GLOBAL MARKETS ANALYSIS
Monetary and Capital Markets

Expanding central clearing in US Treasury Markets: Benefits and Costs

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SUMMARY

The US Treasury market is considered the deepest and most liquid bond market in the world. US treasuries are considered as risk-free and safe-haven assets for investors. Despite that, it has proved vulnerable to serious disruptions in recent years. The flash rally of 2014, the repo tensions in September 2019 and more recently the turmoil in March 2020 demonstrated that liquidity is elusive even in this market in times of crisis. These series of disruptions and the ongoing deterioration of the liquidity in the bond market showed that the US Treasury market is not immune to market dysfunction. Given the importance of the US treasury market for the global financial system, academics and policymakers have engaged in an intense discussion on how to improve the resilience of the US market and address the underlying structural problems to avoid systemic risk.

The Securities and Exchange Commission (SEC), a US government oversight agency responsible for regulating the securities markets, issued a proposal on September 14, 2022 to expand central clearing to the US Treasury market. The proposal marks a substantive regulatory change formulated into a concrete proposal that follows broader discussions and policy recommendations by policymakers and researchers [1]. The rule could impact a significant portion of the $24 trillion Treasury markets and the $3.8 trillion Treasury repo market and significantly increase clearing volumes in those markets compared to the current low levels of clearing.

This note outlines the proposal and presents the stated benefits of expanded central clearing and market views on the trade-offs between the underlying costs and benefits. Market participants broadly concur with the merits of the SEC proposal and the benefits associated with the central clearing (improving market liquidity, increasing dealer balance sheet capacity, reducing counterparty/settlement/general market risks). However, they also highlight that the induced costs for dealers and, more broadly, for the market could negatively impact market liquidity. Indeed, expanded clearing comes with additional costs (fees/margins/administration/technology) that would have to be paid by the dealers and/or market participants, also leading to a potential exclusion of certain market participants. At the same time, concentration risks would arise, given the even more systemic role of the central clearing facility.

US TREASURY MARKET STRUCTURE

The secondary US Treasury market is largely segmented into markets with diverse participants and distinct characteristics, where most trades are not centrally cleared[2].

- The cash market (outright purchases and sales of securities) is roughly bisected into an inter-dealer and a dealer-to-client market. While both segments have witnessed increased use of automated trading technologies, relatively new types of market participants, known as Principal Trading Firms (PTFs) dominate the use of automated, high-speed strategies for electronic trading within the inter-dealer market (**Figure 1**). Trades between dealers are typically centrally cleared as dealers are member of a central counterparty (CCP), but PTF trades are typically settled bilaterally via trade facilitators, the interdealer brokers (IDB), who use anonymous electronic trading

[1] See Inter-agency working Group (IAWG) Treasury report for (official and public) recommendations and references on Footnote 2. Summarily, recommendations include expanding central clearing, increasing the transparency of Treasury markets data by enhancing reporting and disclosure, supporting growth of all-to-all trading, introducing a Federal Reserve Standing Repo Facility as a backstop, and reforming financial regulation. For more updates on actions taken, see the Special Feature from October 19, 2021 regarding market views on the recently introduced Standing Repo Facility. Related to data transparency, the Treasury has recently launched a public feedback request. US government officials are also at the early stages of examining a push for all-to-all trading (see WSJ report and New York Fed report.

[2] A number of publications have focused on the structure of the Treasuries market. Indicatively, see the Group of 30: US Treasury Markets: Steps Toward Increased Resilience, the Treasury Market Practices Group: Clearing and Settlement practices for Treasury Secured Financing Transactions as well as the SEC proposed rule.

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platforms. Trades in the dealer-to-customer market typically also settle bilaterally through a clearing bank. Overall, only 13% of Treasury cash transactions are estimated to be centrally cleared (**Figure 2**)

- The repo market is also segmented along settlement practices, into the bilateral and triparty repo markets. A large part of the bilateral repo market settles trades outside central clearing platforms. Exceptions are inter-dealer cleared trades and bilateral sponsored repo trades, where dealers sponsor institutions to centrally clear repos. The tri-party repo market is considered a major funding market where the trade settlement between cash holders (such as Money Market Funds) and dealers is facilitated by a clearing bank. These trades are also not centrally cleared, except for the inter-dealer (general collateral financing- GFC) market and the recent addition of triparty sponsored repo trades, which both make a very small part of the market (**Figure 3**). Overall, around 30% of Treasury triparty repo trades are centrally cleared (**Figure 4**).

- Finally, the futures market, which is outside the scope of the SEC proposal, is an exchange traded and centrally cleared market, very closely linked to the cash and repo market via arbitrage.

An often-cited underlying fragility of the US Treasury market is that the amount of US debt outstanding has vastly overwhelmed the intermediation capacity of dealers. In the last 10 years the US debt has increased substantially, while dealer intermediation remains about the same levels (**Figure 5**). Changes in regulation appear to have discouraged the market-making role of dealers and created an intermediation gap that can hardly be filled by PTFs in the inter-dealer market. PTFs are more thinly capitalized and typically do not hold overnight positions. Indicatively, in the March 2020 event, PTFs appeared to have reduced their intermediation volumes to a somewhat greater degree compared to dealers, while the terms of intermediation also deteriorated[3].

SEC PROPOSAL – EXPANDING CENTRALIZED CLEARING

The SEC unanimously proposed a rule to expand central clearing in Treasury cash and repo markets. Under the proposal, the FICC (the only central counterparty (CCP) clearing platform available for Treasuries) would be clearing all eligible Treasury cash and repo trades of its members with any market participant. This is in stark contrast to current rules which require members to clear transactions only with other members. As a result, central clearing will be expanded dramatically from its current low levels (**Figures 1 to 4**). All counterparties will be impacted, notably IDBs and hedge funds, as well as MMFs.

The proposal stops short from imposing a clearing mandate to all Treasury trades. The rules will apply only to secondary market trading taking place after the auction date (excludes auctions and when-issued trades). In addition, official institution counterparties, such as central banks and international institutions, are excluded. This excludes Federal Reserve facilities, such as the Reverse Repo Facility (RRP) and the Standing Repo Facility (SRF) from central clearing. Finally, natural persons are also excluded, as well as cash transactions of asset managers (i.e MMFs) and non-leveraged money accounts with an FICC member counterparty.

The proposal also applies changes in the way margin is calculated. First, the CCP will collect margin separately for non-member trades submitted for clearing, contrary to the current practice, where the FICC collects one net-margin amount for both own and client trades to the CCP. Segregating margin follows an idea implemented in the sponsored repo program and is meant to protect the client's cash and collateral in the event of a member default on the CCP. Second, the SEC allows dealers to create a “debit” in the customer reserve formula to reflect the cost of the margin they submit to the CCP on behalf of the client. The debit item protects the customer and frees up dealer resources.

BENEFITS OF EXPANDING CENTRAL CLEARING

The SEC is taking these steps considering that an expansion of central clearing in the Treasury market can improve market liquidity in times of stress, reduce counterparty credit risk and operations risks, mitigate systemic impact of single counterparty failure, and improve transparency. More precisely it aims to:

[3] See speech by Lorie Logan “Treasury Market Liquidity and Early Lessons from the Pandemic Shock”

- **Improve resilience of liquidity in times of stress by expanding dealer balance sheets**: Directing more repo activity to CCPs would reduce gross exposures of dealer through multilateral netting, and de facto the capital and leverage requirements for dealers and free up balance sheet space. The space would then allow dealers to expand their intermediation and market making capacity, thus improving market liquidity. This is especially important in a period where dealer market intermediation has grown much more slowly compared to outstanding Treasury debt.

- **Reduce counterparty and settlement risk.** Risk management practices currently vary across counterparties and trade types/venues. To address this issue, the proposal advocates the FICC as the counterparty in every trade, applying standardized margins, uniform execution and settlement operations and rigorous risk management processes. That could increase the efficiency and the resilience of operations, minimize settlement fails, prevent defaults and, consequently, asset fire sales. In addition, netting the obligations of individual CCP members should consolidate the total gross volume of cash flows required to settle all daily Treasury trades and therefore reduce margin requirements. A further implication could be lower RWA requirements for participating banks and lead to lower capital and liquidity requirements.

- **Reduce potentially systemic risk and counterparty risk**: Additional central clearing & more standardized risk management practices, could lower systemic risk in the UST market. In particular, the proposal would reduce risks from significant portion of IDB trades which are currently "hybrid". That means only one leg of the transaction is with CCP-members, while the other leg (often with a PTF) is bilaterally cleared. Such trades obscured the positioning and risk inherent in the IDB trades and could be a potential source of systemic risk.

- **Increase competition**: A salient feature of the Treasury market currently is the high degree of market concentration among the largest dealers in both cash and repo markets. The SEC also believes that smaller, non-bank dealers will be able to enter the Treasury market, increasing the market's intermediation capacity

- **Enhance regulatory visibility:** Monitoring the CCP activity (volume and counterparties at minimum) would provide new insights into Treasury market trades, notably on the role of hedge fund trading and positioning, and IDB activity which lack or have limited visibility under the current market structure (there is a better view of repo market activity, notably the tri-party segment).

MARKET REACTION - COSTS OF EXPANDING CENTRAL CLEARING

Market participants see the merits to the introduction of a central clearing mechanism and broadly agree with the benefits presented by the SEC. However, part of the analysts is cautious about the extent that such benefits are widespread in the Treasury market, and whether they can outweigh the costs[4].

Market analysts agree that central clearing will expand dealer balance sheet space in repo markets, but some see limits. The netting benefit of clearing repo would likely be substantial for larger dealers. In addition, netting of repo would likely reduce frequent month & quarter end dealer balance sheet frictions related to repo and relieve recourse to the Federal Reserve's ON RRP or an increase in the FICC sponsored repo at month ends. Overall, netting would free up excess balance sheet capacity. However, the recovered capacity from clearing of Treasuries and Treasuries repo could simply be redeployed elsewhere, and as such may not be available to alleviate situations of stress. In addition, the proposed rule will not impact balance sheet size in the cash market, where netting benefits do not apply.

Improving counterparty risk, a key issue that central clearing can address, is not essential in the Treasury market according to some market analysts. Treasury transactions do not involve a continuous stream of bilateral flows between counterparties over protracted periods, as is the case in futures and swaps. Instead, cash trades are single trades, which settle the next day. Therefore, counterparty risk is less meaningful in Treasury cash markets. and is anyway limited in Treasury repo transactions, which are backed by collateral and the bulk of trade involves overnight maturities **(Figure 6)**. Therefore, analysts consider that the additional safety in settlements that a CCP

[4] See relevant reports from Barclays, Bank of America, JPM. In addition, earlier in the year ISDA conducted a market survey on expanding central clearing practices in the Treasury markets. The survey results are broadly aligned with market reactions so far to the specific SEC proposal.

could provide is limited and would likely not prevent market meltdowns such as those observed in September 2019 or March 2020.

Higher transaction costs attract the strongest concern of market analysts. The SEC proposal aims to significantly expand the volume of centrally cleared activity, which will inevitably raise margins and haircuts required for trading with the CCP. The SEC does not propose a haircut but notes that a 2% haircut is typically applied in the tri-party repo/GCF market, with significantly lower haircuts applied in the bilateral market. A more standardized approach in applying haircuts is therefore seen as helpful. Market analysts, however, consider that this can be problematic for two reasons: It could reduce market depth and increase transaction costs, thereby reducing liquidity in the market and it could increase capital and liquidity costs. There are number of channels through which liquidity could be affected:

- Looking at the repo market, currently the larger part of repo transactions is "cleared bilaterally" (**Figure 4**), with dealers noting the margin and liquidity costs as the most important limiting factor to expanded use of sponsored repo[5][6]. This suggests that FICC's haircuts on repo trades are higher than what dealers are charging in bilaterally cleared transactions. Dealers typically bear the costs of novating trades via the FICC with sponsored members (such as MMFs or hedge funds), a practice which may change with a substantial mandated rise in the volume of transactions. The central clearing requirement will accelerate the growth of the FICC's sponsored repo program, but dealers may push part or all the cost to the sponsored entities by increasing bid/ask spreads, thus reducing market liquidity.

- If that happens, leverage will become more expensive. With higher haircuts, hedge funds would be partly funding their own positions (to the level of the haircut) and may thus be looking at recognizing relative value (RV) opportunities to make the trade. This would reduce hedge funds' willingness to price some types of relative value trades at tight spreads and would result in more persistent and wider RV dislocations in the Treasuries market (spreads would need to be wider to justify the trade). Overall, total repo financing will decline (fewer trades) as investors will be requiring higher returns.

- In the cash market, PTFs currently operate without the need to post collateral and dominate activity on the electronic trading platforms (**Figure 1**). Increasing transaction costs via margin requirements could make trades less economical and reduce market depth. Nevertheless, other participants point to the fickle behavior of such players in times of crises (where they anyway pull their activity) and consider that market depth may decline, but ultimately the market can become more stable.

- Increased costs can ultimately push smaller dealers and Treasury market participants out of the market. In that sense, market analysts find the SEC notion that central clearing would increase competition open to debate.

Other CCP costs can also reduce activity in the market and reduce liquidity. These costs include contributions of FICC members to the capped contingent liquidity facility (CCLF)7. Other than direct costs that this obligation entails, it can also generate higher capital and liquidity requirements, and could push transaction costs higher. In addition, FICC members also need to commit pre-funded resources to the guarantee Fund and participate in loss mutualization. Moreover, a shift from the current overnight basis repo transactions to term transactions may help reduce such costs somewhat but is considered a complex and onerous endeavor.

OTHER MARKET CONSIDERATIONS AND ALTERNATIVES

The risk of a too-big-to-fail CCP was noted by both market practitioners and the SEC. Although central clearing could reduce counterparty and operational risks to market participants, the remaining risks becomes concentrated at the CCP. Expanding central clearing would make the CCP a single, even more systemically relevant institution, also given the size of the US treasury market.

[5] See December 2021 Senior Credit Officer's Opinion Survey (SCOOS).
[6] The term "cleared bilateral" is used by the NY Fed in its primary dealer statistics, where the data refers to. The NY Fed data use the term "bilateral" to make a distinction from the tri-party repo trades. Thus, the data refer to three categories, bilateral (cleared and uncleared) and Tri-party repo trades.
[7] The CCLF is a reflection of the largest member's liquidity needs in a default, so the size of the CCLF is correlated with the volume of centrally cleared activity.

Operational challenges related to establishing and maintaining an infrastructure for central clearing are also noted by both market analysts and the SEC. For example, while many money market participants are already on the sponsored repo platform, not all are, particularly given some counterparty limitations at the FICC. To get them on the platform takes time. Furthermore, current rating agency guidelines limit how much repo exposure an MMF can have to any one counterparty. An industry shift towards sponsored repo will likely necessitate a change to those guidelines.

In addition, certain market analysts argue that cash management practices by the CCP is an important issue to consider. They note that in periods of financial stress, CCPs tend to shift more of their cash balances to the Federal Reserve. Much like the RRP cash, this amount is not recycled into the system (repo markets or bank deposits), shrinking the pool of available cash for the private sector.

Finally, market analysis point to other solutions to fixing the Treasury market resilience instead of overhauling the role of the FICC. Relaxing dealer leverage regulatory restrictions (SLR) on Treasuries (excluding Treasuries and reserves from the SLR ratio) could be key in unlocking intermediation capacity for dealers. In addition, the Federal Reserve's SRF should also help absorb selling pressures and stabilize the Treasury market, especially if policy changes are implemented to increase the efficiency of the facility. Interestingly, some of them involve the Federal Reserve clearing SRF transactions via the FICC (insert link to SF on the SRF). Finally, some market participants advocate a move to an all-to-all trading (a platform where asset managers, dealers and leveraged investors can trade directly), which could reduce the market intermediation and market-making role of dealers.

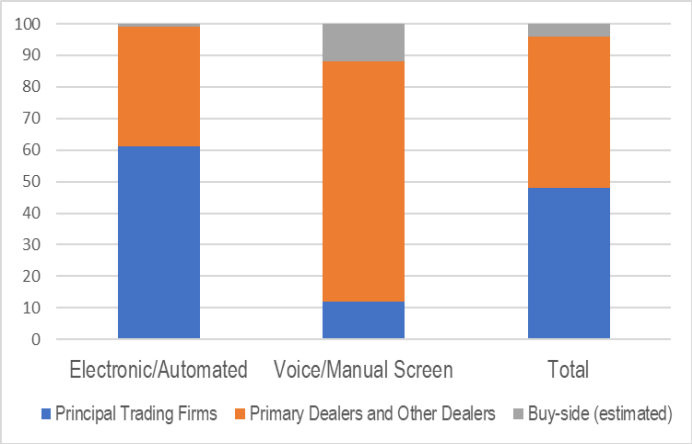
NEXT STEPS

The SEC is aware of the trade-offs between costs and benefits and is actively seeking comments on the balance of those trade-offs. The discussion would also help determine important parameters related to costs (margins and haircuts). the SEC's proposal will go through a 60-day comment period. Markets expect a potential extension, given the complexity of the issues and even more time for the finalization of the rule. While a few expect small changes to the final rule, most analysts expect a rigorous discussion which may change important parameters. In any case, they do not expect the final version of the rule to go live before 2025.

Figures 1-6 Overview of current state and structure of Treasury repo and cash markets

In the cash Treasury market, PTFs have a significant share in cash Treasury market trades

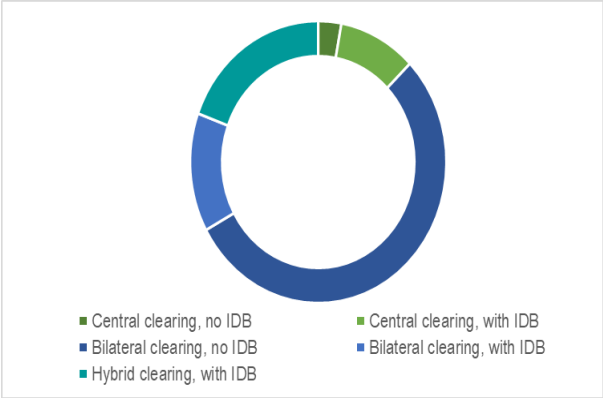
1. Trading volume shares on Treasury IDB platforms by participant
(percent)



- PTFs occupy the major share in electronic and automated trading, while dealers deminate the physical venues

The bulk of transactions in the cash market are cleared bilaterally

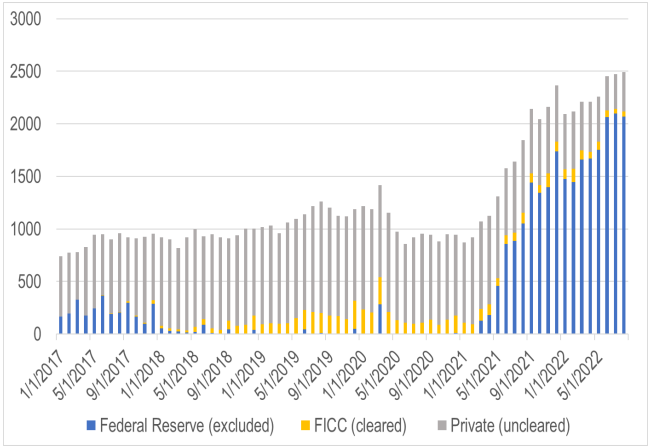
2. Share of market trading for US Treasury cash transactions, by clearing type
(percent, estimates)



- 68% of Treasury transactions are estimated to be cleared bilaterally
- Only 13% of Treasury cash transactions are estimated to be centrally cleared

Cleared repo is a very small part of the tri-party segment

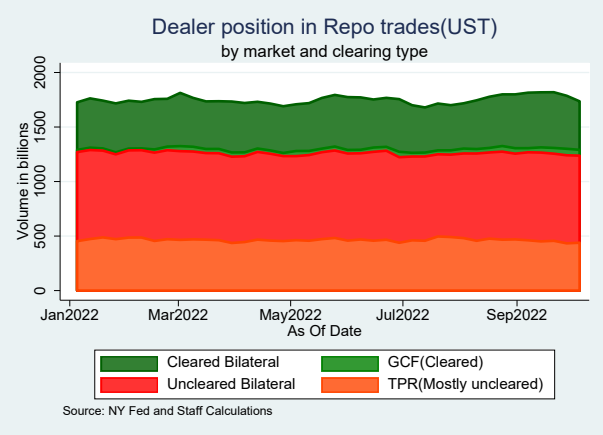
3. Counterparties to US MMFs in triparty Treasury repo (excluding GCF)
(volumes in millions)



- Sponsored repo, where member-dealers of the FICC sponsor MMFs to clear their trades, gained ground around the March 2020 turmoil.
- Sponsored repo remains a small part of the overall TPR repo volumes
- The Fed, which is excluded from the SEC proposal, dominates repo trades, but this could change as the RRP unwinds.

The bulk of Treasury repos are cleared bilaterally

4. Dealer position in Treasury repo
(Volume in billions)



- Around 30% of Treasury repo trades are centrally cleared.

Figures 1-6 Overview of current state and structure of Treasury repo and cash markets

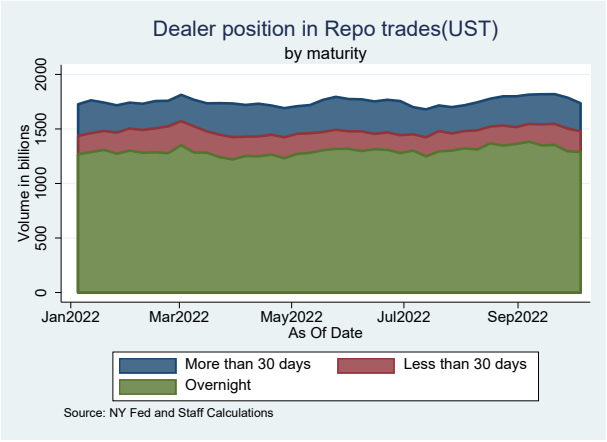
The intermediation capacity of dealers has not matched the increase in Treasuries outstanding

5. Total outstanding volume of Treasuries and primary dealer trading volumes
(volumes in millions)

- Since the pandemic, the volume of US debt outstanding increased by around 30%.
- At the same time, dealer intermediation remained at the same low levels.

Overnight is the dominant maturity in Treasury repos

6. Dealer position in Treasury repo by maturity
(Volume in billions)



- More than 70% of Treasy repo trades have overnight maturities or open maturities (i.e. continued overngiht).

Sources: TMPG report (2019), FR 2004 data from NY Fed and Staff calculations. Office of Financial Reseach (OFR), FEDS note (2020) based on Trace data and Federal Staff calculations, SIFMA
Notes: Figure 4 presents estimates of shares based on a number of assumptions on the FR2004 data (see TMPG Report for the assumptions used). The period covered is the first half of 2017. IDB stands for Interdealer Broker platform. Hybrid Clearing is executed on an IDB platform where one counterparty is a member of a CCP and submits its transaction with the IDB for central clearing while the other counterparty is not a member and clears the transaction bilaterally with the IDB.
, FR 2004 data from NY Fed and Staff calculations.
Notes: Figure 6 reports the trading volume shares of the different participant types for nominal coupon securities on Treasury IDB platforms from April 1, 2019 to December 31, 2019. Buy-side share is assumed to capture institutions such as hedge funds and investment firms but may also include other financial institutions such as banks.