

# **Will Central Clearing Change the Market Structure of U.S. Treasury Repo to Become More Standardized and Trade on an All-to-All Basis?**

**Ketan B. Patel**

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## **Will Central Clearing Change the Market Structure of U.S. Treasury Repo to Become More Standardized and Trade on an All-to-All Basis?**

*By Ketan B. Patel, Senior Policy Advisor and Head of Financial Markets Risk Analysis*

### **Summary/Abstract**

This paper examines whether the SEC’s mandate for central clearing of U.S. Treasury repo transactions could enable all-to-all trading and support the development of a standardized term repo market. By mitigating counterparty risk through central clearing, cash lenders may become more willing to transact directly with a broader set of borrowers, reducing reliance on dealer intermediation. Clearing may also encourage greater participation in term repos beyond overnight tenors if counterparty risk is reduced. However, for all-to-all trading to take hold, the market must adopt more standardized contract terms, collateral schedules, and operational protocols such as consolidated trade execution and post-trade processing. If these structural and operational hurdles are addressed, an all-to-all term repo market could emerge—enhancing liquidity, reducing rollover risk, and improving the resilience of the U.S. financial system.

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Keywords: Central Clearing, U.S. Treasury Repo, All-to-All Trading, Financial Market Resilience, CCPs (Central Counterparties), Regulatory Reform

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# Introduction

All-to-all trading refers to a market structure where all qualified market participants can trade directly with each other rather than solely rely on dealer intermediation. Markets that have adopted all-to-all trading benefit from wider access of trading counterparties and an increase in transparency, which in turn can improve market liquidity, and reduced transaction costs.<sup>1</sup> These markets are typically cleared through central counterparties (CCPs). CCPs are financial institutions that guarantee performance of a financial contract - typically the buying and selling of contracts related to securities or derivatives. At a CCP, market participants can clear contracts either directly as clearing members (CMs) or indirectly as clients of CMs.<sup>2</sup>

After the global Financial Crisis of 2008-09, regulations required more financial market contracts be cleared through CCPs. In the U.S., the laws mandating central clearing were established by the Dodd-Frank Act in 2010 and targeted the over-the-counter (OTC) derivatives market. Since the vast majority of such derivatives were expected to be cleared, there was an expectation that these markets could eventually trade electronically and potentially on an all-to-all basis. In the U.S., the Commodity Futures Trading Commission (CFTC) also mandated electronic trading on an open access basis.<sup>3,4</sup> This also supported the expectations that cleared OTC markets would be traded electronically and raised hopes that they would be traded on an all-to-all basis.

On December 13, 2023, the Securities and Exchange Commission (SEC) adopted rule amendments which mandated certain U.S. Treasury securities transactions and repurchase agreements (repo) be cleared and settled through a covered clearing agency (CCA) that functions as a CCP by June 30, 2026.<sup>5</sup> The mandate was introduced with the aim of improving the efficiency, transparency and resilience of these markets<sup>6</sup> and to reduce systemic risk, a perceived benefit from the implementation of the OTC clearing mandates post the Global Financial Crisis (GFC) of 2008-09.<sup>7</sup>

While much of the research on this topic has focused on trading of physical U.S. Treasury securities, in this paper I focus on the repo market. While clearing for U.S. Treasury repo has grown in recent years, a large portion of the market remains uncleared. As clearing is adopted by more market participants, this can enable all-to-all trading<sup>8</sup>, where a critical mass of users will be facing a central counterparty for all trades.

In this paper, I first explain all-to-all trading; and provide background on the market structure of repos in the U.S. Then, I provide an overview of clearing and potential benefits for clearing repo trades. Next, I explore whether clearing can enable an all-to-all market for repos, as well as the potential benefits and challenges. Lastly, I conclude that, despite the myriad challenges, an all-to-all market could evolve if the

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<sup>1</sup> As described later in the paper, the markets which trade on an all-to-all basis are viewed as having higher levels of market liquidity, there is limited research comparing intermediated trading to all-to-all trading for the same market. One working paper in 2021 does show evidence of improvements for the US Corporate Bond market - [Hendershott\\_All-to-All-Liquidity-in-Corporate-Bonds.pdf](#).

<sup>2</sup> <https://www.chicagofed.org/publications/chicago-fed-letter/2024/497>

<sup>3</sup> <https://www.cftc.gov/IndustryOversight/TradingOrganizations/SEF2/index.htm>

<sup>4</sup> <https://www.isda.org/2024/02/12/episode-38-us-treasuries-and-bank-balance-sheet-capacity/> ~19 minute mark

<sup>5</sup> See the mandate for both cash and repo U.S. Treasury trades <https://www.sec.gov/news/press-release/2023-247> covering the mandate for clearing of U.S. Treasury cash and repo trades

<sup>6</sup> <https://www.sec.gov/news/speech/gensler-remarks-isda-sifma-treasury-forum-060524>

<sup>7</sup> <https://www.sec.gov/news/speech/gensler-remarks-isda-051023>

<sup>8</sup> [https://www.brookings.edu/wp-content/uploads/2020/12/WP72\\_Liang-Parkinson.pdf](https://www.brookings.edu/wp-content/uploads/2020/12/WP72_Liang-Parkinson.pdf)

repo market structure advances further towards standardized term repos, which could increase market liquidity and reduce market vulnerabilities.

## What is all-to-all trading?

All-to-all trading refers to a market structure where all participants can trade directly with each other, without being intermediated bilaterally by dealers and/or banks. Market participants may rely on intermediated trading due to a variety of factors including:

- Relationships: Participants choose to execute trades with counterparties that facilitate other risk management, financing, and/or trading activities. Therefore, these market participants are less focused on optimizing trade execution costs given the aggregate relationship.<sup>9</sup>
- Bespoke trading requirements: Participants may have trades which deviate in terms of size and maturity or require a transaction that involves multiple related trades which are executed simultaneously, often called a “package trade”.

For markets which trade on an all-to-all basis, there are several acknowledged benefits that, taken together, improve resilience and efficiency. This includes:<sup>10 11 12</sup>

- Increased Liquidity: With more participants able to trade directly with each other, there is typically greater liquidity in the market. This can lead to tighter bid-ask spreads and more efficient price discovery.
- Reduced Transaction Costs: By eliminating intermediaries, participants can save on costs that would otherwise be paid to, or implicitly charged by, brokers or dealers.
- Greater Transparency: All-to-all trading platforms often provide greater transparency of price formation, volume, and market depth information. This leads participants to make more informed trading decisions.
- Enhanced Competition: Allowing all participants to trade with each other increases competition among buyers and sellers. This can lead to better pricing and improved market efficiency.
- Accessibility: More market participants, including smaller firms, can access the market directly, promoting a more inclusive trading environment.

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<sup>9</sup> In repo markets, dealers try to retain a matched book where the amount of repo transactions (i.e., borrowing by clients) are offset by reverse repos transactions (i.e., lending by clients). For additional details see [https://www.bis.org/publ/qtrpdf/r\\_qt2312z.htm](https://www.bis.org/publ/qtrpdf/r_qt2312z.htm).

<sup>10</sup> [https://www.newyorkfed.org/research/staff\\_reports/sr1036](https://www.newyorkfed.org/research/staff_reports/sr1036)

<sup>11</sup> <https://www.pionline.com/regulation/regulators-researching-all-all-trading-us-treasury-market>

<sup>12</sup> [Duffie: SEC plan heralds all-to-all Treasuries trading - Risk.net](#)

- Anonymity: The identity of market participants often carries with it information leakage such as timing, strategy, positioning, or other trade-associated inferences. Anonymous trading allows participants to access better execution outcomes by minimizing the risks of exogenous impacts such as front-running, layering/spoofing, etc.

## The current structure for repo markets in the U.S.

There are typically three key sets of players in the U.S. repo market - a cash borrower (e.g., a hedge fund), a cash lender (e.g., money market fund), and a dealer. The dealer serves as counterparty to both sides of the transaction. While the transaction operates economically as a collateralized loan, it is legally regarded as a sale and an agreement to repurchase for the cash borrower (and vice-versa for the cash lender).<sup>13</sup>

There are two general types of repo; bilateral and triparty. Bilateral repo is when money and securities are directly exchanged between counterparties, while triparty involves a third-party to administer and settle transactions.<sup>14</sup> Currently, Bank of New York Mellon “BNY” is the only triparty agent in the U.S.

Since repo trading requires matching a money lender and borrower, the trades are arranged by dealers who have a wide network of relationships across the financial markets, particularly with money market funds and hedge funds. According to a paper from Office of Financial Research (OFR)<sup>15</sup>, many repo market participants rely on bilateral intermediation for trading, since dealers have provided financing for the transactions which are not cleared through a CCP and many of the transactions are packaged trades.

Based on data published by the OFR on December 4, 2025, the U.S. repo market averaged about \$12.6 trillion in daily exposures during Q3 2025, and roughly two-thirds of this activity was not centrally cleared. As of Q3 2025, centrally cleared repo exposures averaged about \$4.4 trillion per day, while non-centrally cleared triparty activity settled on BNY Mellon’s platform averaged about \$3.1 trillion. Non-centrally cleared bilateral repo (NCCBR) exposures averaged about \$5.0 trillion per day, the largest single segment of the market.<sup>16</sup>

As mentioned previously, repo trades are economically loans, with reference to one or more securities as collateral. As U.S. Treasuries are deemed the safest and most liquid asset, it is the preferred, predominant collateral used in repo trades in the U.S. markets, and thus the focus of this paper. For the NCCBR market, roughly 80% to 90% of the trades are based on U.S. Treasuries.<sup>17</sup>

While there is not a standard maturity schedule for repo trades, most of the activity is done in overnight tenors<sup>18</sup> where the trade matures on the business day following the start date of the repo trade.<sup>19</sup> Trades

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<sup>13</sup> See <https://www.icmagroup.org/assets/documents/Regulatory/Repo/Repo-FAQs-January-2019.pdf>. The treatment allows counterparties to liquidate the transaction without delays from automatic stays.

<sup>14</sup> “The Repo Market, Shorts, Shortages & Squeezes” by Scott Skyrn

<sup>15</sup> [https://www.financialresearch.gov/briefs/files/OFRBrief\\_23-01\\_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf](https://www.financialresearch.gov/briefs/files/OFRBrief_23-01_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf)

<sup>16</sup> <https://www.financialresearch.gov/the-ofr-blog/2025/12/04/sizing-us-repo-market/>

<sup>17</sup> [https://www.financialresearch.gov/briefs/files/OFRBrief\\_23-01\\_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf](https://www.financialresearch.gov/briefs/files/OFRBrief_23-01_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf)

<sup>18</sup> [https://www.financialresearch.gov/briefs/files/OFRBrief\\_23-01\\_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf](https://www.financialresearch.gov/briefs/files/OFRBrief_23-01_Why-Is-So-Much-Repo-Not-Centrally-Cleared.pdf)

<sup>19</sup> The start trade is typically the same-day or the next business day. However, trades can have future start date such as the next ending month date.

conducted beyond the overnight tenor are called “term” repos and can range in maturity from a couple of days to several months<sup>20</sup>. However, some repos have no fixed maturity date (i.e., open-ended or “term open”) and can be terminated based on a mutually agreed notice period.<sup>21</sup> Nevertheless, the repo market remains largely bilateral and uncleared, with significant reliance on dealer intermediation

## Central clearing for repos

To mitigate credit risk of a counterparty defaulting on financial performance of a derivatives or securities contract (including repo), market participants can have these contracts guaranteed by a CCP.<sup>22</sup> Once a contract has been guaranteed by a CCP, it is deemed to be cleared by the CCP. The guarantee by the CCP allows market participants to transact independent of their counterparty’s credit worthiness.

As more and more contracts are cleared, market participants can reduce risk as well as payment and collateral flows as the CCP nets risk exposures and settlement obligations across the market. This in turn can help free up balance sheet capacity and reduce capital requirements for market participants, particularly for banks which are dealers.<sup>23</sup> These benefits explain why many market participants already voluntarily transfer their credit risk to a CCP for their repo trades, even before the SEC clearing mandate was issued. To provide a better idea of the benefits for clearing, Table 1 provides a comparison of the risk profiles of cleared and uncleared U.S. Treasury repos for both overnight and term maturities. I have assumed the client positions are segregated and are not subject to risk mutualization in the event that a clearing member defaults, in line with how clients clear derivatives trades at CCPs. In general, cleared trades garner risk management benefits for both overnight and term repo trades.

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<sup>20</sup> <https://www.icmagroup.org/market-practice-and-regulatory-policy/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/7-what-are-the-typical-maturities-of-repos/>

<sup>21</sup> <https://www.icmagroup.org/assets/documents/Regulatory/Repo/Repo-FAQs-January-2019.pdf>

<sup>22</sup> <https://www.chicagofed.org/~media/publications/understanding-derivatives/understanding-derivatives-chapter-2-central-counterparty-clearing-pdf.pdf>

<sup>23</sup> [https://www.brookings.edu/wp-content/uploads/2020/05/WP62\\_Duffie\\_v2.pdf](https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_v2.pdf)

Table 1 – Comparison of risks of cleared vs uncleared repo transactions

<b>Risk Type</b>	<b>Uncleared Overnight</b>	<b>Uncleared Term</b>	<b>Cleared Overnight</b> (client protection and porting assumed)	<b>Cleared Term</b> (client protection and porting assumed)
<i>Credit</i>	Minimal	Depends on counterparty risk and trade tenor. Lower-rated counterparty = higher risk Longer tenor = higher risk	Minimal	Minimal
<i>Market</i>	Limited to one business day of mark-to-market risk	Higher as maturity increases	Minimal	Higher as maturity increases
<i>Liquidity (Funding)</i>	Subject to rollover risk which can be high during stress events	Depends on maturity, but less susceptible to roll over risk (assuming the counterparty does not default)	Subject to rollover risk which can be high during stress events	Depends on maturity, but less susceptible to roll over risk

## Current clearing arrangements for U.S. Treasury repo transactions

The Government Securities Division (GSD), which is part of the Depository Trust and Clearing Corporation's (DTCC's) subsidiary Fixed Income Clearing Corporation (FICC), was the only authorized clearinghouse for clearing U.S. Treasury and repo trades.<sup>24</sup> It was established in 1986<sup>25</sup> in response to Congressional reform to improve the market<sup>26</sup> after the default of securities dealer Drysdale Government Securities in 1982.<sup>27</sup> Currently, GSD clears around 35% of repo trades,<sup>28</sup> but the percentage of repos

<sup>24</sup> Focus of this paper as FICC as CCA as it was already authorized to clear U.S. Treasuries and repos. There are other entities such as ICE Clear Credit and CME Securities Clearing which have been approved to offer clearing services as CCAs.

<sup>25</sup> <https://www.dtcc.com/clearing-services/ficc-gov>

<sup>26</sup> <https://www.congress.gov/bill/99th-congress/house-bill/2032>

<sup>27</sup> <https://www.nytimes.com/1982/05/20/business/lessons-in-drysdale-s-default.html>

<sup>28</sup> <https://www.financialresearch.gov/the-ofr-blog/2025/12/04/sizing-us-repo-market/>

which are cleared is expected to grow to 84% of all trades and 98% of private sector trades once the clearing mandate takes effect.<sup>29 30</sup>

Historically, GSD only cleared and guaranteed trades for CMs. When client positions were submitted by CMs, and the related collateral to cover them was not segregated, clearing processes of client trades were limited to settlement-related activities by being sponsored by the CM to access FICC directly.<sup>31</sup> While CMs had the ability to require collateral from clients, they were effectively prohibited from passing such collateral to GSD for cleared trades due to SEC rules.<sup>32</sup> Therefore, the SEC has proposed amendments to the capital rules to facilitate rehypothecating (i.e., reuse) of client collateral to a CCA for the clearing of Treasury cash and repo trades. A similar exemption already exists for clearing of options at The Options Clearing Corporation (OCC) for CMs to clear for clients.<sup>33</sup>

Furthermore, GSD created new client clearing models to improve access to the CCP<sup>34</sup> and stated it would explore further strengthening of client protections and access options with its new models.<sup>35 36 37</sup> Moreover, there may be other client clearing models proposed by other CCAs that have entered the market for clearing Treasury physical and repo trades. These two sets of developments suggest a shift toward broader client access and increased clearing capacity in the repo market.

## All-to-all trading for U.S. exchange-traded products

Since a CCP only manages the clearing and settlement of trades, it can generally be operationally agnostic to how and where such trades are executed. Since multiple market participants can net trades (i.e. multiple buys and sells) with a CCP, clearing better enables all-to-all trading by removing the constraint that a trade must be transacted and cleared with the same counterparty – commonly known as “done-with transactions”.<sup>38</sup> If market participants wish to maximize market liquidity and garner increased market access, then gravitating to an all-to-all trading protocol for cleared markets could be an ideal state.

One common market structure for all-to-all access is to trade on a central limit order book (CLOB). In a CLOB all buy orders (bids) and sell orders (offers) at a given moment are displayed to all authorized participants, and trades are executed when bids and offers match. By aggregating bids and offers in an all-to-all market, a CLOB provides price discovery and ease of access that, together, reduce market frictions which, in turn, reduce trade execution costs. Due to these benefits, in the U.S. CLOBs have been utilized by exchanges for the all-to-all trading of futures since the 1990s and the 2000s for equity and fixed income securities.<sup>39</sup>

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<sup>29</sup> <https://finadium.com/the-future-state-of-us-treasury-repo-data-requirements/>

<sup>30</sup> [https://www.imfconnect.org/content/dam/imf/News%20and%20Generic%20Content/GMM/Special%20Features/Special%20Feature%20-%20Expanding%20central%20clearing%20in%20Treasury%20Markets%20\(2\).pdf](https://www.imfconnect.org/content/dam/imf/News%20and%20Generic%20Content/GMM/Special%20Features/Special%20Feature%20-%20Expanding%20central%20clearing%20in%20Treasury%20Markets%20(2).pdf)

<sup>31</sup> <https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/sponsored-membership>

<sup>32</sup> <https://www.sec.gov/files/34-99149-fact-sheet.pdf> See SEC rule 15C-3 and 15c-3a

<sup>33</sup> [https://www.chicagofed.org/-/media/publications/policy-discussion-papers/2021/pdp-2021-02-pdf.pdf?sc\\_lang=en](https://www.chicagofed.org/-/media/publications/policy-discussion-papers/2021/pdp-2021-02-pdf.pdf?sc_lang=en)

<sup>34</sup> <https://www.dtcc.com/ustclearing/-/media/Files/Downloads/Microsites/Treasury-Clearing/GSD-Account-Segregation-Deck2>

<sup>35</sup> [FICC Office Hours - June 7, 2024 \(dtcc.com\)](https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/sponsored-membership) – 16-minute mark

<sup>36</sup> <https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/sponsored-membership>

<sup>37</sup> <https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/agent-clearing-service>

<sup>38</sup> <https://www.fia.org/sites/default/files/2024-04/FIA%20PTG%20Comment%20Letter%20-%20FICC%20Rule%20Change%20Proposals.pdf>

<sup>39</sup> <https://www.cmegroup.com/markets/brokertec/brokertec-clob.html>

Nevertheless, for an all-to-all market to function well, trade and order flow would need to be aggregated on both a pre-trade and post-trade basis with very limited (or no) latency. The most straight forward method to accomplish this is with a single CLOB, which then sends all trades to one CCP. This is what we see in most exchange traded futures markets such as Treasury futures, which are traded on Chicago Mercantile Exchange's (CME's) Globex CLOB and are cleared at CME. An alternative to this is to have multiple trading venues which connect to a single CCP, such as what we see in the equity and options-on-securities markets which clear through NSCC and OCC, respectively. In the latter approach, the pre-trade controls (such as pre-trade limit checks) are done on an aggregate basis across the trading venues while post-trade is handled by a single CCP. Table 2 provides a high-level comparison of the market structure for select exchange traded products in the U.S.

Table 2 – Market Structure for Exchange Traded Products in U.S.

<b>Product</b>	<b>Equities (e.g., Fixed Income ETFs)</b>	<b>Options on Securities</b>	<b>Treasury Futures</b>
<i>Standardized Product Terms</i>	Yes	Yes	Yes
<i>All-to-all trading /Exchanges</i>	All-to-All across several exchanges	All-to-All across 17 exchanges <sup>40</sup>	Yes – one exchange CBOT (which is a subsidiary of CME)
<i>Centrally Cleared – Standardized Risk Management</i>	Single CCP – NSCC for all trades	Single CCP – OCC for all trades	Single CCP – CME for all trades
<i>Done-away supported</i>	Yes	Yes	Yes
<i>Standardized maturity settlement for clearing</i>	Yes - T+1	Yes- generally monthly up to multiple years	Yes – generally quarterly expirations for multiple years

## All-to-all trading for U.S. interest rate products not listed on an exchange

While exchange-listed interest rate products may have some native support for all-to-all trading, what about products which are not listed on an exchange? As a way of comparing structural characteristics of

<sup>40</sup> [OCC - Participant Exchanges \(theocc.com\)](http://theocc.com)

such markets, table 3 compares Interest Rate Swaps and repo market for U.S. Treasuries before and after the clearing mandates.

Table 3 - non exchange traded interest rate products

Product	USD OTC Interest Rate (IRS) Swaps – before Dodd-Frank	USD OTC IRS Swaps - current	U.S. Treasury Repo - current	U.S. Treasury Repo - potential after the clearing mandate
<i>Standardized Product Terms</i>	Moderate – mostly interdealer	Mostly – clients may still require some non-standard terms. There are also swap futures which are highly standardized.	No	Yes
<i>All-to-all trading</i>	No	Nil to Minimal – no all to all but multiple SEFs support electronic trading with many standardized products	No	Possible
<i>Centrally Cleared – Standardized Risk Management</i>	Only Interdealer trades were cleared <50% at LCH LTD	Yes - ~80% <sup>41</sup>  There two large CCPs – LCH LTD and CME with ~91% and 9% of cleared notional respectively with Eurex and OTC Clear HK LTD also offering clearing	Yes but ~45% at GSD's FICC	Expected to be ~77% <sup>42</sup>  With multiple CCPs
<i>Done-away supported</i>	No	Yes	No	Possible and expected
<i>Standardized expiration dates for settlement</i>	Yes – up to 30 years	Yes – up to 50 years	No – except overnight	Overnight is already standardized and possible for Term repos

<sup>41</sup> See page 12 <https://www.isda.org/a/pOlGE/SwapsInfo-Full-Year-2023-and-the-Fourth-Quarter-of-2023-Review.pdf>

<sup>42</sup> <https://www.risk.net/risk-quantum/7963093/treasury-repo-clearing-mandate-would-free-up-207bn-leverage-exposures-for-g-sibs>

Based on the table, it is evident that while many of the characteristics of the interest rate swap market post the clearing mandate are similar to the markets for exchange traded products in table 2, all-to-all trading still has not taken place.

The lack of all-to-all trading may be also counterintuitive as part of the Dodd-Frank Act was to promote electronic trade execution of OTC swaps, which are eligible for clearing, on Swap Execution Facilities (SEFs).<sup>43</sup> Before analyzing why, I briefly explain the different types of SEFs.

SEFs can offer different electronic execution methods. They operate as one of the following:

- CLOB: As mentioned previously, these platforms list all eligible bids and offers from market participants where trades are executed when bids and offers match.
- Request for Quote (RFQ): Here market participants, typically clients, request quotes from multiple dealers concurrently. While this mechanism may not be as efficient as trading on a CLOB, it does provide market participants with the ability to reduce execution costs as the number of quotes received increase. When participants request both buy (bid) and sell (offer) quotes, the trading protocol is often called “request for market”.<sup>44</sup>
- Hybrid platforms: The platforms combine traditional voice communicated traded with some electronic capabilities. The electronic capabilities may include trade processing, connectivity to CCPs, and/or validating orders against risk management controls.

As there are multiple SEFs for USD OTC IRS without any links, there appears to be an absence of aggregate and comprehensive transparency of market liquidity across the entire market. In other words, market participants, particularly clients, only have visibility of orders from buyers and sellers for a specific platform(s) that they are authorized to utilize by their CM(s). Therefore, in the current structure, clients will either need to have the ability to place orders on simultaneous multiple SEFs or only utilize select SEFs to execute. While the former approach may create challenges for CMs to manage the risks of client trading activity and the latter reduces choice for clients, either approach would create obstacles to an all-to-all market for USD OTC IRS. Based on discussions with market participants, the lack of uptake by clients on SEFs is also driven by a lack of demand for the standardized products which trade on SEFs. For example, clients typically want to hedge specific dates and/or cash flows so the highly standardized (i.e., plain vanilla) swaps which tend to trade mostly on SEFs do not meet their requirements.

However, while some clients such as hedge funds and principal trading firms can technically access the SEFs directly, they usually require permission from a CM to actively trade on a given SEF since most of their trades will ultimately be cleared at a CCP. This issue can become increased in complexity by the fact there are multiple CCPs which can clear USD IRS (see table 3) unlike all-to-all markets where there is a single CCP clearing the trades. Moreover, the multiple CCP structure gave rise to a persistent price differential between otherwise identical USD swaps cleared at CME versus the London Clearinghouse LTD. (LCH) which was known as the “CCP Basis”. The CCP Basis reflected dealers’ inability to net positions across CCPs and the resulting increase in collateral/funding costs.<sup>45</sup> Therefore, despite clearing

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<sup>43</sup> <https://www.cftc.gov/IndustryOversight/TradingOrganizations/SEF2/index.htm>

<sup>44</sup> <https://www.thetradenews.com/smoke-and-mirrors-the-growth-of-two-way-pricing-in-fixed-income/>

<sup>45</sup> <https://www.bis.org/publ/work826.pdf>

and electronic access, fragmentation and lack of standardization continue to limit all-to-all trading in OTC IRS markets.

## Could repos be traded on an all-to-all basis?

In short –yes, but it would require some changes to market structure as noted in the last column of Table 3.

All-to-all trading was successful only when all other parts of the trade life cycle were standardized. As mentioned previously, U.S. repo market trades are mostly bilaterally administered and many of the trades are not centrally cleared. In cases where trades are cleared, they cleared through same or affiliated entity that arranged the trade (i.e., “done-with trading”). While the clearing mandate is expected to standardize risk management practices as well as support the unbundling of trading and clearing (i.e. “done-away trading”), there still may be some additional areas of standardization around product terms and expirations.

Currently, there is already work being done by the industry to standardize the documentation around execution and clearing ahead of the mandatory clearing deadlines.<sup>46</sup> Building from the agreements, the market could gravitate to additional standardization, specifically:

- Standardizing expirations for term repos. This would help consolidate liquidity into distinct tenors. The market could still allow for transactions for participants that want larger trade sizes, bespoke expirations or a package trade of multiple tenors. However, the pricing of such trades would likely be derived from the more liquid tenors, potentially on an RFQ basis. This would be similar to how both exchange-traded products and OTC interest rate derivatives are priced and traded. In the longer run, with enough market liquidity, large institutional investors could use algorithms to trade in large size as observed in other markets<sup>47</sup> or to run periodic auctions as observed in equity markets.<sup>48 49</sup>
- Standardizing and improving the schedules of underlying collateral. While some standardization has occurred for Tri-party, it only covers a subset of trades. The Treasury market has hundreds of cusips<sup>50</sup> which could be referenced for repo transactions. One potential solution would be to use a methodology similar to U.S. Treasury futures at CME. For example, a platform could list a few term repos for a given expiration date based on maturity ranges of the underlying collateral. Since on-the-run treasuries are already very liquid and are traded on a CLOB<sup>51</sup>, these could be the primary reference securities along with conversion factors to other securities. Alternatively, the contracts could trade like forwards akin to mortgages in the TBA market, where two parties agree to settle a given amount of agency MBS at a specified future date for a set price.

With these standardizations, the long-run benefits could be even larger for the term repo markets. As mentioned before, overnight repo is the most popular tenor for both cash borrowers and providers, but there is a benefit of using standardized term repo since market participants could avoid refinancing risks

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<sup>46</sup> <https://www.sifma.org/explore-issues/treasury-clearing/>

<sup>47</sup> [https://www.sec.gov/files/Algo\\_Trading\\_Report\\_2020.pdf](https://www.sec.gov/files/Algo_Trading_Report_2020.pdf)

<sup>48</sup> <https://www.nyse.com/auctions>

<sup>49</sup> <https://www.nasdaqtrader.com/content/productsservices/Trading/ClosingCrossfaq.pdf>

<sup>50</sup> [https://treasurydirect.gov/TA\\_WS/securities/auctioned](https://treasurydirect.gov/TA_WS/securities/auctioned)

<sup>51</sup> [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr1036.pdf?sc\\_lang=en](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1036.pdf?sc_lang=en)

when overnight repos mature (i.e. “rollover risks”). Refinancing risks can be exacerbated when market volatility is heightened, such as those observed during the Gilt market stress in 2022.<sup>52</sup> With term repo, depending on the maturity ladder, market participants would have more time to manage their rollover risk. This avoids fire-sale dynamics, when market stress leads participants to close out trades within a day instead of rolling them over multiple days. Such an all-to-all term repo market will require higher levels of collateralization in contrast to current market practices<sup>53</sup> which may increase during times of market volatility and may be viewed as too procyclical by some market participants. Nevertheless, with increased all-to-all repo trading on a term basis, there would be liquidity and resilience benefits for all market participants. Moreover, term repos which are longer dated would generally require less bank capital if the trades are cleared by a qualifying CCP.<sup>54</sup>

However, even with the aforementioned changes, there are other considerations around trade execution and clearing that also need to be addressed. As mentioned previously, for an all-to-all term repo market to work, order flow would need to be consolidated on both a pre-trade and post-trade basis with very limited (or no) latency. This could be done either via a single trading platform (like Treasury futures) or consolidated across multiple trading platforms (like equities). Since multiple electronic trading platforms currently host Treasury repo trading and multiple entities have declared interest in clearing Treasury repo, we must consider a third alternative market structure where there are multiple trading platforms and multiple CCPs supporting repos. This structure would be somewhat similar to the USD OTC interest rate swap market structure where CME and LCH clear multiple trading platforms. As noted previously, while this market has multiple SEFs, a market with this type of trade execution and clearing structure is still not traded on an all-to-all basis.

For cleared repo to trade on an all-to-all basis, nearly all trades would need to be cleared at a single CCP or there would need to be some way of tracking, managing and netting aggregate risk exposures across clearing relationships (e.g., links among the CCPs). While links between CCPs to broaden access have taken place<sup>55</sup> previously, they are not very common since they are complex to establish operationally and may be of limited commercial value as CCPs may lose economies of scale. However, since there is already a cross-margining<sup>56</sup> link between Treasury futures cleared at CME and cash & repo trades cleared at FICC, there may be precedent to extend existing links or build new links. The feasibility of clearing links would be increased if the methodologies employed for setting initial margin requirements were very similar across CCPs, making risks of these trades more fungible.

## Summary and Conclusion

The SEC’s clearing mandate for repos referencing U.S. Treasuries is expected to impact post-trade clearing and settlement processing of such trades. Clearing could be an enabler for all-to-all trading in the repo markets as ~84% of all repos will be cleared once the mandate takes effect.<sup>57</sup> Markets where all-to-all is the default trading protocol have achieved key improvements in terms of access, transparency, liquidity, and reduced transaction costs. While all-to-all trading in theory could enhance market stability and resilience in the U.S. Treasury repo market, its implementation could likely be hindered without some level of aggregation and/or links among the many trading platforms and CCPs which intend to support the

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<sup>52</sup> <https://www.chicagofed.org/publications/chicago-fed-letter/2023/480>

<sup>53</sup> <https://www.financialresearch.gov/the-ofr-blog/2023/05/12/why-is-so-much-repo-not-centrally-cleared/>

<sup>54</sup> <http://www.bis.org/publ/bcbs282.pdf>

<sup>55</sup> Example – China and Hong Kong Stock Connect [https://www.hkex.com.hk/Mutual-Market/Stock-Connect?sc\\_lang=en](https://www.hkex.com.hk/Mutual-Market/Stock-Connect?sc_lang=en)

<sup>56</sup> See additional details in <https://www.chicagofed.org/publications/chicago-fed-letter/2026/517>

<sup>57</sup> <https://finadium.com/the-future-state-of-us-treasury-repo-data-requirements/>

repo market structure in the U.S. If an all-to-all market were to be established, the repo market structure could further evolve towards standardized term repos, which could increase market liquidity, support new entrants, innovation in repo specifications<sup>58</sup>, and reduce systemic vulnerabilities from liquidity risk. Furthermore, increased liquidity and resilience in the repo market could improve functioning of the broader secondary markets for U.S. Treasuries. As observed in other markets<sup>59</sup>, these enhancements, in turn, could reduce primary issuance costs for the U.S.

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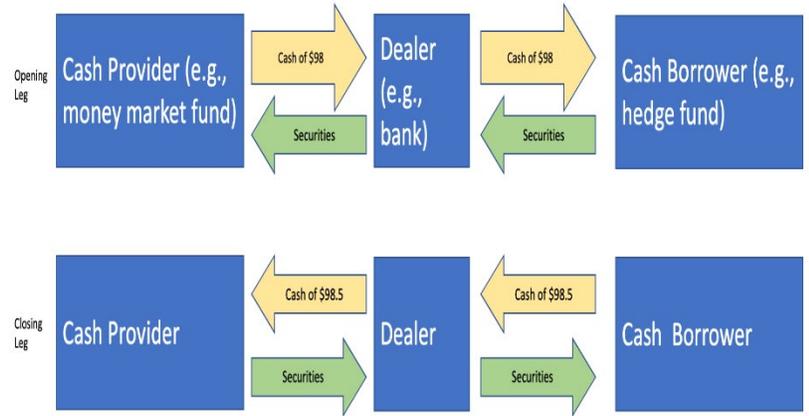
<sup>58</sup> For example supporting transactions where the when-issued settlement date of a security.

<sup>59</sup> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3387630](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3387630)

## Appendix 1 – Example of a Repo Transaction

- Suppose that the cash borrower has a security worth \$100 which is provided to a dealer as collateral.
- The dealer uses a 2% haircut (i.e., a reduction in valuation often referred to as initial margin) on the collateral in order to cover a potential loss if the collateral provider defaults and the collateral value declines simultaneously.
- The cash lender has \$98 in cash to provide the dealer, and charges a \$.50 interest fee (i.e., the repo rate).<sup>60</sup>

Figure 1 - illustrative diagram of a repo trade



At the opening date, the cash borrower delivers the security worth \$100 to the dealer and the dealer provides the security to the cash lender. Borrower also agrees to repurchase the security for \$98.50 at maturity (the original loan of \$98 plus the \$.50 fee) and similar agreement is made between the dealer and the cash lender. The cash lender provides \$98 in cash to the dealer. In turn, the dealer provides the \$98 cash to the borrower as depicted in the above Figure 1.

At maturity, the dealer unwinds the transaction as the borrower pays \$98.50 (the \$98 borrowed plus the \$.50 fee) while the cash lender then returns the security that served as collateral during the trade while making a \$.50 profit. In practice, the dealer may not charge the borrower the same rate as it pays to the cash lender. Also, the borrowing and lending legs of the trades may not be done concurrently and may require the dealer to source its own inventory of collateral for the lender and/or cash liquidity for the borrower. Still, the aim of the dealer is to have balance in market exposures among borrowers and lenders i.e., a “matched book”.

<sup>60</sup> In reality, the dealer and cash lender charges an interest rate for repo trades, but I use a dollar amount for simplicity.