

Hedge Fund Participation in Cleared Repo

By *Neth Karunamuni and Robert Mann*¹

Hedge funds are active participants in the U.S. Treasury market, and their activity contributes to market liquidity and depth. However, hedge funds' large Treasury exposures and leverage from investments in repurchase agreements may pose vulnerabilities to Treasury market resiliency. Hedge fund activity in the centrally cleared segment of the U.S. repurchase agreement market is expected to grow as the requirement by the Securities and Exchange Commission for the central clearing of Treasuries takes effect. Yet, only specific trades and certain counterparties will be centrally cleared. Aggregate levels of hedge fund borrowing and lending, the characteristics of the participants, and the dynamics of hedge fund borrowing on important regulatory dates, such as quarter-ends, are examined. Hedge funds enter into more cleared repurchase agreements with counterparties that are motivated to centrally clear, and this trend is strongest at quarter-ends.

Hedge funds had over \$3.6 trillion in gross notional Treasury exposures at the end of Q3 2024, and this activity is crucial for maintaining liquidity in Treasury markets.² However, their activity carries potential risks. Hedge funds use leverage to fund their Treasury positions that is mostly obtained via repurchase agreements (repos) typically collateralized by Treasuries. A repo is a contractual agreement to sell a security today while simultaneously agreeing to buy it back on a future date—essentially, a collateralized loan. Since these Treasuries are also actively traded, there can be significant feedback loops when hedge funds experience funding stress, such as a margin

calls or rescinded financing, that require liquidating their Treasury positions, which further increases the funding stress.³

This brief investigates the nature of hedge fund activity within one segment of the repo market: the Fixed Income Clearing Corporation's (FICC) centrally cleared sponsored Delivery versus Payment (DVP) segment. This segment has historically been relatively small but, in recent years, has grown significantly. However, in 2023, the Securities and Exchange Commission (SEC) passed a new rule mandating that a large quantity of secondary market

Treasury transactions and Treasury collateralized repo be centrally cleared by 2027.⁴

This rule represents a big change in the structure of the Treasury market. Recent estimates suggest that as many as three-fourths of all hedge fund Treasury repo activity is not centrally cleared, and the barriers to clearing are not well understood. This brief utilizes hedge fund balance sheet data from SEC and OFR repo data to examine how prepared the market is to fully implement Treasury clearing. We explore why market participants currently utilize the centrally cleared segment, review key regulatory ratios for hedge fund counterparties, and discuss the potential costs for hedge funds to fully transition to central clearing.

We find most hedge funds with reported Treasury activity have utilized central clearing, and therefore, a large portion of the relevant hedge fund universe is operationally prepared for the full implementation of the rule. On average, hedge funds increase the amount of repo with dealer counterparties that become marginally more constrained by regulation, and this trend is strongest at quarter-ends. This points towards balance sheet benefits for the dealer being the primary motivator for a hedge fund to centrally clear a repo. Finally, when controlling for relevant repo characteristics, hedge funds pay roughly similar interest rates in the centrally cleared market compared to the non-centrally cleared bilateral market. These results are consistent with previous OFR research that suggest dealers use the FICC market to manage balance sheets and that the costs to centrally clear are related to flexibility in other components of the repo, such as margin and tenor, rather than rates.

Centrally Cleared and Sponsored Repo

Repos are collateralized loans that allow for cheap, short-term (generally overnight) borrowing. The FICC is the only active central counterparty (CCP) in the U.S. repo market. The FICC is split into four primary venues depending on whether both counterparties are FICC members and the trade has a triparty custodian bank.⁵ A trade that involves two FICC members, or an interdealer repo, will be

transacted in the General Collateral Finance (GCF) or DVP segments. Clearing members can “sponsor” a repo trade for their nonmember clients. Clearing members are commonly referred to as sponsoring members and their clients as sponsored entities. If the trade involves a sponsoring member trading with a sponsored entity, then the repo primarily occurs in the sponsored DVP or Sponsored General Collateral (Sponsored GC) venues. Sponsoring members are generally primary dealers or large foreign dealers, and sponsored entities are mostly hedge funds, money market funds, or banks.

Since 2017, hedge funds increased their activity in Sponsored DVP and are one of the principal users. Sponsored DVP is limited to repo collateralized by Treasury and Agency debt and does not allow for repo with extendable maturity dates and other embedded options.⁶ With centrally cleared products, sponsored DVP provides benefits by allowing dealers to reduce both the size of their balance sheet through netting and their counterparty risk. Some U.S. regulatory requirements, such as the Supplementary Leverage Ratio (SLR), allow banks to net opposing obligations with the same counterparty and end date. This allows dealers to replace transactions with separate counterparties, such as an overnight repo with a money market fund and an overnight reverse repo with a hedge fund, to a new single counterparty like the FICC and, subsequently, net down these exposures to reduce regulatory requirements.

Hedge funds are not subject to bank regulatory requirements, and, therefore, do not directly benefit from centrally clearing repo. However, they may indirectly benefit if it clears balance sheet space for their dealer counterparties. Historically, the sponsored DVP and GC segments have typically elevated volumes on calendar end dates, which may reflect the balance sheet netting benefit for regulatory reporting, among other things.

Fund Advisers that Participate in Sponsored Repo

Repo data comes directly from the FICC and is collected through the OFR’s centrally cleared repo collection that was established in 2019. These data

are daily and contain all outstanding repos transacted in the U.S. centrally cleared repo segment. All repos in this market are fixed term repo, most of which are overnight. It is possible to use non-Treasury collateral in sponsored repo, but virtually all the daily volume in the cleared repo market involves Treasury collateral.

The FICC data contains counterparty information, including legal entity identifiers (LEI) and names. To identify the sponsored hedge funds, individual counterparties are categorized by hand, using publicly available information in SEC Form ADV. The primary counterparties to hedge funds in the centrally cleared market are large dealer-banks, and very few of the transactions are brokered. These counterparties are generally also sponsoring members of hedge funds. U.S. dealer-banks comprise 71% of hedge fund volume, and the remaining 29% are with foreign-domiciled dealers.

We are interested in the advisers' characteristics for the entities using the sponsored repo service and leverage data from SEC's Form Private Fund (Form PF) that captures fund information for SEC registered investment advisers that manage at least \$150 million in private fund assets. Form PF fund filings are filtered to just hedge funds, and each adviser's average hedge fund characteristics are computed. This is appended to the FICC's daily DVP data, which is merged by fund adviser and date.⁷

Following this merger, the Form PF data is restricted to funds associated with advisers that utilize repo borrowing and have Treasury exposures. The average characteristics are shown for those that use the sponsored repo service and those that do not (see **Figure 1**).

Figure 1: Average Fund Statistics by DVP Activity

Metric	Has DVP Activity	No DVP Activity
GAV (\$ billions)	46.3	14.0
Leverage	4.0	2.2
Tot. Borrowing (\$ billions)	33.9	5.9
Treasury GNE (\$ billions)	21.1	3.0
Treas/GNE (%)	17.4	9.6
Reverse Repo (\$ billions)	17.3	1.3
Repo (\$ billions)	24.6	1.7
Non GSIB Share (%)	11.1	4.3
Non-U.S. GSIB Share (%)	37.9	42.4
U.S. GSIB Share (%)	51.0	53.3
Num. of Creditors	8.6	4.2
HHI (%)	33.3	41.9
Share of all funds (%)	84.4	15.6

Note: Data consists of hedge funds with reported Treasury exposures and repo borrowing on Form PF. Values are net-asset weighted averages. "Has DVP Activity" corresponds to funds with an adviser that shows up as a sponsored repo borrower while "No DVP Activity" corresponds to funds without an adviser that is a sponsored repo borrower. A fund is classified as having DVP activity if its respective adviser shows up in the sponsored repo dataset. Matching is determined as of Q3 2024 data. Gross asset value (GAV) is a measure of balance sheet assets. Leverage measures gross assets to net assets. Total borrowing is the value of all secured and unsecured borrowing. Treasury GNE is the value of all gross notional exposures (GNEs) to Treasury securities. Non-G-SIB, non-U.S. G-SIB, and U.S. G-SIB shares are reported compositions of hedge fund creditors. The Herfindahl-Hirschman Index (HHI) is a measure of the concentration of hedge fund borrowing. Share of all funds is based on total count of funds belonging to a respective fund adviser cohort as a percentage of all available funds.

Sources: Securities and Exchange Commission Form PF, Authors analysis.

Advisers that use sponsored repo direct much larger funds and borrow significantly more across all sources than funds that do not use sponsored repo. Multi-strategy, relative value, and macro funds, all of which use relatively higher leverage and commonly engage in levered fixed-income positions, comprise over 90% of all repo exposures of the “Has DVP Activity” cohort. Importantly, advisers that use DVP have relatively larger Treasury exposures at about 7 times more and advise approximately 84% of all Form PF hedge fund filers. While this does not address the market’s preparedness for the full implementation of the SEC clearing rule, it does show that, based on average Treasury exposures, the larger market participants have interacted with the FICC’s infrastructure.

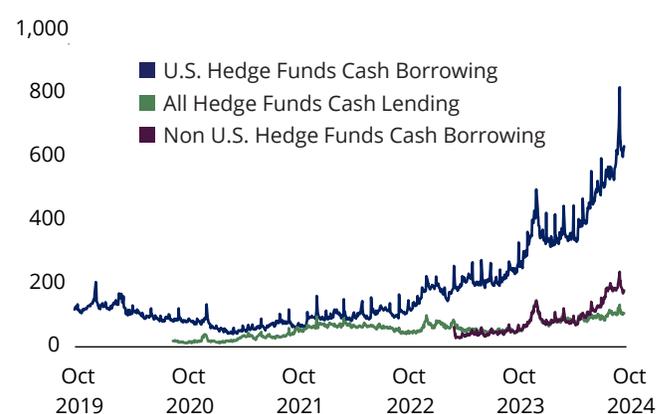
Hedge Funds and Sponsored Repo Activity

While most hedge funds with Treasury activity have previously utilized the centrally cleared market and may be organizationally prepared for the implementation of the clearing rule, there may be barriers to certain types of centrally cleared repos. The choice to centrally clear repo transactions could be determined by counterparty preferences. Hedge funds averaged \$516 billion in total outstanding sponsored repo in 2024, but this number increased to over \$1 trillion on certain days.

Hedge Fund Volumes in Central Clearing

Figure 1 shows the total outstanding sponsored volumes by hedge funds between October 2019 and October 2024, split by U.S. versus non-U.S. hedge funds. There has been a noticeable increase in hedge fund activity in the centrally cleared segment in recent years, especially since 2023. In early 2020, daily hedge fund volumes hovered between \$100 and \$200 billion before declining in 2021. Volumes stayed at relatively low levels until 2023 when they began to increase and eventually reached a high of \$1 trillion in 2024. Large portions of this recent increase are likely due to market participants preparing for the full implementation of the SEC’s central clearing rule, which was passed in 2023 and requires all Treasury repo and reverse repo to be centrally cleared by 2027.

Figure 2: Hedge Fund Sponsored Repo Activity (\$ billions)



Note: Data are from October 2019 to October 2024. Values represent outstanding contract dollar volumes. U.S. hedge funds are those with an advisor that file SEC Form PF, and non-U.S. hedge funds include all remaining hedge funds.

Sources: OFR Centrally Cleared Repo Collection, Authors’ analysis.

Hedge funds primarily use sponsored repo to borrow cash. At the end of Q3 2024, U.S. hedge funds had \$800 billion in total outstanding repo cash borrowing. This stands in contrast with repo cash lending, which was only \$70 billion outstanding for both U.S. and non-U.S. hedge funds over the same period. These values compare to \$2.4 trillion in total hedge fund repo versus \$1.1 trillion in total reverse repo, according to 2024Q3SEC Form PF statistics.⁸ About a third of hedge fund repo exposures are currently centrally cleared as compared to less than a tenth of reverse repo.⁹

Previous OFR research has shown that hedge funds are performing a substantial amount of reverse repo in the non-centrally cleared bilateral (NCCBR) segment. In a 2022 OFR pilot study of the NCCBR market segment, the amount of hedge fund repo and reverse repo were roughly matched.¹⁰ Since 2022, considerably more repo has been centrally cleared than reverse repo (see **Figure 2**), possibly because a hedge fund reverse repo is typically matched with a repo. Matching the two repos is generally the case for hedge funds engaged in relative value trades within the cash Treasury market, such as combining a purchase with the sale of a Treasury to arbitrage prices. As a result, there may be

few benefits of centrally clearing these trades because the dealer may be able to net these positions naturally. On the other hand, several other hedge fund trades pair a derivative contract with a repo position, like the cash-futures basis trade. As such, dealers would have a broad preference to clear these positions since they cannot net them internally. Many do not pair a reverse repo position with other types of financial contracts. For these reasons, dealers may, on net, centrally clear more repo.

Another reason why cleared reverse repo may be relatively low is due to increased challenges to centrally clear reverse repo positions. Often, hedge funds use reverse repo to obtain securities, leading to unique contracting terms. Given that the FICC's rules are

based on repo cash borrowing, it may be more difficult to centrally clear client reverse repo where the security is borrowed and not cash. In aggregate, these reasons could perhaps signal challenges for market participants that are transitioning reverse repo into central clearing for compliance with the SEC central clearing rule.

Central Clearing on Quarter-Ends

Noticeably, the amount of repo that is centrally cleared increases substantially on specific days. Previous OFR research has documented similar spikes in centrally cleared volumes because central clearing at quarter ends can ease banks' regulatory constraints.¹¹ Hedge funds tend to borrow close to \$40 billion more at quarter-end than on average (see **Figure 3**). This stands in

Figure 3: Average Daily Hedge Fund Activity in Sponsored DVP

	All Days		Quarter-Ends	
	Sponsored Borrowing	Sponsored Lending	Sponsored Borrowing	Sponsored Lending
Repo (\$ billions)	185.3	35.0	227.7	42.0
GAV (\$ billions)	117.4	110.1	117.5	112.5
Leverage	9.9	8.9	9.6	9.0
Treasury GNE/GAV (percent)	61.0	59.0	59.0	56.0
Hedge Funds Cleared	20	12	21	14

	2024		2024, Quarter-Ends	
	Sponsored Borrowing	Sponsored Lending	Sponsored Borrowing	Sponsored Lending
Repo (\$ billions)	459.4	57.3	549.2	64.3
GAV (\$ billions)	138.1	116.6	137.5	115.4
Leverage	12.7	9.6	12.9	9.4
Treasury GNE/GAV (percent)	73.6	62.7	73.6	60.8
Hedge Funds Cleared	27	18	30	18

Note: Data are between October 2019 and October 2024. Quarter-ends are defined as the 5-day window around a quarter end. Repo represents the simple average amount of daily sponsored repo and reverse repo. Gross asset value (GAV) is the value of a hedge fund's balance sheet. Leverage is measured as the hedge funds gross assets to net assets. Treasury Gross Notional Exposure (GNE) is the dollar amount of gross notional exposures to Treasury securities. Hedge funds cleared is the dealer-weighted-average daily count of hedge funds being sponsored. GAV, Leverage, and Treasury GNE/GAV are weighted averages based on the amount of sponsored repo by the hedge fund.

Sources: OFR Centrally Cleared Repo Collection, Securities and Exchange Commission Form PF, Authors' analysis.

contrast to sponsored lending, which only increases \$7 billion at quarter-ends relative to the rest of the period. These patterns remain when focusing on more recent data following the Treasury clearing rule finalization. In 2024, borrowing at quarter-ends increased by approximately \$90 billion, which suggests that more netting is completed on these days, while sponsored lending increased only slightly.

While dealers centrally clear hedge fund transactions at quarter-ends, there is no noticeable change in the average characteristics of hedge funds doing sponsored repo around quarter-ends. This suggests that while dealers are centrally clearing more hedge fund repo at quarter-ends, the average counterparty, based on fund characteristics, does not substantially change. These patterns are true in recent periods as well.

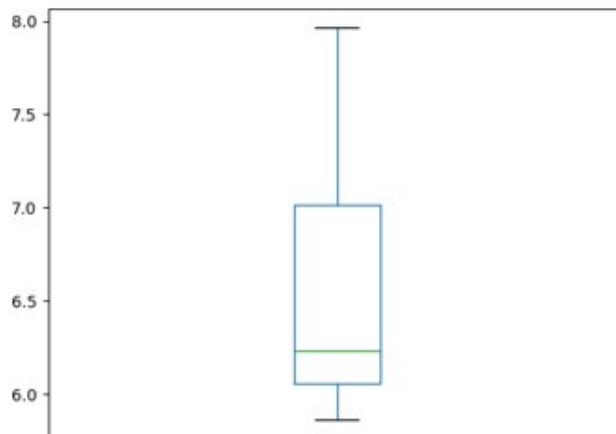
Constrained Dealers and Central Clearing

As described earlier, the FICC serves as the counterparty on every trade, and clearing members can net positions. The extent of netting can influence regulatory ratios, such as the SLR. The SLR measures the percentage of a dealer’s tier 1 capital (numerator) to its total assets plus some off-balance sheet exposures (denominator). The denominator in the SLR calculation is not risk-weighted and thus is more affected by Treasury exposures compared to risk-weighted regulatory ratios, where Treasuries often carry a risk weight of 0. At quarter-ends, there is an increase in cleared repo. This increased activity may not correspond to increased total repo volumes by the dealer or hedge fund, but rather, constrained dealers choose to centrally clear more of their quarter-end activity for the netting benefits. Thus, a sponsoring member’s reported SLR will be used as a measure of regulatory constraint—dealers must maintain a SLR of at least 5%—that is associated with the member’s usage of sponsored repo.

For each quarter, we compute an individual hedge fund adviser’s volume-weighted average SLR (wSLR), as the average of their dealer counterparty’s reported SLRs weighted by the total amount of sponsored repo completed with that counterparty. This measures how regulatory constrained a hedge fund’s dealer counterparties are on average at a given moment in

time (see **Figure 4**). While a number of hedge funds have dealer counterparties that do not maintain the 5% threshold, all hedge funds have a median wSLR below 6.5%, which is historically low for dealers.

Figure 4. Adviser Weighted-SLR Boxplot (percent)



Note: Data are between October 2019 and October 2024. The boxplot displays the distribution of the hedge fund adviser’s volume-weighted average SLR (wSLR). Values are derived from an adviser’s reported sponsored repo volumes with their respective SLR-regulated dealer counterparties. Whiskers are set to the 10th and 90th percentiles to preserve confidentiality.

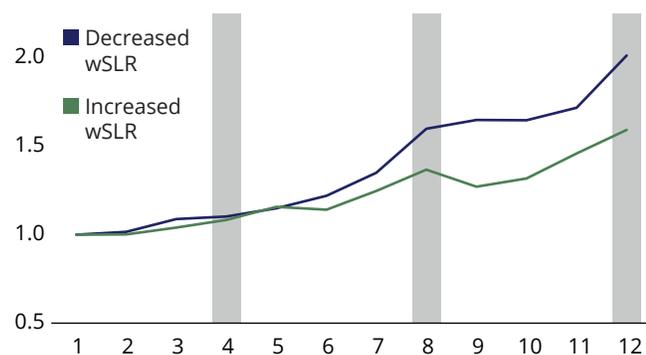
Sources: OFR Centrally Cleared Repo Collection, Authors’ analysis.

With this panel of hedge fund adviser wSLRs, focus is placed on the sponsored activity of advisers who had their wSLR decrease quarter-to-quarter when their respective sponsoring members were closer to regulatory thresholds. These respective advisers’ corresponding sponsored repo activity in the quarter immediately following this wSLR decrease is analyzed as it is empirically difficult to isolate the impact of intra-quarter sponsored activity by a dealer on that dealer’s same quarter SLR.

Figure 5 shows the average weekly sponsored repo borrowing activity for an adviser throughout the quarter, scaled by the first week volumes. The dark blue series represents advisers whose wSLR decreased in the prior quarter, and the light blue series represents advisers whose wSLR did not decrease in the prior quarter. It can be seen there is a divergence between the two series beginning in the second month, with the dark series remaining above the

light series for the entirety of the last month, which is the month of quarter-end. This shows that advisers whose dealer counterparties had lower SLRs in the prior quarter had increased their sponsored activity compared to advisers whose dealers had not become more constrained. These trends hold true whether the series are weighed by a fund’s sponsored repo volumes or weighted by the inverse of their wSLR.

Figure 5. Adviser Scaled Repo Activity Intra-Quarter (ratio)



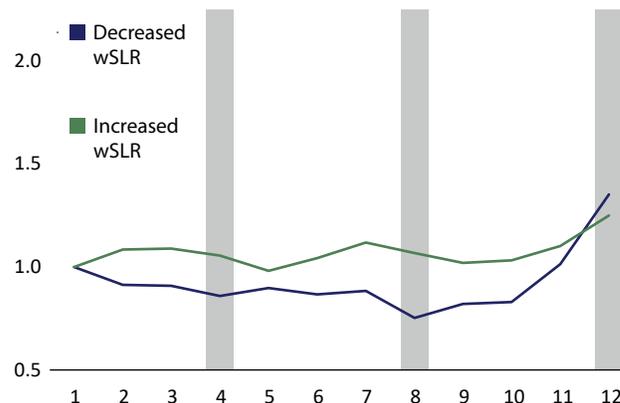
Note: Data are between October 2019 and October 2024. The x-axis represents the week within a quarter. For each advisor, its weekly activity is scaled by its week 1 outstanding volumes. The final calculation is a ratio that compares the adviser’s current week activity to its activity during the first week of the month. The sample is split into advisers that experienced a decrease in their wSLR during the previous quarter (dark blue line) and ones that experienced a weak increase (light blue line). The y-axis presents the weighted average ratio for all advisers in that group. Weights are determined by the inverse wSLR of each adviser, therefore, placing more weight on advisers with smaller wSLRs. Shaded regions represent the last week of each month in the quarter.

Sources: OFR Centrally Cleared Repo Collection, Authors’ analysis.

At the onset of the COVID-19 pandemic, U.S. Treasuries were temporarily excluded from the calculation of the SLR.¹² Figure 6 again compares average weekly sponsored repo volumes throughout the quarter for advisers with SLR constrained versus unconstrained dealer counterparties, except now focusing only on the SLR exemption period to see if a similar differential in central clearing volumes arises for repo with dealers that were marginally more regulatory constrained versus repo with dealers that were not. The relative increase in sponsored activity among

hedge funds with more constrained counterparties that is seen in Figure 5 is expected to be less present during this period. Figure 6 shows the scaled average weekly sponsored repo borrowing activity for an adviser during this exclusion period. Here, the scaled ratios are much smaller. The advisers with a decreased wSLR did not have increased cleared repo activity until the very end of the quarter and, even then, by a smaller amount than outside the period where Treasuries were excluded from the SLR calculation. In summary, dealer-specific regulatory constraints appear to be a primary driver of increased sponsored repo activity.

Figure 6. Adviser Scaled Repo Activity Intra-Quarter, Treasury Exclusion Period



Note: Data are between Q2 2020 and Q1 2021. The x-axis represents the week within a quarter. For each advisor, their weekly activity is scaled by their week 1 outstanding volumes. The final calculation is a ratio that compares the adviser’s current month activity to its activity during the first week of the month. The sample is split into advisers that saw a decrease in their wSLR in the previous quarter (dark blue line) and ones that saw a weak increase (light blue line). The y-axis presents the weighted average ratio for all advisers in that group. Weights are determined by the inverse wSLR of each adviser, therefore, placing more weight on advisers with smaller wSLRs. Shaded regions represent the last week of each month in the quarter.

Sources: OFR Centrally Cleared Repo Collection, Authors’ analysis.

Who Pays the Cost of Central Clearing?

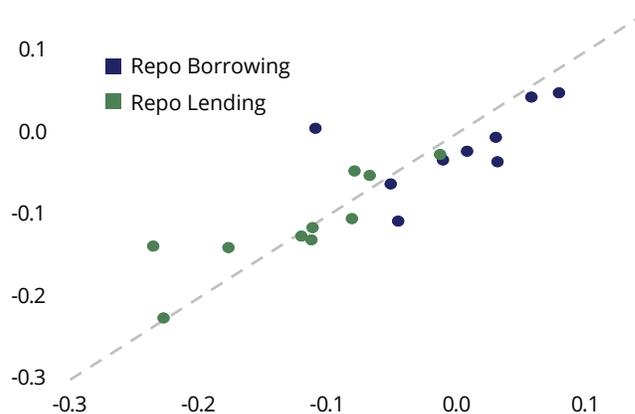
A repo agreement typically has four major terms: rate, margin, underlying collateral, and tenor.¹³ These terms depend on each other while also having their own economic implications.

The primary alternate source of repo funding to the centrally cleared repo market is the NCCBR segment. NCCBR has been the preferred venue for hedge fund repo in the past as transacting entities can negotiate more flexible terms, such as maturity and margining, compared to the sponsored segment, which contains added rules and fixed costs. OFR research has shown that the NCCBR market has significantly longer tenors than the DVP market.¹⁴ In the past, this has been largely due to sponsored DVP being strictly overnight. However, in recent years, longer tenor repo has become an option in the centrally cleared markets. Despite this, conversations with market participants and indirect evidence from other segments in the U.S. repo market suggest that NCCBR is still valued for its flexibility in tenor. The FICC also restricts the types of acceptable collateral to agencies and Treasuries, which limits the types of repos that can be cleared as well.

We next compare the rates that hedge funds are paying in the centrally cleared versus non-centrally cleared segments. Using the OFR's pilot data jointly with the FICC data, the dataset consists of all repo trades for hedge funds that transacted in both the NCCBR and DVP segments on the pilot study days. We then group all overnight trades based on collateral, hedge fund, and trade direction to obtain a repo rate for both market segments that controls for each of these characteristics. The result is a dataset of trades by 50 unique hedge funds active in both segments on these days. **Figure 7** gives the relationship between hedge fund repo rates in the DVP market (x-axis) relative to the NCCBR market (y-axis). Unsurprisingly, hedge funds pay approximately equal rates in the centrally cleared and non-centrally cleared markets. The relationship between rates in the DVP and NCCBR segments are tightly clustered around a 45-degree line, which implies that if a hedge fund

performed a contractually equivalent trade in both segments, they would likely pay equivalent rates.

Figure 7: Hedge Fund Repo Rates, DVP (x-axis) Versus NCCBR (y-axis) (percent)



Note: This graph uses data over three days in June 2022, where data exists for hedge fund activity in NCCBR and DVP. Average repo rates are calculated for each hedge fund and cusip on each day in both the NCCBR and DVP segments. Rates are then adjusted by subtracting the Treasury General Collateral Rate (TGCR) and the Systems Open Market Account (SOMA) auction rate for that cusip on that day. For each hedge fund, their total average repo rate they are paying in each market is calculated. Each dot represents a bin of 5 unique hedge funds, based on the adjusted rates that these hedge funds are paying in DVP. This is performed separately for cases where hedge funds are borrowing cash (dark blue dots) and lending cash (light blue dots). The dots show the rate funds are receiving when performing overnight repo in DVP (x-axis) versus NCCBR (y-axis). The Dashed line represents a 45 degree line where rates are theoretically equal.

Sources: OFR Centrally Cleared Repo Collection, 2022 OFR NCCBR Pilot Collection, Authors' analysis.

Data on margining is imperfect, and therefore, any differences in margining costs between the NCCBR and DVP segments can only be estimated based on previous studies. Margining in the NCCBR market is negotiated bilaterally and more customizable while margining in DVP is typically very rules based.¹⁵ As a consequence, margining is likely higher in the centrally cleared market, although there may be exceptions. Additionally, margin is currently an obligation of the dealer that is sponsoring the hedge fund, but after full implementation of the clearing rule, the obligation is likely to shift to the hedge fund. This change may ultimately raise hedge fund margin costs even more, provided no modifications to current margining practices. The FICC is currently

reorienting their systems to become compliant with the SEC central clearing rule, and these modifications are likely to reduce margin costs in the centrally cleared segment.¹⁶

Conclusion

While the non-centrally cleared segments have historically been the primary source of hedge fund's repo financing, the centrally cleared segment has become more important in recent years. The ability to novate trades to the FICC and net down balance sheet exposures through central clearing is especially useful for dealers around key calendar end dates when they must meet various regulatory requirements like for the SLR.

On average, hedge funds centrally clear \$40 billion or 22% more repo at quarter-ends, although this quantity has been increasing substantially in the most recent years. Despite this, there isn't any evidence that the average hedge fund being centrally cleared on quarter-ends are marginally different from the average hedge fund participating in central clearing intra-quarter. However, dealers centrally clear their hedge fund counterparties more in a quarter after a dealer's SLR is reduced. This appears to be more of a dealer-driven decision as preliminary findings also show that hedge funds pay almost equivalent rates across trades in DVP or NCCBR.

Activities that involve sourcing securities, such as reverse repo, seem to still be performed in the NCCBR segment rather than the centrally cleared market. This could be due to natural netting associated with many trades in which a reverse repo has a role and, thus, central clearing provides no benefit or because of increased difficulty of centrally clearing reverse repo due to contracting complexities. Most hedge funds have started centrally clearing some portion of their activity, perhaps in anticipation of the Treasury clearing rule implementation. Few large hedge funds with Treasury exposures have yet to start clearing their repo and those are not major Treasury market participants. While a large portion of the repo market volumes remain to be centrally cleared, this implies that most of the market participants are capable of central clearing.

Endnotes

- 1 Neth Karunamuni, Quantitative Analyst, Office of Financial Research (neth.karunamuni@ofr.treasury.gov) and Robert Mann, Research Economist, Office of Financial Research (robert.mann@ofr.treasury.gov). The authors thank Mark Paddrik, Sriram Rajan, and Mark Carey for their comments and assistance.
- 2 Value represents the sum of the long and short notional exposures to U.S. Treasuries for all qualifying hedge funds reporting in Q3 2024. [Hedge Fund Monitor - Long and short U.S. Treasury exposures \(U.S. dollars\) | Office of Financial Research](#)
- 3 For more perspective on how hedge fund deleveraging can cause Treasury market disruptions, see Daniel Barth and Jay Kahn, “Basis Trades and Treasury Market Illiquidity,” OFR Brief No. 20-01 (Office of Financial Research, July 16, 2020), <https://www.financialresearch.gov/briefs/2020/07/16/basis-trades-and-treasury-market-illiquidity/>
- 4 <https://www.sec.gov/files/rules/final/2023/34-99149.pdf>
- 5 The centrally cleared repo segment on encompasses half of the overall U.S. repo market, which also includes the non-centrally cleared segments. For exposition, the non-centrally cleared segments will not be described in detail here. More information on these segments can be found in Kahn and Olson, “Who Participates in Cleared Repo,” OFR Brief No. 21-01 (Office of Financial Research, July 8, 2021), <https://www.financialresearch.gov/briefs/2021/07/08/who-participates-in-cleared-repo/>; Paddrik et al., “The Dynamics of the U.S. Overnight Triparty Repo Market,” OFR Brief No. 21-02 (Office of Financial Research, July 22, 2021), <https://www.financialresearch.gov/briefs/2021/07/22/dynamics-overnight-triparty-repo-market/>; Hempel et al., “Why is so much repo not centrally cleared?” OFR Brief No. 23-01 (Office of Financial Research, May 12, 2023), <https://www.financialresearch.gov/briefs/2023/05/12/why-is-so-much-repo-not-centrally-cleared/>.
- 6 Government agency securities (Agency) are debt securities issued by U.S. government-sponsored enterprises (GSEs) or other federally related entities.
- 7 This match is intentionally on the adviser-level for both the purpose of overcoming certain matching nuances and to study the importance of counterparty relationships. Specifically, an SEC Form PF adviser can be observed borrowing within the sponsored repo dataset but from a fund that is not the one reported. If a match was constructed purely based on fund name, these specific scenarios would result in unmatched pairs regardless of whether this respective hedge fund adviser is in fact using the sponsored repo service. Therefore, a match on the adviser level indicates that the sponsored repo user belongs to a hedge fund adviser. As a result, we also roll up the SEC Form PF panel of individual fund-level characteristics to a panel of weighted-average characteristics on the adviser-level.
- 8 [Hedge Fund Monitor - Long and short repo exposures \(U.S. dollars\) | Office of Financial Research](#)
- 9 This repo and reverse repo exposure includes non-Treasury activity. However, it is likely that the vast majority of this activity is collateralized by Treasuries (see Banegas, Ayelen and Phillip Monin, “Hedge Fund Treasury Exposures, Repo, and Margining,” *FEDS Notes*, September 08, 2023, <https://doi.org/10.17016/2380-7172.3377>.) and that reverse repo is even more heavily skewed towards Treasuries since short Treasury trading strategies are popular among hedge funds. So, these percentages are likely good estimates of the amount of Treasury repo left to be traded.
- 10 The pilot was conducted on June 15, 22, and 30, 2022, and covered nine large dealer banks. In Hempel et al. (2023), also referenced in footnote iv, using data from the pilot study it was shown that, on the aggregate, rates on overnight repos look very similar between the two market.
- 11 Munyon, Benjamin, “Regulatory Arbitrage in Repo Markets,” OFR Working Paper No. 15-22 (Office of Financial Research, October 29, 2015), https://www.financialresearch.gov/working-papers/files/OFRwp-2015-22_Repo-Arbitrage.pdf.
- 12 Board of Governors of the Federal Reserve System, “Federal Reserve Board announces temporary change to its supplementary leverage ratio rule to ease strains in the Treasury market resulting from the coronavirus and increase banking organizations’ ability to provide credit to households and businesses,” press release, April 01, 2020, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200401a.htm>.
- 13 There are other ways that repo agreements can vary as they can, for example, include optionality or floating rates based on a benchmark. However, these are the major contracting terms that define all repos and, thus, will be the focus of the analysis.
- 14 Paddrik et al., “The Dynamics of the U.S. Overnight Triparty Repo Market,” OFR Brief No. 21-02 (Office of Financial Research, July 22, 2021), <https://www.financialresearch.gov/briefs/2021/07/22/dynamics-overnight-triparty-repo-market/>; Hempel et al., “Why is so much repo not centrally cleared?” OFR Brief No. 23-01 (Office of Financial Research, May 12, 2023), <https://www.financialresearch.gov/briefs/2023/05/12/why-is-so-much-repo-not-centrally-cleared/>.
- 15 Information on the specific components that go into the FICC margin calculation can be found at the FICC GSD website: <https://dtcclearing.com/products-and-services/fixed-income-clearing/gsd.html>. Technically, the FICC can deviate from these rules, but it is unlikely that they do on a regular basis. A longer discussion of the margining practices in NCCBR can be found in Hempel et al., “Why is so much repo not centrally cleared?” OFR Brief No. 23-01 (Office of Financial Research, May 12, 2023), <https://www.financialresearch.gov/briefs/2023/05/12/why-is-so-much-repo-not-centrally-cleared/>.
- 16 A recent IMF study comes to the conclusion the centrally cleared repo charges higher margins ([Expanded Central Clearing in Treasury Markets](#)). In certain situations where a repo transaction is paired with a different type of transactions, the FICC’s cross-margining agreements could make the total margin paid on the transaction decline. This results from these positions often having a natural hedge, but the current margining practices may not reflect this. The FICC is currently revising its cross-margining agreements with other CCPs in preparation for the full implementation of the SEC’s central clearing rule.