

Program on International Financial Systems

Expanding Access
to the Standing Repo Facility
for U.S. Treasuries

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Part I: Introduction

This report is the third in a series of reports by the Program on International Financial Systems on enhancing the market structure for trading U.S. Treasuries (“**cash Treasuries**”) and for repurchase agreements of U.S. Treasuries (“**Treasury repos**”). In this report, we describe the Federal Reserve’s domestic standing Treasury repo facility and consider whether expanding access to the standing Treasury repo facility would enhance the liquidity and stability of U.S. Treasury markets, as has been argued by financial market experts.¹

In our first report in this series, we reviewed the two recent market events, the September 2019 Treasury repo market spike and the March 2020 stress in cash Treasury markets, that illustrated a need for improvements to the resiliency of liquidity in the cash Treasury and Treasury repo markets during periods of volatility.² As outlined in our first report, liquidity disruptions in cash Treasury markets can have significantly negative consequences for financial market participants. Holders of Treasuries, including large financial institutions and foreign investors, derive confidence from the fact that Treasuries are reliably cash-like instruments that trade efficiently at fair value, particularly during times of stress. If institutions are unable to liquidate Treasuries during periods of market stress, they may suffer their own liquidity crisis and face insolvency. Liquidity concerns in Treasury repo markets are equally problematic since those markets are a critical source of funding for Treasury dealers. Repo funding allows dealers to continue to provide liquidity in the cash Treasury markets even in the midst of stressful market conditions. As a result, resilient liquidity in both cash Treasury and Treasury repo markets is crucial for financial markets.

Our first report examined whether a central clearing mandate in the cash Treasury and Treasury repo markets would enhance the resiliency of liquidity in those markets during periods of market volatility, concluding that such mandate would indeed serve that important purpose. Our second report assessed the extent of post-trade transparency in cash Treasury markets and the effects of mandatory post-trade transparency in other financial markets, finding that mandatory post-trade transparency would enhance liquidity and market functioning of cash Treasury markets. However, more steps can be taken to improve liquidity. In this report, we now turn to an examination of another policy solution for stabilizing liquidity in cash Treasury and Treasury repo markets – a standing repo facility.

¹ See GROUP OF THIRTY, U.S. TREASURY MARKETS, STEPS TOWARD INCREASED RESILIENCY (2021) https://group30.org/images/uploads/publications/G30_U.S._Treasury_Markets-_Steps_Toward_Increased_Resilience__1.pdf [“**G30 Report**”]; NELLIE LIANG & PAT PARKINSON, BROOKINGS, ENHANCING LIQUIDITY OF THE U.S. TREASURY MARKET UNDER STRESS (2020) <https://www.brookings.edu/research/enhancing-liquidity-of-the-u-s-treasury-market-under-stress/>.

² See PROGRAM ON INTERNATIONAL FINANCIAL SYSTEMS, MANDATORY CENTRAL CLEARING FOR U.S. TREASURIES AND U.S. TREASURY REPOS (2021), <https://www.pifsinternational.org/wp-content/uploads/2021/11/PIFS-Mandatory-Central-Clearing-for-U.S.-Treasury-Markets-11.11.2021.pdf> [“**PIFS Report**”].

Part II: The Need for a Standing Repo Facility

The root of the recent vulnerabilities in the cash Treasury markets (March 2020) and Treasury repo markets (September 2019) was a severe illiquidity problem that threatened the stability of each market and, by extension, the stability of the broader financial system.³ These events illustrated the importance of a liquidity backstop by the Federal Reserve. As the secured overnight funding rate (“**SOFR**”), which includes overnight Treasury repo rates, more than doubled on September 17, 2019, Federal Reserve liquidity intervention helped calm the Treasury repo markets. From September 18-20, the Federal Reserve provided \$75 billion of Treasury repo liquidity to primary dealers⁴ and subsequently provided \$120 billion of daily Treasury repo liquidity from mid-November to mid-December 2019.⁵ In addition, the Federal Reserve expanded its support for the Treasury repo markets during the March 2020 cash Treasury market stress, offering two \$500 billion one- and three-month term operations, while continuing its weekly \$500 billion one- and three-month term operations, daily \$175 billion overnight repo operations and bi-weekly \$45 billion two-week term repo operations.⁶

The Federal Reserve’s ad hoc interventions in the Treasury repo market were critical in stemming the 2019 and 2020 crises and have highlighted the need for a permanent facility that would both stabilize liquidity in the midst of a crisis and, more importantly, help prevent liquidity crises in the first place. Liquidity in the cash Treasury markets relies on market makers who are both capable and willing to intermediate both sides of a transaction (i.e., buying and selling Treasuries at any time). To fund their market making activities, cash Treasury market makers rely on Treasury repo financing and must be confident in the availability of such financing even in times of stress. The liquidity backstop of a standing repo facility instills such confidence, allowing dealers to provide liquidity in the cash Treasury markets, both in normal times and during a crisis.

³ For a more detailed discussion of these events, see the PIFS Report.

⁴ See FEDERAL RESERVE BANK OF NEW YORK, Statement Regarding Policy Operation (Sept. 18, 2019), https://www.newyorkfed.org/markets/opolicy/operating_policy_190918.

⁵ See *id.*

⁶ See FED. RES. BANK OF N.Y., Statement Regarding Treasury Reserve Management Purchases and Repurchase Operations (Mar. 12, 2020), https://www.newyorkfed.org/markets/opolicy/operating_policy_200312a.

Part III: Federal Reserve Standing Repo Facility

On July 28th, 2021, the Federal Open Market Committee (“**FOMC**”) established a Federal Reserve standing repo facility for domestic counterparties (“**SRF**”) and a separate repo facility for foreign and international monetary authorities (“**FIMA repo facility**”).⁷ The SRF provides repo funding to primary dealers and depository institutions backed by U.S. Treasuries, agency debt securities and agency mortgage-backed securities.⁸ The FIMA repo facility provides repo funding to foreign official institutions backed by their holdings of U.S. Treasuries held in custody at the Federal Reserve Bank of New York. This report will focus on the design features of the SRF.

a. Overview of the SRF

The SRF offers overnight repo financing backed by Treasuries, agency debt, and agency mortgage-backed securities.⁹ The FOMC set a maximum aggregate limit of \$500 billion for the SRF.¹⁰ Importantly, the \$500 billion aggregate limit can be temporarily increased at the discretion of the chair of the FOMC.¹¹ Counterparties obtain repo financing through the SRF by submitting a bid to the New York Fed’s Open Market Trading Desk (the “**Desk**”), specifying both the amount of borrowing and the interest rate offered (i.e. the “**repo rate**”), subject to a minimum repo rate set by the FOMC (1.75% as of June 15, 2022).¹² The minimum repo rate of 1.75% is a relatively high rate of interest for overnight borrowing, ensuring that SRF liquidity will only be accessed as a last resort. Comparatively, the average private market repo rate for collateralized overnight funding was only 0.70% on June 15, 2022.¹³ While the FOMC does not explicitly state how the minimum bid rate is determined, it is instructive to note that 1.75% is also the top of the FOMC’s target range for the Federal Funds Rate (1.50-1.75% as of June 15, 2022).¹⁴

Since the maximum permissible SRF lending is set at \$500 billion, then if the aggregate daily requests are under \$500 billion, each counterparty will be allocated the full amount of their repo funding needs at their submitted repo rate.¹⁵ However, if aggregate bids

⁷ BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, Statement Regarding Repurchase Agreement Arrangements (July 28, 2021), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20210728b.htm>.

⁸ Primary dealers were granted immediate access to the SRF, while access to depository institutions was to be phased in over time.

⁹ See Bd. of Governors of the Fed. Rsrv. Sys. *supra* note 7.

¹⁰ *Id.*

¹¹ See FEDERAL OPEN MARKET COMMITTEE, Standing Repurchase Agreement Facility Resolution (July 27, 2021) https://www.federalreserve.gov/monetarypolicy/files/FOMC_StandingRepoFacilityResolution.pdf.

¹² See FED. RES. BANK OF N.Y., FAQs: Standing Repo Facility (Jul. 27, 2021), <https://www.newyorkfed.org/markets/repo-agreement-ops-faq>.

¹³ See FED. RES. BANK OF N.Y., Secured Overnight Financing Rate Data, <https://www.newyorkfed.org/markets/reference-rates/sofr>.

¹⁴ The minutes of the July 2021 FOMC meeting note that “a few participants raised questions, including . . . how the setting of the minimum bid rate in SRF operations would be expected to evolve over time relative to the primary credit rate and the interest on reserve balances rate.” FED. OPEN MKTS. COMM. Minutes of the Meeting of July 27-28, 2021 at 3 <https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20210728.pdf>.

¹⁵ *Id.*

exceed the \$500 billion limit, then repo funding will be allocated based on the competitiveness of the individual repo rate bids (i.e., the higher the proposed repo rate, the more competitive the bid).¹⁶ The SRF also imposes haircuts on the collateral - 1% for Treasury bills, 2% for Treasury notes and bonds with up to ten years left to maturity, and 3% for Treasury bonds with more than ten years left to maturity - which serves to protect the Desk against losses due to counterparty risk.¹⁷ Comparatively, the standard haircut for Treasuries in the private repo market is 2% with little variation.¹⁸

b. Access to the SRF

From inception, the SRF has been available to primary dealers---the trading counterparties to the New York Fed in its implementation of monetary policy. As of June 2022, twenty-five financial institutions comprise the set of primary dealers, which includes the domestic branches or subsidiaries of several non-U.S. financial institutions.¹⁹

Primary dealers must be an SEC-supervised broker-dealer or state or federally chartered bank²⁰ that is subject to supervision by an official bank supervisor.²¹ Primary dealers are also subject to minimum capital requirements, which the New York Federal Reserve can increase on a case-by-case basis depending on the risk profile of each primary dealer. Additionally, the New York Fed conducts credit reviews of each primary dealer and reserves the right to terminate a counterparty's primary dealer status if capital levels and other measures of financial soundness are not maintained on an ongoing basis.²² Moreover, 19 of the 25 primary dealers are either banks or subsidiaries of bank holding companies or intermediate holding companies and thus already subject to capital and liquidity regulations.

The SRF was also made available to eligible depository institutions on October 1, 2021.²³ However, unlike primary dealers, depository institutions are not automatically approved as eligible SRF counterparties but can be granted access by the Federal Reserve on an individual basis. To be eligible for access to the SRF, the firm must be a state or federally chartered bank or savings association²⁴ holding at least \$2 billion of Treasuries, agency debt securities or agency mortgage-backed securities or holding at least \$10 billion in

¹⁶ *Id.*

¹⁷ Other eligible collateral securities, including TIPS and STRIPS, have higher haircuts up to 11%. For a complete schedule of the collateral and haircuts. See FED. RES. BANK OF N.Y., Repo Securities Schedule, <https://www.newyorkfed.org/markets/domestic-market-operations/monetary-policy-implementation/repo-reverse-repo-agreements/TOMO-Repo-Collateral-Schedule>.

¹⁸ See MARK E. PADDRIK ET AL., BD. OF GOVERNORS OF THE FED. RSRV. SYS., THE DYNAMICS OF THE U.S. OVERNIGHT TRIPARTY MARKET (2021) <https://www.federalreserve.gov/econres/notes/feds-notes/the-dynamics-of-the-us-overnight-triparty-repo-market-20210802.htm>.

¹⁹ FED. RES. BANK OF N.Y., Primary Dealers, <https://www.newyorkfed.org/markets/primarydealers> (last visited June 21, 2022).

²⁰ Or savings association or state or federally licensed branch or agency of a foreign bank.

²¹ See FED. RES. BANK OF N.Y., OPERATING POLICY, ADMINISTRATION OF RELATIONSHIPS WITH PRIMARY DEALERS (2016) https://www.newyorkfed.org/markets/pridealers_policies.html.

²² *Id.*

²³ See BD. OF GOVERNORS OF THE FED. RSRV. SYS. *supra* note 7.

²⁴ Or state or federally licensed branch or agency of a foreign bank.

total assets.²⁵ Depository institutions are of course subject to capital and liquidity regulations as enacted by the Federal Reserve under Basel III.²⁶

In addition, all SRF counterparties are subject to the New York Federal Reserve's general policies for private sector market counterparties, including a requirement to "[p]rovide information as needed for the New York Fed's counterparty risk management and monitoring...."²⁷ Finally, since SRF borrowing is conducted through the triparty repo platform, all SRF eligible counterparties, including primary dealers, must already have arrangements to participate in the triparty repo market for transactions collateralized by U.S. government debt, agency debt or agency mortgage-backed securities.²⁸

c. Data on SRF Usage

Through June 16, 2022, the use of the SRF has been quite limited, which is as expected since there have been no systemic liquidity problems in the Treasury repo markets since the inception of the SRF in July 2021. Bids for SRF liquidity were submitted on only 19 days of the 221 days that the SRF was operational between August 1, 2021 and June 16, 2022.²⁹ Aggregate bids totaled \$1 million on 16 of the 19 days and \$2 million on the other 3 days.³⁰ These relatively small SRF borrowings were likely related to the New York Fed's small value exercises that are intended merely to test the operational readiness of the Desk.³¹ Relatedly, the New York Fed requires SRF counterparties to bid for repo funding at least twice every six months, which also allows the Desk to test the SRF trading and settlement systems.³² Therefore, it is unlikely that the SRF has been used for liquidity needs of the borrower as of mid-June 2022.

While the lack of usage of the SRF to date is to be expected given its intended use as a liquidity backstop in a crisis, there is a potential concern about negative stigma associated with borrowing from the facility.³³ Financial institutions may be reluctant to borrow from the SRF out of concern that such borrowing would be viewed negatively both by supervisors and by the market, similar to the negative stigma that disincentivizes banks

²⁵ See FED. RES. BANK OF N.Y. Standing Repo Facility Counterparties (Apr. 8, 2022), <https://www.newyorkfed.org/markets/standing-repo-facility-counterparties>. Holdings are as of the last quarter for which FFIEC reports are available.

²⁶ See BD. OF GOVERNORS OF THE FED. RSRV. SYS., Basel Regulatory Framework, <https://www.federalreserve.gov/supervisionreg/basel/basel-default.htm> (last visited Aug. 1, 2022).

²⁷ See FED. RES. BANK OF N.Y., Operating Policy, Federal Reserve Bank of New York Policy on Counterparties for Market Operations (Nov. 9 2016) <https://www.newyorkfed.org/markets/counterparties/policy-on-counterparties-for-market-operations>.

²⁸ *Id.*

²⁹ See FED. RES. BANK OF N.Y., Repo Operations <https://www.newyorkfed.org/markets/desk-operations/repo#recent-operations> (last visited Jun. 21, 2022).

³⁰ *Id.*

³¹ See FED. RES. BANK OF N.Y., Operational Readiness <https://www.newyorkfed.org/markets/operational-readiness> (last visited Jun. 21, 2022).

³² See FED. RES. BANK OF N.Y. Standing Repo Facility Counterparties (Apr. 8, 2022) <https://www.newyorkfed.org/markets/standing-repo-facility-counterparties>.

³³ See Bill Nelson, *Informal Symposium on Monetary Policy, Bank Regulations, and Money Markets*, BPI BLOG (Feb. 22, 2022), <https://bpi.com/informal-symposium-on-monetary-policy-bank-regulations-and-money-markets/>.

from discount window borrowing.³⁴ Stigma concerns may be preventing eligible banks from even applying for SRF access. As of June 16, 2022, only nine banks have been added as eligible SRF counterparties, six of which are affiliates of a primary dealer.³⁵ For the SRF to serve its intended purpose, the stigma issue needs to be addressed by the Federal Reserve. One suggestion by market participants is to encourage use of the SRF in normal times by lowering the SRF interest rate, which would also remove the stigma associated with its use in a crisis.³⁶

Part IV: Treasury Repo Market Participants and Access to the SRF

An important issue remains as to whether the SRF provides broad enough access to market participants, which depends crucially on the current participation in Treasury repo markets as well as various trade-offs between limiting or expanding the scope of the access. If access were to be broadened beyond primary dealers and eligible depository institutions, it would be important to be accompanied with a central clearing mandate and increased supervision of SRF counterparties, as discussed in more detail below.

a. Treasury Repo Market Participants

The Treasury repo market consists of three broad segments: bilateral repo, triparty repo, and general collateral finance (“**GCF**”) repo. Total Treasury repo outstanding across all three segments of the repo market averaged \$3.6 trillion daily in 2021 with primary dealers accounting for \$1.67 trillion or 46.0% of total Treasury repo market activity.³⁷ Comparatively, in 2020 primary dealers accounted for \$1.75 trillion of the \$3.1 trillion average daily Treasury repo volume, thus constituting 56.5% of the market.³⁸ Therefore, primary dealers have become less significant participants in Treasury repo markets over the past year.

The drop in relative participation by primary dealers can be explained partially by the fact that primary dealers have not kept pace with the growth of the overall Treasury repo market. For example, in the first half of 2021, total triparty and general collateral finance (“**GCF**”) repo outstanding averaged \$1.4 trillion but grew to \$2.4 trillion in the second half of 2021. Thus, repo volumes in the triparty and GCF markets grew 72% from the first to second half of 2021. However, at the same time, primary dealer participation was relatively stagnant, averaging \$1.65 trillion in the first half and \$1.68 trillion in the second

³⁴ *Id.*

³⁵ See FED. RES. BANK OF N.Y. *supra* note 32. The nine banks are Bank of America, Canadian Imperial Bank of Commerce, Citibank, Goldman Sachs Bank USA, HSBC Bank USA, Mizuho Bank, Ltd, New York Branch, Natixis New York Branch, The Bank of New York Mellon, and Wells Fargo Bank, N.A.

³⁶ See Nelson, *supra* note 33.

³⁷ Total includes bilateral repo, triparty repo and general collateral finance (“**GCF**”) repo. Bilateral data is the average outstanding as reported by SIFMA. See SIFMA RESEARCH, THE US REPO MARKETS: A CHART BOOK (2022), <https://www.sifma.org/wp-content/uploads/2022/02/SIFMA-Research-US-Repo-Markets-Chart-Book-2022.pdf>. Triparty and GCF data is reported by the Federal Reserve. See FED. RES. BANK OF N.Y., Tri-Party/GCF Repo <https://www.newyorkfed.org/data-and-statistics/data-visualization/tri-party-repo#interactive/tripartygcf>.

³⁸ *Id.*; see also SIFMA RESEARCH, US REPO FACT SHEET (2021), <https://www.sifma.org/wp-content/uploads/2020/04/2021-US-Repo-Fact-Sheet.pdf>.

half – growth of only 1.5%.³⁹ As a result, the role of primary dealers in the Treasury repo markets declined throughout 2021.

Given the relatively limited data on Treasury repo market participation, less is known about the participants who constitute the remaining 54% of the Treasury repo market. In particular, it is unclear how much Treasury repo activity is conducted by depository institutions or their affiliates. Research by the New York Federal Reserve provides some insight, however, on the *overnight* triparty Treasury repo market. Using data from BNY Mellon from September 2015 through March 2021, the New York Fed estimates that total daily volume by major market participants averaged \$895 billion.⁴⁰ Of this total, primary dealers accounted for \$603 billion or 67% of Treasury repo activity and commercial banks accounted for \$160 billion or 18%.⁴¹ Together, primary dealers and commercial banks, the two types of entities with access to the SRF, accounted for 85% of overnight triparty Treasury repo volumes during the time period analyzed. Non-primary dealers accounted for \$71 billion or 7.9%, followed by the Federal Reserve (\$54 billion or 6.0%) and asset managers (\$6 billion or 0.7%).⁴²

Participation in the Fixed Income Clearing Corporation’s (“**FICC**”) DVP Repo Service, a bilateral repo market with FICC as a central counterparty, also provides insight into the Treasury repo market. According to a 2021 study by the Treasury’s Office of Financial Research (“**OFR**”), in this \$1 trillion Treasury repo market, primary dealers accounted for 34.4% of borrowing in the market in 2020, followed by foreign banks (22.9%), non-primary dealers (19.75%), domestic banks (13.07%), and hedge funds (8.1%).⁴³

While hedge funds do not constitute a significant portion of total *gross* repo borrowing in this market, they are significant *net* borrowers (i.e., repo borrowing net of repo lending). Hedge funds are second only to foreign banks as the largest net borrowers, constituting 8.1% of the borrowing market but only 0.6% of the lending market for a net of 7.55% as borrower. Primary dealers are net lenders, constituting 38.2% of the lending market and 34.4% of the borrowing market for a net of 3.83% as lender, as are domestic banks (15.0% of the lending market and 13.0% of the borrowing market).⁴⁴

The increasingly significant role of hedge funds as borrowers in the Treasury repo markets has also been highlighted by the New York Federal Reserve, noting a significant spike in repo borrowing over a two-year span from early 2018 to early 2020 that accompanied an equally significant increase in Treasury holdings by hedge funds from

³⁹ *Id.*

⁴⁰ Major market participants include asset managers, commercial banks, the Federal Reserve, non-primary dealers, and primary dealers. See Paddrik et al. *supra* note 18.

⁴¹ FED. RES. BANK OF N.Y. *supra* note 37.

⁴² *Id.*

⁴³ R. JAY KAHN & LUKE M. OLSON, OFFICE OF FINANCIAL RESEARCH, WHO PARTICIPATES IN CLEARED REPO? (2021), https://www.financialresearch.gov/briefs/files/OFRBr_21-01_Repo.pdf.

⁴⁴ Net lending percentage is calculated as lending percentage less borrowing percentage.

approximately \$750 billion to \$1 trillion in early 2020.⁴⁵ Despite this increasing role in Treasury markets, however, Di Maggio (2020) finds that hedge funds holdings of Treasuries in March 2020 were too small to contribute significantly to the market stress.⁴⁶

Treasury repo markets have also become increasingly concentrated over the past year. The New York Fed reports the monthly market share of the largest 3 dealers in the triparty and GCF repo markets. For Treasury repos, the largest 3 dealers constituted 33.8% of the market at the beginning of 2021.⁴⁷ By June 2022 the market share increased to 75.7%, thus indicating a highly concentrated Treasury repo market that may be vulnerable to liquidity shocks if any of the 3 largest dealers were to scale back their Treasury repo activity.

Although the triparty and GCF Treasury repo markets have become increasingly concentrated, primary dealers constitute less and less of the overall Treasury repo market activity. Given the declining activity by primary dealers, it may be prudent to expand access to the SRF to non-primary dealers in the Treasury repo markets to ensure sufficient liquidity in these markets during stress periods. We now evaluate the benefits and risks of broadening access to the SRF.

b. Benefits of Broadening Access

Limiting access to the SRF to only primary dealers and approved depository institutions, as is currently the case with the SRF, may not provide an adequate liquidity backstop to the Treasury repo market. As noted above, primary dealers have become less and less significant in the Treasury repo markets, constituting less than half of the market in 2021 and continuing to trend downward. The lack of access to the SRF liquidity backstop may prevent non-primary dealers from providing necessary liquidity in the cash Treasury markets during times of stress.

Given the increasingly limited role of primary dealers in Treasury repo markets, it is crucial that non-primary dealers be able to increase their repo activity to meet market demands in times of crisis. However, such dealers may be reluctant or unable to do so without the backstop funding provided by the SRF. Opening access to the SRF for these dealers would solve this problem.

Broadening access to the SRF is an approach recommended by several commentators on the Treasury repo markets. The G30 notes that “the Federal Reserve should extend access to the SRF as broadly as operational feasible.”⁴⁸ They also note that broad access to the SRF may prevent certain fire sales of Treasuries during market stress that would

⁴⁵ AYELEN BANEGAS ET AL., BD. OF GOVERNORS OF THE FED. RSRV. SYS., SIZING HEDGE FUNDS’ TREASURY MARKET ACTIVITIES AND HOLDINGS (Oct. 6, 2021) <https://www.federalreserve.gov/econres/notes/feds-notes/sizing-hedge-funds-treasury-market-activities-and-holdings-20211006.htm>.

⁴⁶ See Marco Di Maggio, *The Role of Hedge Funds in the 2020 Treasury Market Turmoil* (2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3698415.

⁴⁷ See FED. RES. BANK OF N.Y. *supra* note 37.

⁴⁸ G30 Report at 9.

otherwise depress Treasury prices even further.⁴⁹ In their 2022 status update on Treasury markets, the G30 repeated their call to expand access to the SRF “as a means to diversify the supply of Treasury market liquidity under stress as well as to preempt some sales of Treasuries during stress periods.”⁵⁰ Similarly, Liang and Parkinson (2020) argue generally for a standing repo facility offered to a broad range of dealers, including independent dealers (i.e. non-primary and not affiliated with depository institutions).⁵¹ In this way, the SRF would also “encourage more dealers to increase their capacity to provide market liquidity.”⁵² In addition, Liang and Parkinson (2020) also note that to the extent that the broader SRF liquidity makes it easier for Treasury investors to raise cash through repos, they may be less inclined to engage in fire sales of Treasuries during a stressed market.⁵³

Broader access to the SRF may also facilitate all-to-all trading in Treasury repo markets, thus deepening the funding liquidity in the market and increasing the resiliency of such liquidity in times of stress.⁵⁴ The liquidity benefits of all-to-trading has been illustrated in other securities markets, in particular the corporate bond market. Hendershott, Livdan and Shurhoff (2021) study all-to-all trading in the corporate bond market, finding that it can facilitate the entry of new dealers in the market who provide significant liquidity.⁵⁵ In addition, price efficiency is also improved by the introduction of new dealers that results from all-to-all trading.⁵⁶

c. Risks of Broadening Access

The optimal design of the SRF would provide backstop liquidity to the Treasury repo market without subjecting the Federal Reserve to significant risk of loss due to counterparty risk. As discussed above, the current SRF-eligible institutions are already highly regulated and supervised by the Federal Reserve and relevant banking supervisors. Broadening access to the SRF beyond primary dealers and depository institutions potentially subjects the Federal Reserve to increased counterparty risk from less regulated firms. Moral hazard concerns, whereby the SRF liquidity backstop would incentivize counterparties to take on excessive leverage with minimal liquidity buffers, would further exacerbate the potential counterparty risks. Therefore, to mitigate counterparty risk concerns, any broadening of SRF eligibility must also be accompanied by risk-reducing measures, namely enhanced supervision and central clearing.

⁴⁹ *Id.*

⁵⁰ See G30 Report.

⁵¹ See Liang *supra* note 1.

⁵² *Id.* at 9.

⁵³ *Id.*

⁵⁴ See G30 Report.

⁵⁵ See Terrence Hendershott et al., *All-to-All Liquidity in Corporate Bonds*, Swiss Finance Institute Research Paper No. 21-43 (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3895270.

⁵⁶ *Id.*

Part V: Risk-reducing Measures for Expanded SRF Access

a. Enhanced Supervision of SRF Counterparties

To address the concerns of counterparty risk and moral hazard, every firm with access to the SRF should be subject to supervision and prudential standards, including capital requirements, liquidity requirements, and any other financial soundness measure deemed appropriate by the New York Federal Reserve (similar to the NY Fed's supervisory role of primary dealers). For firms, including broker-dealers, already registered with the SEC, this enhanced regulation and supervision may be conducted in coordination with the SEC. For unregistered firms, the New York Federal Reserve should have authority over ensuring that counterparties maintain adequate capital and liquidity ratios. The regulation and supervision of SRF counterparties would limit moral hazard concerns, since counterparties would be prohibited from using excessive leverage, while also minimizing the risk of losses to the Federal Reserve.

b. Central Clearing of SRF Transactions

In a centrally-cleared Treasury repo transaction, a central counterparty (“**CCP**”) would interpose itself between the repo lender – the New York Federal Reserve in the case of the SRF – and the repo borrower.⁵⁷ As such, the CCP becomes the sole counterparty to the NY Fed rather than the SRF-eligible borrower and the NY Fed no longer faces individual counterparty risk from the SRF borrower. However, the NY Fed is exposed to any vulnerabilities of the CCP itself, so needs to be confident that the CCP appropriately manages the counterparty risk that it faces.

As outlined in our first report, *Mandatory Central Clearing for U.S. Treasuries and U.S. Treasury Repos*, CCPs manage counterparty risk in three primary ways.⁵⁸ First, CCPs establish minimum risk-management standards for their members, including minimum capital requirements. CCPs also monitor the financial soundness of each member firm on an ongoing basis. Second, CCPs require all counterparties to contribute collateral, referred to as initial margin, and post additional collateral on a daily basis depending on the movement of prices, referred to as variation margin. Initial and variation margin serve as a buffer against potential losses to the CCP. Third, CCPs maintain a default fund that is intended to ensure that the CCP can withstand the losses associated with the default of a CCP member.

The risk-management practices of the CCP serve several interests of the Federal Reserve for purposes of expanding SRF-eligibility. First, the Federal Reserve transfers the counterparty risk from the individual SRF borrower to the CCP. Relatedly, the CCP engages an important supervisory role by monitoring the capital and liquidity measures

⁵⁷ According to the Bank for International Settlements, a CCP is “a clearinghouse that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts.” BANK FOR INTERNATIONAL SETTLEMENTS, *CRE: Calculation of RWA for Credit Risk*, 50.2 (Dec. 15, 2019), https://www.bis.org/basel_framework/chapter/CRE/50.htm#:~:text=A%20central%20counterparty%20.

⁵⁸ See PIFS Report.

of its members to ensure that SRF borrowers are financially sound. Finally, the CCP institutes its own protective measures (e.g., the margin requirements and default fund) that serve to prevent the CCP itself from failing. Importantly, CCPs themselves are subject to extensive regulations and supervisory oversight intended to ensure that CCPs are well-capitalized and managing risk effectively.⁵⁹ By transferring counterparty risk from individual CCP counterparties to the CCP, the Fed can focus solely on regulation and supervision of the CCP, rather than monitoring the individual CCP counterparties.

Under the current SRF design, while counterparties must have arrangements to participate in the tri-party repo market, the clearing bank in the tri-party market, BNY Mellon, does not act as a CCP in the transaction. Therefore, the Fed still retains counterparty risk in the repo transaction despite the intermediation of BNY Mellon. Our first report, *Mandatory Central Clearing for U.S. Treasuries and Treasury Repos*, details the design considerations for central clearing of Treasury repos, including the question of a single CCP versus multiple CCPs as well as government-run CCPs versus private CCPs. If the SRF CCP were government run and housed at the Federal Reserve, then individual counterparty risk would be retained by the Fed. To obtain the benefit of transferring counterparty risk out of individual counterparties, as noted above, the SRF CCP would need to be a privately-run organization.

Part VI: Conclusion

Recent events in the cash Treasury market and Treasury repo market have illustrated vulnerabilities in what have historically been stable and resilient securities markets in the United States. A need has arisen to address these vulnerabilities through several measures. While a central clearing mandate for U.S. Treasuries and Treasury repos would serve to strengthen the resiliency of liquidity in each market, an equally important measure is a liquidity backstop for Treasury repos provided by the Federal Reserve. The Federal Reserve has taken a first step in implementing this measure by creating a standing repo facility. However, limiting access to only primary dealers and approved depository institutions, as is currently the case with the SRF, may be insufficient.

Expanding access to the SRF to allow any holder of Treasuries to borrow from the SRF would potentially further strengthen the Treasury and Treasury repo markets by providing a liquidity backstop to a broader range of market participants. However, expanding access is not costless to the Federal Reserve, as counterparty risks and moral hazard concerns increase as more firms become eligible borrowers. To mitigate these concerns, enhanced regulatory and supervisory oversight of eligible SRF borrowers should accompany broadened access. In addition, the Federal Reserve should consider clearing SRF lending through a central counterparty, thus transferring individual counterparty risk exposure to the CCP. In the end, expanding access to a SRF would likely make U.S. Treasury and Treasury repo markets more resilient in times of stress.

⁵⁹ See *id.*

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