



## Central Bank Liquidity Assistance: Challenges of Franchise and Asset Values in Banking Crises

It's rare that after a financial crisis, political consensus begins to form around the government more ably supporting banks. But that's precisely the moment we are in. Where political furor would normally spell the end of some crisis-fighting tools, it has instead focused on how to make them more effective—at least in the case of central bank lending and the Fed's discount window.

And there is broad, directional agreement<sup>1</sup> on technical issues like operational readiness, collateral prepositioning, infrastructure enhancements, and destigmatization.<sup>2</sup> To some extent, consensus on the "what" of reform is what's most important. But, for getting all the way to the most effective policies, we also need to further our shared understanding of "what for." While we all agree better central bank liquidity provision leads to better crisis response, there is little agreement on how or how much.

For instance, Fed Vice Chair for Supervision Michael Barr, today's keynote speaker, who is very dialed in on improving central bank liquidity provision and regulation,<sup>3</sup> said in December,<sup>4</sup>

*The banks that failed because of the stress event that began in March had access to, and utilized, the Federal Reserve's discount window, and their failures were the result not of lack of access to the discount window...*

Meanwhile, his predecessor former Vice Chair for Supervision (and former keynote speaker at this event) Randy Quarles said,<sup>5</sup>

*If the Fed had been focused on its fundamental reason for existence—which is to provide liquidity to viable institutions when they're undergoing a run—Silicon Valley Bank would have survived.*

It seems highly unlikely the vice chairs' differing political persuasions can explain their differing views of what the discount window can accomplish. It thus remains incumbent on us to make—to borrow a phrase—*substantial further progress* in our intellectual understanding of the boundaries of the discount window's potential influence.

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<sup>1</sup> Dimon, "Chairman & CEO Letter to Shareholders," 31; Goodman, Mueller, and Warmbrodt, "Morning Money"; Barr, "Bringing the Discount Window into the 21st Century Act"; Federal Open Market Committee, "Minutes of the Federal Open Market Committee."

<sup>2</sup> G30 Working Group on the 2023 Banking Crisis, "Bank Failures and Contagion: Lender of Last Resort, Liquidity, and Risk Management"; Kelly, "Weekly Fed Report Still Drives Discount Window Stigma"; McLaughlin, "Lessons for the Discount Window from the March 2023 Bank Failures."

<sup>3</sup> Barr, "The Intersection of Monetary Policy, Market Functioning, and Liquidity Risk Management"; Barr, "Supervision and Regulation."

<sup>4</sup> Barr, "The Importance of Effective Liquidity Risk Management."

<sup>5</sup> Blackwell, "Quarles on Capital Plan, SVB Criticism, Interest Rates & Fed Power Dynamics."

The discount window's performance last March didn't make anyone particularly happy—with the possible exception of the Federal Home Loan Banks.<sup>6</sup> However, could even a perfect-world discount window really have saved SVB? Could it have prevented the need for the Fed to create the Bank Term Funding Program (BTFP)? And, if so, could we ever realistically build consensus around the necessary reforms while offsetting the associated drawbacks?

I'd offer as a starting point that when the market is running on a specific bank's business model—as in the case of the 2023 bank failures<sup>7</sup>—the discount window should not be expected to save the bank.<sup>8</sup> In this case, the window can do little more than buy you time, which is not an unworthy goal in itself.<sup>9</sup>

While these bank failures tend to look like the result of a liquidity issue, that is simply the final manifestation of a viability issue—notwithstanding what their CEOs say in subsequent testimonies. We should abandon the revenant notion that targeted bank runs are simply the result of horoscopic liquidity demands: solvent banks that randomly become illiquid. Rather, such runs are the market's expression of fundamental viability concerns. Customers' confidence in full repayment of deposits—which an effective discount window helps instill—is a necessary, but not sufficient, incentive to stay with a bank that is nonviable as a going concern.<sup>10</sup>

In addition to at least buying time, however, the discount window *should* be incredibly effective as a systemic tool—when the *system* is facing elevated and disperse demands for reserves. The

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<sup>6</sup> Kelly, McLaughlin, and Metrick, “FHLB Dividends: Low-Hanging Fruit for Reconfiguring FHLB Lending | Yale School of Management”; Congressional Budget Office, “The Role of Federal Home Loan Banks in the Financial System.”

<sup>7</sup> Kelly, “The Fed Gets Ratioed, Bank Capital Edition”; Beckworth and Kelly, “Macro Musings: ‘Steven Kelly on the Silicon Valley Bank Collapse and Its Implications for Financial Policy.’”

<sup>8</sup> Notwithstanding SVB's negative net asset value, why can't a bank simply post its whole balance sheet to the window to withstand a run? If you think about what it means to end up substantially at the discount window, it means a replacement of the deposit franchise with substantially more expensive wholesale funding. Even if a bank is still profitable on paper after this substitution, its solvency will soon follow. A loss of deposit franchise risks a loss of the future lending franchise, and employee franchise value will soon follow the depositors to other banks. For more discussion, see, e.g.: Alloway et al., “Odd Lots: ‘Steven Kelly on Rethinking Bank Rules After the Collapse of SVB.’”

<sup>9</sup> Hsu, “Building Better Brakes for a Faster Financial World.”

<sup>10</sup> For instance, the Swiss National Bank's decision to lend up to CHF 200 billion (approx. \$217 billion) to Credit Suisse did not stop the run on Credit Suisse, despite the amount being chosen “so that it could cover virtually all possible short-term outflows from the bank” (Schlegel, “A Pillar of Financial Stability - The SNB's Role as Lender of Last Resort”).

Similarly, the SVB Bridge Bank (SVBB), the bridge bank controlled by the FDIC that took over SVB's depositor franchise when it failed was advertising that it had *unlimited* FDIC deposit insurance for both existing *and new* deposits—that is, it advertised being the safest bank in the country—and yet continued to face outflows (Mayopoulos, “Update from Silicon Valley Bridge Bank CEO”; Mayopoulos, “Silicon Valley Bridge Bank – Open for Business”; Systemic Resolution Advisory Committee and Federal Deposit Insurance Corporation, “Systemic Resolution Advisory Committee Meeting: Transcript”; Kelly, “The Fed Gets Ratioed, Bank Capital Edition”).

discount window should function as an “elastic” and precise allocator of reserves in a crisis—whether simply until uncertainty dissipates, or as a bridge to more structural policy responses.

### **Interest rate risk, collateral values, and the lender of last resort**

As we’ve started to circle some low-hanging reforms to the discount window, it is important we do not lose sight of an issue that pre-existed the 2023 Banking Crisis but was laid especially bare during it: the challenge of collateral value.

Unlike the perhaps-prototypical financial crisis, it was *interest rate risk* that provided the initial vulnerability to the banking system last year, rather than credit risk. This poses a particular challenge to central bank liquidity provision—a risk that very clearly manifested in the BTFP’s novel feature of valuing collateral at par.<sup>11</sup> Par valuation allowed banks to fund the book value of government securities at the BTFP, end-running around the securities’ mark-to-market losses that followed from the Fed’s unexpectedly steep and rapid interest rate hikes. Under normal procedure, central bank lending operations would only consider the fair value of the collateral—and impose a haircut.

#### *Bank Assets and Marking to Interest Rate Markets*

It’s often stated that a bank’s unrealized, mark-to-market losses on assets only become realized when a bank is forced to sell an asset early. However, this is only part of the truth. Mark-to-market losses from interest rate increases represent the lifetime cost of funding the asset at market-based pricing. So, a bank that does hold onto an asset until maturity, but has to pay market rates on the funding side (such as at the discount window, for instance), will likewise realize those losses.

*Specifically banks*, however, actually *can* be particularly well-situated to avoid the losses implied by mark-to-market valuations and to record assets at held-to-maturity (roughly par) value.

Take a hypothetical bank in the 2023 environment: It’s paying a deposit cost of 0% for a security yielding 3%, and market rates are 5%. This bank has unrealized losses if the asset is marked to the Treasury curve—that is, market-based rates. If the asset were instead marked to the bank’s *deposit* curve, however, it would have an unrealized *gain*. Thus, a bank that’s able to hold onto its cheap deposit funding *can* safely account for these assets at par. This is basically the Bank of America story over the last couple years.<sup>12</sup>

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<sup>11</sup> Federal Reserve Board of Governors, “Bank Term Funding Program.”

<sup>12</sup> Gandel, “Bank of America Nurses \$100bn Paper Loss after Big Bet in Bond Market”; Bary, “Bank of America Losses on Bond Portfolio Hit \$109 Billion in First Quarter as Rates Rose.”

By contrast, a bank that can't hold its deposit funding *should* be marking to the Treasury curve; this became SVB's reality as its deposit base eroded—first steadily for a year, and then suddenly.<sup>13</sup>

What does this have to do with central bank liquidity provision? As a bank replaces lost deposits with central bank funding—which prices at market rates or higher—the central bank is self-selecting for banks that *are* going to realize those losses. That is, when a bank replaces its zero-cost deposits with market-rate discount window (or BTFP) funding, the bank begins *realizing* those unrealized losses.

Credit (and liquidity) risk, by contrast, is more endogenous to a central bank's emergency lending actions—particularly in the acute phase of a financial crisis.<sup>14</sup> The Fed's financial stability actions—by drawing a line under fire sales, containing financial spreads and economic fallout, and reducing tail risk—can help credit risk fall as an asset approaches maturity. Interest rate risk, meanwhile, is endogenous to monetary policy; it is *realized* as an asset approaches maturity, absent any change to monetary policy. The central bank's standard adverse selection problem in lending operations is thus potentially even more of a challenge when stress originates in interest rate risk rather than credit risk.

### *Conclusion*

Whether a monetary shock as in 2023 or something like the “dash for cash” episodes we saw in the 2020 Treasury market or the 2022 gilt market,<sup>15</sup> tools like the Fed's discount window and Standing Repo Facility currently function no differently than a market player when it comes to collateral marks. They are bound by the fire-sale market value of collateral; they do not put a

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<sup>13</sup> SVB Financial Group, “Form 10-K (for Year Ended December 31, 2021)”; SVB Financial Group, “Form 10-K (for Year Ended December 31, 2022)”; Federal Reserve Board of Governors, “Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank”; Kelly, “The Macro Story of SVB Isn't Just About the Fed.”

<sup>14</sup> Bernanke, Geithner, and Paulson, *First Responders: Inside the U.S. Strategy for Fighting the 2007-2009 Global Financial Crisis*; Geithner, *Stress Test: Reflections on Financial Crises*.

<sup>15</sup> While 2023 was a story of a monetary policy shock, the 2020 “dash-for-cash” in the U.S. Treasury market similarly saw risk-free asset prices fall sharply—but independently of a change in monetary stance (in fact, contra monetary easing). (See: Logan, “Treasury Market Liquidity and Early Lessons from the Pandemic Shock.”)

The UK gilt market in 2022 had a similar experience to the pandemic-era disruption to the Treasury market—and, as with last year's banking crisis in the US, the central bank still needed to tighten monetary policy and thus lacked the flexibility to cut rates. (See: Hauser, “Thirteen Days in October: How Central Bank Balance Sheets Can Support Monetary and Financial Stability.”)

In such dash-for-cash scenarios, even the most steadfast of repo lenders will be providing less funding than the previous day, simply as a result of the mark-to-market decline in collateral values. Indeed, in both the aforementioned government bond market blowups, the central bank was forced to intervene with asset purchases, after first aiming for only lending operations. (See: Financial Policy Committee, “Financial Stability Report - December 2022”; Fleming et al., “The Federal Reserve's Market Functioning Purchases”; Fleming, “Treasury Market Liquidity and the Federal Reserve during the COVID-19 Pandemic”; Brinley Codd et al., “Leverage Finds a Way: A Comparison of US Treasury Basis Trading and the LDI Event”; Kelly, “Improving the Standing Repo Facility.”)

floor on the range of “correct” prices. By contrast, lack of a market-based “fair value” in the case of, say, loan collateral when perceived credit risk has risen, frees the central bank’s hand to lend more flexibly—and appropriately so given the risk’s endogeneity to the central bank intervention.

Indeed, benchmarking to “normal” times is a regular feature of central bank term sheets. Interventions regularly apply this kind of consideration to the interest rate—where any “penalty” is set relative to what rates would be normally, not what they are at the time of stress. Such consideration is also inherent to choosing the *types* of collateral eligible for lending operations, a process which is usually based on the collateral’s soundness in “normal” times. Again, this is the endogeneity of central bank liquidity provision.

While the BTFP was framed as a Rubicon crossing with respect to its collateral valuation terms, other terms of central bank intervention regularly consider what is “normal” market conditions. As recent crises have shown, it pays to look at collateral valuation through a similar lens.

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