissions*. 84 (23): 1438–64.

Geithner, Timothy F. 2009. “Financial Regulatory Reform: A New Foundation Rebuilding Financial Supervision and Regulation.” Committee on Banking, Housing, and Urban Affairs, U.S. Senate, Washington, D.C., June 18.

Goodfriend, Marvin. 1987. “Interest Rate Smoothing and Price Level Trend-Stationarity.” *Journal of Monetary Economics* 19 (May): 335–48.

Goodfriend, Marvin, and Jeffrey M. Lacker. 1999. “Limited Commitment and Central Bank Lending.” *Federal Reserve Bank of Richmond Economic Quarterly* 85 (4): 1–27.

Hammack, Beth M. 2025. “The Federal Reserve’s Balance Sheet: Some Major League Questions.” Speech presented at the Money Marketeers of New York University, Inc., New York, NY, April 23.

Hill, Travis J. 2026. “An Update on Reforms to the Regulatory Toolkit.” Speech presented at American Bankers Association Washington Summit, Washington, D.C., March 11.

Jensen, Michael C., and William H. Meckling. (1976) 2004. “Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure.” In *Economic Analysis of the Law*, edited by Donald A. Wittman, 162–76. Journal of Financial Economics, Vol. 3, pp. 305-360. 1st ed. Wiley.

Jiang, Erica Xuewei, Gregor Matvos, Tomasz Piskorski, and Amit Seru. 2024. “Monetary Tightening and U.S. Bank Fragility in 2023: Mark-to-Market Losses and Uninsured Depositor Runs?” *Journal of Financial Economics* 159 (September): 103899.

Lacker, Jeffrey M. 2023. “Some Questions About the Fed’s Monetary Policy Operating Regime.” Shadow Open Market Committee, New York, NY, April 21.

Lacker, Jeffrey M. 2025. “From the ‘Lender of Last Resort’ to ‘Too Big to Fail’ to ‘Financial System Savior’: Federal Reserve Credit Policy and the Shadow Open Market Committee.” In *Fifty Years of the Shadow Open Market Committee: A Retrospective on Its Role in Monetary Policy*, edited by Michael D. Bordo, Jeffrey M. Lacker, Mickey D. Levy, and John B. Taylor, 395–481. Stanford, California: Hoover Institution Press, Stanford University.

———. 2026. “Revisiting the Treasury-Fed Accord.” Testimony. House Financial Services Committee Task Force on Monetary Policy, Treasury Market Resilience, and Economic Prosperity, Washington, D.C., March 18.

Logan, Lori, and Sam Schulhofer-Wohl. 2025. “Options for Modernizing the FOMC’s Operating Target Interest Rate.” Dallas Fed Economics, September 25.

Mester, Loretta J. 2025. “The Fed’s Ample Reserves Monetary Policy Operating Framework: It Isn’t as Simple as It Looks.” In *Fifty Years of the Shadow Open Market Committee: A Retrospective on Its Role in Monetary Policy*, edited by Michael D. Bordo, Jeffrey M.

Lacker, Mickey D. Levy, and John B. Taylor, 293–312. Stanford, California: Hoover Institution Press, Stanford University.
Meulendyke, Ann-Marie. 1998. *U. S. Monetary Policy & Financial Markets*. Federal Reserve Bank of New York.
Miran, Stephen I. 2026. "Prospects for Shrinking the Fed's Balance Sheet." Speech presented at the Economic Club of Miami, Miami, Florida, March 26.
Nelson, Bill. 2024. *How the Federal Reserve Got So Huge, and Why and How It Can Shrink*. Nos. 2024–1. Staff Working Paper. Bank Policy Institute.
———. 2026. "Striking the Right Balance Sheet." Testimony. U.S. House Financial Services Committee Task Force on Monetary Policy, Treasury Market Resilience, and Economic Prosperity, Washington, D.C., January 14.
Paddrik, Mark Endel, H. Peyton Young, R. Jay Kahn, Matthew J. McCormick, and Vy Nguyen. 2023. *Anatomy of the Repo Rate Spikes in September 2019*. Nos. 23–04. Working Paper. Office of Financial Research.
Paglia, John K., and Donald J. Mullineaux. 2006. "An Empirical Exploration of Financial Covenants in Large Bank Loans." *Banks and Bank Systems* 1 (2): 103–22.
Quarles, Randal K. 2020. "The Economic Outlook, Monetary Policy, and the Demand for Reserves." Speech at the Money Marketeers of New York University, New York, New York, February 6.
Schmid, Jeff. 2025. "Maintaining the Balance in Monetary Policy." "Energy and the Economy: The Geography of Energy Flows." Speech at The 2025 Energy Conference hosted by the Federal Reserve Banks of Kansas City and Dallas, Denver, Colorado, November 14.
Seru, Amit. 2024. "What Can We Learn about Financial Regulation from Silicon Valley Bank's Collapse and Beyond." In *Getting Monetary Policy Back on Track*, edited by Michael D. Bordo, John H. Cochrane, and John B. Taylor, 103–20. How to Get Back on Track (Conference). Stanford, California: Hoover Institution Press, Stanford University.
Smith, Clifford W., and Jerold B. Warner. 1979. "On Financial Contracting." *Journal of Financial Economics* 7 (2): 117–61.
Tarullo, Daniel K. 2014. "Liquidity Regulation." Speech at The Clearing House 2014 Annual Conference, New York, New York, November 20.
United States Monetary Policy: Recent Thinking and Experience: Hearing before the Joint Committee on the Economic Report, Congress of the United States Eighty-Third (1954).
Waller, Christopher J. 2025. "Demystifying the Federal Reserve's Balance Sheet." Speech at the Federal Reserve Bank of Dallas, July 10.
Warner, Mark. 2026. "Warner, Kennedy Introduce Bipartisan Legislation to Modernize Federal Reserve Discount Window." *Senator Warner*, May 20.
Warsh, Kevin. 2025. "The Federal Reserve's Broken Leadership." *Wall Street Journal*, November 16.
Waxman, Brett. 2025. "Unlocking the Discount Window." *Bank Policy Institute*, October 3.