

June 7, 2019

## **Standing Fixed-Rate Open Market Repo Facility**

Nate Wuerffel, Laura Lipscomb, and Steve Spurry

### **Executive Summary**

At its January meeting, the FOMC stated its intention to continue to implement monetary policy in a regime with an ample supply of reserves. In such a regime, control over the level of the federal funds rate and other short-term interest rates is exercised primarily through the setting of administered rates, and active management of reserve supply is not required.

At recent meetings, FOMC participants have discussed the concept of a standing repurchase (repo) facility that could provide a backstop against unusual spikes in the federal funds rate and other money market rates or provide incentives for banks to shift their portfolios from reserves to securities, potentially allowing the Federal Reserve to operate an ample reserves regime with a smaller supply of reserves than would otherwise be the case.

This memo provides a conceptual framework for understanding the potential effects of a repo facility in which the Federal Reserve stands ready to provide cash to counterparties at a fixed rate of interest through temporary purchases of eligible securities. The memo explores potential money market effects associated with various design parameters, including the features that would make designs more or less effective along different dimensions. The memo also discusses the potential connections between a repo facility and discount window lending and other Federal Reserve programs and policies. A range of additional policy considerations are highlighted at the end of the memo.

### **I. Background**

Under the Committee's chosen operating regime, the active management of the supply of reserves—as practiced prior to the crisis—should not be necessary to control short-term interest rates. Instead, an ample supply of reserves ensures that control of short-term interest rates can be exercised primarily through the setting of the Federal Reserve's administered rates. At the same time, the Committee has reaffirmed its commitment to hold no more securities than necessary to implement monetary policy efficiently and effectively, implying that it only wants to supply a level of reserves necessary to achieve effective rate control through the setting of the administered rates.

However, there is uncertainty about the quantity of reserves needed to maintain an ample reserves regime and how it will evolve over time, and there may occasionally be unexpected shocks to the supply or demand for reserves that result in upward pressure on money market rates. The FOMC may wish to have a facility that provides a soft ceiling for rates in these circumstances. Conceptually, the discount window could serve in such a capacity: it offers collateralized funding at a fixed rate, and the vast majority of larger banks have access to the window and have pledged collateral.<sup>1</sup> However, while many banks note that the discount window is an

---

<sup>1</sup> Roughly half of all depository institutions (DIs) have submitted the necessary documentation for discount window borrowing to the Federal Reserve (OC10). This documentation is required before a bank can begin pledging collateral and requesting loans from the

Class I FOMC – Restricted Controlled (FR)

important part of their preparations for certain contingencies, such as broad-based market disruptions, many banks note that they are highly reluctant to use the discount window under normal circumstances because of the stigma associated with use. Moreover, the largest banks do not feel that they can tap the discount window as a backstop funding source if they face firm-specific liquidity events, and indicate that they do not incorporate the discount window into their plans to manage liquidity in a stress scenario. In addition, because the rate offered on primary credit is well above the top of the target range for the federal funds rate, the discount window is more consistent with a last-resort facility than a facility that aims to contain rate pressures.<sup>2</sup>

Given these factors, the FOMC may wish to consider a fixed-rate repo facility as a supplement to other tools. A repo facility could provide a soft ceiling on money market rates, though its effects on specific secured and unsecured rates—including repo rates and the federal funds rate—may be uneven, depending on the setting of its parameters. Repo operations are economically similar to collateralized lending, such as that done through the discount window. However, repo transactions, as a purchase and sale of securities, are open market operations authorized by the FOMC and can be conducted with a wide range of counterparty types against a narrow range of securities. Discount window lending, which is only available to banks, entails the provision of credit against a very wide range of collateral, and is conducted by Reserve Banks subject to rules and regulations established by the Board of Governors.<sup>3</sup> Both types of operations are subject to similar disclosure requirements.<sup>4</sup>

*Current funding market structure and how a repo facility might influence rates*

The Desk has a long history of conducting repo transactions. Before the crisis, the Desk conducted daily operations with primary dealers; these operations were effective in controlling the federal funds rate by supplying a relatively small, fixed quantity of reserves that was sufficient to adjust the supply of reserves to meet the demand for reserves at the desired rate.<sup>5</sup> The operations contemplated under a standing repo facility would be quite different, with a fixed rate and a potentially much larger size, as determined by counterparty take up. The specific design parameters of the facility would have important implications for its effect on market prices and the incentives provided to eligible institutions.

In general, a fixed-rate facility operated with only primary dealers would tend to influence secured rates more directly than *unsecured* rates such as the federal funds rate. For example, with primary dealers as participants,

---

discount window. Roughly one-quarter of DIs have pledged collateral to the discount window. Among the 200 largest DIs by asset size, 97 percent have submitted documentation, and 90 percent have pledged collateral.

<sup>2</sup> The pricing and usage of primary credit highlights the tradeoff between the principle of serving as a back-stop funding source and an ability to also achieve a rate control objective.

<sup>3</sup> Section 14 of the Federal Reserve Act allows the FOMC to authorize any Reserve Bank to conduct open market operations with participants “in the open market.” Unlike discount window lending, however, open market operations are authorized against a more limited set of eligible securities issued by official sector entities (including Treasury and agency securities). In practice, open market operations for the entire System are conducted by the Selected Bank, which the FOMC has assigned as the Federal Reserve Bank of New York.

<sup>4</sup> The Dodd-Frank Act also established a framework for the delayed disclosure of information on entities that received a loan from the discount window under Section 10B of the Federal Reserve Act or participated in OMO transactions. Generally, this framework requires the Federal Reserve to publicly disclose certain information about these discount window borrowers and OMO counterparties approximately two years after the relevant loan or transaction.

<sup>5</sup> Structural demand for reserves was created in part through the imposition of reserve requirements under Regulation D. Because excess reserves were unremunerated, banks economized on reserve holdings and these requirements created a forecastable source of demand for reserves. Changes in this demand and in reserve supply were offset with the Desk’s incremental fine-tuning repo operations. Between July 2000 and December 2006 (and setting aside Desk operations just following September 11, 2001), these daily operations ranged in size from zero to \$20 billion and averaged \$4 billion per day while total reserve balances averaged \$10 billion per day.

Class I FOMC – Restricted Controlled (FR)

the facility could substantially damp upward pressures in repo markets that would otherwise push market repo rates well above the fixed rate offered by the Federal Reserve. With only primary dealers as counterparties, a repo facility's effects on unsecured market rates would be less certain given money market segmentation, including differences in the entities that are the largest and most active participants in secured versus unsecured markets, and limits to the willingness of these entities to arbitrage across these markets. Nonetheless, a repo facility has some potential to influence the federal funds rate indirectly, in part because repo is viewed as a substitute, short-term investment for the main lenders in the federal funds markets, the Federal Home Loan Banks (FHLBs), and is an alternative for some bank borrowers.

A standing fixed-rate repo facility could have a more direct effect in damping upward pressure on the federal funds rate if banks were included as repo counterparties. In this case, a bank that was experiencing short-term funding pressures could borrow against its holdings of Treasury securities or other securities eligible at the repo facility. In effect, the fixed-rate repo facility for banks would operate as a type of “discount window” but presumably one that might be largely free of the stigma attached to the Federal Reserve's existing discount window programs.

*Current drivers of reserve demand and how a repo facility might influence demand*

Certain parameter choices for a repo facility could improve banks' ability to efficiently obtain reserves by monetizing securities on short notice, which could incentivize some banks to reduce their reserve holdings.<sup>6</sup> As discussed in previous memos to the FOMC, banks' reported demand for reserve balances is notably higher since the financial crisis.<sup>7</sup> Some of this increased demand appears to be associated with the greater discipline that banks are applying to their liquidity management practices, including planning for stress scenarios. In the February 2019 Senior Financial Officer Survey (SFOS), respondent banks ranked payment needs and managing liquidity risk in stressed conditions as among the most important determinants of their reserve demand (see Appendix). Many banks indicate that they are holding reserves for their most immediate liquidity needs because they perceive limits to their ability to rapidly monetize high-quality securities to obtain reserves in large quantities in stress scenarios. An examination of SFOS banks' reported reserve demand versus different measures of their liquidity needs, however, shows very heterogeneous strategies in liquidity buffer composition. That said, by effectively enhancing the liquidity of banks' securities holdings, a repo facility might incentivize banks to shift the composition of their liquidity portfolios away from reserves and toward securities, all else equal. Such choices, however, would be influenced by a variety of factors including the relative return on reserves versus securities eligible in a repo facility.

## **II. Key design parameters and their effect**

In this section, we describe key parameter choices of a repo facility, including counterparties, rate, and eligible securities. We also examine the potential effects of parameter choices on market dynamics and banks' portfolio holdings. The final section examines some of the key policy tradeoffs involved in the development of a repo facility. In short, a facility that is more broadly accessible or offered at a lower rate would tend to have a greater effect on market behavior, potentially doing more to achieve monetary policy implementation objectives, but also potentially creating undesired side effects.

<sup>6</sup> Note a difference between a repo operation, and an outright sale of securities for reserves, is that a repo operation is balance sheet expansive, as the securities stay on balance sheet.

<sup>7</sup> “Interest Rate Control during the Transition to a Long-Run Operating Regime,” FOMC memo, December 7, 2018. Mark Carlson, Patrick Dwyer, Suraj Prasanna. “Transitioning to an Ample Reserves Regime with Lower Reserves,” FOMC memo, March 8, 2019, Sam Schulhofer-Wohl and Patricia Zobel.

## A. Counterparties

The most obvious counterparties for a repo facility would be primary dealers, as the major intermediaries in repo markets, and banks, as the most prominent borrowers in overnight unsecured markets.<sup>8</sup> The choice of counterparties would affect the ability of the facility to influence the repo market rates versus the federal funds rate and could also have implications for the overall demand for reserves.

### *Primary Dealers*

A standing fixed-rate repo operation with only primary dealers—the Desk’s traditional counterparties—would likely serve as an effective soft ceiling for *secured* repo rates by providing funding to dealers at a fixed rate above which they should be unwilling to borrow from others.<sup>9</sup> Access to such a facility would also provide them with a source of funds that they could pass along to clients and other dealers at a lower spread than would be the case otherwise.<sup>10</sup> That said, primary dealers strongly value their funding relationships with large institutional clients, and those clients prefer consistent cash investments over time. Thus, primary dealers may be hesitant to substitute away from client funding during brief periods in which pressures pushed repo rates only modestly above the fixed-rate available from the Federal Reserve. Dealers would, however, be more likely to switch to the facility if they saw it as a persistently cheaper funding alternative over time.

With only primary dealers as counterparties, however, a repo facility’s influence on *unsecured* rates, such as the federal funds rate, would be indirect. Though many primary dealers are affiliated with bank entities, primary dealers are not direct borrowers or lenders in the federal funds market. Likewise, the banks that are borrowers in the federal funds market do not typically borrow in repo markets, because financing securities holdings is not a normal part of their business models.<sup>11</sup> Thus, reducing repo market rates with a primary dealer repo facility may not directly address banks’ borrowing costs.

Nevertheless, a facility with primary dealers as counterparties would help dampen upward pressures in unsecured markets and the federal funds rate through a variety of indirect channels. For example, upward pressure on repo rates generally exerts upward pressure on unsecured rates as cash lenders shift funding away from unsecured markets in favor of higher repo rates. Borrowers in unsecured markets must then offer more competitive rates to attract funding. A repo facility that capped repo rates would thus damp pressures in other segments of the money market. This mechanism can be particularly important for cash lenders such as FHLBs, who represent the vast majority of lending in the federal funds market, as well as for money market funds that substitute cash investments between these different market segments.<sup>12</sup>

---

<sup>8</sup> Levered market participants, such as hedge funds, also borrow in money markets in order to finance their positions. Although including such participants as counterparties could help create a firmer ceiling on secured borrowing rates, we do not consider the option of including such counterparties in this memo given the range of potential considerations with their inclusion.

<sup>9</sup> Because primary dealers are the largest borrowers in most segments of the U.S. Treasury repo market, a primary dealer facility would likely create an effective ceiling for repo rates in these segments. For bilateral repo there is a broader, more heterogeneous counterparty base and the facility with dealers and banks as counterparties may be somewhat less effective at capping rates in that segment.

<sup>10</sup> Many dealers have noted that the ability to transact in FICC-cleared repo, which can be netted down against offsetting reverse repo trades, would be highly valuable in mitigating balance sheet constraints, and enhancing their ability to intermediate.

<sup>11</sup> Typical bank balance sheets are basically funding longer-term assets (such as loans) with relatively stable sources (such as retail deposits).

<sup>12</sup> Dampening potential repo market pressure can also reduce funding costs of FHLBs by serving as a substitute product for investors in FHLB discount notes, which influences these institutions’ federal funds market activity.

*Banks*

A repo facility with banks as counterparties could more directly address pressures in the federal funds market and other money markets where banks are active, and could be useful to banks for liquidity risk management purposes. A repo facility with only banks, however, might not have immediate, direct effects on broader repo markets, given market size and the limited arbitrage that is carried out directly by banks between the two market segments. That said, a repo facility could lead to shifts in arbitrage relationships and exert greater influence on the repo market over time.

Borrowing in the federal funds market today is dominated by foreign banking organizations (FBOs) and a handful of smaller domestic institutions and includes only a few large domestic institutions.<sup>13</sup> FBOs and large banks that borrow in the federal funds market are more likely to have sufficient eligible securities to meaningfully participate in a repo facility. These banks and a significant share of additional large banks would likely see benefits in accessing a Federal Reserve repo facility to manage short-term funding needs. Given the significance of these players in the federal funds market, a repo facility with these institutions may have significant effects in terms of damping federal funds market pressures. However, the current motivation of many larger banks and FBOs that borrow in the federal funds market is to improve their liquidity coverage ratio (LCR) metrics, given that borrowing from FHLBs receives favorable treatment.<sup>14</sup> Because participation in a repo transaction with the Federal Reserve would likely be slightly LCR negative, these banks may find accessing the facility desirable only if unsecured market rates are higher than the rate at the facility.<sup>15</sup>

The majority of smaller banks hold a small amount of the securities that would potentially be eligible for posting at a repo facility (see Appendix). Engaging with this universe of banks might have limited importance from the standpoint of achieving monetary policy objectives. Fairness considerations are discussed below.

Finally, a repo facility that provided bank counterparties with a reliable means to obtain reserves by borrowing against securities may incentivize banks to hold more securities and fewer reserves in their liquidity portfolios, all else equal. If this effect is strong, there may be potential for significant reduction in reserve demand, particularly among the largest institutions holding the bulk of reserves. However, the extent to which a repo facility would incentivize such a shift would likely depend on the degree to which banks and their supervisors perceived that access was assured in a large size in all states of firm health. While the facility may incentivize banks to hold more eligible securities rather than reserves, it is difficult to know ex-ante whether such balance sheet changes would be appealing to these banks relative to the benefit of having ready access to the facility.

## B. Rate

The setting of the interest rate on a fixed-rate repo facility would have implications for the constellation of money market rates, as well as the degree of usage of the facility. In general, the closer a repo facility rate is set relative to the prevailing level of money market rates, the more the facility is likely to be used and the greater

---

<sup>13</sup> In April of this year, FBOs that participated in the most recent SFOS and reported money market activity on the FR 2420 borrowed, on average, roughly \$103 billion daily in the overnight unsecured market, while small domestic banks averaged around \$3 billion and large domestic banks averaged about \$21 billion. In the federal funds market in particular, SFOS FBOs borrowed on average \$33 billion daily in the month of April while the large domestic SFOS banks and small domestic SFOS banks borrowed about \$11 billion and \$3 billion, respectively.

<sup>14</sup> Regulation WW for the LCR provides a more favorable outflow assumption to bank borrowing from FHLBs as compared to, for example, other banks or financial institutions.

<sup>15</sup> The LCR rule is designed such that repo activity against the most liquid collateral is generally LCR neutral, and thus not incentivized or penalized by the rule. In practice, however, cash providers impose haircuts on the securities they accept, which makes repo activity somewhat LCR negative.

Class I FOMC – Restricted Controlled (FR)

the effect on market rates is likely to be; consequently the facility is more likely to result in the disintermediation of private sector activity. In addition, the interest rate at which the facility is offered may be more or less attractive to different types of counterparties depending on the rates at which they can borrow in private transactions; for example, less creditworthy borrowers typically face higher borrowing costs and would be more likely to be regular users of the facility. As discussed further in the final section of the memo, in all cases, significant strains in the funding markets could result in sizeable take-up at the facility.

The general collateral repo market is large and has a fairly wide distribution of rates in normal times, and even more so on month ends (see Figures 1 and 2). The current dispersion of rates reflects a number of factors including the balance sheet costs of intermediation for some participants, the securities being financed, as well as the types and creditworthiness of the counterparties. Generally, there are currently three major repo market segments for Treasury securities with different rate distributions:

- the triparty market, where many top-rated dealers transact with cash investors, such as money market funds (the Tri-Party General Collateral Rate, or TGCR, includes such transactions)
- the interdealer markets, where dealers provide securities financing to other dealers at a rate typically above the triparty rate (the delivery versus payment service offered by the Fixed Income Clearing Corporation, or FICC-DVP rate, includes cleared bilateral interdealer transactions),
- and uncleared bilateral repo transactions, where dealers provide financing to customers. While data for uncleared bilateral transactions are not readily available, these rates are likely above triparty and some interdealer rates.<sup>16</sup>

Unsecured rates, such as the federal funds rate, can sit above or below secured repo rates, and the constellation is dynamic, reflecting the supply and demand of securities, cash, and reserves, balance sheet costs, and business model preferences among many other factors.

Given the constellation of these rates, a repo facility with a rate set near the prevailing level of triparty repo rates, would likely result in very regular usage and potentially significant disintermediation of private sector activity. On the other hand, such a rate would likely be attractive on a regular basis to a broad range of counterparties, reducing the risk that the facility could be stigmatized.

By contrast, if the repo facility were priced well above the constellation of money market rates, it would function only as a backstop and its usage would likely be limited to periods when repo rates are elevated, such as around particular bank balance sheet reporting or large tax payment dates, or during periods of stress in funding markets. It would be less likely to disintermediate private sector activity, but its influence on market rates is likely to be less pronounced in normal times. Even if set at a higher rate, a facility may still be attractive to counterparties that on average face higher borrowing costs in the private sector.<sup>17</sup>

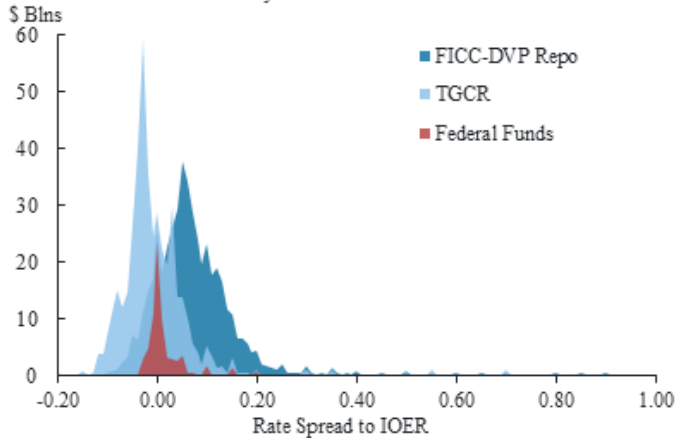
---

<sup>16</sup> More information on these rates can be found at <https://www.newyorkfed.org/markets/treasury-repo-reference-rates-information>. The Secured Overnight Financing Rate (SOFR) is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. SOFR includes trades collateralized by Treasury securities reflected in the TGCR, plus interdealer transactions both in the GCF repo market and those cleared through the delivery-versus-payment service offered by FICC (FICC-DVP). In recent years, FICC has expanded their Sponsored Membership Program that allows certain FICC members to provide their clients with access to the FICC-DVP service for both cash borrowing and lending, more closely integrating the interdealer and other market segments, see <https://market-source.ny.frb.org/Pages/P19/20190325133812.aspx>.

<sup>17</sup> A potentially interesting historical reference is the usage of the Primary Dealer Credit Facility (PDCF). The PDCF was a standing facility that provided loans to primary dealers during the financial crisis at a rate 25 basis points above the target for the federal funds rate. Adrian, Burke and McAndrews (2009) report that use of the PDCF was sensitive to price and increased when repo rates rose above the rate on the facility and decreased when repo rates fell such that the facility was no longer attractive. As an emergency facility established under Section 13(3) of the Federal Reserve Act, the PDCF could accept a wide range of collateral and a majority of the collateral pledged at the facility was non-OMO eligible. See: Adrian, Tobias, Christopher Burke, and James McAndrews (2009). “The Federal Reserve’s Primary Dealer Credit Facility,” *Current Issues in Economics and Finance*, vol. 15, pp. 1-10.

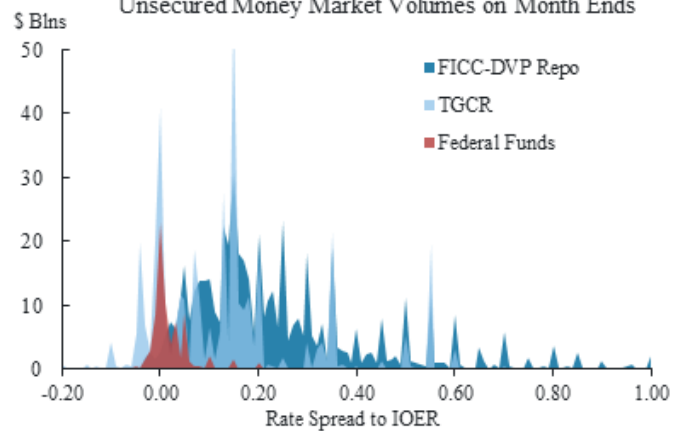
Class I FOMC – Restricted Controlled (FR)

Figure 1: Average Distribution of Overnight Secured and Unsecured Money Market Volumes on Non-Month Ends



Note: Includes data from the period beginning October 1, 2018 and ending June 3, 2019.  
Source: FRBNY, FR2420

Figure 2: Average Distribution of Overnight Secured and Unsecured Money Market Volumes on Month Ends



Note: Includes data from the period beginning on October 1, 2018 and ending June 3, 2019.  
Source: FRBNY, FR2420

### C. Eligible Securities

Under the Federal Reserve Act, the types of securities eligible for open market operations are limited primarily to Treasury and agency securities, including agency debt and agency guaranteed mortgage-backed securities (MBS), and all of these securities types were included in repo operations of the past.<sup>18</sup> The incentives for banks to pare their reserve holdings and increase their securities holdings could depend on the range of securities eligible for the facility. In particular, agency securities and agency MBS typically have higher yields than comparable maturity Treasury securities, which may make them desirable substitutes for reserves if they could be liquidated in large size at a repo facility. Policymakers would have to judge the desirability of a shift in banks' liquidity portfolios toward agency securities, which are typically less liquid than Treasury securities, in considering whether to accept agency securities at a repo facility. The incentives for such a shift would also be dependent on a variety of factors beyond the repo facility, including yield differentials, and regulatory constraints.<sup>19</sup> In addition, to conduct a repo operation against multiple securities types, the Federal Reserve would need to determine the appropriate spreads. One possible approach could be that the fixed-rate facility could have different rates for different collateral types based upon some recent moving average spread differentials.

### III. **Additional policy considerations associated with repo facility design parameters**

We have described how a standing, fixed-rate repo facility could support different objectives depending on some key parameter choices. In this section, we provide a more in-depth discussion of some additional policy considerations of repo operations including the intersection with the discount window; the availability of the

<sup>18</sup> The focus of this memo is on a repo operation with securities that were eligible for open market operations pre-crisis (which included both Treasury and agency securities) which are both now either Level 1 or Level 2 HQLA as established in the regulation governing the U.S. imposition of the Liquidity Coverage Ratio (Regulation WW). FRA authority provides some limited scope for OMO transactions with additional security types from official sector issuers, but these are not the focus of this memo.

<sup>19</sup> For example, the LCR regulation puts higher haircuts and imposes constraints on the portion of HQLA portfolios in level 2 securities (primarily MBS guaranteed by Fannie and Freddie) versus level 1 assets (primarily reserves, Treasuries, and Ginnie securities).

Class I FOMC – Restricted Controlled (FR)

facility for firms in stress; the potential for the Federal Reserve to operate with a smaller but more volatile balance sheet; the breadth of counterparty access; and the composition of counterparty portfolios.

*Relationship to discount window lending*

One key consideration with a repo facility is the connection between a standing repo facility and other forms of Federal Reserve lending. As mentioned above, there are a number of economic similarities between a standing fixed-rate repo transaction and a lending operation. The discount window takes a wide range of collateral, and it is available to thousands of banks, including late in the day, after the securities wire closes and wholesale funding markets are dormant. Nevertheless, large banks do not currently see the discount window as a relevant tool for liquidity risk management, in part due to the stigma associated with its use.

It is possible that any type of operation that offers “funding” from the central bank at a rate above market rates could suffer from stigma, and thus become ineffective. For example, large banks may view a repo facility as a form of last resort lending, and be reluctant to plan to rely on the facility in stressed conditions. One feature of central bank lending programs that has been found to help reduce stigma is attractive pricing. If the facility is frequently “in the money,” it can be seen as economic to use it with some regularity, improving the usefulness of the facility in both normal and more stressed circumstances. The pricing of the dollar liquidity offered through other central banks, but supported by foreign exchange swap lines authorized by the FOMC, is one example of pricing that is consistent with intermittent use, potentially reducing stigma.<sup>20</sup> However, as mentioned above, attractive pricing entails a few risks. There could be greater disintermediation of private market activity, and offering liquidity in one facility at an attractive rate could increase the stigma of other facilities that operate at higher rates. The incentives for ongoing borrowing would be strongest for those counterparties that face the highest borrowing costs in private markets.

Although banks might be more willing to access a repo facility than the discount window, establishing a substitute source of Federal Reserve-provided liquidity might exacerbate discount window stigma. In addition, a repo facility with dealers could raise questions about the appropriate role of the central bank in providing regular and potentially sizable financing to nonbank firms.<sup>21</sup>

An alternative to offering a standing repo facility could be to adjust the terms of lending under discount window authority. For example, the regulation that governs discount window loans could potentially be adjusted so that Reserve Banks could offer a lower rate for banks borrowing against Treasury and Ginnie Mae securities, which are treated as Level 1 high-quality liquid assets for the LCR. Alternatively, a lower discount rate could be offered for loans up to a modest fraction of the borrower’s total pledged collateral.<sup>22</sup> Such arrangements could

---

<sup>20</sup> The dollar liquidity swap lines are described on the Board’s website:

[https://www.federalreserve.gov/monetarypolicy/bst\\_liquidityswaps.htm](https://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm).

<sup>21</sup> The discount window is governed by the Board’s Regulation A, with each actual loan to a depository institution made at the discretion of the lending Reserve Bank. Reserve Bank boards of directors vote to establish each change to the primary credit rate, subject to review and determination by the Board. A repo operation would operate as an open market operation under FOMC authority, with the operation running through SOMA, through which each Reserve Bank participates.

<sup>22</sup> Alternatively, the Board could re-launch a version of the Term Auction Facility (TAF), which could offer funding through regular auctions with more immediate settlement than was available during the crisis. To serve to support rate control and reserve demand reduction, several of the features of TAF that supported its success as a crisis management tool would likely need to be adjusted. For example, the delayed settlement of TAF proceeds was one feature that was determined as helping to reduce the stigma of accessing TAF funding during the crisis, because it was clear that banks using the facility were not in immediate need of funding. Such an offering would likely have some effect on overnight rates and reserve demand. While adapting and re-launching a version of the TAF might have many of the desirable features of a repo operation, policy makers may also see some benefit in maintaining TAF parameters in line with those most likely to be effective to address broad-based and prolonged funding strains, rather than a firm-specific liquidity event.



Class I FOMC – Restricted Controlled (FR)

help incentivize banks to demand a lower level of reserves, but would likely further stigmatize discount window borrowing at the primary credit rate against lower-level collateral.

*Availability in different states of firm health*

Some banks have noted that, for purposes of liquidity stress planning, they are uncertain about their ability to rely on access to Federal Reserve credit. Specifically, some institutions have pointed to their liquidity needs in resolution planning as driving their estimates of reserve needs under normal conditions.<sup>23</sup> Some market commentators have pointed to a repo facility as being able to overcome these constraints. This assertion appears to be premised on an assumption that a repo facility could be available to banks in all states of health, and with greater certainty than, for example, discount window borrowing.

There are many nuances to discount window regulations and lending policies, but there is scope for a Reserve Bank to lend to institutions that are not in sound financial condition if the loan is “secured to the satisfaction” of the lending Reserve Bank. Indeed, the secondary credit program is designed to deal with troubled banks. However, there are statutory limitations on the Federal Reserve’s lending to undercapitalized and critically undercapitalized institutions.<sup>24</sup> Moreover, the FDIC and Federal Reserve have provided resolution planning guidance to GSIBs that stipulates that the firms can rely on discount window borrowing for only a few days for purposes of resolution planning.<sup>25</sup> Indeed, no bank subject to resolution planning requirements under the Dodd-Frank Act has included accessing the discount window as a primary source of liquidity as a part of its plans to date. The FRBNY’s counterparty policy for open market operations also does not contemplate transactions with entities known to be facing stress, and counterparties facing significant difficulty could be restricted in their participation or suspended.<sup>26</sup>

Policymakers would need to judge the desirability of adjusting the FRBNY’s counterparty policy to permit transacting with counterparties in stress, and then also determine whether a *commitment* to transact was both desirable and possible. Such a commitment could raise questions about contributing to moral hazard for the facility’s counterparties or providing a perceived or actual insurance benefit to a very large firm or set of firms. In addition, there would likely be a range of potential legal considerations involved in transacting with firms in varying degrees of stress, particularly in, or approaching, resolution. The degree to which aggregate reserve demand is reduced by the incentives associated with a facility might be dependent upon the degree to which firms perceive that they have a commitment that they can access the facility when they are in stress.

*Size and volatility of the Federal Reserve’s balance sheet*

---

<sup>23</sup> Note, however, that the resolution guidance is silent on the topic of liquidity buffer composition. In other words, the guidance does not encourage banks to hold reserves as opposed to securities.

<sup>24</sup> The Federal Deposit Insurance Company Improvement Act (FDICIA) placed limitations on the Federal Reserve’s lending to undercapitalized and critically undercapitalized insured depository institutions. For undercapitalized depository institutions, Federal Reserve lending is generally limited to no more than 60 days in any 120-day period (unless the Board or the institution’s Federal banking agency certifies that the institution is viable). If any Federal Reserve loan is outstanding to a critically undercapitalized depository institution for more than five days, the Board is liable to the FDIC, with some limitations, for any excess loss that the FDIC incurs due to a delay in liquidation of the institution beyond the end of the five-day period. An additional potential consideration is that engaging in a repo transaction with a bank in stress could be seen as an end-run around this law.

<sup>25</sup> The FDIC and Federal Reserve resolution planning guidance is consistent with the regulatory requirement that a resolution plan should “[N]ot rely on the provision of extraordinary support by the United States or any other government,” February 2019 GSIB resolution planning guidance: <https://www.govinfo.gov/content/pkg/FR-2019-02-04/pdf/2019-00800.pdf>

<sup>26</sup> The FRBNY counterparty policy states that FRBNY “seeks to transact with counterparties that do not pose an undue level of credit risk exposure to the New York Fed or to the parties on whose behalf the New York Fed executes market operations.” <https://www.newyork.org/markets/counterparties/policy-on-counterparties-for-market-operations>

Class I FOMC – Restricted Controlled (FR)

In order to incentivize a shift in banks demand for reserves, a fixed-rate repo facility would need to be available in large size to large banks, and be available during both episodes of broad-based funding market strains and firm-specific liquidity events. Such availability could result in a Federal Reserve balance sheet expansion during these events driven by one or a few large firms. Supplying a higher level of reserves under normal conditions would reduce the need for this episodic expansion by providing the banking system with an ongoing access to assets of the highest level of liquidity.

That said, the facility could likely provide some financial stability benefit by reducing the risk of widespread funding market strains. For example in a scenario where money funds pulled back from their financing relationships with dealers, dealers could face liquidity strains. In this scenario, it is possible that money funds may seek to place cash with the ON RRP as a safe-haven investment. In turn, the repo facility could see increased usage by dealers and other counterparties. The result might be that the Federal Reserve balance sheet could serve to intermediate a sizeable share of typical private sector money market activity. To the extent that this role was consistent with calming market conditions and supporting a return to normal funding relationships, such a function might be beneficial.<sup>27</sup>

Balance sheet expansion could also occur in more common periods of funding market pressures, depending on the rate of the facility. For example repo rates tend to increase when dealers face substantial security financing needs such as during periods of increased Treasury issuance. Take up at a standing fixed-rate repo facility could thus be quite large during periods with significant increases in Treasury issuance.

*Policy Considerations Associated with Counterparty Access*

We discussed above how counterparty choice would drive the different potential effects of the facility on market rates and reserve demand. Another component of counterparty selection is fairness. Repo operations that provide liquidity to non-bank entities, as in a facility that used primary dealers as counterparties, could become the subject of public criticism, particularly if take-up of the operations were very high in periods of stress. On the other hand, having a readily available tool to address funding market stress may support financial stability.

For a repo facility focused on banks, there would be different considerations, such as managing the number of counterparties. There are 24 primary dealers established by the Desk according to its counterparty policy. It is difficult to know ex-ante how many banks would be interested in a repo facility. While there are over 5000 reserve account holders, the 75 SFOS respondents capture about 75 percent of current reserve holdings and over 80 percent of the aggregate reserve demand. The largest banks have very significant securities holdings, and, as shown in the Appendix, a great deal of variation in securities portfolio structures. In terms of holdings of Treasury securities, larger banks hold more Treasuries in aggregate and as a proportion of their assets than smaller banks. That said, there is evidence that some small banks have significant Treasury security portfolios and thus could be interested in a repo facility as well (see Appendix). Also, smaller banks, and industry groups representing them, might voice concerns if smaller banks did not have a pathway to access. These considerations suggest that if policy makers were interested in pursuing a bank-focused repo facility, it would be important to identify the appropriate criteria for counterparty selection.

*Changing market incentives for securities portfolio choices*

---

<sup>27</sup> The rate on the facility could be adjusted up or down by the FOMC in response to the evolution of funding market conditions. The spread of the primary credit rate over the federal funds rate was narrowed during the crisis.

Class I FOMC – Restricted Controlled (FR)

This memo has provided some analysis on current composition of banks securities holdings relative to assets. It is not possible to know ex-ante how the availability of a repo facility could incent changes in asset portfolio composition, some of which could be undesirable. Larger banks that are already holding sizeable securities portfolios might be incentivized to shift to the highest yielding of the eligible securities. This shift would mean that banks would be holding a higher proportion of securities with greater interest rate risk and lower liquidity if they were to sell them.

552 U.S.C. (b)(4)



## Appendix: Supplemental Data on Drivers of Reserve Demand, HQLA Portfolio Composition, and Bank Balance Composition

This appendix provides some supplemental data that may be useful in understanding the current drivers of reserve demand, and how banks are currently managing their balances sheets. Figure 1 depicts results from the February 2019 Senior Financial Officer Survey (SFOS). In this survey, staff asked respondents, of which there were 75, including U.S. Global Systemically Important Banks (GSIBs), Large Domestic Banks, Small Domestic Banks, and Foreign Entities, to rank the drivers of their Lowest Comfortable Level of Reserves. As can be seen in Figure 1, among the most important drivers across bank subgroups are “meeting intraday payment flows, and satisfying internal liquidity stress metrics.” The other important drivers are also components of liquidity risk management.

552 U.S.C. (b)(4)

Table 2 provides information on a broader range of banks in terms of their holdings of Treasury securities as a share of assets, their pledging of Treasuries to the discount window, and their presence as borrowers in the federal funds market. This table shows that large domestic institutions have the highest level of Treasury securities holdings as a share of assets, but that a number of smaller institutions have some holdings. Banks with less than \$25 billion in assets generally hold less than 2 percent of their balance sheet in Treasury securities. That said, over 100 banks in this category pledge Treasuries to the discount window. This small bank group also has a presence in the federal funds market.

**Figure 1: Drivers of Demand for Reserves**

*Percent of respondents that ranked considerations “most important” or “second most important” when determining the amount of their lowest comfortable level of reserves*

	U.S. G-SIBs		Large Domestic		Small Domestic		Foreign	
	Most important	Second Most Important	Most important	Second Most Important	Most important	Second Most Important	Most important	Second Most Important
Meeting routine intraday payment flows	50.0	12.5	31.0	17.2	66.7	0.0	40.6	18.8
Meeting projected outflows over a certain window	0.0	37.5	6.9	27.6	16.7	33.3	6.3	21.9
Satisfying internal liquidity stress metrics	12.5	37.5	24.1	20.7	0.0	33.3	31.3	28.1
Seeking to earn the IOER rate instead of the return on other high-quality liquid assets (HQLA)	0.0	0.0	6.9	3.5	0.0	0.0	6.3	12.5
Managing the bank’s liquidity portfolio composition based on monetization assumptions for HQLA	25.0	0.0	0.0	13.8	16.7	16.7	9.4	6.3
Lack of depth in late day funding markets	12.5	12.5	31.0	17.2	0.0	16.7	6.3	9.4

Source: Staff analysis of respondent answers to question 2 of the February 2019 Senior Financial Officer Survey.

Class I FOMC – Restricted Controlled (FR)

552 U.S.C. (b)(4)

Table 1:

552 U.S.C. (b)(4)

Table 2: Banks' Holdings of U.S. Treasuries - End-2018

Bank Categories (by assets)	Total Banks	Total Treasury Holdings (US\$, bil)	Treasuries as a % of Total Assets	% of banks holding any Treasuries	Total Treasuries pledged to the DW (US\$, bil)	Total banks pledging Treasuries to DW	Average daily FF borrowing 1/1/19 – 5/31/19 (US\$, bil)
Greater than \$250 billion	9	361	4.1%	100%	72	1	3
\$100-250 billion	26	127	3.2%	92%	25	3	12
\$50-100 billion	24	66	3.8%	71%	16	8	11
\$25-50 billion	43	49	3.4%	67%	18	7	21
\$10-25 billion	79	17	1.4%	51%	2	4	11
Less than \$10 billion	5452	25	0.8%	27%	2	116	7

Sources: columns 1-4: FFIEC Call Reports 002, 031, 041, 051; columns 5-6: Reserve Bank Collateral Management System (CMS); column 7: FR2420