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Clearing the Path for Treasury Market Resilience

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Abstract

The U.S. Treasury market is the world's deepest and most liquid market, and its resilience is critical for asset pricing and liquidity risk management. This paper examines central clearing for Treasury cash and repo, a key regulatory initiative designed to strengthen the resilience of Treasury market intermediation. Central clearing can reduce risks and increase dealer balance sheet capacity through netting of repo across different market segments. We estimate based on data in April 2025 that netting benefits for primary dealers would be substantial if their Treasury repo were centrally cleared. These balance-sheet netting benefits combined with targeted changes to the supplementary leverage ratio (SLR) could increase intermediation capacity and improve the elasticity of market liquidity without significantly increasing risks. These reforms will have substantial benefits for Treasury market resilience but ultimately resilience will also require efforts to reduce the rapidly growing amount of debt.

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1. Introduction

The U.S. Treasury market serves a vital role to finance the government at the lowest cost to taxpayers, to provide a safe and liquid asset underpinning the broader financial system, and to support the transmission of monetary policy. In the face of periodic episodes of market disruption in recent years, reforms to strengthen the resilience of the Treasury market have been a critical priority for financial regulators (Duffie 2020; Liang and Parkinson 2020; IAWG 2021; Group of Thirty 2021). A principal goal is to improve the efficiency and flexibility of intermediation in the Treasury cash and repo markets by expanding capacity for market-making and managing surges in demand for market liquidity during stress periods.

Resilience has become even more important as Treasury debt is growing very rapidly, placing greater demands on market infrastructure and intermediation capacity. Treasury debt held by the public has risen to almost $29 trillion, representing an increase to 97% of GDP in 2025 from about 30% in 2007 before the global financial crisis and great recession,[1] and will increase to 124% at the end of 2034 under projections made by the Congressional Budget Office after the passage of the One Big Beautiful Bill Act.[2] As of April 2025, primary dealers' Treasury repo market daily financing had grown to $5.4 trillion.[3] In addition, the share of Treasury securities held by hedge funds, open-end funds, and other non-bank financial entities, which tend to be more price-sensitive than foreign official institutions, has been increasing for the past decade.

This paper examines central clearing for Treasury cash and repo, which represents a significant step in the effort to improve the resilience of intermediation in Treasury markets. Substantial changes are already underway before the new clearing requirements become effective in 2026 and 2027. Clearing offers a variety of benefits, including risk reduction, more standardized risk management, and greater balance sheet capacity from more efficient netting. It complements other proposed reforms, including modifying the supplementary leverage ratio (SLR) for large banking firms, increased all-to-all trading, and increased congruence of regulatory standards across Treasury markets, among others.

We begin by summarizing Treasury central clearing and the possible netting benefits for dealers' balance sheets in the sponsored repo market, which has grown dramatically since 2020 even before the clearing rule was proposed. We then estimate the balance sheet netting that could be achieved from central clearing based on netting opportunities across different segments of the repo market by matching aggregate primary dealer Treasury repo and reverse repo positions. Based on sponsored repo volume at the Fixed Income Clearing Corporation (FICC), we estimate that up to $900 billion is already nettable on clearing members' balance sheets. Additionally, primary dealer data from the Federal Reserve suggests that, as central clearing continues, up to

[1] See https://fred.stlouisfed.org/series/FYGFGDQ188S.
[2] See https://www.cbo.gov/publication/61486#section0.
[3] Source: https://www.newyorkfed.org/markets/counterparties/primary-dealers-statistics. Hempel, Kahn, and Shephard (2025) estimate that the gross size of the U.S. repo market, including U.S. banks and dealers and other intermediaries and all types of collateral, reached $11.9 trillion in 2024. Their estimate does not separate Treasury collateral from other collateral. They also document that gross repo activity of U.S. banks and dealers grew by 50% between 2019 and 2024.

$700 billion more of Treasury repos could be netted on dealers' balance sheets.[4] This amount is sizable, nearly double the primary dealers' total net position in Treasury securities of $384 billion in April 2025.[5]

The balance-sheet netting benefits are relevant to the recent proposal by the federal banking regulators to reduce the SLR for bank holding companies (BHCs) and its insured depository institutions (IDIs).[6] Our estimates indicate that central clearing would increase dealer balance sheet capacity, which would complement adjustments the banking regulators might make to the SLR to improve intermediation capacity. The netting benefits improve the inverse tradeoff for SLR between risk of the BHC and market intermediation capacity. Moreover, because Treasury clearing is already underway, these benefits are being realized sooner than those that would be provided by revisions to SLR. In addition, other structural changes, like the Federal Reserve's standing repo facilities offering liquidity to market participants in stress periods, the Treasury's buyback program, and more transparency of trading data have been put in place to support market intermediation.

Still, the recent proposal to reduce the enhanced supplementary leverage ratio (eSLR) surcharge at the global systemically important banks (G-SIBs) given current risk-based capital is consistent with better capital policy because a moderately reduced SLR requirement is less likely to be the binding regulatory capital constraint and does not lead to a significant reduction in required capital. But a substantial reduction in the eSLR could weaken these firms and undermine resilient intermediation if it were to significantly increase leverage or create large exposures not captured by the risk-weighted capital framework. That is, because there is no regulatory capital charge for Treasury securities held in investment accounts (in the banking book), options that could lead to significant increases in such holdings, such as a substantial reduction of the SLR for the IDIs or the outright exclusion of all Treasury securities from the SLR, would not support resilient Treasury market intermediation unless paired with an increase in a capital buffer in the risk-based requirements for these securities.[7] Moreover, an increase in Treasury securities in the banking book would do little to increase dealers' Treasury market-making in stress.

The option to exclude Treasury securities held in the trading account, however, could improve intermediation because they are marked-to-market and receive a market risk capital charge, providing better incentives for risk management. This exclusion also creates targeted flexibility

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[4] As further discussed below, this estimate is materially larger than that obtained by Bowman, Huh, and Infante (2024) based on 2022 Q2 data, partly because of changes in the net lending by money market funds and the net borrowing by private funds between 2022 and 2025.

[5] See https://www.newyorkfed.org/markets/counterparties/primary-dealers-statistics.

[6] The federal bank regulatory agencies recently requested comments on a proposal to reduce the enhanced supplementary leverage ratio (eSLR) applicable to the G-SIBs, to reduce the likelihood that the eSLR would be the regulatory capital constraint and to not discourage engaging in lower-risk, lower-return activities such as Treasury market intermediation. We discuss some details of the proposal below. See https://www.federalreserve.gov/newsevents/pressreleases/bcreg20250627a.htm.

[7] Liang and Parkinson (2020) highlighted that Treasury securities have interest rate risk and should not be excluded from an SLR calculation. Currently G-SIBs are required to reflect unrealized gains and losses on securities held outright in the investment account as available-for-sale in accumulated other comprehensive income, but the fair value fluctuations of held-to-maturity securities are not reflected in regulatory capital. Kim, Kim, and Ryan (2025) document how banks have changed the classification of these securities with different capital rules and interest rates since 2013.

for dealers and more elastic Treasury market intermediation. Other options, such as excluding reserves from SLR or making some or all of the G-SIB surcharge countercyclical, could also increase capacity and the elasticity of market-making and are worth further study.

2. Central Clearing Requirements in Treasury Markets

Central clearing transforms the structure of Treasury market transactions by inserting a clearinghouse between counterparties. In a traditional non-centrally cleared repo transaction, for example, a dealer serves as a direct counterparty to clients such as money market funds that lend cash and hedge funds that borrow. Under central clearing, the clearinghouse becomes the legal counterparty to all participants, and the dealer is no longer a direct counterparty to clients but is a counterparty to the clearinghouse. Figure 1 illustrates the distinction between non-centrally cleared repos (left graph) and centrally cleared repos (right graph).

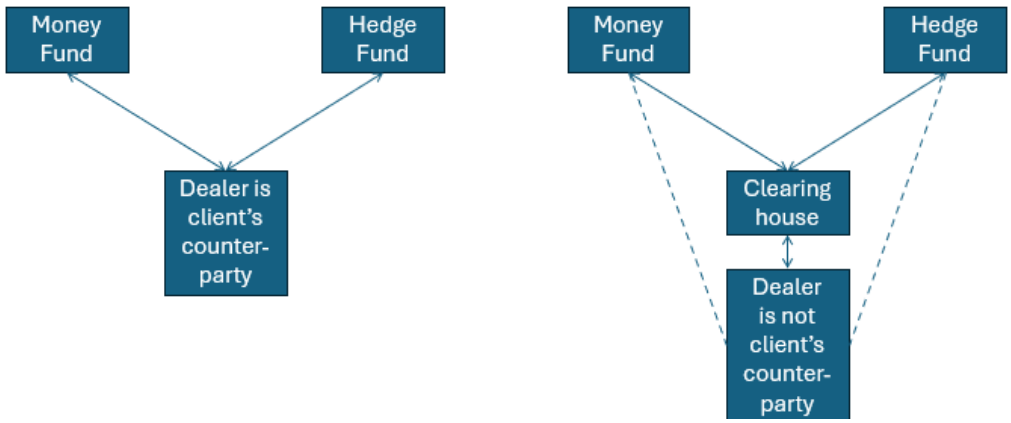

Figure 1: Non-centrally cleared and centrally cleared repo

This structural change has significant implications for risk management, capital efficiency, and market oversight. The introduction of a clearinghouse to a transaction brings in standardized margin requirements and daily marking-to-market, which reduces counterparty credit risk on Treasury repo and cash transactions. The clearinghouse may offer different client access models to meet differing preferences and constraints of clients and dealers as clearing members, such as a sponsored model or an "agent" model based on prime broker or correspondent banking (discussed below). Participants benefit from additional multilateral netting opportunities that can significantly reduce risk and reduce balance sheet usage.

The final rule of the Securities and Exchange Commission (SEC), adopted in December 2023 with bipartisan support, represents a watershed development in Treasury market structure.[8] Building on the SEC's authority over clearing agencies, the rule establishes a phased

[8] See https://www.sec.gov/files/rules/final/2023/34-99149.pdf and the deadline extension https://www.sec.gov/newsroom/press-releases/2025-43.

implementation schedule that will gradually expand clearing requirements across different segments of the Treasury market.

The implementation timeline began in March 2025. FICC, currently the only Treasury clearinghouse in the U.S., implemented changes that separated house and customer margin, allowed onward posting of customer margin under specific conditions, and provided additional models for clients to gain access to clearing services. By December 2026, the rule requires clearing of cash transactions executed on interdealer broker platforms that are also clearinghouse members, as well as transactions between clearinghouse members and broker-dealers. The final phase, effective June 2027 after the extension of the compliance dates, mandates clearing of repo transactions where at least one party is a clearinghouse member.

Importantly, the rule provides exemptions to transactions for certain counterparties, specifically central banks, official sector entities, clearinghouses, and natural persons. It also includes exceptions for certain inter-affiliate transactions and transactions by state and local governments. This targeted approach reflects the regulatory balance between comprehensive coverage and practical implementation considerations. Finally, transactions that do not involve clearinghouse members are outside the scope of the SEC's final rule.

3. Benefits of Central Clearing

We briefly discuss the key potential benefits of central clearing. There also are potential costs, such as the increased systemic importance of a Treasury clearinghouse, but we do not discuss these because our interest is estimating the potential benefits from netting for dealer balance sheets given current activity (see Yadav and Younger 2025 and Parkinson 2025 for a discussion of some potential costs).

3.1 Risk Reduction and Improved Market Visibility

Central clearing significantly reduces counterparty risks by guaranteeing delivery of cash and securities. Clearing reduces settlement fails and prevents their propagation throughout the market, addressing a key source of systemic risk during periods of market stress. Research by Fleming and Keane (2021) demonstrates the magnitude of these benefits, showing that netting through central clearing of all outright trades in the Treasury cash market would have reduced dealers' daily gross settlement obligations by approximately $330 billion (60%) during the weeks surrounding the March 2020 market disruptions, with reductions reaching nearly $800 billion (70%) when trading volumes peaked.

The reduction of risk associated with clearing should be distinguished from the reduction of risk-based regulatory capital. Generally, in a centrally cleared market, clearing members' credit exposure to clients persists because they guarantee their clients' performance, creating risk-weighted asset capital charges for bank-affiliated clearing members (but not SLR charges). That said, this credit exposure is mitigated if clients post margin. Furthermore, a new "collateral in lieu" model in Treasury repo markets is being developed, whereby the clearinghouse can put a lien on the assets of money market funds held at custodian banks, potentially reducing the need for clearing members to provide credit guarantees for client money market funds that use this

model and correspondingly reducing margin requirements on money market funds' repo positions.[9]

Central clearing also facilitates standardized risk management practices around margin requirements. Margins assessed by the clearinghouse would depend on the risk of the position, but not on the size, trading volume, or other characteristics of Treasury market participants. This uniformity, in turn, helps to level the playing field among dealers and promotes competition. It could work to increase the congruence of regulations to avoid the migration of activities from more regulated markets to less regulated ones (Metrick and Tarullo 2021).

Central clearing also enhances trading venue transparency and oversight, particularly for interdealer broker trading platforms and principal trading firms. It provides greater visibility into market conditions as well. The concentration of transaction data and risk management information at clearinghouses creates efficiencies in financial market monitoring when risk events unfold and, via quantitative disclosures and other publications, enables market participants to make better-informed trading and risk management decisions.[10] Central clearing also supports more informed regulatory oversight for systemic risks that could arise from leverage across participants, including hedge funds and principal trading firms, and offers a path for setting market-wide margin requirements to mitigate financial stability risks.

3.2 Enhanced Intermediation Capacity Through Netting

Central clearing can increase a dealer's balance sheet capacity by netting down gross exposures across participants and enhance market intermediation and liquidity in normal periods and in stress periods. The netting benefits from central clearing efficiency for repo are far larger than for cash transactions; unsettled cash transactions can already be netted on dealer balance sheets for accounting purposes regardless of whether the cash trades are centrally cleared. Under current bank capital regulations, netting repo transactions across different counterparties is not permitted for the purpose of calculating total leverage exposure (TLE) for the SLR. Thus, if a dealer does back-to-back repo and reverse repo transactions, of the same size but with two different clients (left graph of Figure 1), the gross value of the repo would be added to the dealer's balance sheet, as illustrated by Table 1 below.

	Asset	Liability
Dealer borrows cash from MMF	Cash ↑ $100	Payable ↑ $100
Dealer lends cash to HF	Cash ↓ $100	
	Receivable or loan ↑ $100	

Table 1: Balance sheet impact of non-centrally cleared repo

[9] See also Wuerffel (2025).
[10] For example, the latest quarterly quantitative disclosure of DTCC is available here.

However, central clearing enables netting of matched repo and reverse repo positions provided they meet specific criteria. Specifically, netting is possible for balance sheet purposes if the repo and reverse repo "are with the same counterparty, have the same explicit final settlement date, have legally enforceable offset rights, and are settled on the same settlement system" (see Bowman, Huh, and Infante 2024).

Central clearing generally satisfies the first, third, and fourth conditions, but not necessarily the second. Repo maturities range from overnight to term to "open," and some lenders prefer shorter maturities while some borrowers prefer longer maturities. However, dealers facing balance sheet constraints would have incentives to structure the trades with matching maturities to take advantage of balance sheet netting. In that case where maturities are adjusted to match, the gross value of matched client repo and reverse repo transactions could be netted on dealers' balance sheets and excluded from TLE.

4. Quantifying Potential Netting Benefits of Treasury Repo Clearing

To estimate netting benefits from Treasury repo clearing, we first look at the sponsored repo market based on data from FICC, currently the sole clearinghouse for U.S. Treasury securities. The FICC data represent the client clearing activity of all its sponsoring members in the Treasury repo market. We then look at the positions of the primary dealers in Treasury repo based on data from the Federal Reserve Bank of New York (FRBNY) for potential additional netting benefits.

4.1 Sponsored Repo

In a sponsored repo transaction, a dealer (clearing member) sponsors a client counterparty onto the FICC cleared repo platform, which matches and nets the trades. Dealers provide a guarantee to FICC for its sponsored members' obligations and post additional resources into FICC's clearing fund. This arrangement allows client money market funds, hedge funds, and other participants that are not members of FICC to centrally clear their repos. Sponsored repo and reverse repo (the cleared dealer-to-client, or D2C, segment from FICC) have grown dramatically, to about $2.1 trillion per day as of April 30, 2025, from an average of about $300 billion per day from 2020 to 2023 (Figure 2).[11]

[11] The sponsored repo market was about $138 billion in 2018, based on MMF's reported holdings. See "A Primer on Sponsored Repo," J.P. Morgan, 2019. The report highlighted the capital efficiency as an incentive for rapid growth.

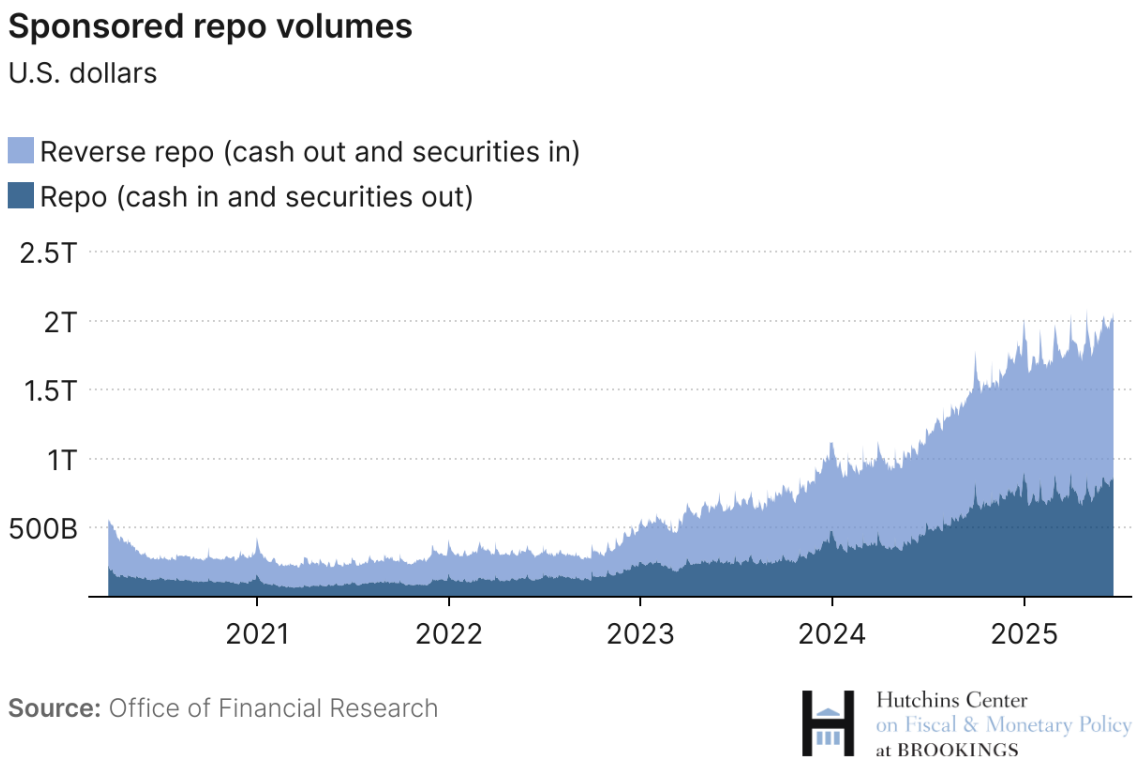

Figure 2: FICC Sponsored Repo Volume. Source: Office of Financial Research

To quantify the potential effects of sponsored repo on dealer balance sheets, Table 2 decomposes the cleared client repo volume in two ways. The first way is by the type of product. "Sponsored GC" repo, in which the cash borrower can deliver any security within a pre-defined set, was $468.5 billion per day as of April 30, 2025, whereas "sponsored DVP" repo, in which specific securities are required to be delivered, was $1,618.6 billion per day. The second way to decompose the volume is by whether the client is borrowing or lending cash. Repos in which clients acted as cash borrowers were $1,183.1 billion, whereas repos in which clients acted as cash lenders were $904.1 billion. Copeland and Kahn (2024) document that from January 2020 to June 2024, money market funds accounted for 66% of sponsored lending, while hedge funds represented 78% of sponsored borrowing.

This matched volume of client borrow and client lend suggests that potentially $904 billion in matched repo and reverse repo positions could be netted, which would reduce a dealer's balance sheet and the TLE denominator for SLR calculations. This represents a significant opportunity for capital efficiency, which dealers reportedly are already utilizing.[12]

[12] Adrian, Fleming, and Nikolaou (2025) indicate that primary dealer data reported to FRBNY suggest a trend toward central clearing even before the central clearing rule takes effect, but they do not estimate possible netting benefits.

D2C Sponsored Repo at FICC Total $2,087.1 billion			
By product type		**By transaction type**	
Sponsored GC	Sponsored DVP	Client Borrow	Client Lend
$468.5 bn	$1,618.6 bn	$1,183.1 bn	$904.1 bn

Table 2: D2C sponsored repo volume as of April 30, 2025. Source: FICC

A limitation of the FICC data is that they include both Treasury repo and agency MBS repo, suggesting that $900 billion is an upper bound on the amount that could be netted through sponsored Treasury repo. That said, all sponsored MBS repo is in the "sponsored GC" segment and the much larger "sponsored DVP" segment is predominantly Treasury repos;[13] as we show in the next section, primary dealer data from FRBNY also reveal comparable amounts of matched repo and reverse repo backed by Treasury securities. In addition, capital rules that govern balance sheet netting do not depend on whether repos are backed by Treasury securities or MBS.

4.2 Potential for Additional Clearing and Netting

Our analysis of market data suggests significant potential for additional clearing and netting opportunities. We start with primary dealers' repo and reverse repo positions as of April 30, 2025 from FR 2004C and reproduced in Table 3. Primary dealers are the largest intermediaries in the repo markets, but do not represent all participants in FICC.

[13] Agency MBS are eligible in FICC's Sponsored GC service but not in FICC's Sponsored DVP service. See https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/sponsored-membership.

U.S. Treasury (excluding TIPS) as repo collateral	Primary Dealers Securities In (lending cash)	Primary Dealers Securities Out (borrowing cash)	Net
	(billions USD)	(billions USD)	(billions USD)
Bilateral - Uncleared Total 2,509	1,449	1,060	Net lend 389
Bilateral - Cleared Total 1,767	1,039	728	Net lend 311
Triparty – GCF (interdealer cleared) Total 126	97	29	Net lend 68
Triparty - Uncleared Total 850	13	837	Net borrow 824
Triparty – Sponsored (client cleared) Total 177	0	177	Net borrow 177
Total	2,597	2,831	Net borrow 234

Table 3: Primary dealer repo activity in various segments as of April 30, 2025. Source: FR 2004C, Federal Reserve Bank of New York.

Primary dealer repo activity totaled $5.43 trillion on April 30, 2025. The bilateral segment of repo is dominant, representing $4.28 trillion and 79% of all primary dealer repo volume (=(2509+1767)/(2597+2831)), and the triparty segment totaled $1.15 trillion.[14] Centrally cleared transactions—including cleared bilateral repo, cleared client triparty repo (sponsored), and cleared interdealer triparty repo (GCF)—are $2.07 trillion, representing 38% of total primary dealers' repo volume (=(1767+177+126)/(2597+2831)).

The simple breakdown of primary dealers' repo positions allows us to conduct a back-of-envelope calculation of balance sheet netting opportunities of repo clearing. Recall from Table 1 and Section 3.2 that the central clearing of matched client repo and reverse repo can lead to balance sheet netting under certain conditions. Thus, we look for the aggregate amounts of primary dealer repo and reverse repo that could be matched in quantity.

[14] Typically, dealers use the triparty market to source funding from cash investors, such as money market funds, to finance hedge funds or Treasury purchases and the bilateral segment to trade directly with each other and with clients. The GCF segment is relatively small at $126 billion and is where dealers source and provide funding in the interdealer market and utilize a triparty custodian bank. Most interdealer activity is conducted in the bilateral segment.

Table 3 reveals that primary dealers are net cash borrowers in the triparty market by $933 billion (=824+177-68), whereas they are net cash lenders in the bilateral repo market by $700 billion (=389+311). Thus, $700 billion of repo and reverse repo can potentially be matched and, if cleared, netted for balance sheet purposes. Again, primary dealers have strong incentives to structure the transactions to have the same maturity (e.g., overnight to overnight) and maximize netting.

How significant is $700 billion of balance sheet netting? It is nearly double the primary dealers' total net position in Treasury securities, including T-Bills, coupon securities, floating rate notes (FRNs), and Treasury inflation-protected securities of $384 billion as of April 30, 2025. Thus, if all primary dealers' repo and reverse repos were cleared and netted, it would provide enough balance sheet space to nearly triple the net amount of Treasury securities held by primary dealers. Because we do not have access to transaction-level data in the repo market, this estimate should be viewed as a rough approximation. That said, our estimate can be reconciled with earlier literature and is robust to the consideration of interaffiliate transactions, as discussed below.

4.3 Comparison with Other Estimates in Literature

Hempel, Kahn, Mann, and Paddik (2023) document evidence of potential balance sheet netting for non-centrally cleared bilateral repos based on netted packages, using data from June 2022 collected from a pilot study by the Office of Financial Research (OFR). Specifically, about 68% of dealers' repo and 60% of dealers' reverse repo with hedge funds in the uncleared bilateral segment are being netted because a dealer trades with the same hedge fund in a reverse repo and a repo with the same maturity date. In comparison to their focus on the uncleared bilateral repo segment, our approach is more about netting across different market segments—a benefit that may not materialize without central clearing.

Bowman, Huh, and Infante (2024) estimate a more modest $104 billion in additional repo that would be netted on balance sheets as a result of clearing, based on Q2 2022 data for six G-SIBs. As it turns out, repo market net borrowing has grown dramatically since then and much more of the money market fund repo volume is with dealers than with the Federal Reserve, which helps to explain the difference between their estimate and ours.

In particular, according to the OFR, in June 2022, money market fund Treasury repo totaled $2,317 billion, but the vast majority, $2,063 billion, was conducted with the Federal Reserve, and the cleared volume at FICC was $63 billion (see Figure 3). Only $192 billion of repo done by money market funds was with counterparties other than the Federal Reserve and FICC, of which $117 billion were with primary dealers. In other words, there was a low supply of cash in repo markets from money market funds to private funds in Q2 2022.

In addition, net borrowing from hedge funds was only about $72 billion in that quarter (see Figure 4). While money market funds and hedge funds are not the only cash lenders and borrowers in this market, these low volumes by these entities indicate limited potential for matching and netting client repo and reverse repo activities in Q2 2022.

After the Federal Reserve began tightening monetary policy in 2022, money market fund repo with the Federal Reserve started declining and their repo with FICC and primary dealers expanded over time. Net borrowing by hedge funds began a steep rise as a higher premium on Treasury futures made the cash-futures basis trade more attractive (Gilcoes et al, 2024 and Kashyap et al, 2025). Thus, the financing amounts in 2025 are quite different and considerably larger than in Q2 2022 and indicate substantially greater netting potential for the primary dealers.

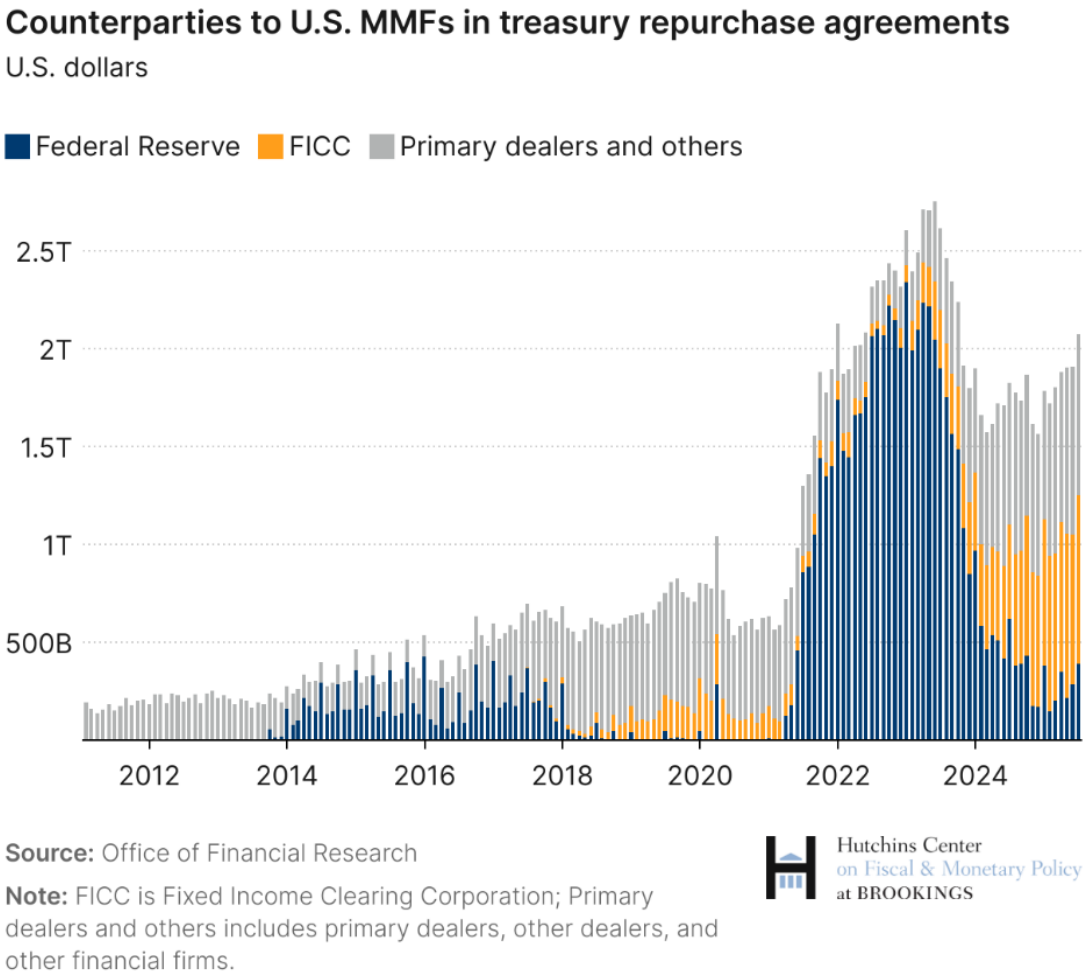

Figure 3: Money market fund counterparties in Treasury repos.

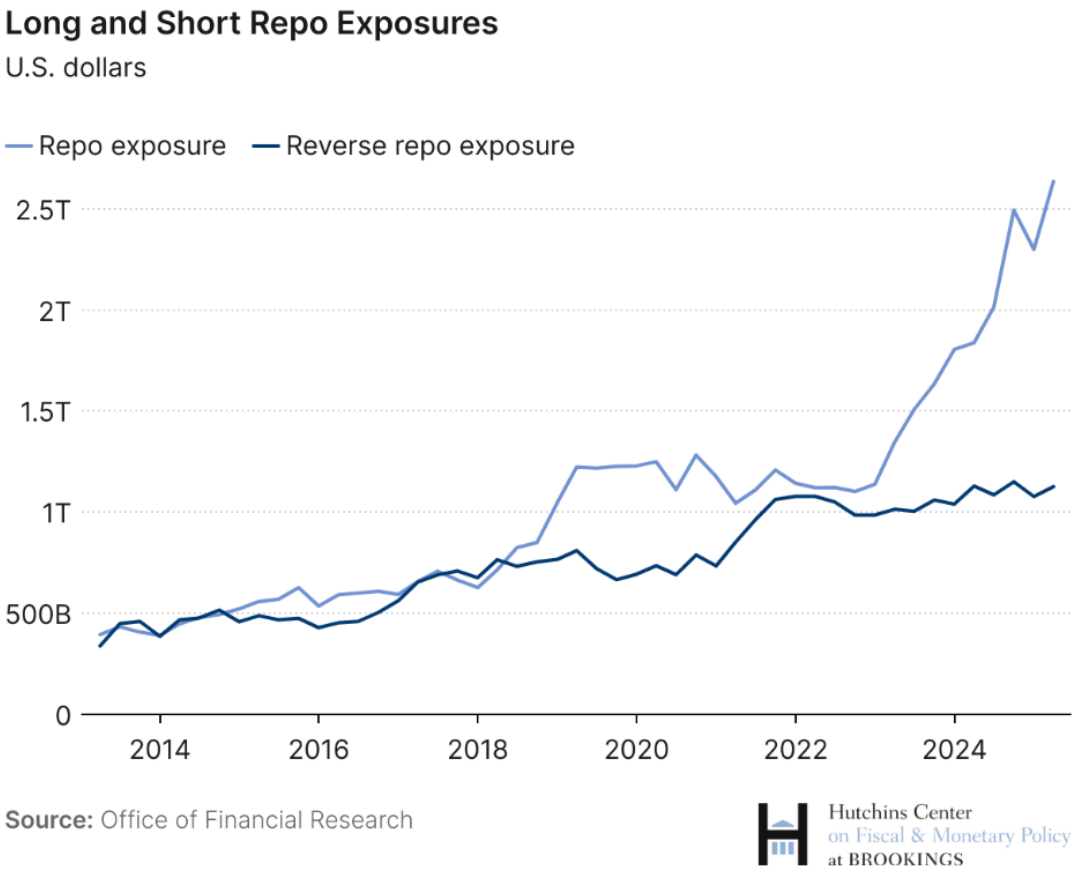

Figure 4: Hedge fund borrowing and lending.

4.4 Interaffiliate Transactions

Another important aspect of primary dealers' repo activity is interaffiliate transactions. Interaffiliate transactions are not reflected on the BHC's balance sheet, regardless of whether they are centrally cleared (Bowman, Huh, and Infante 2024). Because our estimate of netting benefit depends on matched volume of repo and reverse repo, the key questions are: first, how much of the $933 billion net borrow by primary dealers in the triparty segment is interaffiliate, and second, how much of the $700 billion net lend by primary dealers in the bilateral segment is interaffiliate.

Bai, Bostrom, Infante, and Ivashina (2025) find that, among all primary dealers, five dealers affiliated with G-SIBs consistently engage in interaffiliate repo transactions. As of March 2025 (the last month in their sample), these five dealers borrow from affiliated entities about $370 billion in repo and lend to affiliated entities about $250 billion in reverse repo, with a net borrow of about $120 billion. Moreover, this net borrow of $120 billion is almost entirely from the triparty segment. These patterns are consistent with what Bowman, Huh, and Infante (2024) document in an earlier sample ending in September 2023: (i) G-SIBs' interaffiliate transactions in the bilateral segment are symmetric between repo and reverse repo; (ii) G-SIBs' interaffiliate repo in the triparty segment is dominated by dealers borrowing from their

affiliates, likely bank affiliates; and (iii) G-SIBs' cleared bilateral transactions are all with nonaffiliates.

To adjust for interaffiliate transactions, we deduct the net borrow of $120 billion from the $933 billion that primary dealers borrow in the triparty segment. Assuming that interaffiliate volumes are similar between March and April 2025, we estimate that primary dealers borrowed about $813 billion from nonaffiliated entities in April 2025. On the other hand, the five dealers' repo and reverse repo in the bilateral segment is symmetric, leading to little change in the estimated net borrow of $700 billion. Thus, the interaffiliate adjustment does not materially change the upper bound of the estimated additional netting of $700 billion with more central clearing. [15]

5. Implementation of Central Clearing with Multiple Client Access Models

The future Treasury clearing landscape likely will feature multiple client access models and clearinghouses, which we view as a beneficial development rather than a complication. Market participants are engaged actively in implementing central clearing, including evaluating various client access models and how margin and liquidity risk management resources will be affected.[16]

Two clearing models currently are offered by FICC: the Sponsored Service model and the Agent Clearing Service (ACS) model. In addition, CME Group has filed with the SEC to operate a new Treasury clearinghouse (separately from its futures clearinghouse) and laid out its proposed clearing model.[17] Alternative access models are being offered to meet the different needs and constraints of dealers and clients. Having more than one clearinghouse increases competition in product offerings as well as reduces the systemic operational risks of relying on a single clearinghouse for a critical financial function.

We illustrate selected commonalities and differences across the three access models in Table 4 below. First, in the FICC Sponsored Service model and CME's proposed model, there is a direct contractual relationship between the clearinghouse and the client, but that is not the case for the FICC agent clearing model. Second, in the FICC sponsored model, bringing a client transaction to the clearinghouse does not in itself make the sponsoring clearing member a counterparty to the transaction, whereas accounting opinions on this question are still pending as of this writing for the FICC agent clearing model and CME's proposed model. Third, margin is calculated and posted on a gross basis under the FICC sponsored model, but net margining is allowed under the FICC agent clearing model and CME's proposed model. Finally, both FICC models rely on clearing members to provide operational linkages between the client and the clearinghouse, whereas CME's proposed model provides direct client-clearinghouse linkage.

[15] Hempel, Isley, Kahn, and McCabe (2023) find that as money market funds participated more actively in the Federal Reserve's overnight Reverse Repo Facility in 2021 and 2022, dealers relied more on affiliates for repo financing.
[16] See FICC survey (July 2024), https://www.dtcc.com/ustclearing/treasury-clearing-mandate.
[17] See SEC.gov | CME Securities Clearing, Inc. — Form CA-1 Application and Exhibits.

	FICC Sponsored Service (GC & DVP)	FICC Agent Clearing Service	CME Group (Form CA-1 submitted)
Is the client a member of the clearinghouse?	Yes (limited membership)	No	Yes (limited membership)
Is the clearing member an agent for accounting purposes?	Yes (off balance sheet)	TBD	TBD
Margin posting for clients	Calculated/posted gross	Can be gross or net	Initial margin is gross; variation margin can be gross or net
Operational linkage	Through sponsoring member	Through agent clearing member	Direct between client and clearinghouse
Attract clearing members that are:	Relatively "cash rich, capital constrained" (G-SIBs)	Relatively "cash constrained, capital rich" (smaller members)	Currently clearing interest rate products at CME

Table 4: Treasury client access models

The diversity of clearing models provides choices for different market segments and market participants. For example, the FICC sponsored model provides efficient use of balance sheet for clearing members partly due to the associated accounting treatment; thus, clearing members that are subject to the highest capital requirements ("capital constrained"), such as those affiliated with G-SIBs, likely find the model attractive. Further, the larger clearing members have relatively more cash to pay margin on behalf of money market funds and charge money market funds in terms of a wider repo spread. Consistent with these features, money market funds predominantly use the FICC Sponsored model. In contrast, FICC's Agent Clearing Service allows net margining across clients, so its margin efficiency could attract smaller clearing members who are more cash-constrained but less capital-constrained. To the authors' knowledge, FICC's agent clearing model is predominantly used in the interdealer broker segment of Treasury cash markets as of this writing, although it could be further expanded into repo clearing.

Finally, for clearing members who are already trading other CME interest-rate products, the potential cross-margining between CME's futures clearinghouse and CME's Treasury clearinghouse may be as attractive as the cross-margining between FICC and CME's futures clearinghouse. Margins are used to protect the clearinghouse, so a trade that involves a long

position in Treasuries hedged with a short position in a Treasury derivative might require posting two separate margins even if the hedge reduces the risk of the transaction. Cross-margining could reduce redundancies, although clearinghouses and regulators need to avoid under-margining that could create systemic risk, especially if cross-margining were to expand to clients.[18]

6. Other Reforms to Improve the Resilience of Market Intermediation

6.1 Supplementary Leverage Ratio Relief

In addition to central clearing, bank capital regulations have important effects on dealer balance sheet capacity. The SLR is intended to be a backstop capital requirement to risk-weighted capital standards by not differentiating assets by their risk. If what are perceived as low-risk assets in the risk-based capital framework were to become high risk, the SLR would have applied a backstop capital charge for those assets. In the U.S., the SLR of 3% applies to banking firms with more than $250 billion in assets. The U.S. G-SIBs are subject to the eSLR, which includes a surcharge of 2% at the BHC level (5% total) and a surcharge of 3% at the IDI level (6% total). The primary dealer activities of the G-SIBs are conducted mainly in the broker-dealer subsidiaries of BHCs, not in IDIs.

In practice, the eSLR has often not been a backstop but a binding constraint for some of the G-SIBs with significant dealer activities, although it became less binding over time for others as Tier 1 risk-based capital and G-SIB surcharge frameworks were implemented more fully. Moreover, dealers' internal risk management models may be the most constraining in periods of high volatility (Duffie et al. 2023; Cochran et al. 2024).

Still, the likelihood that the SLR would lead dealers to refrain from low-risk activities and reduce their flexibility has been cited as a reason for insufficient intermediation capacity in periods of stress. Moreover, the banking agencies had temporarily relaxed the SLR in April 2020 as a way to help restore Treasury market functioning following the onset of the COVID-19 pandemic.

The federal banking regulators recently proposed a recalibration of the eSLR requirements to reduce the likelihood that the eSLR would be a regularly binding capital constraint and to reduce disincentives to engage in low-risk, low-return activities, such as Treasury market intermediation. The main proposal is to reduce the eSLR surcharge for BHCs and its IDIs to one half the G-SIB surcharge based on the Basel/Method 1 calculation. This proposal differs from the one in 2018, which would have reduced the eSLR surcharge to one half the G-SIB surcharge based on the greater of the Basel/Method 1 or the U.S.-based Method 2 calculation.[19]

The agencies also requested comments on other alternatives, including an "additional narrow exclusion" approach to exclude Treasury securities held as trading assets at broker-dealer

[18] Yadav and Younger (2025) note that greater clearing of Treasury repo allows for more cross-margining of offsetting cash and derivative positions. Cross-margining that leads to more stable, even if not lower, margin requirements could improve Treasury market stability.

[19] The Method 1 G-SIB surcharges ranged from 1% to 2.5% for the U.S. G-SIBs in 2024. The Method 2 G-SIB surcharges were higher and ranged from 1% to 4.5%, reflecting different risk factors and weights, including gross repo transactions. See Covas and Rosa (2025).

subsidiaries for calculating TLE. This exclusion would apply to G-SIBs and BHCs subject to Category II or III capital standards.[20]

As discussed above, balance sheet netting afforded by additional central clearing of Treasury repos, perhaps up to $700 billion based on April 2025 data, can create substantial dealer intermediation capacity. This clearing benefit is a net addition to balance sheet capacity even if the SLR were not reduced. Still, at current risk-weighted capital levels, we support a reduction in the eSLR, which could be achieved by a lower surcharge, because it could expand intermediation capacity and is consistent with sound capital policy for the risk-insensitive SLR to operate mainly as a backstop.

However, a reduced SLR (relative to risk-based capital requirements) could lead to increases in risk exposures that are not captured in the risk-based capital framework. Specifically, Treasury securities held in trading accounts are marked-to-market and subject to market risk capital requirements, but there is no capital charge for the interest rate risk of Treasury securities held in investment accounts. Thus, a reduction in the eSLR could lead depository institutions to increase their Treasury holdings in their investment accounts.[21] The banking agencies should consider steps to increase risk-weighted capital buffers for interest rate risks that could increase if the SLR were reduced. The failure of Silicon Valley Bank in March 2023 serves as a vivid reminder of the significance of such risks.[22]

At the same time, we support the exclusion of Treasury securities in the trading book for calculating TLE because they are marked-to-market and subject to market risk capital requirements, providing incentives for better risk management.[23] This exclusion would have the desirable feature of allowing primary dealers to flexibly absorb Treasury securities and support market liquidity in periods of stress.[24]

Many have called for a full exclusion of Treasury securities and reserves from calculating TLE, repeating the action taken in April 2020. We would not support a proposal for a full exclusion of all Treasury securities since, as mentioned above, their interest rate risks are not captured in the risk-weighted capital framework.[25]

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[20] Roughly, Category I standards apply to the G-SIBs, Category II to BHCs with $700 billion or more in assets and cross-border activities, and Category III to BHCs with $250 billion or more in assets and wholesale short-term funding or off-balance sheet exposures. BHCs in Categories II and III include some U.S. holding company subsidiaries of foreign banking organizations, whose U.S. broker-dealer subsidiaries are primary dealers.
[21] The six G-SIBs with large primary dealers had $643 billion of Treasury securities in the trading account and $1,081 billion in the available-for-sale and held-to-maturity accounts as of Q1 2025. Source: FR Y-9C.
[22] In addition to capital regulation for interest rate risks, Hanson, Ivashina, Nicolae, Stein, Sunderam, and Tarullo (2024) also point out that tighter liquidity regulation could mitigate risks underlying the SVB failure.
[23] See Menand and Younger (2023).
[24] Evidence is mixed on whether the temporary exclusion of Treasuries and reserves from TLE affected market-making behavior. Cochran et al (2023) do not find evidence of greater intermediation; Koontz and Waltz (2021) show a positive effect from a countercyclical reduction on credit provision; Brauning and Stein (2024) show that firms with the lowest SLRs increased trading activity.
[25] Tarullo (2025) notes that there have been proposals to eliminate the leverage ratio entirely. However, the leverage ratio is the only capital requirement for HTM Treasuries. For AFS securities, declines that have occurred are recorded for regulatory capital, but there is not a market risk charge to reflect the possibility of future declines. The lack of a market risk charge has become even more problematic given the increasing amount of Treasury debt.

We support the exclusion of reserves, however. Reserves represent the ultimate safe asset, and the aggregate level of reserves is not determined by individual banks but by the Federal Reserve. Moreover, reserves increase when the Federal Reserve purchases assets to ease monetary policy, but such an increase in reserves would tighten the SLR constraint for banks and complicate the implementation of monetary policy. Reserve exclusion has been implemented, such as by the Bank of England, though paired with an upward adjustment to the 3% minimum to be consistent with Basel III standards.

In addition, we support further study of a countercyclical buffer for the leverage ratio, in which some or all of the surcharge would be released in periods of stress based on a pre-determined rule and then rebuilt over time to be usable again. A countercyclical surcharge would need to be transparent and operationally simple to be effective in improving the elasticity of intermediation.[26]

The appropriate calibration of capital for safety and soundness and for financial stability and the desire to expand balance sheet capacity and flexibility in stress periods for Treasury market intermediation will be an important discussion in the coming months. The additional central clearing of Treasury repos that could provide hundreds of billions of dollars of additional balance-sheet netting benefits will make the task of recalibrating the SLR easier. Targeted changes in the SLR, such as excluding Treasury securities in the trading book from the TLE, would complement the clearing benefits for balance sheet capacity by improving the ability of dealers to respond to surges in demand for liquidity in stress periods.

6.2 Additional Reforms to Increase Treasury Market Resilience

In addition to expanded central clearing of repo and possible changes to the SLR, there are other changes that could improve Treasury market intermediation and resilience. First, there are several new official-sector liquidity support programs that have been introduced since March 2020 that complement central clearing by providing an additional source of liquidity to help prevent surges in Treasury selling. The Federal Reserve's Standing Repo Facility (SRF) allows dealers and banks to borrow against eligible collateral from the Fed, although many believe that there needs to be a significant expansion of counterparties for it to be effective (see Group of Thirty 2021).[27] In addition, the standing Foreign and International Monetary Authorities (FIMA) facility is offered to foreign official institutions with Treasury securities held in custody at FRBNY.

Moreover, the Treasury Department's buyback program represents a new regularly scheduled operation allowing dealers to sell off-the-run securities to the Treasury. This program offers a predictable outlet for less liquid Treasury securities, thereby boosting market liquidity and potentially easing dealer balance sheet constraints.

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[26] Another option that has been raised and worth further study is to exclude dealers' reverse repo with Treasury collateral, which is a main way dealers provide the repo financing for leveraged investors to buy Treasuries. Higher risks that could arise from excluding reverse repo from the SLR could be mitigated if it did not result in a significant reduction to capital retention by an adjustment similar to that used when considering excluding reserves.

[27] In addition, while repo transactions involving the Federal Reserve, such as those in the SRF, are not required to be centrally cleared, Logan (2025) argues that voluntary clearing of these trades could further improve balance sheet netting for bank-affiliated dealers if dealers borrow from the Fed and onward lend to other market participants.

Second, central clearing, combined with enhanced data availability, may offer a path to increased all-to-all trading between non-dealer buyers and non-dealer sellers. Central clearing facilitates all-to-all trading by removing counterparty credit risk concerns that previously limited direct trading between certain market participants. Research by Chaboud et al. (2024) demonstrates that customer order flows in U.S. Treasury cash markets are largely balanced, even in short time intervals. Thus, expanded all-to-all trading appears feasible, which reduces the need for dealers to intermediate every trade and frees up balance sheets. To the authors' knowledge, Treasury cash transactions on IDBs are already cleared in a done-away model. Further growth of done-away clearing will provide an additional boost to all-to-all trading in Treasury cash and repo markets.

Central clearing also enhances data availability and transparency by facilitating the aggregation of data and access by regulators. This complements other important efforts to increase the data available to market participants. Specifically, daily aggregate secondary market cash trading volumes and transaction-level data on price and quantity for on-the-run securities are now available through FINRA TRACE. In addition, OFR is providing to regulators for the first time, through a new data collection, systematic data on the multi-trillion non-centrally cleared bilateral repo market, a critical and yet opaque funding market. Data availability and transparency further support market liquidity.

7. Conclusion

Central clearing represents a transformative development for U.S. Treasury market structure, offering significant benefits in terms of risk reduction, enhanced intermediation capacity, and improved market transparency. The implementation of comprehensive clearing requirements, while complex, is proceeding along a well-designed timeline that balances broad coverage with practical considerations. Client access models are being expanded to serve different market segments and business models. Market participants and regulators are paying careful attention to managing the costs of clearing associated with margins, capital, and new operational arrangements.

Our analysis suggests that central clearing could enable hundreds of billions of dollars in additional balance sheet capacity for primary dealers, which, in turn, eases pressures to significantly reduce the SLR. Still, targeted reductions in the SLR could further expand capacity and increase the elasticity of intermediation, without significantly increasing risks to safety, soundness, and financial stability. The most challenging aspects of SLR reform involve careful deliberations to avoid materially increasing interest rate risk for banks while still supporting the ability of dealers to provide Treasury market liquidity in periods of financial market stress.

Central clearing's balance sheet netting benefits are also additive to other Treasury market reforms to improve intermediation capacity, including enhanced all-to-all trading capabilities and official-sector liquidity support facilities. All these efforts help to reinforce the role of Treasury securities in global financial markets as a safe, highly liquid asset.

Ultimately, while these reforms represent substantial progress toward enhanced Treasury market resilience, they must be understood within the context of ongoing fiscal challenges and a changing investor base. Continued attention to these fundamental dynamics will be essential for maintaining the Treasury market's role as the foundation of global financial stability.

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