



# U.S. Treasury Central Clearing

Industry Considerations Report

November 2024



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*This report is intended identify and organize the various considerations and activities market participants should use while assessing and completing their preparations for the upcoming Securities and Exchange Commission (SEC) rule compliance dates. It reflects input and feedback from a wide range of industry participants, including buy side, sell side and intermediary participants and other subject-matter expertise. This report is intended to assist sell-side and buy-side market participants alike as they develop and implement their policies and practices in response to the U.S. Treasury clearing regulatory requirements.*

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# Section 1: Executive summary



## 1.1 Introduction

On December 13, 2023, the SEC voted 4-1 to approve a final rule, “Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Respect to U.S. Treasury Securities” (SEC rule). Among other changes, the SEC rule mandates the clearing of certain eligible secondary market transactions (ESMTs) in U.S. Treasury securities. The SEC rule triggers a significant structural change to the U.S. Treasury market and will have significant impacts on broker-dealers, institutional investors, (e.g., asset managers, hedge funds), interdealer brokers, principal trading firms, banks and covered clearing agencies (CCAs).

The Treasury securities market plays a key role in the US and global economies as a tool for investment and hedging, providing a risk-free benchmark for various other financial instruments and serving as a mechanism for the implementation of the Federal Reserve’s monetary policy.<sup>2</sup> The Treasury securities market is one of the most liquid and reliable markets worldwide. As of July 2024, total outstanding Treasuries was approximately \$27 trillion, with an average daily trading volume of \$870 billion.<sup>3</sup> Repurchase and reverse-repurchase transactions collateralized by Treasury securities (Treasury repo) also serve as a critical financing tool for market participants to fund their positions or as a way to invest cash. Data shown in the adopting release of the final rule indicated that daily Treasury repo transaction volume was approximately \$4.6 trillion as of April 2023.<sup>4</sup>

Transaction clearing involves a clearing agency stepping between a buyer and seller to handle certain elements of transaction processing, manage risk and pay down obligations. A considerable portion of Treasury securities transactions is uncleared today. In a December 13, 2023, statement on the SEC rule, the SEC Chair said that “having a significant portion of the Treasury markets uncleared – 70 to 80 percent of the Treasury funding market and at least 80 percent of the cash markets – increases system-wide risk.”<sup>5</sup> Uncleared transactions today have varied risk management and margin practices across different institutions, and trading counterparties are exposed to each other’s creditworthiness.

The SEC also stated<sup>6</sup> that it believes central clearing reduces the risks among counterparties, lowers the overall margin requirement to the system through multi-party netting, and reduces systemic risks – through the robust rules of the clearinghouses themselves as well as through collection of initial and variation margin. The SEC indicated in the adopting release<sup>7</sup> that it believes that central clearing broadens the market to a wider group of liquidity providers and can thus improve market liquidity and reliability of access to funding during periods of market stress.

The SEC rule will drive changes to the overall U.S. Treasury market structure and require the integration of market participants, which will now be mandated to centrally clear transactions for the first time. New CCAs may also emerge, and market participants may decide to connect to one or more CCAs to support their trading and clearing strategies. Such changes to the market will require new operations and capabilities to accommodate increased clearing volumes and new relationships between firms. The first SEC rule compliance date (March 31, 2025) is fast approaching and existing participants will have a considerable amount of work to do for the subsequent compliance dates on December 31, 2025, and June 30, 2026. Market participants should have a clear sense of how (and the extent to which) their organization will be impacted. Importantly, there are certain steps where firms do not need to wait until the compliance dates to act, for example, setting up direct or indirect access to the CCA. Firms should proactively be shifting from impact analysis to implementation efforts so that they are prepared for the transition to mandatory clearing. This report was prepared as a resource to support market participants in implementing the changes required by the SEC rule.

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<sup>2</sup> “Fact Sheet: Improving Risk Management and Increasing Clearing in U.S. Treasuries,” Page 2, SEC, December 13, 2023, <https://www.sec.gov/files/34-95763-fact-sheet.pdf>.

<sup>3</sup> “US Treasury Securities Statistics,” Securities Industry and Financial Markets Association (SIFMA), accessed August 26, 2024, <https://www.sifma.org/resources/research/us-treasury-securities-statistics>.

<sup>4</sup> “Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Response to U.S. Treasury Securities,” SEC, December 13, 2023, <https://www.federalregister.gov/documents/2024/01/16/2023-27860/standards-for-covered-clearing-agencies-for-us-treasury-securities-and-application-of-the>.

<sup>5</sup> Gensler, Gary. “Statement on Final Rules Regarding Treasury Clearing,” SEC, December 13, 2023, <https://www.sec.gov/newsroom/speeches-statements/gensler-statement-treasury-clearing-121323>.

<sup>6</sup> See note 4.

<sup>7</sup> “SEC Adopts Rules to Improve Risk Management in Clearance and Settlement and Facilitate Additional Central Clearing for the U.S. Treasury Market,” SEC, December 13, 2023, <https://www.sec.gov/newsroom/press-releases/2023-247>.

## 1.2 Overview of the SEC rule

The SEC rule imposes the following requirements on CCAs providing central counterparty services for Treasury securities. Currently, the Fixed Income Clearing Corporation (FICC), a subsidiary of the Depository Trust and Clearing Corporation (DTCC), is the sole CCA, but these requirements will apply to any incoming CCA registrants.

**Mandatory clearing of ESMTs:** The SEC rule requires CCAs for Treasury securities to have reasonably designed written policies and procedures that require mandatory clearing of ESMTs in Treasury securities of a type accepted for clearing by a registered CCA.

Definition of ESMTs include:

- Treasury repo transactions in which one of the counterparties is a direct participant<sup>8</sup>
- Cash purchases or sales of Treasury securities entered into by a direct participant that (1) brings together multiple buyers and sellers using a trading facility (such as a limit order book) and (2) is a counterparty to both the buyer and seller in two separate transactions (for purposes of this requirement, interdealer brokers or IDBs)
- Cash purchases or sales in Treasury securities between clearing members and specific other institution types, including registered broker-dealers, government securities brokers and government securities dealers

**Exclusion from eligible secondary market transactions:** Certain types of Treasury securities transactions are excluded from the definition of ESMTs. These include:

- Treasury repo and cash transactions in which one of the counterparties is a central bank, sovereign entity, international financial institution or natural person
- Treasury repo in which one of the counterparties is a covered clearing agency, derivatives clearing organization, foreign central counterparty, or state or local government
- Treasury repo in which a direct participant's transaction counterparty is an affiliated counterparty<sup>9</sup>, provided that the affiliate submits to CCA for novation all other Treasury repo transactions to which it is a counterparty

**Access to clearing:** CCAs will be required to "ensure that it has appropriate means to facilitate access to clearance and settlement services of all eligible secondary market transactions in U.S. Treasury securities, including those of indirect participants."<sup>10</sup> As a self-regulatory organization and the current sole CCA, the FICC is required to update its rulebook based on revised clearing access models, requirements and rules in accordance with the SEC's notification, comment period and finalization requirements.

**Separate proprietary and customer position and margin:** CCAs must separately calculate, collect and hold margin for a direct participant's proprietary positions and for margin held in aggregate for the netting member's customers (i.e., indirect participants).

**15c3-3 rule amendments:** The SEC rule also amends the broker-dealer customer protection rule (Rule 15c3-3) and the underlying reserve to permit margin required and on deposit at a CCA to be included as an offsetting debit in 15c3-3 and the proprietary securities account of a broker or dealer (PAB) reserve formula, if certain conditions are met.

## 1.3 Compliance dates

The SEC adopted a phased implementation timeline for the requirements in the final rule. The first compliance date is March 31, 2025, by which time CCAs must implement enhanced practices as outlined in the respective rulebook of each CCA, which include risk management, margin, customer asset protection, and access to clearance and settlement services. The second compliance date is December 31, 2025, by which time direct participants of CCAs must comply with the requirements to clear eligible cash secondary market transactions. The third compliance date is June 30, 2026, by which time direct participants of CCAs must be compliant with the requirements to clear eligible Treasury repo transactions.

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<sup>8</sup> See definition of "direct participant" in the appendix.

<sup>9</sup> As defined in SEC Rule 17ad-22(a).

<sup>10</sup> "Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Response to U.S. Treasury Securities," Page 210, SEC, December 13, 2023, <https://www.federalregister.gov/documents/2024/01/16/2023-27860/standards-for-covered-clearing-agencies-for-us-treasury-securities-and-application-of-the>.



## 1.4 Implementation considerations and themes

Market participants will need to make a variety of changes related to their CCA account structures, trading accounts, margin, segregation and collateral management processes, technology and data, and compliance frameworks. At the same time, changes are likely in the way firms commercially price, execute, and book U.S. Treasury and U.S. Treasury Repo (e.g., pre-trade credit checks, trade submission and booking model changes) to enable a smooth transition to mandatory clearing. While there are industry benefits of moving to central clearing, the transition is not without risks. A failure to address key market structure gaps (e.g., done-away model adoption) and resolve open questions and challenges identified to date could impact liquidity and volatility in U.S. Treasury markets and increase risk to market participants.

Preparation of this report included conversations and industry meetings with many U.S. Treasury market participants, who identified key findings and themes regarding 1) their immediate implementation priorities, 2) key market structure changes required to enable the transition to mandatory clearing, and 3) critical questions and issues that require industry-level resolution. The report covers these themes, and the associated considerations for implementation, in greater detail in the subsequent sections.

1. Market participants will need to obtain or expand access to clearing: While over 200 direct participants<sup>11</sup> and over 3,500 indirect participants<sup>12</sup> already have access to U.S. Treasury clearing, many firms that transact in U.S. Treasuries are only transacting uncleared. These firms will need to obtain access to clearing to continue trading U.S. Treasury purchases and sells, and/or meet their financing needs with U.S. Treasury repos. Other firms may have access to clearing but will need to expand their existing access models to satisfy customer or business capacity needs or set up additional funds or accounts to clear. Certain firms based outside the US may also be impacted by the SEC rule given it applies to CCAs with no specific jurisdiction exemption, for instance, a non-US firm will be subject to the clearing mandate if it is a direct participant of CCAs or transacts in U.S. Treasury repo with a direct participant. The industry survey results published by FICC in July 2024 indicated that a minimum of 7,000 new relationships are expected to need to be set up between direct and indirect participants in advance of the compliance dates.<sup>13</sup>

To prepare for this influx of new direct and indirect clearing relationships, direct participants must first decide the access models they will offer to customers. Direct participants will need to consider the accounting treatment, impacts to financial resources (e.g., regulatory capital and liquidity), technology and operational changes needed, and commercial considerations (e.g., pricing) when deciding on the access models they intend to offer. Indirect participants will also need to decide on their access model preferences, based on those offered by direct participants, which includes evaluating similar considerations. Upon deciding on preferred access models, direct participants will need to setup client clearing access with their customers and FICC, or another CCA, and indirect participants will need to be onboarded with their bank, broker-dealer, or Futures Commission Merchant (FCM) relationships to access clearing. Relevant contractual agreements will also need to be executed between indirect participants and their executing brokers/clearing firms before the compliance dates. Given these considerations and the significant amount of work required to obtain or expand access to clearing, it will be increasingly important for firms to determine their options for access to clearing, including the availability of a done-away clearing model.

2. Certain netting members will need to change their FICC account structures by February 2025: While the corresponding compliance date for account structure changes is March 2025, netting members at FICC will be required to separate proprietary and customer activity (including Netting Member affiliates) into distinct FICC accounts by late February 2025. These changes will impact Netting Members that provide Correspondent Clearing or Prime Broker Clearing services today or plan to offer Agent Clearing Services in the near future. For example, any proprietary and customer cash purchases and sales of U.S. Treasuries that historically could have been commingled in a FICC member's account must be split into distinct FICC accounts to facilitate processing of eligible secondary market transactions. Netting members should review internal booking models and trade data, and work with FICC to identify existing accounts that require separation.
3. Market participants need to decide on approach and methods for margining customer activity: A new account designation, Segregated Indirect Participants Account (applying to both Sponsoring and Agent Clearing Services), was established by FICC to support separately calculating and segregating customer margin from that of the Netting Members. This account designation is

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<sup>11</sup> "FICC-GOV Member Directories," Fixed Income Clearing Corporation (FICC), accessed on September 3, 2024, <https://www.dtcc.com/client-center/ficc-gov-directories>.

<sup>12</sup> Includes Sponsored Members and Executing Firm Customers

<sup>13</sup> "The U.S. Treasury Clearing Mandate: An Industry Pulse Check," FICC, July 2024, <https://www.dtcc.com/-/media/WhitePapers/Treasury-Clearing-Mandate.pdf>.

also designed to satisfy 15c3-3 debit conditions, and it may be a pre-requisite for extending FICC-Chicago Mercantile Exchange (CME) cross-margining to indirect participants, as well cross-margining arrangements offered for new CCAs, all of which would be subject to SEC approval. Designation of an indirect participant's account as segregated is optional, however when designated by the Netting Member, they must follow the FICC's segregated customer margin collection and deposit requirements.

To determine whether to set up an indirect participant account as segregated, Netting Members should evaluate implications including:

- 1) Required minimum requirements associated with opening a segregated account (e.g., FICC's proposed \$1 million cash per participant threshold)
- 2) Financial resource impacts from posting margin for large volumes of customer activity and the net vs. gross margin calculation mechanism for a given account designation
- 3) Changes that need to be implemented to operationalize the end-to-end margin flow for Segregated Indirect Participants Accounts in accordance with FICC margin timing
- 4) Balance sheet benefits and process changes associated with taking 15c3-3 debit (SEC registered Broker-Dealers only)
- 5) Future cross-margining opportunities
- 6) Alternative margin solutions that may be leveraged for improved operational efficiencies or to solve specific margin challenges (e.g., regulated fund restrictions).

Netting Members are allowed and may choose to collect customer margin using non-segregated flows similar to the current Sponsored Model. Netting Members can choose to designate Segregated Indirect Participants Accounts for certain customers (e.g., Sponsored Members and/or Executing Firm Customers margin posting with onward posting to FICC) to enable the 15c3-3 debit, while also opting for a non-segregated flow for their other customers (e.g., Sponsored Members and/or Executing Firm Customers not onward posting to FICC and thus not meeting the 15c3-3 debit conditions).

4. Segregated customer margin flows need to be designed in accordance with FICC timelines and limitations: Netting members that decide to collect margin from customers and onward-post to FICC need to design and operationalize an end-to-end collateral management flow that works seamlessly with FICC's Clearing Fund process and accelerated timeline. Existing margin operations for other cleared products may be leveraged, but adjustments to existing processes and systems will be required to address these key steps:
  - 1) Consume FICC Start of Day (SOD) margin calls, which typically are made available before 7:05 a.m. Eastern Time ET).
  - 2) Potentially pre-fund customer margin due to the 9:30 a.m. ET cutoff for satisfying FICC SOD margin calls.
  - 3) Calculate and issue margin calls to customers (which may include adoption of the proposed minimum margin requirement).
  - 4) Collect customer cash and collateral with eligibility checks in place.
  - 5) Update or develop procedures to manage cash and collateral received from customers, which include onward-post to FICC via 1) substitution, 2) satisfying FICC intraday margin calls and 3) holding customer assets overnight.
5. Adequate industry access to clearing for cash purchases and sales (relative to peak trading volume/notional) is critical to avoid negative impacts on market liquidity and volatility: Cash purchases and sales constitute a substantial portion of the U.S. Treasury market, and a smooth transition to operations under the SEC rule is essential for continued stability across the entire market. Since IDBs are not permitted to clear transactions on behalf of customers, market participants who trade on IDB platforms that do not currently clear U.S. Treasury cash purchases and sales, such as hedge funds and principal trading firms (PTFs), will need to obtain done-away clearing access to continue this type of market activity after the December 2025 compliance date. While a limited subset of these types of market participants may explore becoming direct participants, many cannot for regulatory, operational or other reasons. As a result, to continue participating in these markets they must access clearing indirectly via a clearing firm offering clearing access (e.g., Sponsoring or Agent Clearing Member). In addition to clearing firm considerations around providing done-away clearing access, IDBs will need to ensure they have the capability for indirect participants to designate clearing brokers, and for executed trade data to be transmitted to indirect participants' clearing firms for submission to CCAs for clearing. Irrespective of clearing access model(s), it remains critical that, prior to go-live, adequate clearing capacity exists, commensurate with peak cash purchase and sales trading volume/notional, in order to maintain U.S. Treasury market liquidity and stability.

6. Adoption of a done-away model requires expansion of existing platforms, technologies, and commercial buy-in from direct participants: Many market participants view done-away model adoption as critical to the success of U.S. Treasury clearing, as it allows buy-side participants to clear eligible secondary market transactions while continuing to transact through existing executing broker relationships. Implementation of a functional done-away model will benefit from expanding existing functionalities and technology to bridge the gaps in the current market structure. Collaboration across the industry, including buy-side and sell-side participants, CCAs, and technology vendors, will be important to increase the efficiency of done-away clearing, including:
  - 1) To the extent necessary, calibrating pre-trade limit checks to ensure acceptance for clearing prior to trade execution
  - 2) Reviewing existing infrastructure connecting market participants together to ensure near real-time messaging capability among executing brokers, executing customers, and clearing firms across the trade lifecycle
  - 3) To the extent necessary, technology vendor connectivity with CCAs to provide streamlined trade submission processes
  - 4) Supporting workflows for bunched order/block trade execution and subsequent individual fund/subaccount level allocations
7. New entrant CCAs will require industry-wide structure changes: Multiple firms, such as Intercontinental Exchange (ICE) and CME have indicated intent to register as CCAs for U.S. Treasury clearing. In addition to the potential trading impacts, there are also implications on market structure and implementation of the SEC Rule. These are dependent on 1) the timing of when new entrant CCAs become available, 2) services and access models that new CCAs will offer, 3) market participants' decisions on leveraging new CCAs' models, 4) level of effort and timelines required to onboard with a new CCA, and 5) costs and risks associated with operations in a multi-CCA environment. As the industry waits for new entrant CCAs to announce their service offerings and rulebook updates, market participants should be prepared to evaluate potential implications to their business and operations in a multi-CCA environment. Example considerations include market connectivity, capability required for operations (e.g., designating preferred CCA and trade routing to specified CCAs), potential differences in margin practices across different CCAs, and netting and regulatory capital implications for having activity across multiple CCAs.
8. Industry practices may be needed to provide reference data for identifying in-scope activity: A fundamental aspect of being able to adhere to the U.S. Treasury clearing mandate is the ability to identify transactions subject to mandatory clearing, which is contingent on having data indicating in scope entity and product types. Industry participants have identified challenges in establishing an authoritative list of in-scope legal entities, as in addition to registered broker-dealers, government securities brokers and dealers may register with other supervisory agencies<sup>14</sup> in addition to the SEC. Establishment of an industry practice (e.g., self-disclosing process, standard industry data source) may be required to help market participants obtain accurate identification of activity in scope for mandatory clearing, as well as potential for publication of a comprehensive list of government securities brokers and dealers.

## 1.5 Report overview

### 1.5.1 Objectives of this report

To support the industry transition, SIFMA has been actively working with market participants in exploring the implications of the SEC rule and identifying potential paths forward for resolving industry challenges for the implementation of US Treasury security and repo clearing (USTC). Key focus areas to-date have included legal documentation and advocacy around certain challenges faced by market participants.

The information in the USTC industry considerations report was prepared by SIFMA and EY US. It is designed to capture and organize the various considerations and activities market participants should evaluate while assessing and completing preparations for the upcoming SEC rule compliance dates. It includes input and subject-matter analysis from market participants on both the buy side and sell side that was gathered 1) via a survey issued to SIFMA member firms by SIFMA and EY US, 2) from information workshops hosted with SIFMA member firms, and 3) from bilateral conversations with market participants. This report is intended to be utilized by sell-side and buy-side market participants alike as a guide as they implement changes in response to the USTC requirements. The primary objectives of this report are to:

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<sup>14</sup> "Government Securities Act (GSA) regulations", accessed November 7, 2024, <https://www.govinfo.gov/content/pkg/USCODE-2011-title15/pdf/USCODE-2011-title15-chap2B-sec78o-5.pdf>.

- Provide an implementation blueprint for industry participants on implementation priorities.
- Identify the key steps to operationalize change across different clearing access models.
- Surface key issues, open questions, and gaps in market structure and provide recommendations on the path to resolution.
- Provide views on the target state transaction lifecycle from execution through margin processing, including proposed high-level transaction flows.
- Provide insights on implementation dependencies across work efforts, where possible.
- Serve as an educational resource on the rule and its implications.

## 1.5.2 How to use this report

The USTC industry considerations report details critical activities that institutions should consider as they design and implement a process for Treasury clearing. Section 2 through Section 6 of this report are sequenced according to the rule compliance timelines, starting with FICC rulebook updates and ending with done-away repo, relating to the final compliance date. Section 7 through Section 11 are sequenced based on a prioritization exercise performed with report contributors. The activity types and the corresponding example considerations provided in this report are intended to serve as a baseline reference for impacted market participants as they develop implementation plans for their respective organizations.

The following table format is used throughout this report to capture implementation considerations:

Column title	Title description
Activity type	Refers to the category of actions market participants should consider in preparing for implementation of Treasury clearing
Example consideration	Refers to a non-exhaustive list of activities or requirements individual market participants should consider acting on for implementation of Treasury clearing

The USTC industry considerations report provides several types of considerations tailored to specific market participant groups. The table below provides a description of the intended audience for each consideration type:

Consideration type	Description
Direct participant considerations	Considerations specific to market participants that are direct participants of CCAs (e.g., Sponsoring Member or Agent Clearing Member of FICC)
Indirect participant considerations	Considerations specific to market participants that are indirect participants of CCAs (e.g., asset managers, hedge funds)
Market participant considerations	Considerations that are applicable to both direct and indirect participants of CCAs; considerations also include those related to challenges requiring additional collaboration by market participants
CCA considerations	Considerations that require potential process changes/enhancements at the CCA

For the purpose of providing clarity in the specific context of a report section, several naming conventions are being used to refer to “direct participants” of CCAs, including:

Terminology	Description
Direct participant	Used as a general term throughout this report and not specific to any one CCA.
Netting Member	Used specifically in reference to FICC or FICC specific context, refers to direct participants that are full Netting Members of FICC, excluding Centrally Cleared Institutional Triparty Members.
Clearing Firm	Used in the context of done-away discussions, refers to direct participants that are acting in clearing broker capacity, to differentiate from direct participants that are acting in execution broker capacity.

## Section 2: FICC rulebook change implications

## 2.1 Introduction

In response to requirements set forth in the SEC Rule, FICC filed three proposed updates<sup>15</sup> to its Government Securities Division (GSD) Rulebook (rulebook) in March and June 2024. Subject to approval by the SEC, these updates are required to be reflected in the rulebook no later than March 31, 2025, with staggered effective dates for netting members. Netting members will need to comply with the house and customer account separation and customer margin segregation requirements by March 31, 2025. Netting Members will be obligated to comply with the trade submission requirement (i.e., the clearing mandate) by December 31, 2025 with respect to buy/sell transactions that are considered eligible secondary market transactions, and June 30, 2026 with respect to Treasury repo transactions that are considered eligible secondary market transactions.

Currently, the GSD Rulebook change proposals are filed with the SEC and commentary has been provided by various market participants and industry groups for consideration by the SEC and FICC.

## 2.2 Current options to access clearing at FICC

FICC's GSD offers a variety of membership models for sell-side and buy-side market participants to clear U.S. Treasury transactions. Participants at GSD can be broadly categorized into (1) direct participants and (2) indirect participants.

Direct participants that are Netting Members of FICC's GSD can directly interact with FICC to submit and clear their proprietary trades. Qualified Netting Members can also become a Sponsoring Member, Correspondent Clearing Member, or Prime Broker Services Member to provide clearing services to clients. Once the application is submitted to FICC and approved, these members can submit transactions on behalf of their clients to FICC for clearing. Direct participants are responsible for meeting margin obligations for the transactions they submit to FICC for clearing, including both proprietary and client transactions.

Market participants can also access clearing at FICC via a limited GSD direct membership type – Centrally Cleared Institutional Triparty (CCIT) membership, which is a service created specifically for tri-party cash lenders transacting client-to-dealer tri-party repo. The CCIT service has not been broadly adopted, with only six current CCIT members,<sup>16</sup> given Registered Investment Companies (RICs) are not currently permitted to become CCIT members at FICC (*Note: RIC participation in CCIT is subject to approval by SEC Division of Investment Management and would require a separate regulatory filing by FICC*)<sup>17</sup>.

Indirect participants are those that leverage direct participants' membership to access clearing at FICC. A Sponsored Member is a limited member of FICC, and their transactions are cleared through a Sponsoring Member, a direct participant who is a full-service Netting Member of FICC. Indirect participants using the correspondent/prime broker clearing services (i.e., Executing Firms) can enter into trades with third parties and send the trades to their correspondent/prime broker clearing members for clearance with FICC. Executing Firm customers are not members of FICC.

The proposed rulebook changes include certain updates to FICC's access models, which are detailed in the next section of this report (Section 2.3). Additional information on FICC's different access models is detailed in Section 7.

## 2.3 Overview of FICC proposed rulebook updates

The proposed GSD Rulebook changes include updates to its access models, mechanisms for margin calculation and collection, and trade submission requirements. The updates are intended to promote greater access to clearing, meet the margin segregation requirements outlined in the SEC Rule, enable satisfaction of 15c3-3 debit conditions, and enhance FICC's capability to monitor members' submission of trades for clearing. Comment letters about the proposed rulebook updates have been submitted by SIFMA and other industry groups, and the proposed updates are subject to change prior to SEC approval.

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<sup>15</sup> "FICC Regulatory Rule Filing SR-FICC-2024-005," FICC, March 11, 2024, <https://www.dtcc.com/-/media/Files/Downloads/legal/rule-filings/2024/FICC/SR-FICC-2024-005.pdf>; "FICC Regulatory Rule Filing SR-FICC-2024-007," FICC, March 14, 2024, <https://www.dtcc.com/-/media/Files/Downloads/legal/rule-filings/2024/FICC/SR-FICC-2024-007.pdf>; "FICC Regulatory Rule Filing SR-FICC-2024-009," FICC, June 12, 2024, <https://www.dtcc.com/-/media/Files/Downloads/legal/rule-filings/2024/FICC/SR-FICC-2024-009.pdf>.

<sup>16</sup> "FICC-GOV Member Directories. FICC – CCIT Member Directory," FICC, accessed September 3, 2024, <https://www.dtcc.com/client-center/ficc-gov-directories>.

<sup>17</sup> "Centrally Cleared Institutional Tri-Party (CCITTM) Service," Page 9, FICC, June 2023, <https://www.dtcc.com/-/media/Files/Downloads/Microsites/Treasury-Clearing/CCIT-Overview-November-2022.pdf>.



### 2.3.1 Proposed modification to facilitate access to clearance and settlement services of U.S. Treasury securities (filed March 2024)

FICC proposed the following rulebook updates to facilitate greater access for both direct and indirect participants to clear and settle secondary market transactions in the U.S. Treasury markets.

Proposed update	Update details
Rebranded access model	Renaming and consolidation of FICCs current Correspondent Clearing and Prime Broker Services as the Agent Clearing Service (ACS). Correspondent Clearing and Prime Broker Services Members will now also be referred to as Agent Clearing Members (ACMs). Executing Firms will be referred to as Executing Firm Customers. In the proposed rulebook updates, FICC also elaborates on the functions, requirements, and obligations of the ACMs.
Revised Sponsored Membership qualifications	Simplifies the qualifications for Sponsoring Members by 1) collapsing the current two categories of qualifications into a single one and 2) removing the requirement under which Sponsored Members must either be a qualified institutional buyer or satisfy the financial requirements under the framework of an institutional buyer.  Clarifies the eligibility criteria for non-US Netting Member applicants, and deems how Netting Member applicants can be considered, even if they do not qualify under the current FICC category rules.
Other changes	The proposed rules make several other changes to the FICC rulebook - for example, clarifying the eligibility criteria for non-U.S. and other applicants to be Netting Members, the criteria and related requirements for the different GSD memberships, and different models for accessing GSD's services.

### 2.3.2 Proposed modification for margin collection, holding, and conditions of Note H to Rule 15c3-3 (filed March 2024)

FICC proposed the following rulebook updates to enable the separate and independent calculation, collection and holding of margin for direct participants' proprietary and customer positions, and support broker-dealers in meeting the conditions for taking the debit in the 15c3-3 formula.

Proposed update	Update details
Revised account structure	Revises account structures to only allow the same type of activity (i.e., either proprietary or customer via Sponsored Service or Agent Clearing Service) to be submitted for clearing under a designated FICC membership/account type.  Clarifies that a Netting Member's proprietary transactions will not include those that the Netting Member enters into on behalf of an affiliate (i.e., affiliate transactions are treated the same as customer transactions).
Segregated Indirect Participants Account and margin	Provides Netting Members optionality to designate Indirect Participant Accounts to be Segregated Indirect Participants Accounts. The purpose of this designation is to allow Netting Members to direct FICC to calculate, collect, hold and segregate margin deposited in connection with the account in accordance with the conditions described in Note H to Rule 15c3-3a: <ul style="list-style-type: none"> <li>▪ A Netting Member can set up multiple Segregated Indirect Participant Accounts and each account can hold activity for multiple customers (i.e., Segregated Indirect Participants).</li> <li>▪ FICC calculates separate margin amounts for each Segregated Indirect Participant and for such amounts to be collected on a gross basis. <ul style="list-style-type: none"> <li>▪ The minimum margin amount for customers in Segregated Indirect Participants Accounts is \$1million cash per Segregated Indirect Participant.</li> </ul> </li> <li>▪ FICC will establish on its books and records a Segregated Customer Margin Custody Account for holding margin deposited for each Segregated Indirect Participants Account and will have limited use of margin in those accounts: <ul style="list-style-type: none"> <li>▪ The Segregated Customer Margin will be used exclusively to settle and margin transactions in U.S. Treasury securities recorded in the corresponding Segregated Indirect Participants Account.</li> </ul> </li> </ul>

Proposed update	Update details
	<ul style="list-style-type: none"> <li>FICC will not be permitted to use Segregated Customer Margin supporting one Segregated Indirect Participant's transaction to secure or settle transactions of another Segregated Indirect Participant.</li> <li>The Segregated Customer Margin cannot be used by FICC to cover the broker-dealer or any other clearing member default obligation to FICC.</li> </ul>
Disclosure of margin calculation methodology	Aligns FICC margin calculation methodology with the revised account structure and enhanced public disclosure of margin components schedule, and the clearing fund calculation methodology.

### 2.3.3. Proposed modification relating to the adoption of a trade submission requirements (filed June 2024)

Additional rulebook changes were filed in June 2024 to require members' submission of eligible secondary market transactions, as well as impose new and expand upon existing membership standards.

The proposed modifications include adoption of provisions that enable FICC to identify and monitor members' ongoing compliance with the proposed trade submission requirement:

Proposed update	Update details
Refining trade submission requirements to include eligible secondary market transactions	Requires netting members to submit for clearance and settlement all of the eligible secondary market transactions to which they are a counterparty, as required by the SEC Rule.
Authority to request information	Allows FICC to request information from its members or view books and records relevant to monitor the trade submission requirement, should FICC request such information.
Requirement to notify FICC of non-compliance	Requires each Netting Member to notify FICC of non-compliance of the proposed trade submission requirement within 2 business days of discovery.
Annual trade submission attestation	Requires each Netting Member's chief compliance officer or most senior authorized officer performing a similar function, to provide FICC with an annual attestation of ongoing compliance with the trade submission requirement. A \$10,000 fine will be applied the business day following the due date and every 10 business days after, until the form is provided.
Triennial independent review and report	Requires each Netting Member to conduct an independent review of ongoing compliance with the proposed trade submission requirement every three years. Under this sub-rule, members are required to engage either an internal independent group – their compliance or independent internal audit functions, or an external independent third party approved by FICC to conduct independent reviews.

The modifications also focus on clarifying and conforming definitions in the rulebook to improve accuracy and transparency:

Proposed update	Update details
Scope of eligible secondary market transactions	Adopts the SEC's definition of secondary market transactions.
Updates to existing pre-netting restrictions	Removes existing disciplinary actions for violation of prohibition against pre-netting practices and replaces it with new measures subjecting members to a credit compliance charge that is equal to the greater of either: (i) \$1 million, or (ii) 25% of the normal calculation of the Netting Member's required fund deposit.
Additional changes to rulebook terminology and statutory definitions	Aligns terminology to SEC definitions and improves the organization of the rulebook to provide greater clarity and transparency for members.
Clarification for bank branches	Clarifies that a branch of a bank is not a separate legal entity from the bank. Bank Netting Memberships include all bank branches under the same membership. For example, if the New York branch of a bank legal entity is a Netting Member, then all branches of that bank legal

	entity are considered part of the same Netting Membership and therefore must comply with the rulebook, including the trade submission requirements.
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In addition, the modifications include enhancements to the membership standards for applicants and existing members:

Proposed update	Update details
Heightened initial qualification requirements	<p>Proposes various changes to Rule 2A of the rulebook, including:</p> <ul style="list-style-type: none"> <li>▪ Requires applicants to maintain adequate liquidity to meet actual or projected funding to FICC.</li> <li>▪ Authorizes FICC to engage legal counsel to validate guarantor guarantees, at the member’s expense; and requires the guarantor’s annual audited financial statements and any other information FICC deems necessary to be provided.</li> <li>▪ Requires applicants to provide one year of “business history.” Business history encompasses the operating and management history and outlook of the applicant.</li> <li>▪ Requires applicants to provide a business plan including proposed use of GSD’s services for FICC assessment.</li> <li>▪ Gives FICC the authority to deny an applicant’s membership and not permit reapplication until the reason for denial is adequately addressed.</li> </ul>
Ongoing membership requirements	<p>Proposes various changes to Rule 3 of the rulebook, including:</p> <ul style="list-style-type: none"> <li>▪ Updates to the type of financial information FICC may request from a Member’s Affiliate, including the annual audited financial statements of the Affiliate.</li> <li>▪ Subject members to a fine, require adequate assurances or a Credit Compliance Charge if they fail to provide requested information.</li> <li>▪ Clarifies timing and manner in which members must notify FICC of non-compliance with applicable membership standards.</li> <li>▪ Clarifies that ongoing member compliance will be monitored through annual and periodic due diligence requests by FICC.</li> </ul>
New fine schedules	Changes the existing “Financial Reports” category in which fines for failing to timely provide information are \$5,000 on the first occurrence, increasing by \$5,000 for each additional occurrence, up to 4 failures.

## 2.4 Evaluating the impacts of the SEC rule and GSD Rulebook updates

To comply with requirements set forth in the proposed rulebook updates, there are several key areas that direct and indirect participants should assess to evaluate the changes required across their organizations. Firms will have different considerations based on if they are direct participants, typically consisting of banks, broker-dealers and FCMs, or indirect participants typically consisting of asset managers, hedge funds, PTFs, and corporate and some regional banks.

Direct participant considerations:

Activity type	Example considerations
Business activity and transaction flow	<ul style="list-style-type: none"> <li>▪ Identify activity in-scope for mandatory clearing for each of the compliance dates - December 2025 (cash) and June 2026 (repo).</li> <li>▪ Review booking models and entity structures to identify activity requiring remediation by March 2025 for account separation (<i>refer to Section 3 of this report for additional details</i>).</li> </ul>
Access model and service offering	<ul style="list-style-type: none"> <li>▪ Understand firm and customer needs for transacting in and clearing of eligible secondary market transactions.</li> <li>▪ Evaluate each access model to determine the model(s) that is (are) best suited for meeting firm and customers’ needs.</li> <li>▪ Evaluate whether to offer non-segregated customer margin, segregated customer margin, or both based on firm and customer needs.</li> </ul>
Liquidity and funding	<ul style="list-style-type: none"> <li>▪ Estimate additional cash/securities may be required to satisfy CCA margin requirements due to an increase in clearing volume for proprietary activity and in some cases</li> </ul>

Activity type	Example considerations
	<p>customer activity (e.g., potential need to pre-fund for segregated customer margin, post CCA margin on behalf of non-segregated customer)</p> <ul style="list-style-type: none"> <li>Assess how different access models may impact liquidity ratios and regulatory capital requirements given the different balance sheet treatment.</li> </ul>
Technology infrastructure	<ul style="list-style-type: none"> <li>Evaluate changes required to trade processing platforms to support trade submission to FICC.</li> <li>Review existing collateral management systems to assess changes required to support margin processing with FICC and customers.</li> </ul>
Operational processes	<ul style="list-style-type: none"> <li>Review existing FCM / clearing operational functions to see what processes can be expanded upon versus need to be established net new.</li> </ul>
Compliance	<ul style="list-style-type: none"> <li>Assess current compliance and control processes to identify updates needed to adhere to FICC guidelines around membership compliance monitoring and trade submission requirements.</li> </ul>

Indirect participant considerations:

Activity type	Example considerations
Business activity and transaction flow	<ul style="list-style-type: none"> <li>Identify activity in-scope for mandatory clearing for each of the compliance dates - December 2025 (cash) and June 2026 (repo).</li> </ul>
Access model for clearing	<ul style="list-style-type: none"> <li>Evaluate trading/investment strategies that involve transacting of U.S. Treasury cash purchases and sales and Repos subject to mandatory clearing.</li> <li>Discuss service offerings with direct participants and evaluate access models to determine model(s) and relationships that is (are) best suited for meeting the firm's trading/investment strategies.</li> </ul>
Funding	<ul style="list-style-type: none"> <li>Discuss with direct participants to understand their plan on collecting customer margin.</li> <li>Estimate funding requirements as it relates to broker-dealer margin requirements.</li> </ul>
Technology infrastructure	<ul style="list-style-type: none"> <li>Evaluate changes that are required to be made to trade processing platforms to support connectivity to Netting Members.</li> <li>Review existing collateral management systems to assess changes required to support margin processing with Netting Members.</li> </ul>
Operational processes	<ul style="list-style-type: none"> <li>Consider leveraging existing operational processes of other centrally cleared products; adjust, enhance, and establish new processes as necessary.</li> </ul>

## Section 3: FICC March 2025 mandatory implementation activities

## 3.1 Introduction

As outlined in Section 2, the proposed rulebook updates will require FICC netting members to act on the following three critical changes by March 31, 2025.

First, the FICC will require netting members to comply with the revised account structure. It is mandatory for Netting Members to comply with this requirement by March 31, 2025.

Second, if netting members plan to collect margin from customers and deposit collected customer margin with the FICC, Netting Members will need to set up Segregated Indirect Participants Accounts. This will enable calculation, collection, and holding margin associated with customer activity separately from the Netting Member's proprietary activity. The decision to collect and segregate customer margin is optional and will typically be driven by both the needs and preferences of Netting Members and their customers. If a Netting Member decides to set up Segregated Indirect Participants Accounts before, on, or any time after, March 31, 2025, the corresponding indirect participants must take action to address the relevant margin impacts as discussed in Section 4 of this report.

Third, Correspondent Clearing and Prime Broker Services now offered by FICC will be rolled into a single, new Agent Clearing Service model. Netting Members that provide Correspondent Clearing/Prime Broker Clearing Services that wish to continue providing those services will also need to submit an application to become an ACM in advance of March 31, 2025.

## 3.2 Requirements overview

### 3.2.1 Revised account structure – house and customer account separation

FICC's revised account structure requires Netting Members to submit house and customer transaction activity under separate and distinct FICC accounts as follows: 1) a Proprietary Account to record only house activity (excluding affiliates), 2) a Sponsoring Member Omnibus Account, to record only customer activity submitted via Sponsored Services, and/or 3) an Agent Clearing Member Omnibus Account, to record only customer activity submitted via the Agent Clearing Service.

Account separation is required only for Netting Members that have house and customer activity comingled in the same account. For example, a Netting Member that currently provides Correspondent Clearing and/or Prime Broker Clearing Services to clear U.S. Treasury cash purchases and/or sales would typically clear that customer activity through the same account that the Netting Member uses to clear its own proprietary activity. FICC has indicated in the published "FICC Treasury Clearing Client Roadmap"<sup>18</sup> that the house and customer account separation is required to be completed by late February 2025.

### 3.2.2 Segregated indirect participants account and customer margin collection

Once a Netting Member has decided which access models it plans to offer to customers (e.g., Sponsoring and/or Agent Clearing Services) and whether it will segregate customer margin, the Netting Member will then need to designate the types of house and customer accounts necessary to support their access and margin strategy. If Netting Members decide to collect margin from customers and post to FICC, Netting Members have the optionality to designate certain Indirect Participants Accounts to be Segregated Indirect Participants Accounts in which margin will be calculated, collected, and held by FICC.

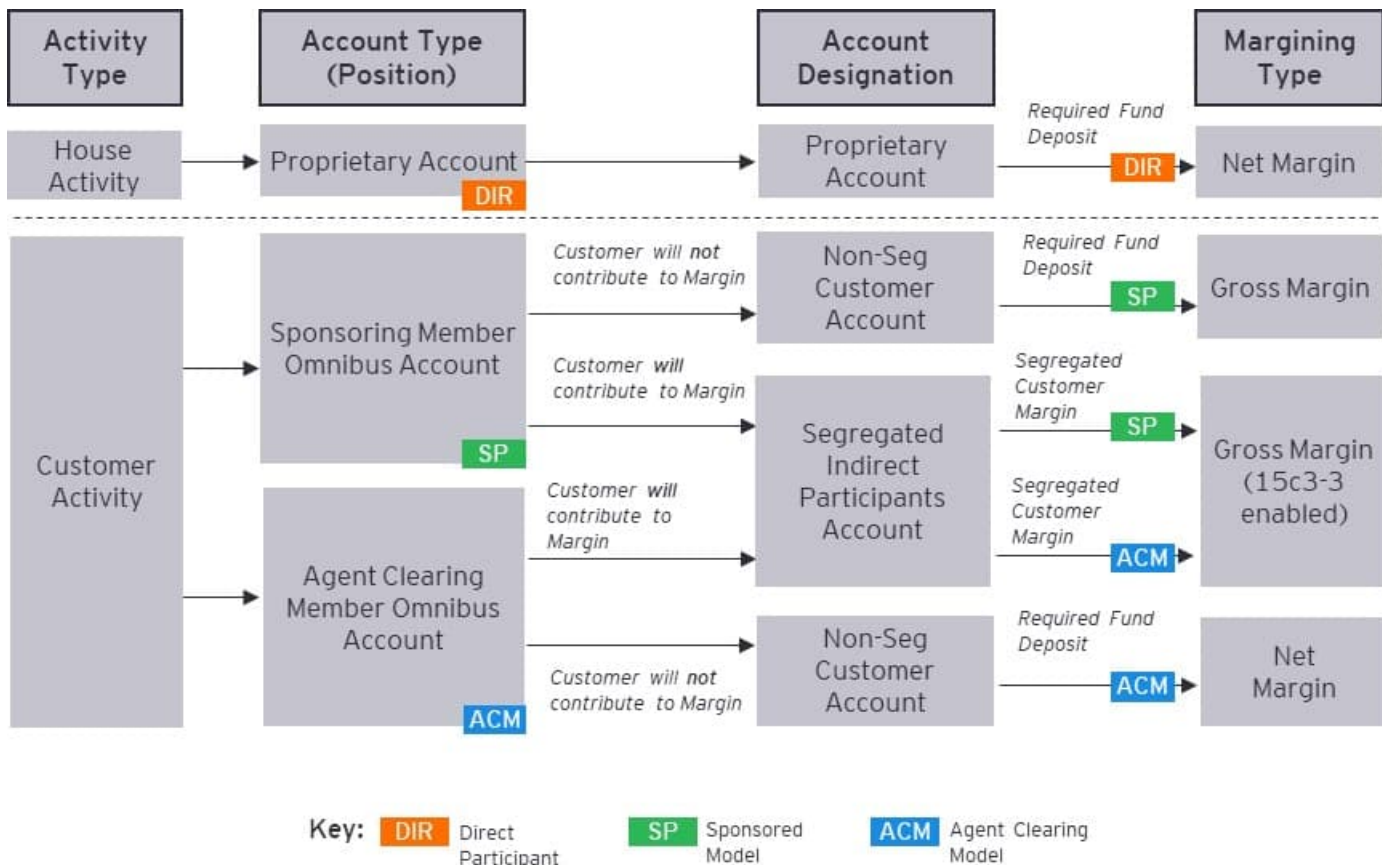
The diagram below illustrates the different FICC account types, account designations and whether the margin amount is collected on a gross or net basis. "Gross margin" means that the margin calculation is performed for each individual participant within the same account. "Net margin" means that the margin calculation is conducted across different participants within the same account. Additional information on requirements, obligations and the setup of each access models are detailed in Section 7 of this report.

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<sup>18</sup> "FICC Treasury Clearing Client Roadmap," FICC, April 29, 2024, <https://www.dtcc.com/-/media/Files/Downloads/Microsites/Treasury-Clearing/FICC-Treasury-Clearing-Client-Impact-Roadmap.pdf>.



## FICC account structures by activity and margining types:



Note: Sponsoring Member Omnibus Account and Agent Clearing Member Omnibus Account collectively are named Indirect Participant Account

### 3.2.3 Clearing access model

To continue providing clearing access to customers, current correspondent/prime broker clearing services will be required to apply to FICC to become an Agent Clearing Member.<sup>19</sup> FICC has indicated in the published “FICC Treasury Clearing Client Roadmap”<sup>20</sup> that ACMs, including new applicants and existing users of the Correspondent and Prime Broker Clearing Services, will be required to submit Legal Entity Identifiers (LEIs) for each of its Executing Firm Customers by late February 2025.

## 3.3 Account separation implications on inter-affiliate activity

### 3.3.1 Inter-affiliate scenarios require account separation

Netting Members will need to separate affiliate activity from house activity if they are currently comingled in the same account. This can be done by putting affiliate activity in an existing Sponsoring/Agent Clearing Member Omnibus Account that is used to record customer activity, or creating a new Sponsoring/Agent Clearing Member Omnibus Account. With an understanding that firms have individual entity structures and activity (e.g., bank vs. broker dealer), some example transaction scenarios that may necessitate migration of affiliate activity into separate accounts include the following:

<sup>19</sup> “FICC Regulatory Rule Filing SR-FICC-2024-005,” Page 12, FICC, March 11, 2024.

<sup>20</sup> “FICC Treasury Clearing Client Roadmap,” Pages 3 and 5, FICC, April 29, 2024, <https://www.dtcc.com/-/media/Files/Downloads/Microsites/Treasury-Clearing/FICC-Treasury-Clearing-Client-Impact-Roadmap.pdf>.

- An affiliate buys or sells U.S. Treasuries for investment or balance sheet management purposes (e.g., corporate treasury department); trade is cleared through an affiliate that is a Netting Member through the same account that the Netting Member uses to clear its own proprietary activity.
- An affiliate that is a Commodity Futures Trading Commission (CFTC)-registered Swap Dealer buys or sells U.S. Treasuries to hedge interest rate swaps/derivatives booked on the Swap Dealer; trade is cleared through an affiliate that is a Netting Member through the same account that the Netting Member uses to clear its own proprietary activity.

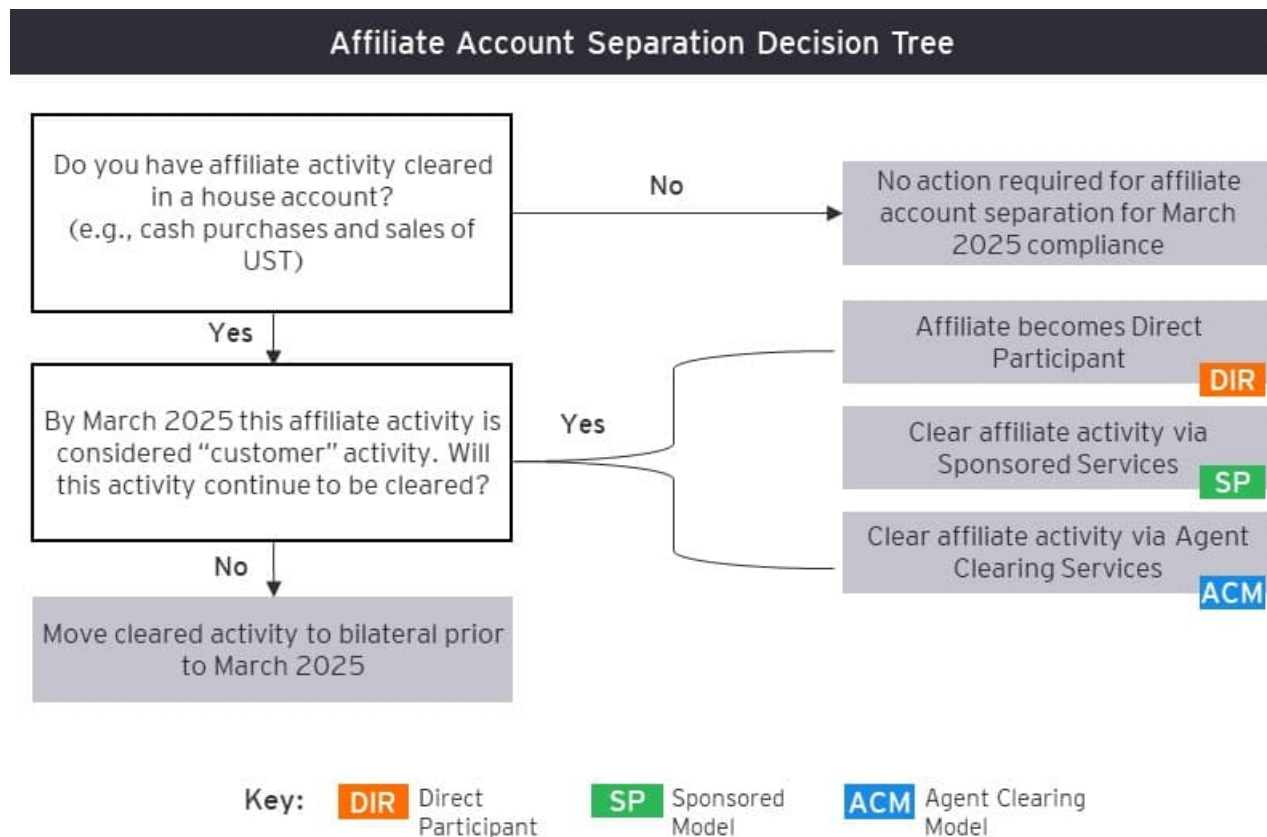
### 3.3.2 Identify inter-affiliate activity that requires account separation

There are several methods firms may use to determine whether a Netting Member has affiliate activity that will require account separation. These may include:

#### Direct Participant Considerations

Activity type	Example considerations
Notification by FICC	<ul style="list-style-type: none"> <li>▪ Netting Member may be informed by FICC of accounts that have affiliate and house activity comingled, which could be identified by FICC reviewing existing members' clearing activity. For instance, FICC may identify affiliate transactions that are booked in the same account as a Correspondent Clearing Member's house activity, through Correspondent Clearing tickers.</li> </ul>
Data analysis	<ul style="list-style-type: none"> <li>▪ Netting Members should conduct an analysis on their own transactions and clearing data to identify activity that is 1) booked to affiliates who are not direct participants at FICC and 2) that the affiliate trades were submitted for clearing.</li> </ul>
Booking model assessment	<ul style="list-style-type: none"> <li>▪ Netting Members should discuss the transaction flow and inter-affiliate relationship internally with their front office, trade assistants, middle office, and/or settlements, and to identify affiliate activity that is being cleared through the Netting Member's house account.</li> </ul>
Review of account structures	<ul style="list-style-type: none"> <li>▪ Review existing account setup with FICC to ascertain that the existing and/or legacy setup are appropriately aligned with the intended purpose of the activity or entity.</li> </ul>

### 3.3.3 Roadmap for affiliate account separation



The diagram above is an illustrative decision tree to determine potential pathways for addressing account structure requirements for affiliate activity. Firms will need to take steps to analyze their current activity to identify scenarios which require account separation and determine subsequent remediation. These steps include:

#### Direct Participant Considerations

Activity type	Example considerations
Identify Affiliate Activity Requiring Remediation	<ul style="list-style-type: none"> <li>Identify any affiliate activity that is currently being centrally cleared and assess if the activity will require account separation by March 2025. Remediation would be required if:               <ul style="list-style-type: none"> <li>The affiliate activity is being cleared through the same account as the main U.S. Treasury clearing entity's proprietary activity in your organization</li> <li>The activity is expected to stay in the affiliate entity and continue to be cleared after March 2025, either due to the mandatory clearing mandate or counterparty/business/operational requirements.</li> </ul> </li> </ul>
Potential Alternative Remediations	<ul style="list-style-type: none"> <li>Before determining clearing solution for the affiliate activity, direct participants may also consider whether an alternative remediation is possible and appropriate, such as:               <ul style="list-style-type: none"> <li>Move the affiliate's client activity into the main U.S. Treasury clearing entity</li> <li>Modify the affiliate activity (both the client facing trades, and the trades between the main U.S. Treasury clearing entity and the affiliate) to a type that is not mandatory for clearing (e.g., Securities Lending)</li> </ul> </li> <li>If an alternative remediation path is selected only as an interim solution, direct participants need to ensure the affiliate activity can later be cleared by the cash purchases/sells or repo compliance dates via either 1) setting up affiliate entity as a direct participant at FICC, 2) Sponsored Services, or 3) Agent Clearing Services.</li> </ul>
Clearing Optionality	<ul style="list-style-type: none"> <li>Upon identification of affiliate activity that require account separation, evaluate the different options for clearing affiliate activity and determine the optimal model based on factors such as:               <ul style="list-style-type: none"> <li>Financial and capital eligibility for obtaining certain memberships at FICC</li> </ul> </li> </ul>

Activity type	Example considerations
	<ul style="list-style-type: none"> <li>Product type (e.g., firms may prefer ACM model than the Sponsored model for clearing cash purchases/sells as it aligns to how the Sponsored and correspondent/prime broker clearing services are being leveraged today)</li> <li>Jurisdictions (e.g., whether it's in the FICC approved jurisdictions for Sponsored Membership)</li> <li>Balance Sheet implications of the different models</li> </ul>
Onboarding	<ul style="list-style-type: none"> <li>Upon deciding the preferred clearing solution for affiliate activity, direct participants need to set up the affiliate entity with the chosen access model and make the necessary adjustments to internal booking models/systems.</li> <li>Refer to Section 3.4 for additional details on account separation and Section 7 for additional details on FICC onboarding.</li> </ul>

### 3.4 Roadmap for account separation – Direct Participant (DIR), Sponsored Model (SP), Agent Clearing Model (ACM):

The following table summarizes representative activities and considerations for Netting Members that may be assessing and remediating house and customer activity separation to comply with FICC's revised account structure.

#### Direct Participant Considerations

Activity type	Example considerations
Understanding Current Activity <span style="background-color: #f4a460; padding: 2px;">DIR</span> <span style="background-color: #4caf50; padding: 2px;">SP</span> <span style="background-color: #2196f3; padding: 2px;">ACM</span>	<ul style="list-style-type: none"> <li>Where client and house activity are comingled in one account and known by FICC, FICC generally notified participants in early 2024 of the need to separate accounts by early 2025.</li> <li>Review transaction data to identify the population of activity that requires account separation. As an example, in FICC's current prime broker clearing model, the Netting Member is not required to identify its customers when submitting trades, therefore, FICC Netting Members would need to identify this activity themselves.</li> <li>Seek legal and compliance guidance on appropriate clearing solution for affiliate entities based on assessment of current activities and requirements set forth in GSD Rulebook.</li> </ul>
FICC Application for ACM <span style="background-color: #2196f3; padding: 2px;">ACM</span>	<ul style="list-style-type: none"> <li>For continued services to be provided to Prime Broker Clearing or Correspondent Clearing clients, a firm must complete the application and have a symbol and LEI per each existing executing firm customer.</li> <li>FICC outlined the following ACM application process in its proposed rule change:<sup>21</sup> <ul style="list-style-type: none"> <li>Provide information about past/projected volumes of customer activity and controls for monitoring and mitigating risks, including customer risks.</li> <li>Apply and provide any other information that FICC reasonably requests for purposes of this initial application process.</li> </ul> </li> </ul> <p><i>Additional details related to becoming an Agent Clearing Member can be found in Section 7 of this report.</i></p>
Establish Executing Firm Customer Relationship at FICC <span style="background-color: #2196f3; padding: 2px;">ACM</span>	<ul style="list-style-type: none"> <li>Netting Members need to complete and provide the following to FICC by the end of February 2025 for existing executing firm customers,<sup>22</sup> or at least three business days before commencing new ACM activity:<sup>23</sup> <ul style="list-style-type: none"> <li>Set up executing firm ticker/symbols</li> <li>Confirm client LEI(s)</li> <li>Complete documentation:               <ul style="list-style-type: none"> <li>Written authorization from the Executing Firm Customer</li> <li>Agreement with the Executing Firm Customer</li> </ul> </li> </ul> </li> </ul>

<sup>21</sup> "FICC Regulatory Rule Filing SR-FICC-2024-005," Page 12, FICC, March 11, 2024.

<sup>22</sup> See note 11

<sup>23</sup> "FICC Regulatory Rule Filing SR-FICC-2024-005," Pages 12-14, FICC, March 11, 2024.

Activity type	Example considerations
	<ul style="list-style-type: none"> <li>▪ Executing Firm Customer Acknowledgements</li> <li>▪ Confirm that each client has only one symbol across all membership and all activity (e.g., the same symbol to be used for all activities if a client engages in both Sponsored and Agent Clearing Services).</li> </ul>
<p>Other FICC Application/Documents</p> <p><b>DIR</b> <b>SP</b></p>	<ul style="list-style-type: none"> <li>▪ For firms intending to clear affiliate activity via 1) Sponsored Model or 2) becoming a direct participant of FICC, follow the application process outlined in the respective subsection within Section 7 of this report – “gaining access to clearing.”</li> <li>▪ Submit account opening/designation forms to FICC in time to be able to set up and test by February 2025:<sup>24</sup> <ul style="list-style-type: none"> <li>▪ Proprietary and customer accounts (if account separation is required), and/or</li> <li>▪ Segregated indirect participant accounts (if intended to segregate customer margin by March 2025).</li> </ul> </li> </ul>
<p>Internal Client Reference Data Set Up and Maintenance</p> <p><b>DIR</b> <b>SP</b> <b>ACM</b></p>	<ul style="list-style-type: none"> <li>▪ Update client reference data (e.g., add client symbol to Executing Firm Customers) to align with the updated account structure requirements so that client activity can be submitted to the correct FICC accounts for clearance and settlement by respective implementation dates.</li> <li>▪ Establish periodic review processes to ensure that client LEIs are up to date.</li> <li>▪ Review client onboarding processes to identify additional document reference data to be collected upfront to support trade submission of future ACM and sponsoring activity.</li> </ul>
<p>Update Post-Trade and File Transmission Processes</p> <p><b>DIR</b> <b>SP</b> <b>ACM</b></p>	<ul style="list-style-type: none"> <li>▪ Understand the flow of trades for activity that require account separation.</li> <li>▪ Implement the necessary technology changes to operations and settlement systems to route proprietary and customer activity to the correct account at FICC (e.g., FICC will reject any transactions ACM submitted for its Executing Firm Customer that do not have a ticker/symbol attached to them). Members can currently use the Real-Time Trade Matching (RTTM) Web to monitor their activity for transactions that do not contain a client identifier. This real-time capability can be run at any time and can also be used to view historical submissions.</li> </ul>
<p>FICC Access and Testing</p> <p><b>DIR</b> <b>SP</b> <b>ACM</b></p>	<ul style="list-style-type: none"> <li>▪ Provision access to FICC’s Clearing Fund Management system (CFM) by February 2025. Through this system, direct participants can manage their Clearing Funds deposit accounts in real-time and submit online requests to deposit, withdraw, or substitute eligible collateral.</li> <li>▪ Test implemented changes with FICC: <ul style="list-style-type: none"> <li>▪ Trade submission validation and Machine Readable Output testing in Personal Security Environment (by end of February 2025).</li> <li>▪ CFM testing in Personal Security Environment (by end of March 2025.)</li> <li>▪ Penny testing for segregated indirect participant accounts (testing timeline to be announced by FICC).</li> </ul> </li> </ul>
<p>Other Considerations</p> <p><b>DIR</b> <b>SP</b> <b>ACM</b></p>	<ul style="list-style-type: none"> <li>▪ Firms may choose to collect margin from clients and then post to FICC (i.e., a segregated customer margin flow) before, on or any time after March 31, 2025.</li> <li>▪ Refer to Section 4 for additional considerations on addressing margin impacts.</li> </ul>

<sup>24</sup> See note 11

## Section 4: Understanding and addressing margin impacts



## 4.1 Introduction

Some of the most significant changes introduced by the SEC rule and FICC rulebook updates are related to margin requirements and processing. In the current state, a direct participant that provides clearing services to customers is responsible for meeting the Clearing Fund obligations arising from its own activity as well as that of its customers. These obligations may span multiple accounts at the CCA, depending on the direct participant's setup. Direct participants and their customers come to agreement on the margin arrangements between the two parties, independently of the requirements of the CCA. For example, direct participants may collect margin from customers in the form of haircuts or allow portfolio margining across products. Haircuts in a repo transaction refer to the difference in the market value of the securities provided as collateral and the amount of cash received. Portfolio margining is a risk-based margining strategy that calculates margin requirements for a customer based on total risk of the customer's positions across different products (e.g., futures, U.S. Treasuries, corporate bonds).

In the future state, a direct participant can either continue to maintain margin arrangements with their customers similar to what they do today or choose to collect customer margin and post it directly into segregated margin accounts with the CCA. The former construct will follow, for example, a "Non-Segregated Customer Margin" flow, while the latter will follow a "Segregated Customer Margin" flow. Direct participants may also decide to use a combination of both Non-Segregated Customer Margin and Segregated Customer Margin across their customer base. Indirect participants may need to make changes to their collateral management processes based on the margin approach they agree to with their clearing relationships. Margin requirements and processing for Segregated Customer Margin are primarily driven by CCA's Clearing Fund calculation, account designation, and margin timelines. This section of the report primarily focuses on the considerations for the FICC's Segregated Customer Margin flow, however, these considerations may also apply to other CCAs to the extent that they have similar margin process, timeline, and requirements. Given the Non-Segregated Customer Margin flow is largely the same as today's construct for Sponsored repo, this process is covered at a high-level in Section 4.6.

## 4.2 Overview of FICC's risk management model

In a cleared market, another important concept for market participants to review is FICC's margin calculation methodology as it varies a great deal from the current bilateral market. The factors that influence the FICC's margin requirements is important to understand to effectively evaluate the potential implications on funding and operational activities in comparison to the current bilateral market.

### 4.2.1 Clearing Fund

FICC serves as a central counterparty for all trades submitted by its Netting Members and subsequently novated. FICC manages credit exposure to its Netting Members using Clearing Fund, which is a mechanism similar to Initial Margin and Guaranty Fund collected by other central clearing counterparties in the cleared swaps markets. Clearing Fund is the aggregate amount of all Netting Members' Required Fund Deposit. The Required Fund Deposit amount represents each Netting Member's margin requirement to FICC and is collected to cover potential losses to FICC associated with liquidating a Netting Member's portfolio in the event of such Netting Member's default. The Required Fund Deposit is calculated twice each business day based on a Netting Member's 12:00p.m. ET and end-of-day positions, and deficits are collected at 2:45p.m. ET on the current day and 9:30a.m. ET on the next business day, respectively<sup>25</sup>.

In current bilateral term repo market, an intraday margin calculation generally only accounts for changes in the collateral value. However, the twice daily margin calculation performed by FICC both include mark to market for cash positions (e.g., changes in repo collateral valuation) and repo interests.

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<sup>25</sup> "Overview of The Clearing Fund Methodology," Page 4, FICC, April 2024, <https://www.dtcc.com/-/media/Files/Downloads/legal/policy-and-compliance/GSD-Clearing-Fund-Methodology-Overview.pdf>.

The methodology used to calculate a Netting Member's Required Fund Deposit includes various components<sup>26</sup> to address different risk factors such as market risk and concentration risk. The main component is the VaR Charge, which represents over 90% of the Clearing Fund Requirements<sup>27</sup>. The VaR Charge is intended to capture the market price risk associated with the securities in a Netting Members' margin portfolio by assessing projected liquidation losses in a 3-day period at a 99% confidence level. Remaining components of Clearing Fund are less impactful, including Portfolio Differential and Blackout Period Exposure Adjustment, and components that may be added if certain conditions are met including 1) Backtesting Charge, 2) Holiday Charge, 3) Margin Liquidity Adjustment, 4) Intraday Supplemental Fund Deposit, 5) Excess Capital Premium, 6) Special Charge, 7) Watch List Charge, 8) Adequate Assurance Additional Deposits, and 9) Clearing Fund Premiums.

## 4.2.2 Funds-Only Settlement

FICC has a Funds-only settlement (FOS) process to cover non-trade obligation cash payments. Components of FOS include cash transfers from Netting Members to reflect<sup>28</sup>: 1) changes in the value of securities when they are marked to market, 2) cash adjustments related to securities trades, 3) the pass-through of coupon payments for term repos or trade obligations that cross a coupon date, and 4) other items, such as billing invoices. Similar to Required Fund Deposit, FOS is also processed twice each business day with slightly different timeline, at 10:00a.m. ET on the next business day and 4:30p.m. ET on the current day, based on a Netting Member's 12:00p.m. ET and end-of-day positions, respectively<sup>29</sup>.

## 4.3 High-level margin process flows

Starting March 31, 2025, Netting Members will have the option of offering Non-Segregated Customer Margin, Segregated Customer Margin, or both. Alternatively, some Netting Members may choose to continue to process their client activity based on their own risk management practices opting to not collect margin from clients as part of their commercial strategy. In this scenario minimal impact is expected if the process remains consistent, however indirect participants should consult with their trading/clearing relationships to discuss any material changes to their commercial offering post-go-live.

Netting Members that exclusively offer Non-Segregated Customer Margin will have fewer margin-related changes to make. For instance, a Netting Member that is also a Sponsoring Member could retain existing margin arrangements with customers in their Sponsoring Member Omnibus Account. Key implementation activities for Netting Members exclusively offering Non-Segregated Customer Margin include setting up new customers for clearing and expanding margin and collateral management processes to support the higher volume of cleared activity.

Netting Members that decide to offer Segregated Customer Margin flows will need to implement changes to their collateral management processes. Key process steps include receipt and processing of margin calls from CCAs, issuance of margin calls from Netting Members to their indirect participants, collection of margin from customers, posting of margin to the CCA, and substitution of collateral, among other changes. One of the greatest challenges in designing and implementing these collateral management changes is meeting CCA deadlines.

Indirect participants (e.g., asset managers, hedge funds, regional banks) that are set up for Segregated Customer Margin with a given Netting Member relationship may need to post margin along timelines that differ from current timelines and meet other new requirements imposed by the SEC rule or FICC rulebook (e.g., minimum cash margin amounts).

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<sup>26</sup> See note 26

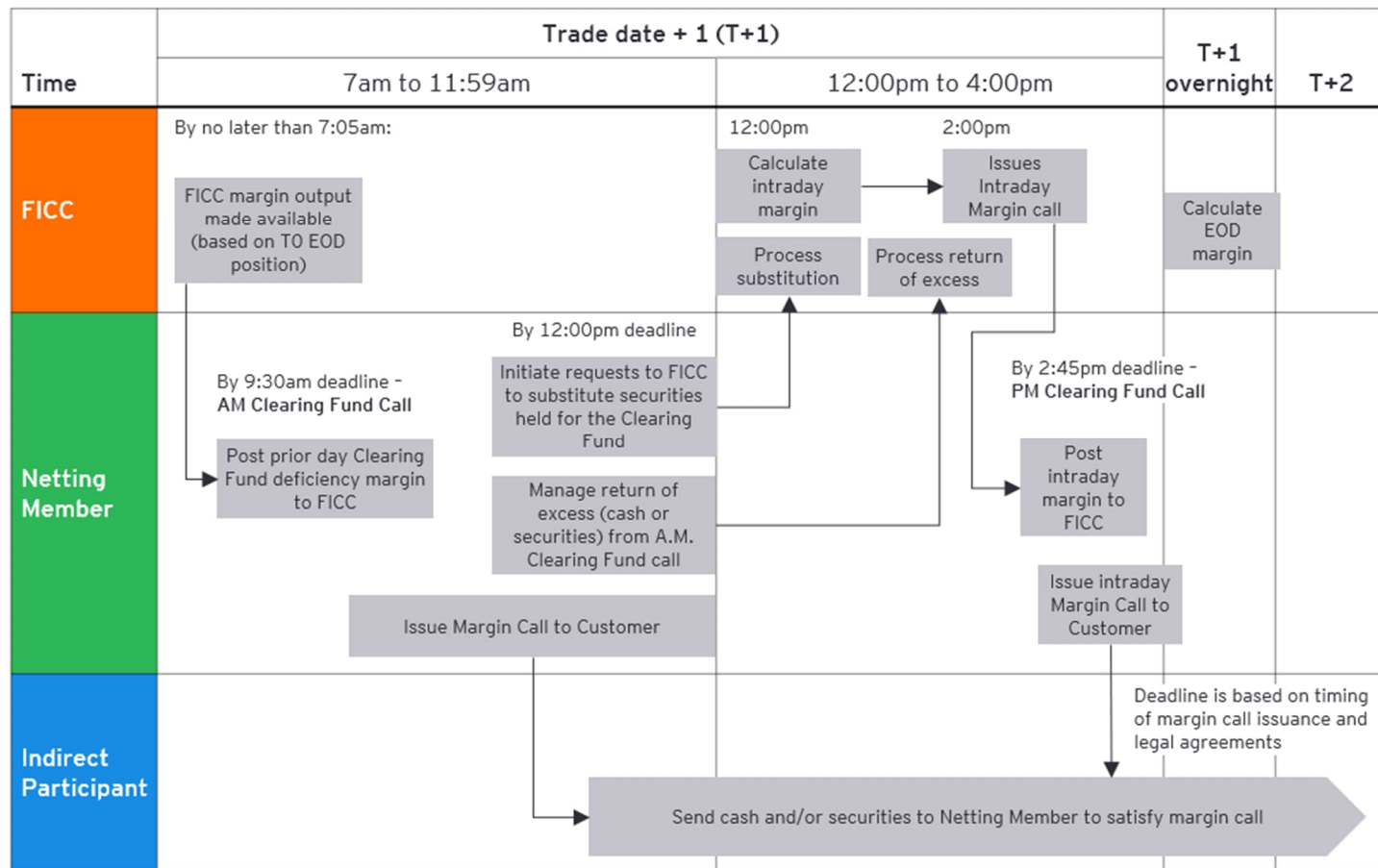
<sup>27</sup> "GSD Segregated Accounts and Margin," Page 6, FICC, March 4, 2024, <https://www.dtcc.com/ustclearing/-/media/Files/Downloads/Microsites/Treasury-Clearing/GSD-Account-Segregation-Deck2>.

<sup>28</sup> "Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Response to U.S. Treasury Securities," SEC, December 13, 2023, <https://www.federalregister.gov/d/2020-04186/p-13>.

<sup>29</sup> See note 26

The diagram below illustrates a high-level Segregated Customer Margin process flow, key actions by different institutions involved in the flow, and associated timing:

Segregated Customer Margin Flow Overview:



As Netting Members consider how to best operationalize the end-to-end Segregated Customer Margin process, key considerations include how to leverage existing margin technology and in-house systems, external vendors, and operational capabilities for other cleared products, and where additional or expanded capabilities are needed to support Treasury and repo clearing.

## 4.4 Key considerations across margin processing flow

This section provides a deep dive into considerations for each step of the Segregated Customer Margin flow that are split into “Market participant considerations” and “CCA considerations”<sup>30</sup>.

### 4.4.1 Start of Day (SOD) FICC Margin Calls

The GSD Rulebook stipulates that Netting Members will receive Clearing Fund Letters from FICC in the early morning hours, no later than 7:05a.m. ET

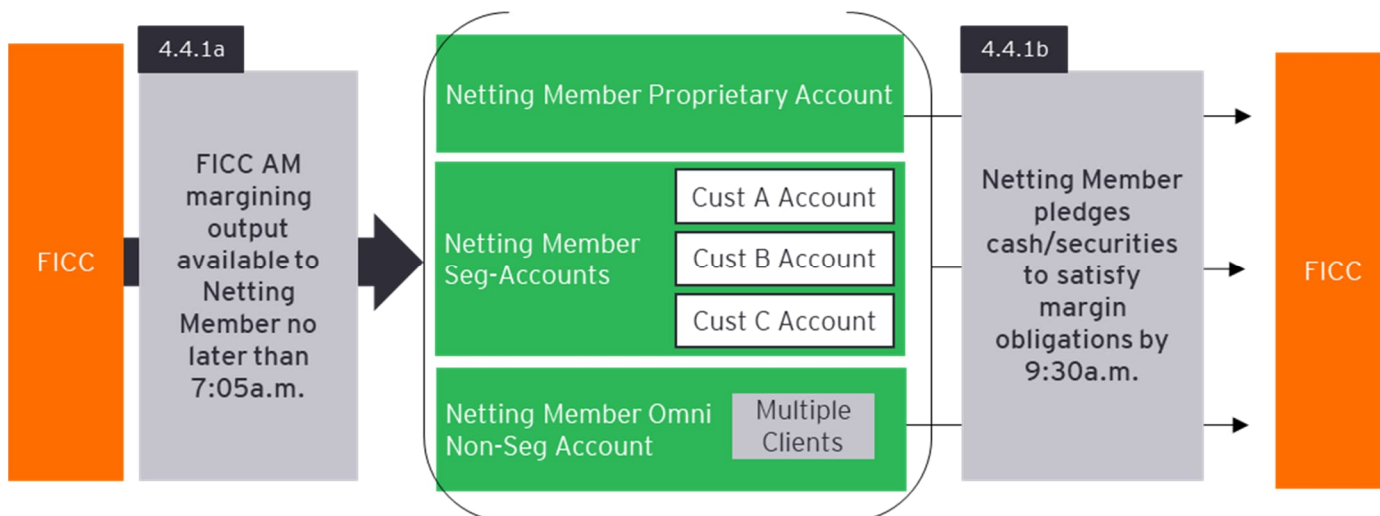
which includes the start-of-day margining output. While the GSD Rulebook indicates the margining output will be available before 7:05a.m. ET, it is typically available between 3:00a.m. and 4:00a.m. ET. The margining output contains underlying details of a Netting Member’s margin obligations based on activities recorded in each of its accounts: Proprietary Accounts representing its house activity and indirect participants accounts representing its Sponsoring and/or Agent Clearing activity. Indirect Participant Accounts include both Segregated Indirect Participants Accounts and Omnibus Accounts (i.e., Non-Segregated Indirect Participants

<sup>30</sup> See definitions of both terms in appendix

Accounts), depending on account setup and designation with FICC. Netting Members are responsible for satisfying margin obligations pertaining to their accounts by pledging cash or eligible securities<sup>31</sup> to FICC by 9:30a.m. ET.

The diagram below illustrates the high-level process flow from when FICC issues daily SOD margin call(s) for Netting Members to satisfy any Clearing Fund deficiency with available cash and/or securities.

#### Start of Day (SOD) FICC Margin Call Flow:



#### Market participant considerations

System capabilities: Netting Members will need to implement additional capabilities to existing margin systems to support the processes for meeting FICC SOD margin calls, including:

1. The capability to consume FICC's SOD margin call when made available (typically between 3:00 and 4:00a.m. ET and no later than 7:05a.m., as stated above). Note this may differ from margin call timelines for other cleared products at other clearinghouses.
2. The capability to parse margin obligations within FICC Clearing Fund Letters for each individual customer within Segregated Indirect Participants Accounts
3. Netting Members may also seek to replicate FICC's margin calculation methodology in internal systems, to enable independent calculation of margin obligation; this capability could be leveraged for the purposes of issuing margin calls to clients, internal forecasting, and reconciliations.

As Netting Members prepare for clearing mandate impacts, many of the existing FICC reporting mechanisms will remain available for use. For instance, Netting Members can continue to access risk-related reporting components in RTTM Report Center including Clearing Fund obligation underlying details in an Excel format. Netting Members can also obtain these details in an automated fashion through Machine Readable Outputs. In addition, Netting Members will continue to have access to a FICC Risk Reporting Portal that contains time-series based risk reports in addition to intraday reporting capabilities. The existing GSD external reporting capabilities will be enhanced to support all applicable account types.

Margin transfer to FICC: Assuming current FICC margin timelines/cutoffs remain the same as today (e.g., SOD Clearing Fund Letters available to netting members no later than 7:05a.m. ET and the cutoff for meeting the SOD margin call is 9:30a.m.), Netting Members will likely need to satisfy FICC SOD margin calls by using readily available/unencumbered assets (e.g., house assets, cash/securities received from clients but not yet pledged onwards to FICC) before receiving client cash/collateral provided for margin purposes. As described by several market participants during report preparation workshops, use of available assets to meet the 9:30a.m. ET SOD margin call will be the likely path forward since issuing margin calls, collecting margin from clients, and forward

<sup>31</sup> "FICC Regulatory Rule Filing SR-FICC-2024-007," Pages 136-137, FICC, March 14, 2024.

posting to FICC by 9:30a.m. ET may present operational challenges. One important factor to consider is that when Netting Members pre-fund margin for their customers using house assets, those house assets must be either cash or U.S. Treasury securities<sup>32</sup>.

Deposit ID distinction: The proposed rulebook updates will require that a separate Deposit ID be established by the Netting Member for posting margin attributable to *each type* of its proprietary accounts, *each type* of its non-segregated customer accounts, and *each* of its Segregated Indirect Participants Accounts<sup>33</sup>. For example, a Netting Member will be required to establish minimum of four deposit IDs if it has the following accounts with FICC:

- One Dealer Account
- One Sponsoring Member Omnibus Account (Non-segregated customer account)
- One Segregated Sponsoring Member Omnibus Account
- One Segregated Agent Clearing Member Omnibus Account

*Note: If the Netting Member wanted to establish a separate deposit ID for an individual customer, it would have to establish a separate Indirect Participant Account for just that customer's activity, and set up a separate Deposit ID for that separate Indirect Participant Account.*

Given the requirement outlined above, Netting Members may need to setup separate wire instructions for each Deposit ID for posting margin to FICC. Once margin is posted by a Netting Member, Deposit IDs can be used to determine margin call issuances to customers, if Netting Members choose to collect margin from customers.

Limits and controls: Netting Members will also need to establish processes to monitor, reconcile, and perform checks on accumulative margin requirements to ensure the following requirements, as outlined in the GSD Rulebook, are met for each account:

- Segregated Indirect Participants Accounts<sup>34</sup>:
  - A minimum 40% of the margin requirement is satisfied with cash and/or eligible clearing fund Treasury securities.
  - The lesser of \$5 million or 10% of the margin requirement must be maintained in cash.
  - A minimum of \$1 million must be maintained in cash per segregated indirect participant (i.e., if a Netting Member has set up 10 of its customers in a particular Segregated Indirect Participants account, a minimum of \$10 million must be maintained in cash).
- Non-Segregated Indirect Participants Accounts<sup>35</sup> and Proprietary Accounts:
  - Margin requirements for Non-Segregated Indirect Participants Accounts and Proprietary Accounts are calculated at Required Fund Deposit Portion level. Each of the following is considered a Required Fund Deposit Portion. Margin amount for each Required Fund Deposit Portion is calculated across all accounts with the same account designation:
    - An amount calculated for Netting Member's Dealer Accounts
    - An amount calculated for Netting Member's Broker Accounts
    - An amount calculated for Netting Member's Sponsored Omnibus Accounts (i.e., Non-Segregated accounts)
    - An amount calculated for Netting Member's Agent Clearing Omnibus Accounts (i.e., Non-Segregated accounts)
  - A minimum 40% of any Required Fund Deposit Portion is satisfied with cash and/or eligible clearing fund treasury securities.
  - The lesser of \$5 million or 10% of any Required Fund Deposit Portion, must be maintained in cash.
  - At a minimum, \$1 million of any Required Fund Deposit Portion must be held in cash.

## CCA considerations

<sup>32</sup> "the types of collateral that can be used to meet the customer position margin requirement (i.e., cash, U.S. Treasury securities, and qualified customer securities)...the collateral must be used to margin U.S. Treasury securities positions of the customers of the broker-dealer that are cleared, settled, and novated by the qualified clearing agency, as was proposed." from "Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Respect to U.S. Treasury Securities," Page 176, footnote 466, SEC, December 13, 2023.

<sup>33</sup> "FICC Regulatory Rule Filing SR-FICC-2024-007," Pages 137-139, FICC, March 14, 2024.

<sup>34</sup> "FICC Regulatory Rule Filing SR-FICC-2024-007," Page 140, FICC, March 14, 2024.

<sup>35</sup> "FICC Regulatory Rule Filing SR-FICC-2024-007," Page 139, FICC, March 14, 2024.

FICC SOD margin call timeline: FICC Clearing Fund Letters currently are distributed around 3:00-4:00a.m. ET, with a cutoff for Netting Members to satisfy any outstanding obligations by 9:30a.m. FICC should consider the benefits, tradeoffs, complexity, and implementation timing of having the Clearing Fund Letters available to Netting Members during an earlier timeframe (e.g., 1:00a.m. ET) and/or extending the cutoff time beyond its current 9:30a.m., to allow sufficient time for Netting Members to arrange funding, transfer collateral, issue onward margin calls and collect client collateral to be included in the posting for the SOD margin calls. One driver of the current timing of Clearing Fund Letter availability is an upstream dependency on the timing of third-party data submitted into the CCA, such as data from direct participants, indirect participants and other clearinghouses. Changes may be required to the timing of data provision by third parties to accommodate changes to margining output timing.

Margin transfer mechanism: CCAs may consider capabilities to auto-debit and credit accounts designated by direct participants for drawing cash to satisfy a Clearing Fund deficiency, or returning excess cash collateral to direct participants, similar to functionality that currently exists for other cleared products. This mechanism could potentially lead to operational efficiencies by alleviating the need to prepare daily settlement instructions. This, however, would also introduce additional funding considerations as firms will be required to pre-fund the relevant accounts to ensure there are sufficient funds to be drawn by FICC.

FICC margin calculation: Market participants expressed the desire for increased documentation regarding FICC's Clearing Fund calculations. For instance, buy-side firms expressed the need to receive their respective segregated margin obligation at or close to the same time as the Netting Member to enable subsequent collateral movements in a timely manner. Both sell- and buy-side firms expressed the need for additional margin calculation capabilities, in addition to those developed and released by the FICC in 2024 such as the VaR Public Calculator<sup>36</sup>. Future enhancements could include application programming interface (API) connectivity to FICC's VaR Public Calculator or allowing third party technology vendors to consume FICC's margining outputs. Allowing indirect participants to consume additional margin information in their own collateral management systems (or via technology vendors) at the same time Netting Members receive their FICC Clearing Fund Letters would allow indirect participants to prepare for collateral movements (e.g., reconcile margin call, move assets), similar to operations for other products cleared at central counterparties (CCPs).

In addition to allowing consumption of FICC margining outputs by firms' collateral management systems, market participants also expressed the desire to be able to replicate the FICC's Clearing Fund model. Allowing market participants to perform replication of FICC's margin calculation can serve as a tool to expedite margin processing between Netting Members and their customers. While FICC has made a significant amount of information available about their Clearing Fund calculation methodology, market participants expressed the desire for additional information to precisely replicate the Clearing Fund amount. If independent margin calculation replication were to be performed, customers may be able to send settlement instructions to custodians overnight to prepare for delivery of collateral on the following day.

#### 4.4.2 Issue client margin call(s):

Netting Members will need to consume details from the FICC Clearing Fund Letters and process margin obligations at the individual customer level. Once the Netting Member processes the Clearing Fund Letters (e.g., reconciliation of customer positions and calculation of incremental margin call amounts in internal systems), Netting Members will issue margin calls to customers via email or through a collateral management system or platform to each of its Segregated Customers. Netting Members may also issue margin calls to Non-Segregated Customers in a similar manner to its current operations, where the amount is not necessarily dependent on the amount called by FICC. The deadlines for issuing the margin calls will be subject to timeframes outlined in legal agreements between the Netting Member and their customers.

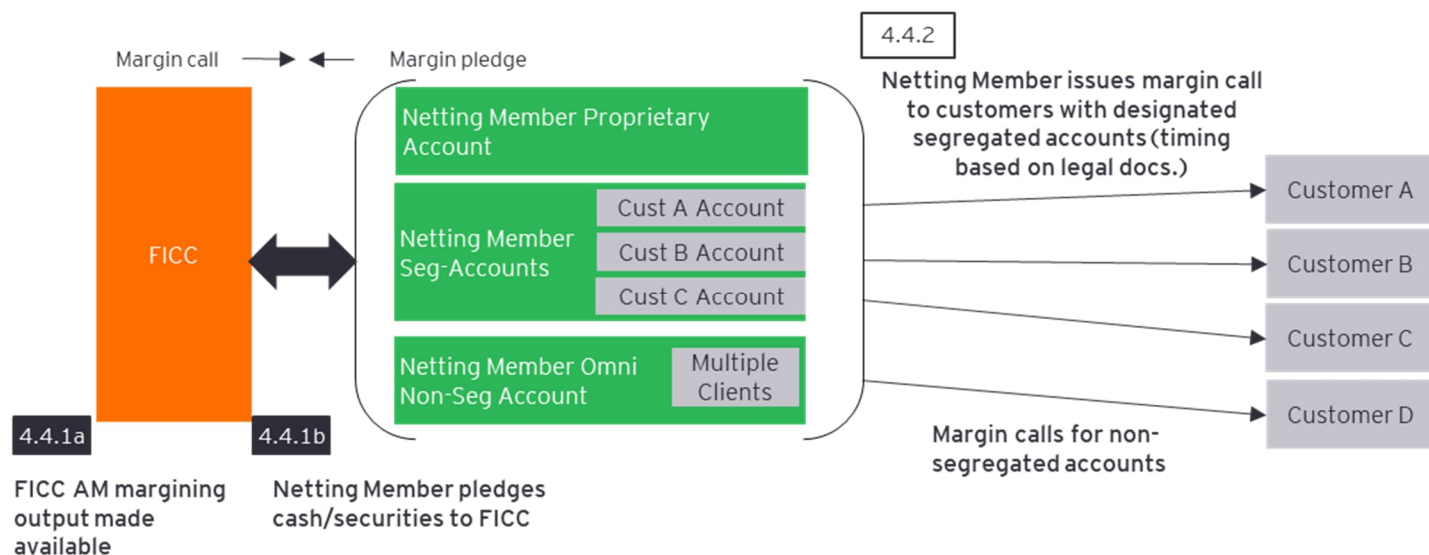
The diagram below illustrates the high-level process flow when a Netting Member issues onward margin calls to Segregated Customers.

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<sup>36</sup> "DTCC's FICC Unveils Public-Facing Value at Risk (VaR) Calculator, Increasing Transparency for Market Participants," FICC, July 10, 2024, accessed September 18, 2024, <https://www.dtcc.com/news/2024/july/10/dtcc-ficc-unveils-public-facing-value-at-risk-var-calculator>.



## Segregated Customer Margin Call Issuance Flow:



### Market participant considerations

**Satisfying Conditions to be Eligible for 15c3-3 Offsetting Debits (SEC Registered Broker-Dealers Only):** Direct participants that are SEC registered broker-dealers will have to incorporate margin associated with the U.S. Treasury repo and cash purchases/sales clearing activity into their 15c3-3 calculations. The Segregated Indirect Participants Account designation enables FICC to separately calculate, collect, and hold customer margin as required by the SEC Rule, and facilitates Netting Members' ability to satisfy the conditions for taking the 15c3-3 debit. In order to be eligible to take a 15c3-3 debit, Netting Members will need to establish capabilities to 1) identify FICC margin obligation associated with activity pertaining to each Segregated Indirect Participants Accounts and individual customers within those accounts and 2) issue the corresponding margin calls to customers and collect margin by the close of the next business day<sup>37</sup>. Margin collected from customers need to be deposited with FICC and held in a segregated account. For a given client, Netting Members can only take 15c3-3 debit up to the lesser of 1) FICC's margin obligation for that customer and 2) the amount the customer has sent to the dealer for onward posting to FICC.

Netting Members may also choose to collect margin from Non-Segregated Customers in a similar manner as their existing processes. However, the collateral collected from these customers will not be required to be posted to Non-Segregated Omnibus Accounts at FICC and Netting Members will not be able to take an offsetting debit in the 15c3-3 formula for margin posted to Non-Segregated Omnibus Accounts.

**Timeline:** Netting Members may look to align onward client margin call timelines and processes with other cleared products, to the extent possible. For example, Netting Members may consider issuing margin calls to clients around 11:00a.m.-12:00p.m. ET for same day settlement. However, this would mean that collateral received from customers would not arrive prior to FICC margin posting deadlines, in which case a substitution process would be required. Alternatively, Netting Members may seek to issue FICC margin calls to Segregated Customers earlier in the day to increase the likelihood of meeting FICC margin posting deadlines with customer collateral. Specific cutoffs and deadlines would need to be based on agreed terms in legal agreements between Netting Members and their clients.

**Form of communications:** Netting Members that primarily issue client margin calls via email may consider adopting more systematic solutions in response to the potential increase in margin call volume. For example, leveraging a technology vendor for calculating client margin requirements and issuing calls can streamline reconciliation and booking of collateral and dispute resolution.

<sup>37</sup> "Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Respect to U.S. Treasury Securities," Page 396, SEC, December 13, 2023.



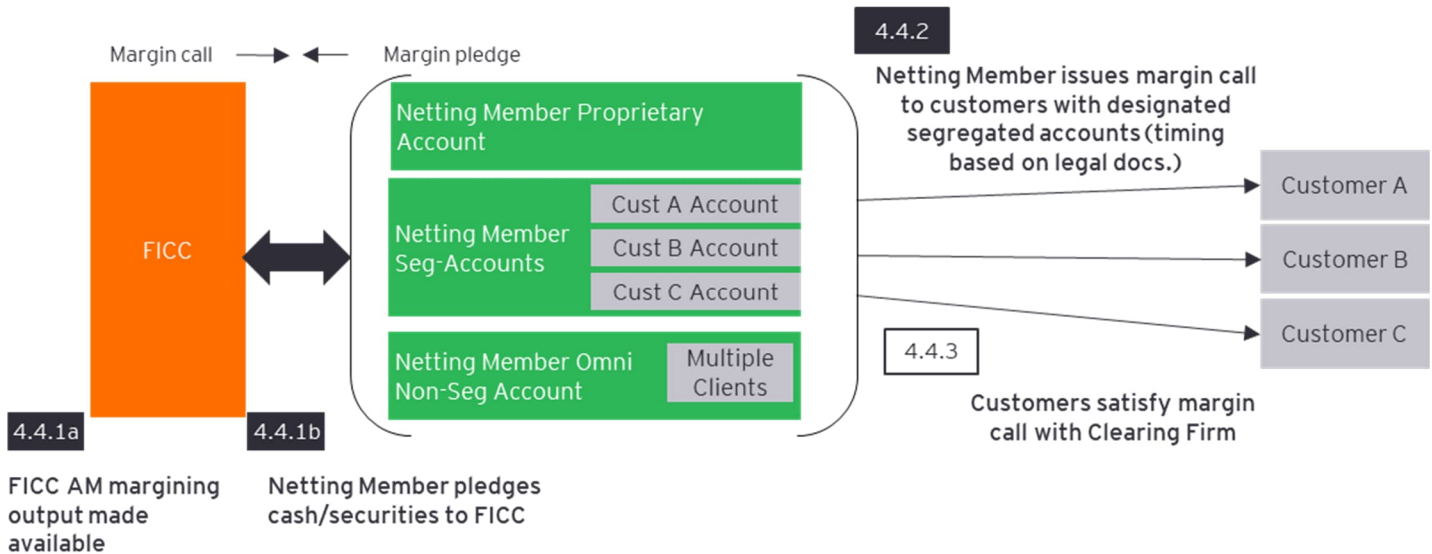
Customer margin obligation: To support increased access to data, specifically for customers of Netting Members' (i.e., Sponsored Members or Executing Firm Customers) that are being issued onward margin calls, FICC may consider enhanced reporting or portal access to allow for the consumption of indirect participant margin calculation details by indirect participants rather than relying on the Netting Member as a messaging conduit.

### 4.4.3 Customer margin delivery

Upon receiving margin calls from the Netting Member, a Segregated Customer will consume details received into its collateral management system and may perform an independent reconciliation and/or calculation against their expected margin amount. The Segregated Customer will then arrange cash and/or eligible securities to be transferred to the Netting Member to satisfy any outstanding margin obligation within the settlement deadlines outlined in the legal agreement between the Segregated Customer and its Netting Member.

The diagram below illustrates the high-level process flow when Segregated Customers satisfy margin calls issued by the Netting Member.

Segregated Customer Margin Delivery Flow:



Timeline: Netting Members will be required to agree cutoff times for collecting margin with each of their customers. Similar to considerations around issuing margin calls to clients, Netting Members may look to align timing with other existing margin processes. For instance, Netting Members may seek to require same-day settlement if margin calls are issued by a certain cutoff time (e.g., 11:00a.m. ET). If a Segregated Customer does not post collateral by the cutoff time, Netting Members need to consider steps and implications for holding customer collateral overnight (e.g., safekeeping activities).

The implications of collecting margin but not being able to move cash/securities received onward to FICC need to be assessed in determining the cutoff times for collecting client margin. For instance, if a Segregated Customer sent securities collateral to satisfy the Clearing Fund deficiency after the 2:45p.m. Clearing Fund deadline, the Netting Member would need to hold this collateral overnight. This would mean the Netting Member is 1) using its own assets to fulfill the customer's margin requirements for a period of time, 2) a Netting Member that is an SEC Registered Broker-Dealer will need to consider customer protection requirements while safekeeping these assets, and 3) may need to manage any lifecycle events that occur while holding the collateral.

Limits and controls: Netting Members may establish controls for the types of collateral they accept, which will primarily be determined by GSD Rulebook requirements (e.g., minimum amounts in cash). Netting Members may also establish controls and limits for the timing when clients deliver their collateral, including different cutoff times depending on the type of collateral (e.g., only allow cash after 2:45p.m. ET). This helps Netting Members manage situations where client delivery is made after the cutoff of being able to move securities to FICC.

Return of excess: Netting Members will need to establish processes to manage return of excess client collateral, including 1) a process to instruct return of excess from FICC (e.g., by 12:00p.m. ET for SOD margin call, by 2:15p.m. for intraday call), 2) a process to return excess received from FICC back to customers, and 3) a process for customers to instruct return of excess from Netting Members, based on agreements between the Netting Members and their customers. In the event the excess collateral pulled back from FICC is not able to be transferred to the customer immediately, the excess margin will need to be held by the Clearing Firm in accordance with customer asset protection requirements. As indicated above in this section, this potentially introduces responsibilities of managing lifecycle events that occur while holding customer collateral. SEC Registered Broker-Dealers will be incentivized to return excess collateral to customers given the 15c3-3 debit is limited to the margin required and on deposit at the CCA.

Dispute management: Netting Members should establish processes to handle disputes that may be raised by their customers. In order to satisfy the conditions of the rule, Netting Members that offer Segregated Indirect Participants Accounts and seek to take the 15c3-3 debit must “call for the customer to deliver...the margin requirement on the day the margin requirement arose...”<sup>38</sup> While many Clearing Firms will call for the exact amount required by the CCA, some Netting Members may decide to call for incremental margin. In either approach, Netting Members should consider establishing processes for customers to communicate disputes (e.g., timeline, communication channel), reconcile customer margin obligations (e.g., comparing customer positions used for calculation), and remediate discrepancies (e.g., reissue margin call if Netting Members need to correct).

Standardized Netting Member practices: Given a customer may have multiple Sponsors or Agent Clearing Services providers, consistent timelines across Netting Members would reduce operational complexities for buy-side participants (e.g., margin calls are distributed around similar times and with similar cutoffs for settlement). Market participants may benefit from arriving an industry consensus on general timeframes, processes, and consequence frameworks for the Segregated Customer Margin flow as it relates to the FICC SOD margin call.

#### CCA considerations

Substitution window: *FICC should consider the benefits, tradeoffs, complexity, and implementation timing* of extending the substitution request window beyond 12:00p.m. ET. This will allow additional time for Netting Members to raise requests to substitute customer margin for house assets previously posted (e.g., house assets pledged to FICC as temporary pre-funding for meeting outstanding margin obligations associated with the Segregated Indirect Participants Accounts).

#### 4.4.4 Manage collateral posted

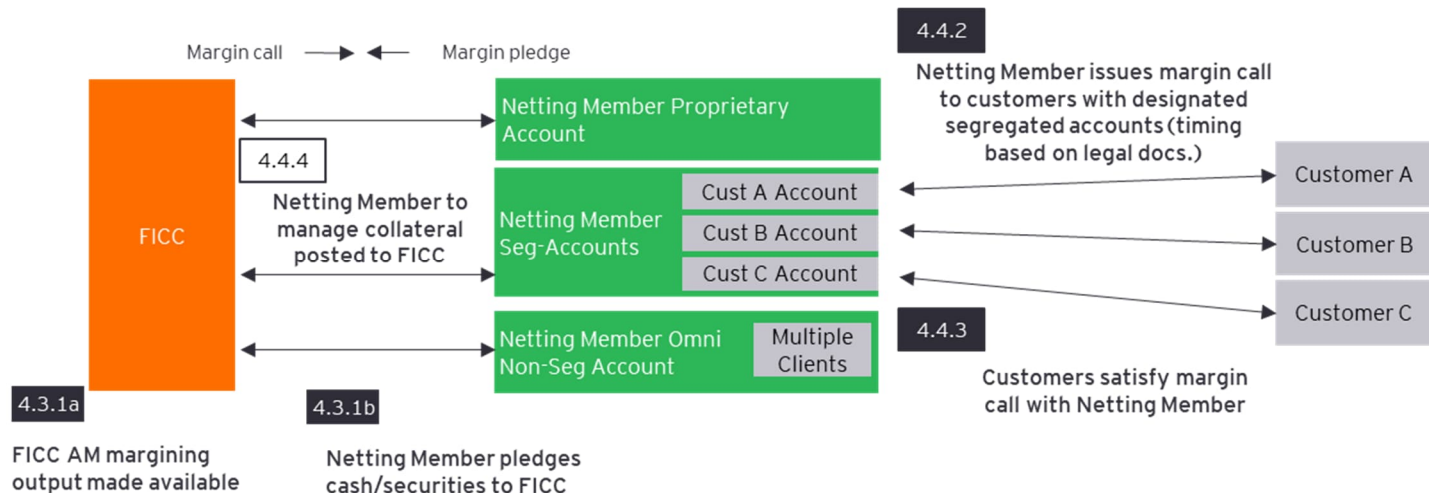
The steps that Netting Members will need to take once collateral is received from customers will depend on when customers send collateral.

The diagram below illustrates the high-level process flow of the actions taken by a Netting Member to process cash and/or securities collateral received from customers.

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<sup>38</sup> “Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Respect to U.S. Treasury Securities,” Page 395, SEC, December 13, 2023.

Collateral Management Posting Flow:



Scenario #1 - Netting Member collects Segregated Customer (i.e., indirect participant) Margin before FICC substitution window

This scenario outlines the critical factors to enable the end-to-end Segregated Customer Margin flow with all forementioned steps completed within the same day.

Time	Trade date + 1 (T+1)	
	7a.m. to 11:59a.m.	12:00p.m. to 4:00p.m.
FICC	By no later than 7:05am: FICC margin output made available (based on TO EOD position)	12:00pm Process substitution 2:00pm Issues Intraday Margin call
Netting Member	By 9:30am deadline - AM Clearing Fund Call Post prior day Clearing Fund deficiency margin to FICC Issue Margin Call to Client By 12:00pm deadline Initiate requests to FICC to substitute securities held for Clearing Fund	By 2:45pm deadline - PM Clearing Fund Call Post intraday margin to FICC
Indirect Participant		Send cash/securities

Baseline assumption: The current cutoffs and timelines for FICC margin processes may present challenges for some Netting Members to issue margin calls and receive customer collateral prior to the 12:00p.m. ET substitution window.

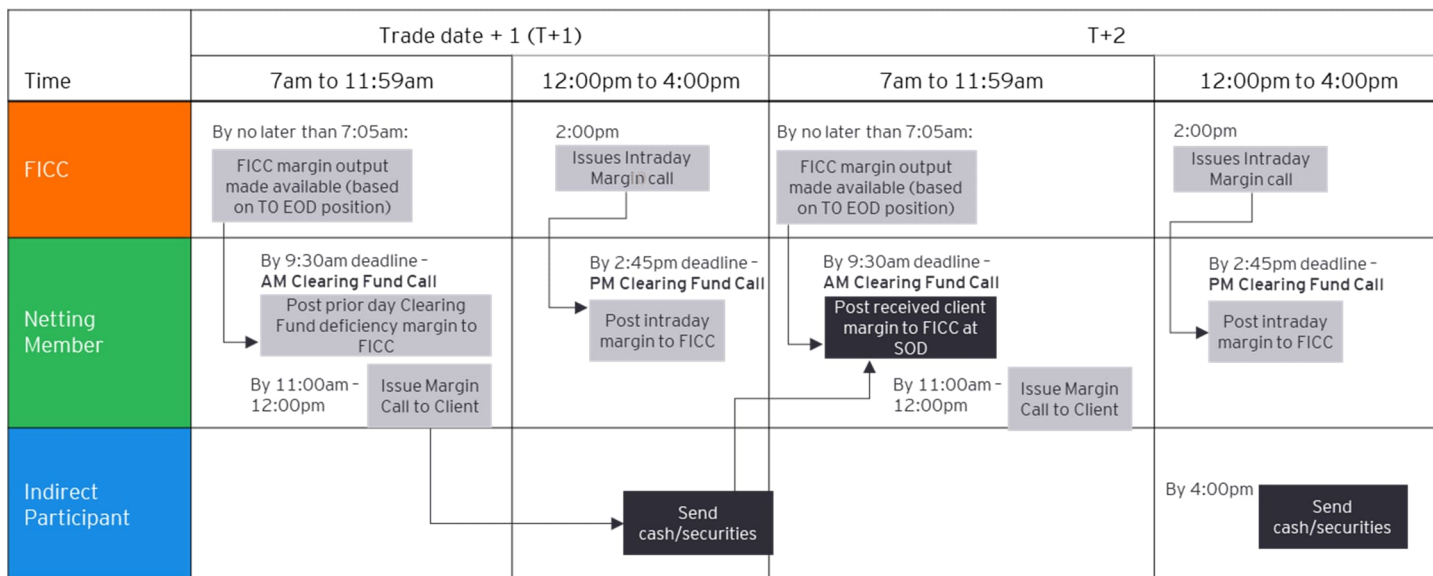
Key considerations: The following changes would reduce certain timing challenges in the collection and onward posting of customer margin to FICC on the same day:

- FICC margining output is made available for Netting Members' firms' margin systems early in the morning Eastern Time. This will allow Netting Members time to process margin reports and issue margin calls to customers after the start-of-day call.
- Netting Members send SOD margin calls to customers early in the morning. This will allow time for clients to instruct securities/cash movement before the FICC substitution deadline at 12:00p.m. ET. *Note: This would require changes to in-house technology at Netting Members and/or changes to vendor technology.*

- Indirect participants instruct cash/securities movements in the morning based on independent calculation of margin obligation or Netting Member margin calls on the day received. If indirect participants can receive the Clearing Fund obligations at the same time as the Netting Members, this would allow additional time for indirect participants to instruct collateral movements.
- Netting Members could then process and raise substitution requests with FICC prior to 12:00p.m. ET to pledge customer cash/securities in place of house assets.

### Scenario #2 – Netting Member collects Segregated Customer Margin post FICC substitution window

This scenario outlines the end-to-end Segregated Customer Margin flow when customers deliver collateral to Netting Members after the FICC substitution window cutoff of 12:00p.m. ET.



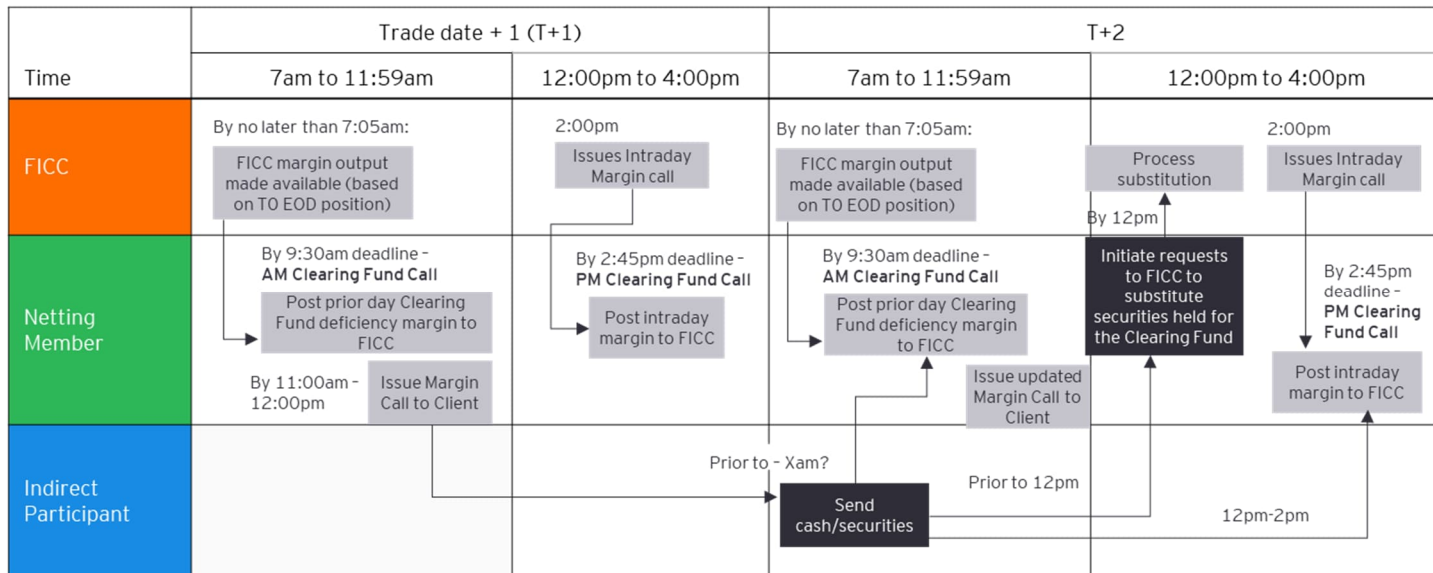
Baseline assumption: If the Netting Member receives cash/securities from customers after 12:00p.m. ET but before 2:45p.m. ET on the day of call issuance, they will post incremental customer margin only if the afternoon Clearing Fund Call exceeds the amount posted. If the afternoon Clearing Fund amount is less than the current amount posted or the customer collateral is received after 2:45p.m., the collateral will be posted or substituted the following day.

Key considerations: Netting Members should consider the following when customers send collateral post FICC substitution window, and as a result, the Netting Member is not able to post onward to FICC on the same day:

- Netting Members will need to account for the timing discrepancy between the cutoff time for Netting Members to fulfil FICC margin obligations and when Netting Members are able to receive customer cash/securities for onward posting to FICC. This will have funding implications for the Netting Member for collateral posted on customer's behalf.
- Appropriate account structures and controls (e.g., in accordance with requirements of 15c3-3) will be required for cash/securities held overnight to ensure compliance with possession and control requirements and traceability for 15c3-3 debit calculations.
- Netting Members will need to pledge other assets if cash/securities collected from customers are not sufficient to cover the next SOD FICC margin call.
- Processes need to be established to manage excess customer cash/securities (e.g., return excess to customer, including timing implications)

### Scenario #3 – Netting Member collects Segregated Customer Margin on next day

This scenario outlines the end-to-end Segregated Customer Margin flow when customers deliver collateral to Netting Members the day after the Netting Member margin call is issued.



Baseline assumption: When the customer sends collateral the day after the original margin call, the Netting Member's processes will vary based on when customer margin is received.

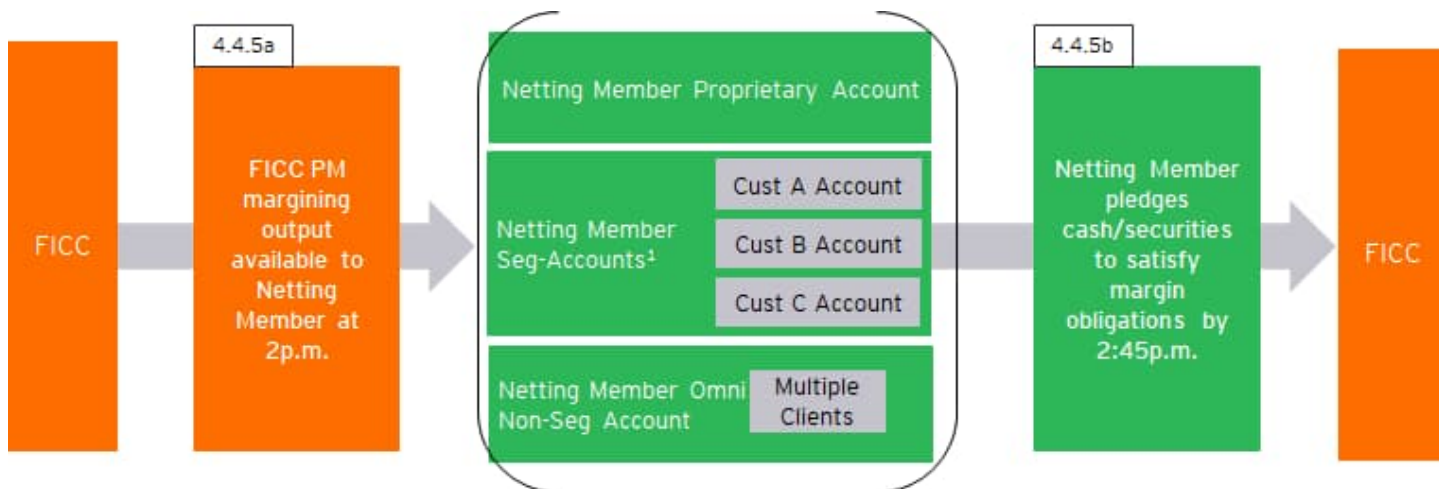
Key considerations: The implications on process steps will vary depending on customer margin delivery timing:

- If customer assets are received early morning (in advance of 9:30a.m. ET): Netting Member will be able to post customer assets to satisfy SOD call by 9:30a.m. ET. Excess can be returned, and shortfalls would necessitate an incremental margin call to customers.
- If customer assets are received late morning (in advance of 12:00p.m. ET deadline): Netting Member posts own assets (i.e., U.S. Treasury securities) by 9:30a.m. ET and raises substitution request with FICC prior to FICC substitution window closure at 12:00p.m. ET.
- If customer assets are received early afternoon (in advance of 2:45p.m. ET Clearing Fund intraday deadline): Netting Member posts own assets by 9:30a.m. ET and later on uses customer collateral to satisfy intraday margin call (if needed). Excess may be held by the Netting Member until the next morning to either be posted or substituted on the following business day, and shortfall will require incremental margin call to customers.
- If customer assets are received late afternoon (after 2:45p.m. Clearing Fund intraday deadline): Netting Member posts own assets by 9:30a.m./2:45p.m. ET on T+1. Netting Member posts customer assets by 9:30a.m. on T+2.

#### 4.4.5 Intraday FICC margin calls

In the current state, Netting Members are responsible for meeting intraday margin calls at FICC. Intraday margin calls follow a similar flow and structure to the SOD calls, albeit along different timelines. The introduction of calling for and collecting intraday margin calls from indirect participants further complicates the operational processes. The diagram below illustrates a high-level margin process flow among FICC, Netting Members, and customers with collateral held in Segregated Indirect Participants Accounts with FICC.

## High-level FICC margin process flow:



### Market participant considerations

System capabilities: Netting Members may need to modify or implement additional capabilities in existing margin systems to support the processes for meeting FICC intraday margin calls, similar to the capabilities outlined in Section 4.4.1 including:

1. Capability to consume FICC's margin call at 2:00p.m. ET
2. Capability to parse margin obligations within FICC Clearing Fund Letters for each individual customer within Segregated Indirect Participants Accounts
3. Netting Members may also seek to replicate FICC's margin calculation methodology in internal systems.

Margin transfer to FICC: Given current margin timelines/cutoffs outlined by FICC—intraday margining output is made available to members by 2:00p.m. ET and the cutoff for meeting margin calls is 2:45p.m.—Netting Members will likely need to satisfy FICC intraday margin calls using available U.S. Treasury securities, or cash received from customers not yet pledged onwards to FICC, before receiving collateral from customers. This may require Netting Members to plan for extra assets on hand to cover intraday margin obligations of their customers.

Timeline: Netting Members will be required to determine the cutoff for issuing intraday margin calls and collecting intraday margin from clients. To be eligible to take the 15c3-3 debit, SEC Registered Broker-Dealers will need to call “for the customer to deliver a sufficient amount of cash, U.S. Treasury securities, and/or qualified customer securities to meet the margin requirement on the day the margin requirement arose.” To meet this requirement while reducing the operational complexity in processing receipt of a given customer's collateral multiple times per day, Netting Members may decide to issue multiple margin calls but only request that customers move collateral once per day.

Limits and controls: Netting Members may choose to limit the types of collateral (e.g., cash only) they accept from customers to meet intraday margin calls to ensure capability of subsequent movements to FICC. This includes the cutoffs with FICC for the intraday margin calls and moving securities at Fedwire. For instance, if customers send securities too close to the 2:45p.m. ET intraday margin call cutoff, given the processing time required for moving securities, Netting Members may not be able to move the securities to FICC upon receipt.

Intraday margin call management: Buy-side institutions have expressed challenges surrounding satisfying intraday margin calls as this will require new infrastructure and operational capacity. Considering customers may have multiple Sponsored or Agent Clearing Service providers, it would reduce operational complexity if clearing service providers take a consistent approach on intraday margin calls. For example, determine 1) when intraday margin calls will be issued to customers and 2) under what circumstances, an intraday margin call will be carried over to the SOD margin call from Netting Members on the following business day. This option may require Netting Members to pre-fund any outstanding customer margin obligations arose from the intraday margin call with house assets.



## 4.5 Roadmap for margin segregation

Netting Members and their customers will need to take multiple steps to operationalize the end-to-end Segregated Customer Margin process. The considerations below may be used as a baseline reference while individual firms develop implementation plans for the transition to customer margin segregation under the clearing mandate.

### Direct Participant Considerations

Activity Type	Example Considerations
Setup of Accounts (internal, bank)	<ul style="list-style-type: none"> <li>Setup of new bank accounts (depo and nostro) to manage margin processing with clients.</li> </ul>
Documentation/FICC Account Setup	<ul style="list-style-type: none"> <li>Submit relevant forms to FICC to designate Segregated Indirect Participant Accounts. All Sponsoring Member Omnibus Accounts and Agent Clearing Member Omnibus Accounts will be presumed to be non-segregated absent a definitive designation by the Netting Member.</li> <li>Execute agreements with customers for changes to margin collection/posting, including collateral eligibility and haircuts/concentrations.</li> <li>Update reference data (e.g., Deposit IDs) and feed to margin systems.</li> </ul>
Ingesting Margin Calls from FICC	<ul style="list-style-type: none"> <li>Update firm systems/processes for ingesting FICC margin calls/reports for any newly created account types and generating relevant bookings.</li> </ul>
Posting Margin to FICC	<ul style="list-style-type: none"> <li>Update settlement instruction and deposit ID to ensure margin is routed to the correct account.</li> <li>Update criteria/processes for eligibility checks to ensure securities being posted are meeting FICC requirements: 1) cash, or 2) an open account indebtedness fully secured by eligible Clearing Fund securities.</li> <li>Establish processes to monitor and ensure that margin requirements for the Segregated Indirect Participants Accounts level are satisfied as outlined in Section 4.4.1.</li> </ul>
Netting Member Issuing Margin Call to Indirect Participant	<ul style="list-style-type: none"> <li>Update firm systems and establish processes for issuing onward margin calls to customer.</li> <li>Determine ability to act as a pass-through or post own funds then substitute, which will dictate decision on timing of margin call to customers in-line with FICC margin call deadlines. <ul style="list-style-type: none"> <li>SOD: Available in the early morning hours, no later than 7:05a.m. ET, due by 9:30a.m. ET</li> <li>Intraday: Available by 2:00p.m. ET, due by 2:45p.m. ET</li> </ul> </li> </ul>
Indirect Participant Posting/Managing Margin to Netting Member	<ul style="list-style-type: none"> <li>Update criteria/processes for eligibility checks (if needed) to ensure securities received from customers meet FICC requirements.</li> <li>Determine SLAs for collecting margin from clients or receiving requests from customers for returning excess margin.</li> <li>Establish process to initiate request at FICC Clearing Fund Management system for return of excess margin from FICC.</li> </ul>
Substitution Process	<ul style="list-style-type: none"> <li>Establish process to manage substitutions – initiate request with FICC to substitute house securities posted with FICC with securities received from customers.</li> </ul>
Valuation and Control	<ul style="list-style-type: none"> <li>Update internal margin calculation to align with FICC's updated Clearing Fund methodology/components, haircuts, and account for gross basis margining to allow accurate flagging of anomalies and discrepancies.</li> <li>Update existing clearing account position/margin reconciliation to incorporate margin obligation for Segregated Indirect Participants Accounts.</li> </ul>
Forecasting and Reporting	<ul style="list-style-type: none"> <li>Develop tools/capabilities to project margin obligations to enable pre-trade and/or project expected margin call amounts in advance.</li> <li>Adjust margin obligation forecasting and funding strategy accordingly to account for Segregated Customer Margin requirement.</li> <li>Make necessary changes to relevant internal, client and regulatory reporting.</li> </ul>
Management of Margin Interest	<ul style="list-style-type: none"> <li>Ensure necessary changes to other margin related process are implemented (e.g., accurately allocate interest earned on segregated customer margin to client).</li> </ul>



Activity Type	Example Considerations
Other Considerations	<ul style="list-style-type: none"> <li>Provision additional user access to FICC's CFM system (if needed).</li> <li>Testing with FICC to ensure receipt of margin call and posting of customer margin is being routed to the segregated accounts.</li> <li>Training with customers to ensure new margin processes will be operational upon implementation of Segregated Accounts</li> </ul>

#### Indirect Participant Considerations

Activity Type	Example Considerations
Documentation/FICC Account Setup	<ul style="list-style-type: none"> <li>Execute margin agreements with Sponsoring/Agent Clearing Member.</li> <li>Onboard Sponsoring/Agent Clearing Member to firm reference data and margin system(s).</li> </ul>
Netting Member Issuing Margin Call to Indirect Participant	<ul style="list-style-type: none"> <li>Update firm systems / establish process for intake of margin calls from Sponsoring/Agent Clearing Member and generating relevant bookings.</li> </ul>
Indirect Participant Posting/Managing Margin to Netting Member	<ul style="list-style-type: none"> <li>Confirm settlement instructions with Sponsoring/Agent Clearing Member to ensure margin is routed to the correct account.</li> <li>Establish/expand capabilities to post margin to Netting Members.</li> <li>Build process to request Netting Member to return excess cash or securities.</li> </ul>
Substitution Process	<ul style="list-style-type: none"> <li>Establish processes and SLAs (as needed) with the Sponsoring or Agent Clearing Member to enable efficient substitution of securities posted for margin purposes.</li> </ul>
Valuation and Control	<ul style="list-style-type: none"> <li>Update internal margin calculation to align with Segregated Customer Margin methodology/components, haircuts, and account for gross basis margining to allow accurate flagging of anomalies and discrepancies.</li> <li>Update existing clearing account position / margin reconciliation to incorporate margin obligation for Segregated Indirect Participants Accounts.</li> <li>Replicate margin calculations (if required) to ensure they are accurate.</li> </ul>
Forecasting and Reporting	<ul style="list-style-type: none"> <li>Develop tools / capabilities to project margin obligations (e.g., consume FICC VaR Calculator) to enable pre-trade and/or project expected margin call amounts in advance.</li> <li>Adjust margin obligation forecasting and funding strategy accordingly to account for Segregated Customer Margin requirement.</li> <li>Make necessary changes to relevant internal and regulatory reporting.</li> </ul>
Management of Margin Interest	<ul style="list-style-type: none"> <li>Make necessary changes to other margin related process (e.g., establish reconciliation of allocated interest earned on margin posted).</li> </ul>
Other Considerations	<ul style="list-style-type: none"> <li>Attend training and review documentation from Sponsored or Agent Clearing Member to ensure new margin processes will be operational</li> </ul>

## 4.6 Other considerations

### 4.6.1 Potential alternative solutions to address industry challenges related to margin

Certain CCAs and service providers are considering alternative solutions that may address industry challenges related to margin. One alternative solution that market participants are exploring is providing CCAs with a lien on collateral posted (e.g., 2% haircut) in U.S. Treasury repo transactions. This would mitigate the risks borne by the CCA while alleviating certain regulatory and operational constraints for certain market participants. In such a hypothetical solution, high-level processes could include:

- Cash lender (e.g., an indirect participant such as a money market mutual fund) and cash borrower (e.g., a broker-dealer) enter into a U.S. Treasury repo trade under an agreement that enables such an alternative margin solution.
- Collateral provided by the cash borrower (e.g., 2% haircut) is held in a designated account where the CCA has first lien on the collateral in the event of default.

- Transactions in the designated account are excluded from CCA margin calculations for the cash lender and therefore do not generate incremental margin requirements.

CCAs and market participants may seek to implement other types of alternative solutions as well given the inherent complexities in segregated margin flows. Note that any alternative solutions would be 1) subject to design by relevant parties, 2) subject to regulatory approval, 3) require updates to CCA rulebook(s), 4) require implementation by the relevant parties and 5) require opt-in by market participants.

#### 4.6.2 Non-Segregated Customer Margin

Direct participants may choose to maintain or adopt a non-segregated margin arrangement independent of CCA Clearing Fund requirements to manage the risk from clearing trades on behalf of the customers. This removes dependencies on CCA Clearing Fund calculations and the requirements for adhering to CCA margin operational timelines. Some example mechanisms for direct participants to collect non-segregated customer margin may include:

- Haircuts: Apply haircuts (i.e., the difference between the market value of cash and collateral) to the U.S. Treasury repo trades
- Fee structures: Market participants may or may not seek to adjust fee structures to factor in costs associated with posting CCA Clearing Fund on behalf of customers.
- Portfolio margining: Calculate margin requirements across all applicable positions (e.g., this may include more than one types of products) that a customer has, using internal margin models. Margin call issuance and collection timelines, as well as processes for managing customer assets held in custody (e.g., investment, rehypothecation, interest transfer) are agreed between the direct participants and their customers.
- Charge-back model: Post and manage CCA Clearing Fund requirements on behalf of customers, transfer the costs associated with funding CCA margin for customer activity back to the customers in the form of fees that gets collected on an agreed-upon cadence (e.g., monthly).

Given the operational complexities and changes introduced to both the direct participants and their customers by the Segregated Customer Margin flow, direct participants may adopt a hybrid approach in which margin is segregated for certain customers (e.g., based on trading volumes, customer preferences) while margin with other customers are managed using alternative methods in a non-segregated account.

#### 4.6.3 Margin vendor considerations

As direct participants and customers implement changes to margin practices and determine necessary changes to their operating models, there are several technology capabilities that could provide benefits in calculating and/or projecting margin obligations, operationalizing margin posting to FICC, issuance/receipt of margin calls, movement of collateral, and various forms of optimization (e.g., with whom to trade to optimize margin requirements). Vendors should consider building capabilities for margin analytics or providing services such as:

- Forecasting or mirroring calculation of margin requirements ahead of CCAs margin calls are made available (*Note: this has a dependency on data availability of CCAs' margin model*)
- Forecasting or mirroring cross margin calculations (*Note: assumes that cross-margining benefits will eventually be extended to indirect participants at CCAs*)
- Reconcile and validate margin calls from the CCAs and Clearing Firms against internal calculations
- Optimize collateral delivery to ensure assets are allocated as efficiently as possible to meet margin calls
- Build workflow capability to automate transfer of margin calls and request return of excess collateral.
- Perform eligibility checks on collateral received based on pre-defined rules
- Produce client and internal reporting (e.g., exposure report, collateral statement, reconciliation)

- Pre-trade reporting for indirect participants to identify which direct participants to trade with (or clear with) to realize margin netting benefits.

For additional technological considerations, refer to Section 11 of this report.

## 4.7 Conclusion

As direct participants and indirect participants navigate and address the margin impacts from the U.S. Treasury clearing mandate, it is important to recognize that adopting the Segregated Customer Margin flow is optional. However, Segregated Customer Margin may be a prerequisite to extending CCA cross-margining (e.g., cross-margining between FICC and CME or with new CCAs) to indirect participants, once available and approved by SEC. A direct participant may also decide to setup Segregated Indirect Participants Accounts for certain customers and setup Non-Segregated Indirect Participants Accounts for others; this strategy will likely be based on a variety of factors, including a given customer's typical volumes of activity, internal capabilities, and preferences, amongst other factors. When implementing the Segregated Customer Margin flow, key margining activities direct participants will need to support include 1) ingesting CCA margining output and satisfying outstanding margin obligations 2) onward issuing margin calls to customers 3) collecting margin from customers, and 4) managing and/or substituting collateral received from customers.

It is critical for market participants to develop an end-to-end workflow to collect and manage Segregated Customer Margin and evaluate the best methods for connectivity between themselves, their individual customers, and CCAs to capitalize on efficiencies within the compact margin timeline. Broker-dealers that plan on leveraging the 15c3-3 debit also need to ensure that their Segregated Customer Margin flow satisfies the conditions set forth in the SEC Rule. Beyond a firm's collateral management system and margin operational processes, other adjacent systems and processes should also be assessed for enhancements and changes required to support the Segregated Customer Margin flow, such as potential changes required to risk management systems and regulatory reporting processes. Considerations laid out in Section 4.5 serve as a baseline reference for key steps to setup the Segregated Customer Margin flow, while industry-wide solutioning and individual firm's process establishment should continue to ensure a functional, consistent, and compliant workflow is designed and implemented for meeting the margin segregation requirements.

## Section 5: Key changes to U.S. treasury cash market

## 5.1 Introduction

The secondary U.S. Treasury market provides a safe and stable marketplace for a wide range of participants to hedge market risks associated with trading other financial instruments, manage excess cash on their books, and source U.S. Treasury securities for essential business needs (e.g., collateral management). Repos are mainly used as a financing tool and safe-haven investment for generating incremental returns. The buying and selling of U.S. Treasuries are fundamental aspects of many firms' trading strategies, and trading in the secondary market is an important source of demand for the U.S. Treasury securities. Preserving the demand and liquidity for Treasury securities is vital as they steer the yield of Treasuries, which directly correlate with the risk-free benchmarks for pricing other financial products and the cost of borrowing, these factors combined put the U.S. Treasury cash market at the center of the U.S. economy. The diverse participants of the U.S. Treasury cash market play an important role in bringing in liquidity, and ensuring participants' abilities to continue trading post-implementation of the clearing mandate is essential.

## 5.2 Current U.S. Treasury secondary market structure for cash purchases and sales

The current U.S. Treasury cash secondary market has two main segments, the interdealer segment and the dealer-to-customer segment. Each represent approximately half of the daily trading volume of U.S. Treasury securities<sup>39</sup>. In the interdealer segment, trading is generally among participants in the dealer community and certain other types of firms, such as PTFs and hedge funds, primarily through IDBs. PTFs have grown to be important participants in the interdealer segment in the past decade. PTFs usually prefer trading in more liquid securities, such as the most recently issued U.S. Treasuries (i.e., refer as "on-the-run"). The Treasury Market Practices Group (TMPG) report<sup>40</sup> indicated that "PTFs account for 56.3% of IDB trading volume in the on-the-run 10-year note, compared to bank dealers' and broker dealers' share of 34.7%, with the remaining activity split among non-bank dealers and hedge funds". PTFs generally transact on Central Limit Order Books (CLOBs) offered by IDBs. CLOBs enable more efficient trading as it consolidates all buy and sell orders submitted by market participants; trade execution occurs in high speed as soon as the buy and sell orders are matched based on specific rulesets. Hedge funds have also become active participants in the U.S. Treasury market. FED Notes<sup>41</sup> stated that "long U.S. Treasury exposures of qualifying hedge funds (QHF)- the largest hedge funds - were \$1 trillion in December 2022, while their short U.S. Treasury exposures stood at \$694 billion".

The dealer-to-customer segment includes a more diverse set of market participants such as asset managers, pension funds, and hedge funds. Majority of the trading activity in this segment occurs over voice or RFQ platforms at a slower speed.

Approximately over half of the activity in the interdealer segment and majority of the activity in the dealer-to-customer segment are not centrally cleared, which translates to about three-fourths of the entire Treasury cash market<sup>42</sup> not being cleared. The SEC's U.S. Treasury clearing mandate will bring over half of these activities, predominantly those entered by IDBs, into central clearing by December 2025. It is pivotal that the transition to central clearing does not disrupt market participants' abilities to transact in the U.S. Treasury cash market.

## 5.3 Focus areas to be addressed for transition to mandatory clearing

In order to continue buying and selling U.S. Treasuries via IDBs post December 2025, hedge funds and PTFs will need to obtain access to clearing, either by becoming a direct participant of CCAs (if permissible), or clearing transactions through another party (e.g., bank, broker-dealer or FCM). While Hedge funds and PTFs will seek the most cost-effective and efficient clearing solutions, their choices will be contingent upon the offerings of sell-side institutions. If these services do not align with the needs of hedge funds and

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<sup>39</sup> Chaboud, Alain. Correia Golay, Ellen. Cox, Caren. Fleming, Michael. Huh, Yesol. Keane, Frank. Lee, Kyle. Schwarz, Krista. Vega, Clara. Windover, Carolyn. "All-to-All Trading in the U.S. Treasury Market," Page 7, Federal Reserve Bank of New York, October 2022, [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr1036.pdf?sc\\_lang=en#:~:text=Most%20interdealer%20cash%20trading%20takes,operate%20central%20limit%20order%20books](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1036.pdf?sc_lang=en#:~:text=Most%20interdealer%20cash%20trading%20takes,operate%20central%20limit%20order%20books).

<sup>40</sup> "White Paper on Clearing and Settlement in the Secondary Market for U.S. Treasury Securities," Page 6, Treasury Market Practices Group, [https://www.newyorkfed.org/medialibrary/Microsites/tmpg/files/CS\\_FinalPaper\\_071119.pdf](https://www.newyorkfed.org/medialibrary/Microsites/tmpg/files/CS_FinalPaper_071119.pdf).

<sup>41</sup> Banegas, Aylene, and Monin, Phillip. "Hedge Fund Treasury Exposures, Repo, and Margining," The Federal Reserve, accessed on September 23, 2024, Published September 8, 2023, <https://www.federalreserve.gov/econres/notes/feds-notes/hedge-fund-treasury-exposures-repo-and-margining-20230908.html>.

<sup>42</sup> See note 34.

PTFs, there is a risk that these firms may discontinue trading in the U.S. Treasury cash market. A substantial withdrawal of participants and/or trading volumes from IDB platforms would adversely affect market liquidity and exacerbate price volatility, potentially triggering a domino effect on investor returns and liquidity in the repo financing markets. To maintain current liquidity levels and accessibility to the U.S. Treasury cash market post December 2025 requires a suite of critical capabilities. This section highlights gaps that need to be bridged in the market structure, either through enhancing current or establishing new capabilities, and the corresponding considerations that underpin solutions for these gaps.

**IDB participants require access to clearing:** IDBs act as intermediaries for facilitating transactions between buyers and sellers, therefore, due to the nature of their role, IDBs do not usually have a net long or short exposure to a given security. According to FICC's membership requirements, IDBs are not currently permitted to provide clearing access to customers. As a result, IDBs can only submit their proprietary trades for clearing and are dependent on their counterparties' clearing access to submit the customer leg of a transaction. To avoid unintended exposure due to one side of a transaction not submitted to clearing, IDBs should consider establishing controls or introduce onboarding requirements to confirm that participants on their platforms have access to clearing. Example controls include validating that a dealer is a direct participant of CCAs or requiring indirect participants to designate a Clearing Firm.

**Direct participants service offering:** Direct participants should evaluate the different access models available at CCAs and will need to offer done-away access. They should also have an understanding of indirect participant needs, namely PTFs and hedge funds that transact in the U.S. Treasury cash market to determine the suitable access model to offer for cash clearing.

**Indirect participants access to clearing:** Indirect participants will also need to consider gaining access to clearing via a direct participant and implement a done-away clearing model. Indirect participants that transact in U.S. Treasury purchases and sales subject to mandatory clearing, primarily those trade on IDBs, should engage with dealers to understand clearing service offerings and determine the optimal models for clearing. Based on agreed upon access model, indirect participants should assess the impact on their trading strategies and commercial models (e.g., pricing, fees), and implement changes to enable clearing of trades executed on IDBs. Indirect participants that trade on IDB platforms should also engage with IDBs to prepare for any new requirements that the IDBs may be posing on their participants.

**Risk management practices:** Due to limitations of IDBs not being able to provide customer clearing services, transactions entered by indirect participants on the IDB platforms are inherently "done-away" trades, which means a third-party dealer (i.e., Clearing Firm), will submit the indirect participant's trade to a CCA. In other cleared products, this construct typically includes a pre-trade check mechanism which provides the Clearing Firm, prior to execution, options to accept or reject the indirect participant's trade and serves as a confirmation to the indirect participant's executing counterparty (in this case, the IDB) that the trade will be accepted for clearing. Half of the U.S. Treasury cash trading takes place in IDB's execution venues. To the extent appropriate, IDBs may need to calibrate pre-trade credit checks for the U.S. Treasury cash order books. For example, a low latency pre-trade check process may be implemented, similar to the existing Push Model for cleared swaps, to allow limits to be stored on IDB platforms. While form of limits will be determined by individual Clearing Firms, it is important for execution facility to allow limits to be established and checked on a net basis (e.g., netting of longs and shorts) given offsetting position, as this would lead to lower margin obligations at the CCA during margin processes.

**Connectivity between IDBs and Clearing Firms:** Messaging capabilities need to be established, if they are not already, to transmit executed trade details to an indirect participant's Clearing Firm for subsequent submission to CCAs. In the instance where an indirect participant has multiple Clearing Firms, IDBs should consider enacting a capability to allow the indirect participant to choose a particular Clearing Firm for a given trade, or systemically allocate trades to a given Clearing Firm based on a pre-defined ruleset agreed to by the indirect participant.

**Operations in a multi-CCAs environment:** Operational complexity and market implications introduced by new entrant CCAs need to be thoroughly evaluated. Given margin practices and financial requirements imposed by the different CCAs may not be the same, the cost associated with clearing trades at one CCA may be marginally lower or higher than other CCAs. This will have downstream impacts on how firms may price their trades and could subsequently draw liquidity to the specific CCA that is the cheapest to trade. IDBs may need to set up CCA-specific central limit order books or rulesets to ensure that the matching buy/sell will be cleared through the same CCA. This would prevent IDBs from bearing any unintended costs (e.g., margin) associated with clearing the proprietary legs of two offsetting trades.

**Inter-affiliate transactions:** Direct participants that have in-scope affiliate cash activities should set up the affiliate entity for either 1) Sponsored Model, 2) Agent Clearing Model or 3) affiliate to become direct participant.

## 5.4 Other general implementation considerations

In parallel to addressing the key focus areas outlined above, there is a broad spectrum of additional tasks that market participants need to act on to operationalize U.S. Treasury cash clearing, from the setup of clearing access and relationships to the establishment of regulatory compliance frameworks. The table below outlines key activities to be completed by market participants based on their role, for the December 2025 compliance date.

Activity type	Example consideration
Onboarding	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Establish done-away service and commercial model that support hedge funds and PTFs activity</li> <li>▪ Setup accounts with new clients for providing them Sponsoring/Agent Clearing Services</li> <li>▪ Open sub-accounts for capturing client fund-level activity</li> <li>▪ Review and update standard settlement instructions (SSIs) to route payment and deliveries to correct accounts</li> <li>▪ Enhance client onboarding process to collect additional reference data required for identifying entity types in-scope for cash clearing mandate</li> </ul>
Legal and contracting	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Execute legal agreements required for clearing of U.S. Treasury cash transactions on behalf of customers, for example: <ul style="list-style-type: none"> <li>▪ Clearing Agreement – outlines terms and conditions under which the broker-dealer will clear U.S. Treasury transactions on behalf of its client, which may encompass details on settlement procedures, responsibilities of each party, and the handling of failed or unmatched trades.</li> <li>▪ Master Netting Agreement (if applicable)</li> <li>▪ Collateral Management Agreement – detailing operational details of managing collateral, including the process for making margin calls, timing for posting and returning collateral and handling of interest earned.</li> </ul> </li> </ul> <p>Indirect Participant</p> <ul style="list-style-type: none"> <li>▪ Update relevant Investment Management Agreement if needed depending on changes to commercial model / fee structure</li> </ul>
Risk management	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Calibrate pre-trade credit checks for the U.S. Treasury cash order books, key capabilities include: <ul style="list-style-type: none"> <li>▪ allow limits to be stored on IDB platforms</li> <li>▪ allow limits to be established and checked on a net basis given offsetting position</li> </ul> </li> <li>▪ Identify internal credit and market risk systems and models that may need to be adjusted to reflect U.S. Treasury cash activities moving from bilateral to centrally cleared.</li> <li>▪ Set internal risk limits at client / product level based on risk profile of customers and establish risk management process (e.g., process of managing limit breach) in accordance with internal risk management policies and procedures.</li> <li>▪ Implement enhanced tools for forecasting, monitoring, and reporting of credit, market, and liquidity risk</li> </ul>
Post-trade operations	<p>Market Participant</p> <ul style="list-style-type: none"> <li>▪ Map out end-to-end operational workflows for the clearing process and identify opportunities for Straight-Through-Processing (STP) and key control points</li> <li>▪ Update exception handling workflows as necessary for managing new types of exceptions (e.g., client symbol not included in trade submission)</li> <li>▪ Establish operations governance workflow to review and discuss remediation for recurring exceptions (e.g., produce daily report to business, operations, and compliance stakeholders for in-scope transactions not submitted for clearing)</li> <li>▪ Document changes to operational procedures and written supervisory procedures, and define escalation matrix for critical activities, ensuring consistency and oversight</li> <li>▪ Update reconciliations for 3-way comparison between direct participants, their customers, and CCA</li> <li>▪ Staff additional headcounts (if needed) to support clearance and settlement of U.S. Treasury cash transactions</li> </ul>



Activity type	Example consideration
Collateral management	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Setup depo and nostro accounts to manage margin processing with clients.</li> <li>▪ Implement changes to collateral management systems to consume CCA margining output, including designing logic to bifurcate margin obligation by customer.</li> <li>▪ Replicate CCA margin calculation to expedite margin call issuance to customers.</li> <li>▪ Design and define end-to-end margin processing workflow and SLAs, including reconciling CCA margining output, issuing margin call to customers, collect margin from or return excess to customers, overnight handling of customer margin, substitution of customer margin</li> <li>▪ Establish controls on critical activities and capability to check against minimum cash requirement.</li> <li>▪ Staff additional headcounts (if needed) to support margin process with clients</li> </ul> <p>Indirect Participant</p> <ul style="list-style-type: none"> <li>▪ Implement enhancement to collateral management system to forecast margin obligations to expedite settlement of cash and/or eligible securities.</li> <li>▪ Implement process and capabilities to intake and reconcile clearing broker margin calls, transfer cash and/or eligible securities to clearing broker, request for excess collateral to be returned, manage discrepancies / dispute.</li> <li>▪ Staff additional headcounts (if needed) to support margin process with clearing broker(s).</li> </ul>
Compliance	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Within trade capture system, implement capability to flag activity that is required to be cleared based on client and product reference data</li> <li>▪ Enhance counterparty classification in reference data systems to align with rule requirements</li> <li>▪ Establish process and define roles and responsibilities to meet the CCA trade submission and monitoring requirements<sup>43</sup>, for example: <ul style="list-style-type: none"> <li>▪ Reporting tool and document repository that enables quick data extraction for responding to FICC informational requests (e.g., trading activity, trade data, controls)</li> <li>▪ Process for preparing and submitting the annual trade submission requirement attestation to FICC</li> <li>▪ Process to monitor ongoing compliance with FICC trade submission requirements and provide notification to FICC for non-compliance (within 2 business days)</li> <li>▪ Designate internal or external party conducting review of compliance with the trade submission requirement every 3 years</li> </ul> </li> <li>▪ Enhance existing or implement new policies to govern business and operational activities related to U.S. Treasury clearing</li> </ul>
Finance and intraday liquidity	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Forecast margin and impact to financial resources</li> <li>▪ Assess changes to intraday liquidity needs and adjust funding strategy as necessary</li> <li>▪ Adjust relevant monitoring, calculation, and reporting processes (e.g., risk-weighted assets, liquidity coverage ratio, and net stable funding ratio)</li> </ul>
Communication	<p>Direct Participant</p> <ul style="list-style-type: none"> <li>▪ Develop a communication plan that outlines key internal and external stakeholder groups that need to be notified of changes related to U.S. Treasury clearing mandate and receiving regular updates on implementation activities</li> <li>▪ Consider creating Frequently Asked Questions (FAQs) document for commonly asked questions with responses reviewed by legal and compliance to help manage correspondence with clients and internal stakeholders</li> </ul>

<sup>43</sup> "FICC Regulatory Rule Filing SR-FICC-2024-009," FICC, June 12, 2024.

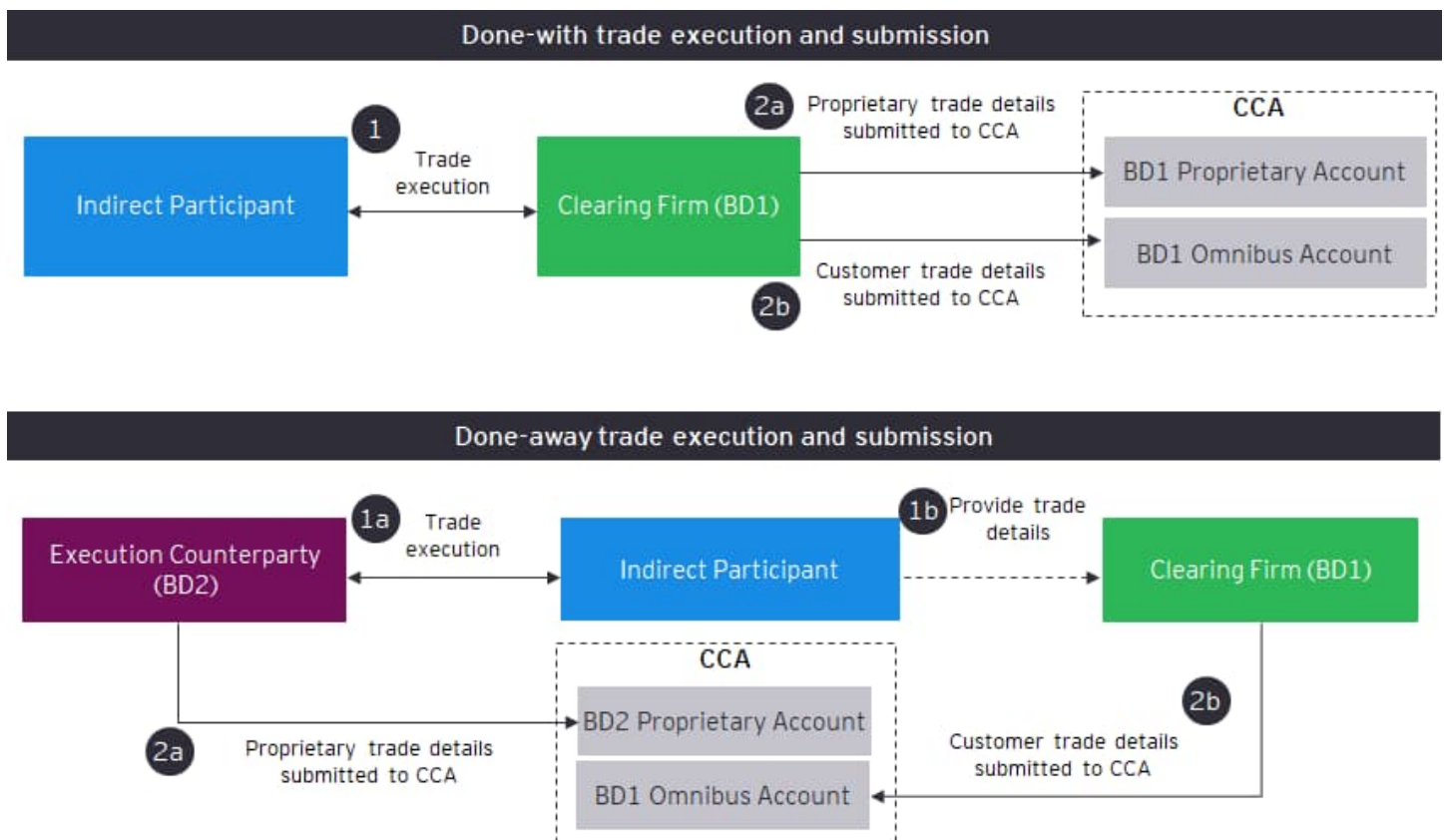
## Section 6: Done-away repo model design and adoption

## 6.1 Introduction

The current U.S. Treasury repo market predominantly follows a Sponsored “done-with” model for cleared transactions. In this model, a Sponsoring Member, typically a bank or broker-dealer, executes a repo with a Sponsored client and clears the trade on their behalf. This differs from other cleared markets such as futures or cleared over-the-counter (OTC) derivatives, where clients have the flexibility to execute transactions with a variety of market participants and consolidate clearing through just one or a select few clearing firms. While done-with is the prevailing model today, it presents several operational and efficiency challenges in the face of significant increases in volumes of cleared transactions and a substantial number of market participants beginning to clear U.S. Treasury repo transactions for the first time.

If done-with remains the prevailing model, it could lead to margin inefficiencies for indirect participants. For instance, indirect participants (e.g., asset managers, hedge funds) cannot net positions across different Sponsoring Members, which could result in higher margin obligations and the need to post collateral across a larger number of clearing relationships. Under the Sponsored done-with model, indirect participants will also need to establish relationships with multiple Sponsoring Members to maintain their ability to continue executing and clearing with those firms. This imposes a considerable amount of work on both sell-side and buy-side participants to establish contractual agreements and complete onboarding processes with the Sponsoring Member and FICC. These key challenges, amongst others, have catalyzed an industry push to develop a “done-away” model where firms can execute transactions with one party and clear them through another. The following diagrams depict a high-level view of “done-away” and “done-with” models for comparison purposes.

High-level done-with and done-away model comparison:



While this section focuses on done-away trading for U.S. Treasury Repo, further changes may be needed to enhance done-away trading for cash purchases and/or sales of U.S. Treasury securities. Those enhancements are previously discussed in Section 5.

## 6.2 Capabilities needed across the done-away trade lifecycle

In order to successfully implement a done-away model, key capabilities across the trade lifecycle need to be designed, developed, and operationalized. While certain market participants may play a more significant role in bringing about these changes, a cohesive end-to-end transaction flow will require interconnectivity across multiple market participants. Key capabilities include pre-trade limit checks, trade execution workflows, and connectivity from execution channels to clearing agencies. The primary market participants that will need to build the core market infrastructure components include trade execution venues, CCAs, and technology vendors that facilitate various aspects of transaction processing flows. Sell and buy-side firms will also need to design and implement changes to enable done-away trading, including changes to technology infrastructure, messaging and operational capabilities, and operating models.

While the design of existing infrastructure and workflows for other cleared products (e.g., swaps, futures) may be leveraged, it is important to recognize the uniqueness of the U.S. Treasury repo market – a significant portion of the market is made up by overnight trades<sup>44</sup> that need to be rolled on daily basis, which is reliant on timely trade executions and settlements. Therefore, a robust mechanism to manage fails is required to provide market participants with continuous access to the U.S. Treasury repo market and maintain market efficiency and liquidity. The table below outlines examples of key activities and capabilities required to enable done-away trading and clearing:

Trade lifecycle	Key capabilities required
Onboarding	<ul style="list-style-type: none"> <li>Agreements between executing firm and indirect participant, if applicable (e.g., similar to cleared derivatives execution agreements utilized in cleared OTC derivatives markets)</li> <li>Agreements between indirect participant and Clearing Firm (i.e., Sponsoring/Agent Clearing Member)</li> <li>Reference data to flag clients and accounts for mandatory clearing</li> <li>Assumption: no agreements would be required between executing counterparty and clearing broker, similar to other cleared products such as cleared OTC derivatives</li> </ul>
Pre-trade checks	<ul style="list-style-type: none"> <li>Pre-trade check to identify transactions subject to the clearing mandate (which may be satisfied by platform-level controls)</li> <li>Risk management practices to manage and check trades against limits for cleared repo</li> <li>Controls enacted for anonymous platforms that match post-execution</li> </ul>
Execution and affirmation	<ul style="list-style-type: none"> <li>Execution venue: electronic, voice, other</li> <li>Incremental trade details (e.g., executing firm customer ID, Clearing Firm ID)</li> <li>Order management / portfolio management system capabilities</li> <li>Booking model and account structures to support done-away trading</li> <li>Bunched order workflows (e.g., asset manager groups multiple orders into a single, larger order before execution, which is then allocated to individual client accounts after execution)</li> </ul>
Submission for clearing	<ul style="list-style-type: none"> <li>CCA connectivity and messaging capabilities</li> <li>Transaction messaging between executing firm customer and designated Clearing Firm (e.g., Sponsoring Member or ACM)</li> <li>Trade support function to manage RTTM or equivalent at trade matching functionality at non-FICC CCAs</li> <li>Exception management</li> </ul>

<sup>44</sup> SEC stated in the Final Rule that the triparty segment of the U.S. Treasury repo market is large, with approximately \$3.1 trillion in transaction volume at peak in the March of 2023. Of which, the overnight repo component is making up 92% on average of daily transaction volume since 2020.

Trade lifecycle	Key capabilities required
Novation and settlement	<ul style="list-style-type: none"> <li>▪ Clearing and settlement entries</li> <li>▪ On-leg processing<sup>45</sup></li> <li>▪ Off-leg processing<sup>46</sup></li> <li>▪ Repo lifecycle events (e.g., partials, reprices, pair-offs)</li> <li>▪ Fail management</li> <li>▪ Clearing fees and billing</li> </ul>
Margin	<ul style="list-style-type: none"> <li>▪ FICC margin posting <ul style="list-style-type: none"> <li>○ Executing broker is responsible for Proprietary Account margin</li> <li>○ Sponsoring Member or ACM is responsible for Omnibus Account (may opt to collect margin from customer)</li> </ul> </li> <li>▪ Customer margin collection processes and timing</li> </ul>

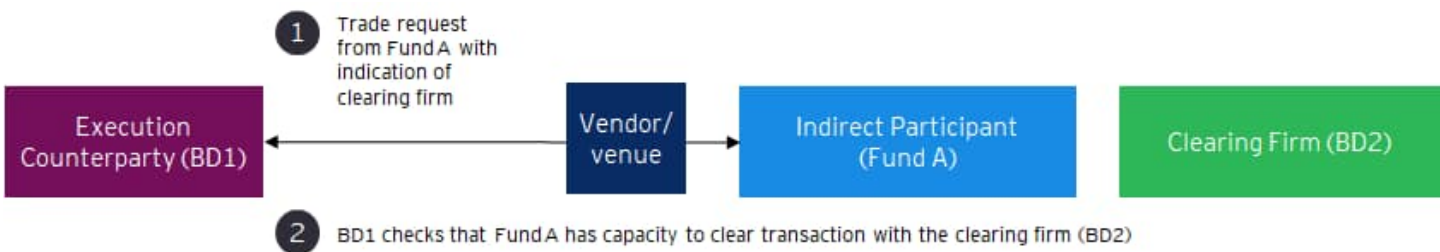
### 6.3 Illustrative lifecycle of a done-away trade and key considerations

The diagrams in Section 6.3 outline trade lifecycle components of an illustrative done-away U.S. Treasury repo transaction between an Executing Firm Customer (Fund A, a buy-side account) and an Execution Counterparty (BD1, a Netting Member) to be cleared through Fund A's designated Clearing Firm (e.g., BD2, a Sponsoring or ACM member at FICC). These flows are conceptual and intended to depict the high-level, end-to-end lifecycle of a done-away U.S. Treasury repo transaction.

#### 6.3.1 Pre-trade checks

Fund A submits an order through an electronic trading venue or other execution channel. This could be in the form of a request for quote (RFQ) to BD1 on a trading platform. The order or RFQ indicates BD2 as Fund A's Clearing Firm. Prior to trade execution, BD1 requests pre-trade checks against Fund A to confirm that Fund A's trade is within clearing capacity that BD2 has defined. Pre-trade check result (e.g., approved, rejected) will be communicated to BD1, Fund A, and BD2 by the pre-trade check platform.

High-level pre-trade check process flow:



*Note: Activities are numbered in sequence from section 6.3.1 to section 6.3.4 based on illustrative trade lifecycle.*

Baseline assumptions: Clearing firm must decide to accept or reject their customer's transaction for clearing, which is accomplished in different ways depending on asset class. In certain cleared products, prior to execution, a pre-trade limit check is performed to ensure the clearing firm will accept the transaction for clearing. Industry participants have indicated that a similar construct will be required for U.S. Treasury repo to provide both the indirect participant and the Execution Counterparty with clarity that the transaction will be accepted by the Clearing Firm and submitted for clearing. The method of execution and the technological capabilities of vendors and trading venues will play a significant role in determining how pre-trade limit checks are performed. The timing and mechanisms for performing pre-trade checks may vary based on the method of execution and capabilities offered by technology vendors and trading venues.

<sup>45</sup> On-leg refers to the part of a repo transaction in which the security is initially sold.

<sup>46</sup> Off-leg refers to the part of a repo transaction in which the security is subsequently repurchased.

Industry considerations: The following design choices should be considered by direct participants, indirect participants, and technology vendors in the process to perform pre-trade checks for cleared trades:

- Limit types: Clearing Firms (e.g., BD2) will expect execution venues or trading platforms to allow establishment and maintenance of limits on their platform or via connectivity to third-party technology. The types of limits that technology vendors or trading venues offer could include notional limits and/or tenor-based limits for each of their indirect participant. If limits are set on a net basis (i.e., netting of longs and shorts) rather than on a gross basis, this would better reflect the risk of a given customer's positions.
- Pre-Trade check mechanisms: Execution venues and trading platforms should have controls in place to verify that Fund A is within the clearing limits at BD2 before executing a trade. This could be performed simultaneously with the order, but the limit check should be completed prior to transaction execution. If a trade is executed on an anonymized platform where the counterparty is unknown prior to trade execution, it may be necessary for both sides of the trade to be checked against applicable limits (e.g., for two Sponsored accounts). In scenarios where Fund A has multiple Clearing Firms, Fund A should be able to designate which Clearing Firm they plan to clear with at the time of trade. The execution venue or trading platform should then perform the pre-trade limit check against the selected Clearing Firm.
- Pre-trade check operations: Using other cleared products (e.g., cleared swaps) as a benchmark for risk management considerations, pre-trade checks are typically conducted through either a "Ping Model" or a "Push Model".
  - Under the Ping Model, the pre-trade check is initiated by execution venues sending a request to a limit hub, with basic trade economics entered by participants. The limit hub evaluates the trade against the relevant limits and returns a status to the execution venue, indicating whether the trade has been approved or rejected. Upon receiving approval, a RFQ is dispatched to the liquidity provider, and upon successful pricing, the trade is executed.
  - Under the Push Model, limits are housed directly on the execution venue's platform. This configuration obviates the need for a separate limit hub and the associated connectivity from execution venue, thereby reducing potential points of failure. The Push Model is mainly leveraged for scenarios that demand lower latency execution, such as trading on a central limit order book, or in instances where the limit hub may be experiencing technological disruption.

Market participants should conduct an evaluation of both models to determine their suitability for the execution of cleared U.S. Treasury Repos. This assessment should include an analysis of the potential adjustments that execution venues need to make to integrate these models into the U.S. Treasury repo market, with a view to maintain efficiency, compliance, and execution speed.
- Clearing limit management: It will be important for Clearing Firms to have the functionality to manage limits efficiently, including the ability to increase or decrease limits in near-real-time, if needed. Execution venues and trading platforms should have the capability to allow a Clearing Firm to manage clearing limits for multiple CCAs, including setting CCA-specific limits for an individual client.
- Visibility into clearing limit utilization: Execution venues and trading platforms should consider whether buy-side firms should have visibility into limits assigned by their Clearing Firm(s) and their current utilization against limits. For instance, trading platforms and limit hubs should maintain open architecture to enable direct connectivity with buy-side firms' order/execution management systems. This allows buy-side firms to model complex trading scenarios during portfolio construction, ahead of initiating an order, and subsequently mitigate the likelihood of trades that fail to execute due to exceeding a limit. This would prevent the blocking of a transaction execution or the need to re-route transaction activity to a different Clearing Firm that has sufficient clearing capacity.
- Pre-trade check token (or similar mechanism): Once a trade has been checked and approved, it should carry an indicator (e.g., a token) that indicates the pre-trade limit check has been performed and approved. This indicator or token could then be included with the transaction details when submitted for clearing.
- Resolution of failed pre-trade checks: In comparison to cleared swaps, there are legal and regulatory requirements established for the treatment of transactions rejected from clearing. This treatment is called "*void ab initio*", where the rejected transactions will be deemed as cancelled and the execution venue should permit the counterparties to subsequently execute a correcting trade. It is important that industry standards are established for the U.S. Treasury market. While requirements in the cleared swap space may act as guidelines when establishing similar principles, the absence of existing framework for handling U.S.

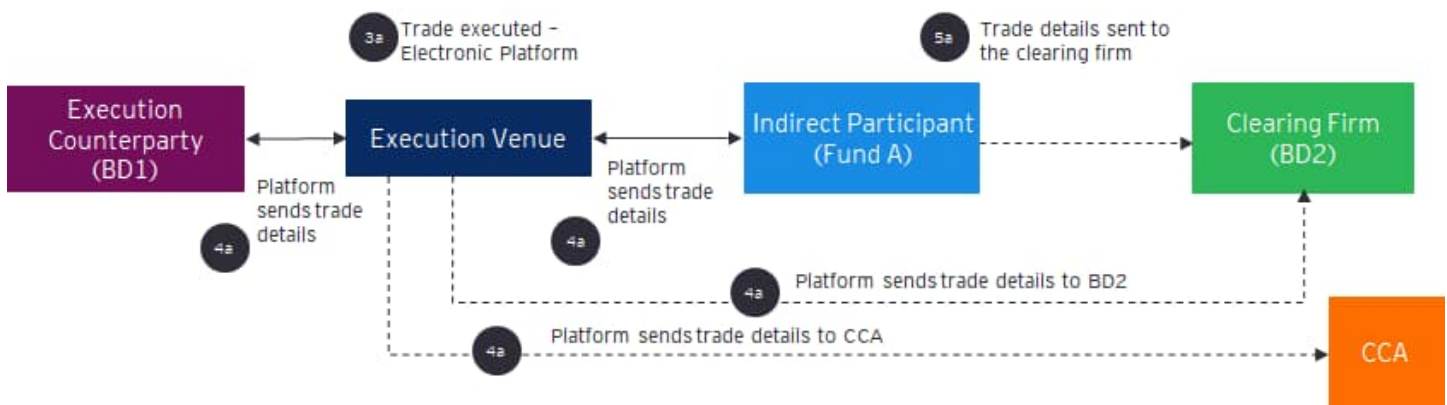
Treasury transaction rejected from clearing also provide market participants flexibility in designing the suitable solution (e.g., canceling the order or providing the indirect participant the ability to select an alternative Clearing Firm).

- Resiliency of pre-trade checks process: Execution venues should consider establishing back-up processes for managing risks associated with potential system failures, or circumstances intervening with the ability for completed pre-trade checks. Capabilities to be considered include 1) disaster recovery/failover capabilities for limit hubs failure, 2) if limit hub failovers is not successful, allow managing of limits on execution venues or redirect pre-trade check to be performed on execution venue, and 3) alternative processes if limits on execution venues fail to operate, for instance, allow alternative trade execution with post-trade limit check or execution in absence of a limit check.

### 6.3.2 Execution – Electronic platform

Upon completion and approval of the pre-trade check, trade between BD1 and Fund A is executed on the electronic execution venue and trade details are provided to BD2 by Fund A. BD2 and CCA may also be able to consume trade details directly from the venue.

High-level execution - electronic platform process flow:



Note: Activities are numbered in sequence from section 6.3.1 to section 6.3.4 based on illustrative trade lifecycle.

Baseline assumptions: Depending on how the execution venue designs the workflow, it may not be necessary to leverage middleware or a separate matching process to affirm trade details. The flow outlined in this section assumes no middleware functionality is needed for affirmation.

Industry considerations: The following design choices should be considered by CCAs, direct participants, indirect participants, and electronic execution venues in the process to facilitate execution of cleared done-away trades:

- Execution and transaction workflows: Once the pre-trade limit check has been performed and the trade is within limits, the execution venue could either treat the transaction as done or offer other workflow options (e.g., “last look” optionality for the Execution Counterparty, BD1).
- Transmission to trading counterparties: Executed trade details should be promptly provided to the trading counterparties, namely BD1 and Fund A in the above illustrative example. This ensures that both parties have accurate records of the transaction for subsequent post-trade processing, settlement, reporting, reconciliation, and compliance purposes.
- Connectivity with CCAs: Execution venues and trading platforms should consider offering the ability to transmit executed transaction information on both sides of the trade (i.e., transactions of BD1 and Fund A) directly to CCAs, if permitted by the CCA. Trades should be transmitted with the pre-trade limit check token serving as confirmation to the CCAs that the trade is within limits. This direct transmission could streamline the clearing process, increase timeliness of the trade matching at the CCA, and remove Clearing Firms’ dependency on receiving trade details from clients and subsequent submission for clearing.
- Communication with Clearing Firm: Transmission of executed trade details would either need to be sent from Fund A to BD2 or from the execution venue to BD2. If the execution venue submits both sides of the trade for clearing, the execution venue could provide trade details to BD2 for internal comparison and reconciliation purposes. This would provide BD2 with the necessary information to verify the accuracy of the trade details and to facilitate the clearing process.

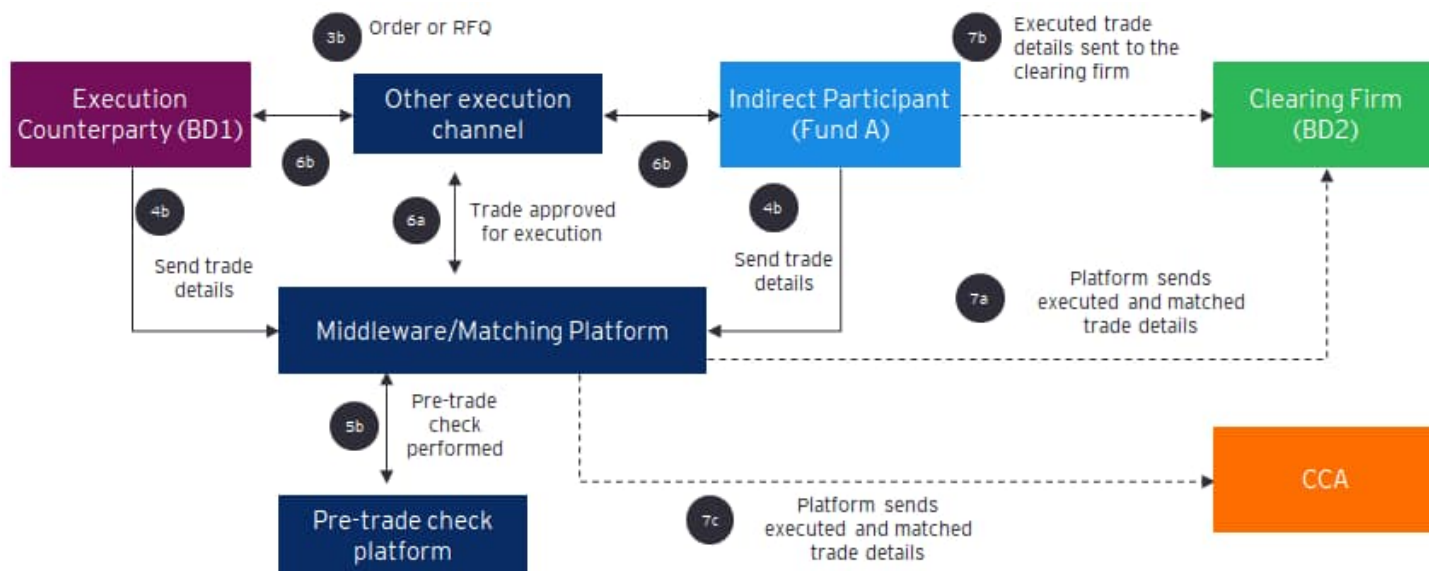


- Trade submissions by BD2: If the execution venue does not submit both sides of the trade for clearing, BD2 would need to consume transaction details from either Fund A or the execution venue and submit the trade to the CCA for clearing. If the execution venue submits both sides of the trade for clearing, BD2's transaction capture logic should ensure that a duplicate trade is not submitted to the CCA for clearing.

### 6.3.3 Execution - other channels

An order or RFQ is communicated from Fund A to BD1 via a non-electronic trading channel (e.g., voice). Trade details could be input into a middleware or matching platform to facilitate the pre-trade limit check process. Trade is executed upon completion and approval of pre-trade check and BD1 and Fund A receive confirmation that trade is executed. Subject to design choices by the middleware or matching platform, BD2 and CCA may also be able to consume matched trade details directly from the platform.

High-level execution – other channels process flow:



Note: Activities are numbered in sequence from section 6.3.1 to section 6.3.4 based on illustrative trade lifecycle.

Baseline assumptions: Workflow for trades executed via other channels (e.g., voice, email, chat) should follow similar steps to transactions executed on electronic platforms. Vendors that offer middleware services to facilitate pre-trade limit checks and affirmation for voice trades could offer a variety of workflows, however, this workflow assumes the pre-trade limit check is performed prior to execution.

Industry considerations: The following design choices should be considered by technology vendors, CCAs, direct participants, and indirect participants in the process to execute cleared trades through channels other than an electronic platform:

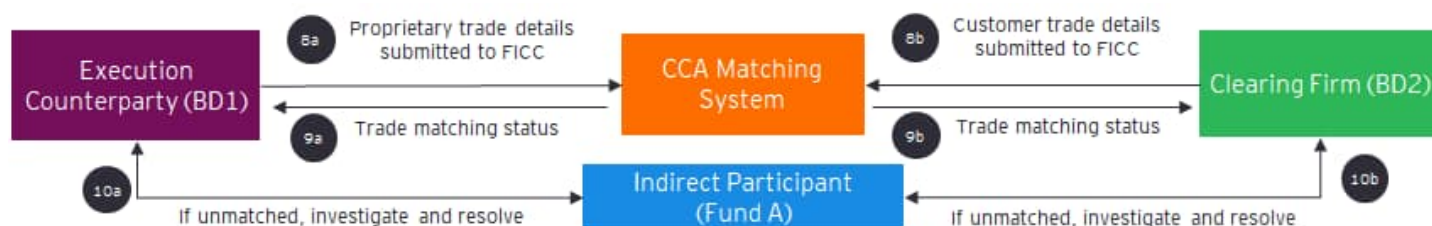
- Trade details submitted to middleware/matching platform: Trade details would be submitted to the middleware/matching platform by both trading counterparties, namely BD1 and Fund A in the above illustrative example. This enables both the pre-trade limit check and subsequent trade execution.
- Initiate pre-trade limit check: The platform should have capability to initiate limit checks on trades to ensure that BD2 will accept the trade and submit for clearing. This could be performed as part of the affirmation process as trades are submitted to the platform by both parties. Once a trade has been limit checked and approved, it should be accompanied by a token or similar mechanism indicating the pre-trade limit check has been performed and the trade is approved for clearing.
- Connectivity with CCAs: Middleware/matching platforms should consider establishing connectivity to transmit executed transaction information on both sides of the trade (i.e., transactions of BD1 and Fund A) directly to CCAs, if permitted by the CCA. Trades should be transmitted with the pre-trade limit check token serving as confirmation to the CCAs for netting and novation. This direct transmission could streamline the clearing process, increase timeliness of the trade matching at the CCA, and remove Clearing Firms' dependency on receiving trade details from clients and subsequent submission for clearing.

- Communication with Clearing Firm: Transmission of executed trade details would either need to be sent from Fund A to BD2 or from the middleware/matching platform to BD2. If the middleware/matching platform submits both sides of the trade for clearing, the middleware/matching platform could provide trade details to BD2 for internal comparison and reconciliation purposes. This would provide BD2 with the necessary information to verify the accuracy of the trade details and to facilitate the clearing process.
- Trade submissions by BD2: If the middleware/matching platform does not submit both sides of the trade for clearing, BD2 would need to consume transaction details from either Fund A or the middleware/matching platform and submit the trade to the CCA for clearing. If the middleware/matching platform submits both sides of the trade for clearing, BD2's transaction capture logic should ensure that a duplicate trade is not submitted to the CCA for clearing.

### 6.3.4 Submission for Clearing

If execution venues or middleware/matching platforms do not submit both sides of the trade to the CCA on behalf of BD1 and Fund A, BD1 will submit its proprietary trade facing Fund A to the CCA matching system, and BD2 will submit Fund A's trade facing BD1 to the CCA matching system. The CCA matching system will then send the trade matching status back to both BD1 and BD2. If exceptions are identified during trade matching/comparison, BD1 and/or BD2 will work with Fund A to investigate and resolve.

High-level submission for clearing process flow:



Note: Activities are numbered in sequence from section 6.3.1 to section 6.3.4 based on illustrative trade lifecycle.

Baseline assumptions: The trade submission process will be contingent upon what is permitted by CCAs, as well as the interoperability between various market utilities, such as execution platforms, middleware systems and CCAs.

Industry considerations: The following design choices should be considered by CCAs, direct participants, and indirect participants in the process to submit trades for clearing:

- Submission pathways: CCAs could consider one or more options in their specifications for submission of done-away trades, including: (1) execution venue or middleware platform submits both sides of the trade to CCA or (2) Execution Counterparty (BD1) and Clearing Firm (BD2) submit each side of the trade to CCA for matching / comparison.
- Trade matching and comparison: The CCA's matching engine, such as the RTTM system at FICC, performs trade matching and comparison upon receipt of the required trade match data from BD1 and BD2 for their respective sides of the transaction. The CCA matching system should enable BD1 and BD2 to track the status of trades and access trade comparison outputs, facilitating transparency of the clearing process.
- Trade modifications and cancellations: BD1 and/or BD2 should be provided with the ability to cancel or modify trade data before or after the trade has been compared, within the timeframes allowed by the CCA (e.g., 8:00p.m. Eastern Time for bilateral comparison for FICC-cleared trades)<sup>47</sup>. This flexibility will enable the ability to correct errors or discrepancies identified in trade details.
- Routing of matched trades: Once trades are compared and matched, the CCA's matching system should route trades to the appropriate destination(s) for further downstream processing, including netting and settlement.
- Handling unmatched trades: In instances where trades remain unmatched, BD1 and/or BD2 may need to work with Fund A to process the necessary cancellations or corrections so that the trade can be modified and resubmitted for comparison. Execution

<sup>47</sup> "Government Securities Division Rulebook," Page 160-161 and 289, FICC, June 21, 2024.

Counterparty (BD1) and/or Clearing Firms may provide self-service capabilities to allow the Executing Firm (Fund A) to track the status of trades and take corrective actions, if needed.

- Settlement of unmatched trades: If trade discrepancies are not resolved and trades remain unmatched by the netting/novation cutoff, it is important for Clearing Firms to have the capability to allow trades to settle bilaterally. This provides a fallback mechanism to ensure settlement continuity in the event the trade could not match but the parties need to settle the transaction. The SEC used the word “submit”, indicating that submission of ESMTs is required, but not necessarily successful novation and clearing of such ESMTs<sup>48</sup>. It is understood that FICC is taking the position that only submission, rather than successful novation, is required under the SEC rule<sup>49</sup>. In addition, SIFMA understands that the SEC rule would not prevent parties from continuing a trade bilaterally if a trade were unable to be submitted for reasons outside the control of the direct participant or its customer, such as technical or communication disruptions, malfunctions, or errors<sup>50</sup>.

### 6.3.5 Novation and Settlement

Novation occurs following successful trade comparison in the CCA matching system, which then will flow downstream for processing and settlement. The matched transaction will also need to be updated on the books and records of BD1 (proprietary account) and BD2 (omnibus account). The process to settle the on-leg of the transaction will be subject to the novation and settlement rules set by the CCA. In the current state, the on-leg for Sponsored done-with trades at FICC settle bilaterally. In the future state for done-away trades, the on-leg of a repo transaction may or may not be settled bilaterally. Transfer of cash and securities will then be instructed by Fund A and BD1 to their respective custodian/clearing banks to settle the net obligations calculated by the CCA. In the example of BD1 as repo seller and Fund A as repo buyer, BD1 provides securities against receipt of cash from Fund A for on-leg settlement, while Fund A provides cash against receipt of securities. The opposite movement of cash and securities are instructed for settlement of the off-leg. Under current FICC rules, the off-leg is settled against FICC.

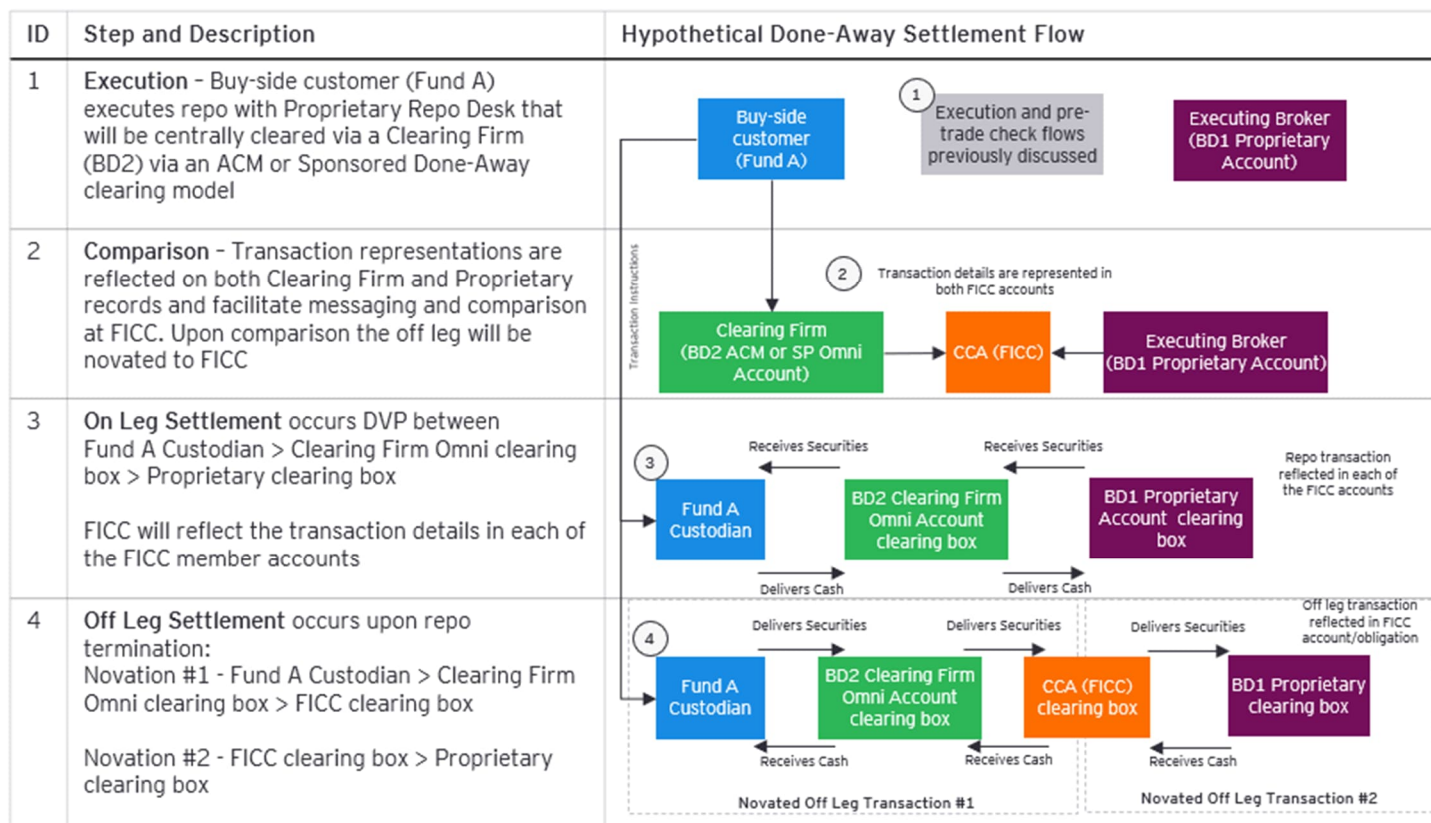
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<sup>48</sup> “Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Response to U.S. Treasury Securities,” SEC, ID 2714, <https://www.federalregister.gov/d/2020-04186/>.

<sup>49</sup> Kimpel, Laura. Pozmanter, Murray. “Re: Standards for Covered Clearing Agencies for U.S. Treasury Securities and Application of the Broker-Dealer Customer Protection Rule with Respect to U.S. Treasury Securities, Exchange Release No. 95,763, File No. S7-23-22,87 Fed. Reg. 64,610,” P. ii, FICC, December 27, 2022.

<sup>50</sup> “Comment letter “SEC “Notice of Filing of Proposed Rule Change to Modify the GSD Rules Relating to the Adoption of a Trade Submission Requirement” [Release No. 34- 100417; SR-FICC-2024-009]), SIFMA, Pages 18-19, October 2, 2024, <https://www.sec.gov/comments/sr-ficc-2024-009/srficc2024009-526595-1510722.pdf>.

## High-level hypothetical done-away settlement flow:



Baseline assumptions: The hypothetical done-away settlement flow above assumes a same-day settling repo, where the start leg of the repo is not novated to FICC and settles delivery versus payment (DVP) between two parties outside of FICC.

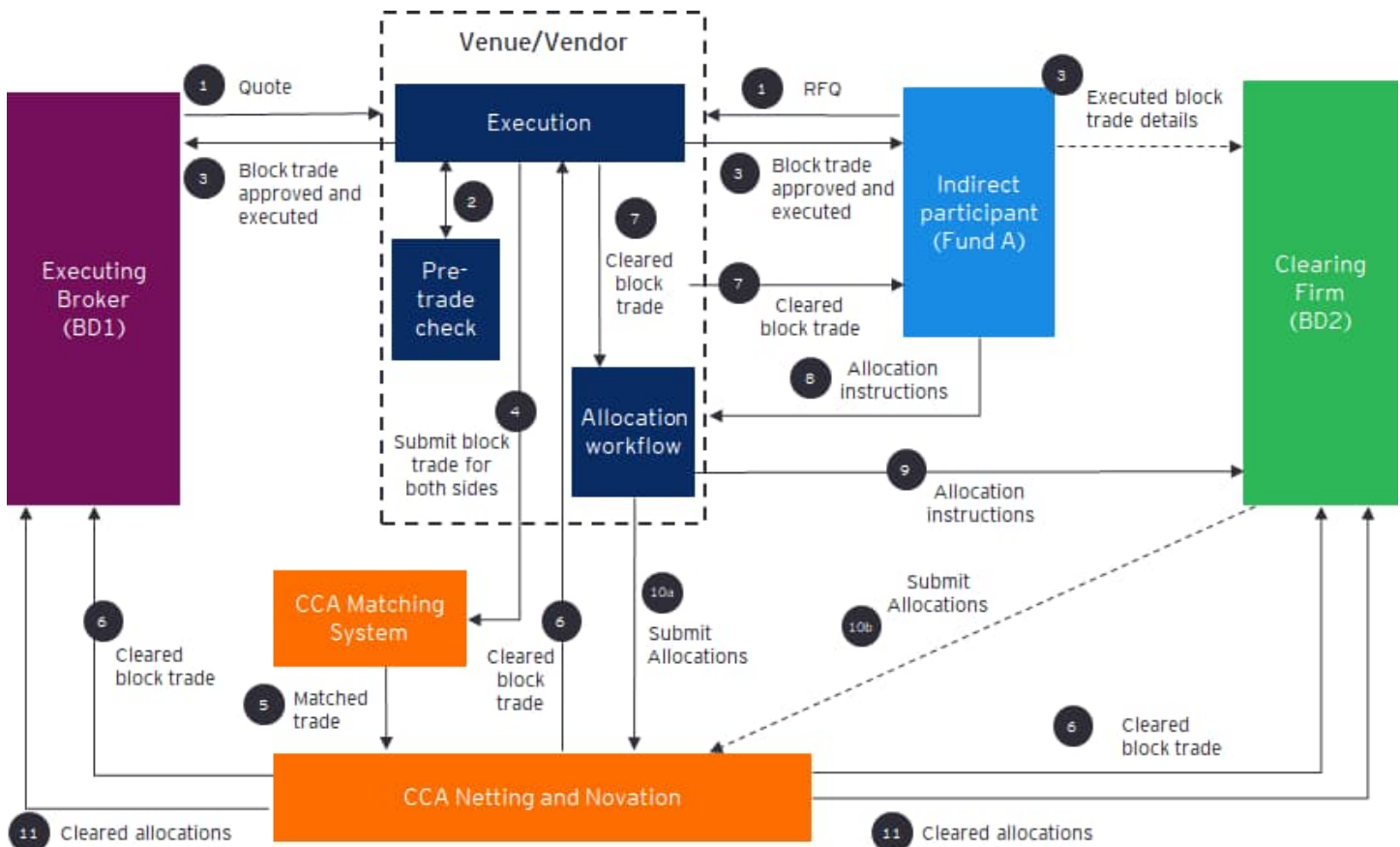
Industry considerations: The following design choices should be considered by CCAs, direct participants, and indirect participants in the process to novate and settle cleared DVP trades:

- **Data transmission and reporting:** Matched/compared trades are fed into the CCA's netting engine for netting of eligible transactions at a CUSIP level. The CCA would process the novation consistent with existing processes. Firms' post-trade and settlement systems will need the capability to consume data and report outputs from the CCA to reflect that trade novation and netting has been successfully processed and the counterparty of eligible clearing trades are now the CCA. Net settlement obligations are made available by CCAs alongside any Fail Deliver Obligations and Fail Receive Obligations that have not been resolved.
- **Security movement:** The CCA and the two trading counterparties instruct their respective clearing banks or custodians to deliver cash or securities into the designated accounts against receipt of securities or cash. Additional timing considerations need to be accounted for in the scenarios of trades that roll day over day (i.e., repo on and off legs are settling on same day).
- **Repo lifecycle events management:** With an understanding that current CCA flows are fixed rate, fixed end date, and only have bond substitution available from a lifecycle perspective, CCAs may consider capabilities to support common repo lifecycle events such as early terminations, partial settlement, reprices and re-rate or variable rate processing.

### 6.3.6 Bunched order / block trade workflow

BD1 and Fund A execute block trade upon approval of pre-trade check in similar manner as other done-away trades. Fund A will provide the fund or account level allocation either (1) to the trading platform/execution venue and subsequently the CCA or (2) directly to the CCA, if this functionality is offered by the CCA. The allocated trade details would then be provided to BD1 and BD2 and can then be booked in their respective firms' systems. The diagram below depicts the workflow where the trading platform/execution venue enables allocations.

## High-level bunched order / block trade process flow:



Baseline assumptions: In today's bilateral and Sponsored done-with models, some buy-side firms execute trades at the block (or bunched order) level, where the buy-side firm executes a single trade with a bank, broker or dealer, and then allocates the trade to multiple underlying funds or accounts. This method of execution provides efficiencies in the speed and cost of execution and efficiencies in operational processing (i.e., the trades do not need to be pre-allocated prior to execution). To maintain this construct in a done-away model, execution venues and/or technology providers will need to develop workflows that facilitate constructs similar to those that exist for other cleared products such as futures, options and cleared OTC derivatives. The hypothetical done-away bunched order workflow depicted in the diagram above will also be contingent upon what is permitted by CCAs, and the operational processes between various parties involved in a trade: executing broker, clearing firm, and customer.

Industry considerations: The following design choices should be considered by execution venues, CCAs, middleware platforms, direct participants, and indirect participants in designing a done-away workflow that accommodates bunched orders or block trades:

- Bunched order execution: A mechanism would need to be developed within the execution venue and/or middleware platform for executing brokers and indirect participants to agree the trade details at block trade level (e.g., quantity, price, commission). The execution venue would also need to include an indicator that the trade is a bunched order and should require the buy-side firm to indicate a legal entity for purposes of block execution. This functionality could be used to facilitate pre-trade limit checks with BD2.
- Pre-trade limit checks at the bunched order level: Pre-trade limit functionality would need to facilitate checks at the bunched order-level against the designated buy-side legal entity. The functionality could allow the Clearing Firm (BD2) to either set a limit for the bunched order legal entity or set a combined limit across multiple underlying funds or accounts.
- Allocation workflows: A process would be needed for indirect participants to allocate bunched orders to the underlying funds or accounts. This could be performed on the execution venue, middleware platform, or other technology vendors and then communicated to the executing broker and clearing firm. Alternatively, the allocation could be provided directly to the CCA, if the CCA permits this method of allocation. Given the subsequent processes and necessary asset movements at the on-leg, it will



be critical for allocations to be provided along defined timelines. Considering the deadlines for submitting trade data to CCAs (e.g., 8:00p.m. ET for FICC), allocation timelines should be set to allow sufficient lead time for clearing firms to submit allocated trades to CCAs for clearing.

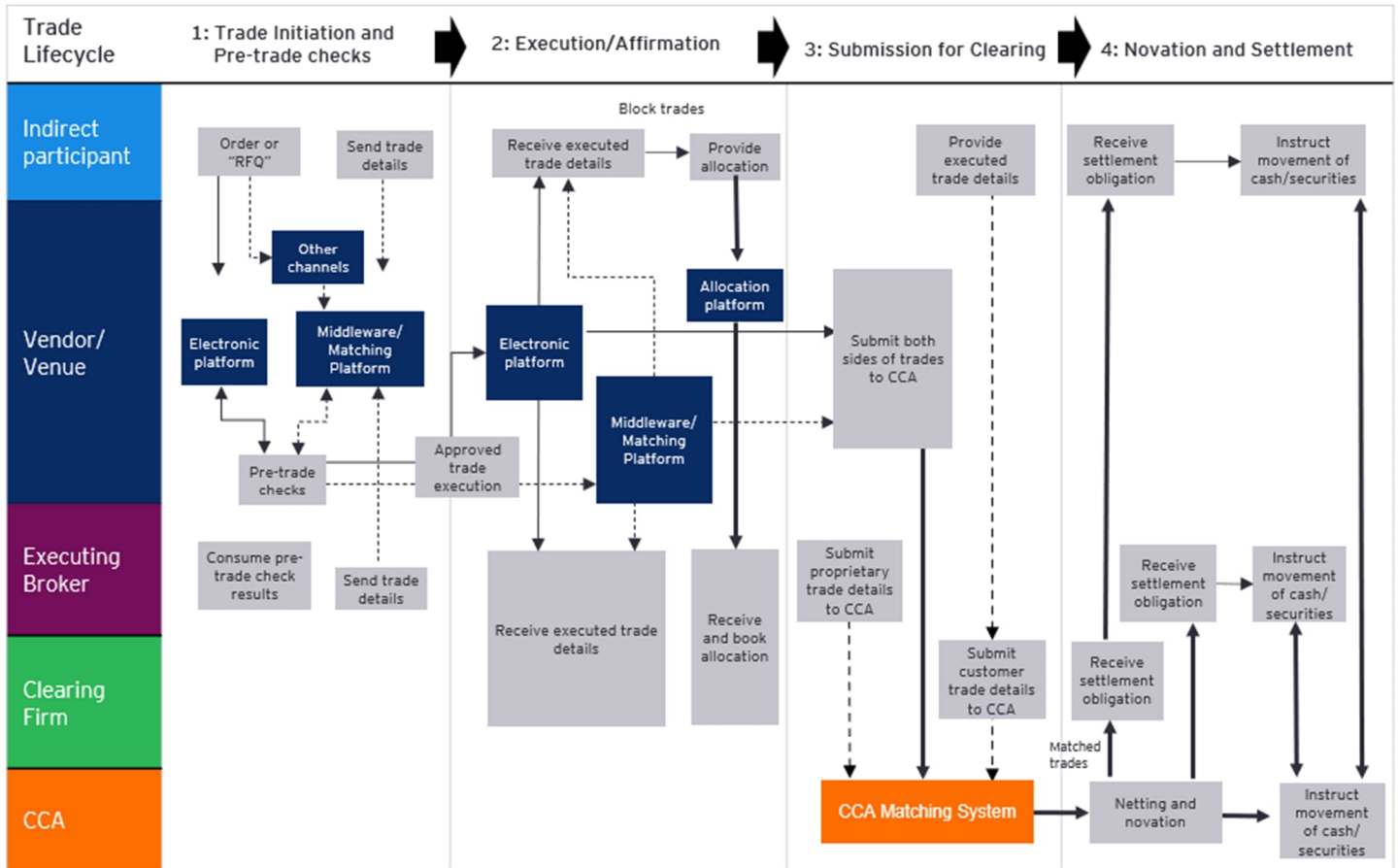
- Allocation matching: Clearing Firms may need a reconciliation process to perform internal matching of allocated trades before submission to CCAs and affirm those trades will match. This would serve as a mechanism to indicate to CCAs that the required allocated trade details have been compared between the executing brokers and indirect participants and/or reduce the likelihood of unallocated trades.
- Allocation submission to CCAs and Novation: There are different sets of implications depending on the timing of when novation to the CCA occurs.
  - If the novation of the block trade occurs prior to allocation, a workflow and indicator would be required so the CCA knows the transaction is a block trade. The block trade would need to be allocated to a legal entity (e.g., Sponsored account). Once the allocation is provided, CCAs would need to cancel the novated block trade and accept the trade at an allocation level and reperform netting and novation to the correct legal entities.
    - Note: CCAs may or may not be willing to offer this functionality given the implications on risk management practices at the CCA (e.g., margin, default management).
  - If the novation of the block trade occurs post allocation, a control needs to be implemented by clearing firms or venues/platforms that submit done-away trades on behalf of both counterparties to suppress submission of block trades to CCAs. This would require executing brokers and clearing firms to monitor allocation communication status to ensure that block trades can be allocated and submitted for clearing as required by the U.S. Treasury clearing mandate.
- Managing unallocated trades: If an indirect participant fails to communicate allocation instructions to its executing broker and Clearing Firm before the CCA's submission deadline on trade date, fallback mechanisms and processes would be required. For instance, if a block trade is not novated to the CCA, processes (including potential contractual arrangements) may be required to determine next steps. For instance, (1) whether it will be permitted for the block trade to remain unallocated beyond certain cutoff times, (2) whether the unallocated trade can be settled bilaterally, and/or (3) the ability to tear-up or cancel the unallocated trades, subject to terms agreed by the executing counterparty (BD1) and the indirect participant.

## 6.4 Conclusion

The successful implementation of a done-away repo model will be contingent on reaching agreement on several outstanding issues. It requires the design and construction of new technology capabilities to bridge the gaps in the current market structure, examples include pre-trade checks and messaging capabilities amongst various parties involved in a done-away trade across the trade lifecycle.

Based on the preceding section, the following diagram illustrates the potential end-to-end flow trade lifecycle in a done-away model.

Hypothetical trade lifecycle flow in a done-away model:



Many market participants see a functional, scaled done-away repo model as a critical component in the successful implementation of USTC. The adoption of a done-away model could enhance efficiency, reduce operational complexity, and support the scalability of USTC across a larger population of market participants. Successful implementation of these changes will require a collaborative effort among a variety of institutions to ensure that the new model addresses market needs and enables compliance with the changing regulatory requirements.



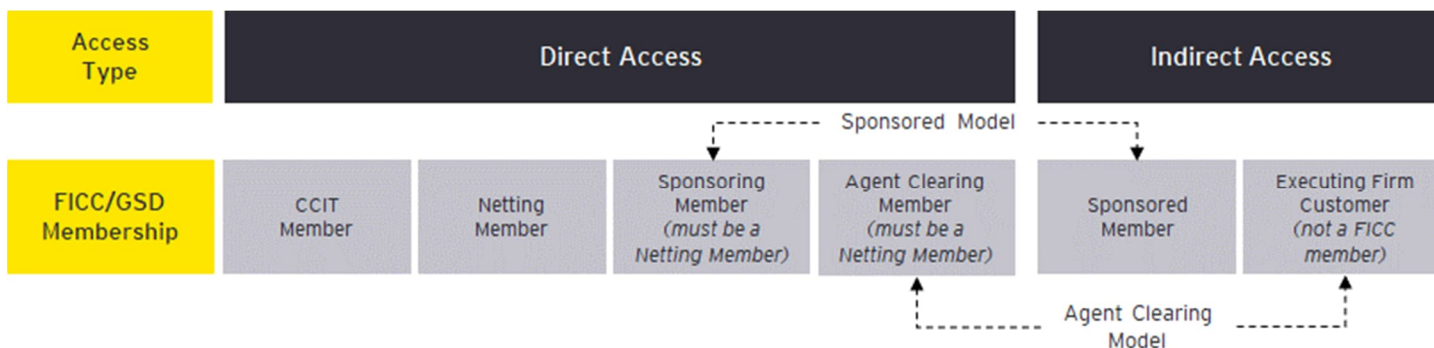
## Section 7: Gaining access to clearing

## 7.1 Introduction

At the time of the publishing of this report, FICC is the sole provider of clearing access to the U.S. Treasury cash and repo market. CME and ICE have both publicly announced intent to provide clearing access to the U.S. Treasury cash and repo market in the future. At which point, market participants would need to assess impacts, operations, and interoperability in a multi-CCA environment.

As the prevailing access point into central clearing, FICC rules permit multiple clearing access models, as illustrated in the diagram below.

FICC access model overview:



*Note: Refer to Section 2.2 for definitions of the different membership types. Note that in the proposed GSD Rulebook updates, the Agent Clearing Model is rebranded from the current correspondent/prime broker clearing models.*

This section provides a breakdown of the primary implications to consider for different market participant types across several dimensions, including financial and operational requirements, steps required for onboarding and functional changes to be considered for each of the potential clearing access models. To support their selection of the right access model, market participants should consult FICC's dedicated "US Treasury Access Central Clearing" page<sup>51</sup> or FICC representatives for their organizations directly for further detail on the access models, their requirements, and relevant implementation steps.

## 7.2 FICC access model types

### 7.2.1 Netting Membership vs. CCIT Membership

FICC currently offers two main categories of direct access membership, a Netting Membership and a CCIT Membership

- Netting Membership is a full GSD membership type that provides members access to leverage FICC's centralized, automated clearance and guaranteed settlement of eligible U.S. Treasury transactions. This membership allows members to self-clear proprietary trades but is also a prerequisite to becoming a Sponsoring and/or Agent Clearing Member.
- CCIT Membership is a limited GSD membership created specifically for tri-party cash lenders. This membership is an expansion of FICC's clearing and settlement services to tri-party repo transactions between GSD Dealer Members and eligible tri-party cash lenders.

There are additional access models underneath the umbrella of Netting Membership, which will be covered in the subsequent section. Below are some high-level considerations that firms should evaluate when applying to become a direct participant<sup>52</sup>:

	Netting Membership	CCIT Membership
Dimension	Example Considerations	Example Considerations
Eligible entity types	<ul style="list-style-type: none"> <li>▪ Netting Membership is offered for the following entity types: <ul style="list-style-type: none"> <li>▪ Registered dealers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ CCIT Membership is offered for eligible tri-party cash lenders that are not RICs.</li> </ul>

<sup>51</sup> "U.S. Treasury Clearing Access Central Clearing," FICC, Accessed October 1, 2024, <https://www.dtcc.com/ustclearing/access-central-clearing>.

<sup>52</sup> "Government Securities Division Rulebook," Page 87-102 and 122-133, FICC, June 21, 2024.

	Netting Membership	CCIT Membership
Dimension	Example Considerations	Example Considerations
	<ul style="list-style-type: none"> <li>▪ Registered government securities dealers</li> <li>▪ Banks</li> <li>▪ US Trust companies</li> <li>▪ Foreign Bank or trust companies</li> <li>▪ Interdealer brokers</li> <li>▪ Futures Commission Merchants</li> <li>▪ Government securities issuers</li> <li>▪ Registered clearing agencies</li> <li>▪ Registered investment companies (RIC)</li> <li>▪ Entities can apply to be foreign members in one of the existing categories if FICC determines the entity has a home country regulator that has entered into a memorandum of understanding with the SEC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Individual tri-party cash lenders are required to setup CCIT Membership at the legal entity level.</li> <li>▪ Cash lenders may open GSD accounts at the fund legal entity level or at the Joint Account level.</li> </ul>
Operational requirements	<ul style="list-style-type: none"> <li>▪ Netting Member applicants must meet the following operational requirements: <ul style="list-style-type: none"> <li>▪ Complete (to FICC standards) network and connectivity testing</li> <li>▪ Complete any additional operational testing as requested by FICC</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Applicants or their Joint Account Submitter must establish effective communication channels with FICC and complete any additional operational commitments and/or adjustments as requested by FICC.</li> <li>▪ Each cash lender or Joint Account are required to enter into a specific custody agreement with a triparty member for the CCIT Service.</li> </ul>
Financial and capital Requirements	<ul style="list-style-type: none"> <li>▪ Capital requirement varies by applicant entity type<sup>53</sup>: <ul style="list-style-type: none"> <li>▪ U.S. Bank or Trust Company applicant must have Common Equity Tier 1 capital of at least \$500 million.</li> <li>▪ Dealer, Futures Commission Merchant, or IDB applicant must have net worth of at least \$25 million and an excess net capital or an equivalent of at least \$10 million.</li> <li>▪ Specific capital requirements for other entity types applied as outlined in the “GSD Netting Membership Financial Requirements”.</li> </ul> </li> <li>▪ Netting Member applicants must have sufficient financial ability to meet anticipated required fund deposits and all other financial obligations to FICC</li> </ul>	<ul style="list-style-type: none"> <li>▪ CCIT Member applicants must have a minimum net asset of \$100 million</li> <li>▪ CCIT Member applicants do not have Clearing Fund obligation and therefore are not required to make required fund deposits, but applicants must have sufficient financial ability to meet all of its other obligations to FICC (e.g., settlement)</li> </ul>
Margin Requirements	<ul style="list-style-type: none"> <li>▪ Netting Member applicants must deposit the initial Required Fund Deposit into the Clearing Fund on the business day before a firm becomes a Netting Member<sup>54</sup>.</li> <li>▪ Netting Member applicants must fulfill margin requirements at least twice per day with FICC based on Clearing Fund obligations regularly calculated by FICC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ CCIT Members are not required to post a Clearing Fund Deposit.</li> <li>▪ Instead, CCIT Members will grant FICC a lien in the collateral received, which permits FICC to instruct the clearing bank to deliver such securities to FICC if the CCIT Members were to default.</li> </ul>
Activity type	<ul style="list-style-type: none"> <li>▪ Repo and cash transactions are both eligible for clearing by Netting Members</li> </ul>	<ul style="list-style-type: none"> <li>▪ Only cash lending activity is eligible for clearing by CCIT Members.</li> </ul>

<sup>53</sup> “GSD Netting Membership Financial Requirements,” FICC, 2023, <https://www.dtcc.com/USTclearing/-/media/Files/Downloads/Microsites/Treasury-Clearing/GSD-Netting-Membership-Financial-Requirements.pdf>.

<sup>54</sup> “Government Securities Division Rulebook,” Page 154, FICC, June 21, 2024.

## 7.2.2 Sponsoring Membership vs. Agent Clearing Membership

Under the proposed GSD Rulebook changes, there are two client clearing access models that Netting Members may leverage to provide FICC clearing access to existing and prospective clients who are subject to mandatory clearing of U.S. Treasury transactions<sup>55</sup>.

- Sponsoring Members provide access to clearing for Sponsored Members and act as guarantors for the Sponsored Members to FICC.
- Agent Clearing Members provide access to clearing for Executing Firm Customers and are liable to FICC for all Agent Clearing transactions.

To become a Sponsoring Member or Agent Clearing Member (ACM), the following key implications need to be considered:

	Sponsoring Membership	Agent Clearing Membership
Dimension	Example consideration	Example considerations
Application and Eligibility	<ul style="list-style-type: none"> <li>▪ Must be a Tier One Netting Member designated by FICC, other than an IDB Netting Member, or a non-IDB Repo Broker with respect to activity in its Segregated Repo Account.</li> <li>▪ Must complete a Sponsoring Membership Questionnaire and all applicable documents (e.g., Sponsoring Member Agreement, Sponsoring Member Guaranty).</li> <li>▪ In addition to the application, for each Sponsored Member, the Sponsoring Member must provide documentation of its relationship and authorization from its Sponsored Member, which include the Sponsored Member's executing symbol and Legal Entity Identifier (LEI) as part of the application of the Sponsored Member.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Must be a Netting Member, other than an IDB Netting Member.</li> <li>▪ Must complete an application that requests information on the applicant's customer relationships and risk management. Existing Correspondent /Prime Broker Clearing Members are not exempt from the application and must also complete.</li> <li>▪ In addition to the application, for each Executing Firm Customer the ACM must submit an authorization form including additional detail on the Executing Firm Customers' LEI and authorization details.</li> </ul>
Liability to FICC	<ul style="list-style-type: none"> <li>▪ Sponsoring Members act as the processing agent and guarantor of their Sponsored Members' trades and funds-only settlement obligations to FICC.</li> <li>▪ In the event a Sponsored Member fails to satisfy any of its obligations to FICC, FICC can invoke the Sponsoring Member's guaranty.</li> </ul>	<ul style="list-style-type: none"> <li>▪ ACMs act as the processing agent and are liable for the performance of all obligations to the FICC arising from the Agent Clearing transactions.</li> <li>▪ ACM is fully liable to FICC in the event of Executing Firm Customer insolvency.</li> </ul>
Trade Processing	<ul style="list-style-type: none"> <li>▪ Sponsoring Members and ACMs are responsible for facilitating the submission of their Sponsored Members'/Executing Firm Customers' trading activity for comparison and novation.</li> </ul>	
Margin	<ul style="list-style-type: none"> <li>▪ Posting margin to FICC for Sponsored Trades is the responsibility of the Sponsoring Member, not the Sponsored Members.</li> <li>▪ Sponsored Member activity is gross-margined, regardless of whether the Sponsoring Member Omnibus Account is designated as Segregated Indirect Participant Account. There is no offset between positions of different Sponsored Members within the Sponsoring Member's Omnibus Account</li> </ul>	<ul style="list-style-type: none"> <li>▪ Posting margin to FICC for Agent Clearing Trades is the responsibility of the Agent Clearing Members, not the Executing Firm Customers.</li> <li>▪ ACM model offers flexibility in margin calculation. In the proposed ACM model, customer trades can be gross-margined at individual Executing Firm Customer level if the Agent Clearing Omnibus Account is designated as Segregated Indirect Participant Account, otherwise net-margined with Agent Clearing Trades for other customers within the Agent Clearing Member's Omnibus Account will be performed. The ability to net in the ACM model may result in a decrease in the required Clearing Fund obligation for the ACM.</li> </ul>

<sup>55</sup> "GSD Client Clearing Models Comparison," FICC, 2024, <https://www.dtcc.com/USTclearing/-/media/Files/Downloads/Microsites/Treasury-Clearing/GSD-Client-Clearing-Models-Comparison.pdf>.

	Sponsoring Membership	Agent Clearing Membership
Dimension	Example consideration	Example considerations
Risk Management	<ul style="list-style-type: none"> <li>FICC's liquidity needs for activity submitted on behalf of Sponsored Member/Executing Firm Customers are included in the calculation of the Sponsoring Member's Capped Contingent Liquidity Facility (CCLF) requirement.</li> <li>Sponsoring Members/ACMs should also consider adjusting risk management framework to account for the risk associated with providing guaranty to customers' settlement obligations to the FICC.</li> <li>Sponsoring Members/ACMs are responsible to FICC for all fees, margin requirements, liquidity obligations, and any loss allocation obligations attributed to all submitted activity, including activity of their Sponsored Members/Executing Firm Customers.</li> <li>Given Sponsoring Members have a responsibility to notify FICC of Sponsored Member non-compliance with membership qualifications set forth in the GSD Rulebook, Sponsoring Members should consider implementing processes to monitor their Sponsored Members' compliance.</li> <li>Given that Sponsoring Members/ACMs assume the risk of customers failing to meet payment or delivery obligations, Sponsoring Members/ACMs should consider implementing processes and controls to validate the financial stability and credit worthiness of their customers at both the inception of the onboarding process and periodically thereafter.</li> </ul>	

### 7.2.3 Sponsored Membership vs. Executing Firm Customer

Under the proposed GSD Rulebook changes, there are currently two models that can be used for indirect access to FICC clearing.

- Sponsored Members are limited members of FICC and must be sponsored by a Sponsoring Member to access clearing.
- Executing Firm Customers are not members of FICC and must use an Agent Clearing Member to access clearing.

Listed below are key considerations for market participants to evaluate as they contemplate which model to leverage for clearing U.S. Treasury transactions<sup>56</sup>:

	Sponsored Membership	Executing Firm Customer
Dimension	Example Considerations	Example Considerations
Application and Eligibility	<ul style="list-style-type: none"> <li>Sponsored Members are limited members of FICC.</li> <li>Must be from an FICC-approved jurisdiction<sup>57</sup>.</li> <li>Must be sponsored into membership by Sponsoring Member.</li> <li>Must work with Sponsoring Member to complete a Sponsored Member Application and sign a Sponsored Member Agreement with FICC.</li> <li>The proposed FICC rulebook changes, if approved by the SEC, will remove the current requirement for Sponsored Members to be a Qualified Institutional Buyer (QIB)</li> <li>Sponsored Members are principally liable to FICC with settlement obligations of their own activity</li> <li>FICC is liable to Sponsored Members for Sponsored Members' trades.</li> </ul>	<ul style="list-style-type: none"> <li>Executing Firm Customers are not members of FICC.</li> <li>Onboarding process with FICC is relatively light touch and there is no jurisdiction restriction - any entity can become an Executing Firm Customer if onboarded by an ACM.</li> <li>ACMs are responsible for providing required documentation and other information to FICC on behalf of Executing Firm Customers.</li> <li>Executing Firm Customers have no liability to FICC and FICC has no liability to Executing Firm Customers.</li> </ul>
Trade Processing	<ul style="list-style-type: none"> <li>Sponsoring Members /ACMs are responsible for submitting their Sponsored Members'/Executing Firm Customers' activity to FICC for clearing.</li> <li>Sponsoring Members/ACMs are permitted to act as the pre-novation counterparty to their Sponsored Members/Executing Firm Customers but is not required to.</li> </ul>	

<sup>56</sup> See footnote 56

<sup>57</sup> "Jurisdictions Approved by FICC for Sponsored Members," FICC, July 17, 2024, <https://www.dtcc.com/-/media/Files/Downloads/Clearing-Services/Approved-FICC-Jurisdictions-for-Sponsored-Members.pdf>

	Sponsored Membership	Executing Firm Customer
Dimension	Example Considerations	Example Considerations
Margin	<ul style="list-style-type: none"> <li>Future capabilities for client level cross-margining if either Sponsored Member/Executing Firm Customer contribute to Sponsoring Member/Agent Clearing Members' Clearing Fund obligation</li> <li>Sponsored Members/Executing Firm Customers are not responsible for posting margin to FICC</li> <li>Sponsored Members/Executing Firm Customers may be responsible for posting margin and/or fees to their Sponsoring Members/ACMs, subject to terms and conditions set forth in the legal agreement between the Sponsored Members/Executing Firm Customers and their Sponsoring Members/ACMs.</li> </ul>	

## 7.3 FICC onboarding process

There are four stages involved in applying and establishing membership with FICC<sup>58</sup>. While the four stages and relevant general considerations are outlined below, it's important to note that FICC may request additional information throughout this process as they deem necessary to a specific membership applicant.

Stage	Requirements
Documentation	<p>Firms should work with their organization's designated DTCC representative to schedule an introductory discussion to review the overall onboarding process and the various documents, agreements, and forms to be submitted to DTCC's Membership Application Portal.</p> <ul style="list-style-type: none"> <li>The primary document to be submitted as part of this stage is the Membership Questionnaire.</li> <li>New Members will be required to submit supporting documentation that demonstrate their financial and risk management capability, as well as their business plan.</li> <li>Additional documents may be requested if not already provided as part of an existing GSD membership (e.g., an existing Netting Member applying to become a Sponsoring Member)</li> </ul>
Legal Agreement and Risk Review	<p>Following initial submission, DTCC will request submission of legal agreements and forms, which will need to be reviewed by DTCC's Credit Risk team for DTCC's internal approvals. Documents to be provided in this stage can include, but are not limited to:</p> <ul style="list-style-type: none"> <li>GSD Membership Application (or relevant application for access model type)</li> <li>Netting Member Agreement</li> <li>Clearing Fund Agreement</li> <li>Legal Opinion provided by General Counsel or outside counsel of the firm</li> <li>Appointment of Funds-Only Settling Bank and Funds-Only Settling Bank Agreement: A Funds-Only Settling Bank (Authorized DTCC signer) must be appointed and sign this agreement</li> <li>Access model-specific documentation (e.g., Sponsoring Member Guaranty, Sponsoring Member Tax Memorandum of Understanding, etc.)</li> <li>Additional documents may be requested for further due diligence purposes, as needed</li> </ul>
Operational Readiness	<p>Following conditional application approval by DTCC, firms should consider preparing the operational capabilities that will be required to activate the relevant services. Operational activities include but are not limited to:</p> <ul style="list-style-type: none"> <li><i>Personal Security Environment Set Up</i> – DTCC will partner with members to ensure that required configurations and permissions are established. Users with administrative rights should be identified and system access should be granted</li> <li><i>FICC Connectivity</i> – firms will need to ensure that proper system connectivity is in place across both Personal Security Environment and Production environments. If applicable, connectivity between Sponsoring and Sponsored members or Agent Clearing Members and Executing Firm Customers should also be established</li> <li><i>Testing</i> – firms should conduct connectivity and conformance testing with FICC based on their specified requirements, which should be signed off prior to proceeding with membership activation. If applicable, testing between Sponsoring and Sponsored Members or Agent Clearing Members and Executing Firm Customers should also be conducted</li> </ul>

<sup>58</sup> "FICC Government Securities Division New Onboarding Overview," Page 15, FICC, April 12, 2024, <https://www.dtcc.com/-/media/Files/Downloads/Microsites/Treasury-Clearing/FICC-Treasury-Clearing-Forum-Day-2-Slides-042024.pdf>.

Stage	Requirements
Activation	<p>Once the required connectivity with DTCC has been established and the member is considered operationally prepared to have its service activated, DTCC's Credit Risk team and DTCC's Board will provide a final approval and the activation date.</p> <ul style="list-style-type: none"> <li>▪ Sponsoring Members or Agent Clearing Members should consider proactively informing their Sponsored Members or Executing Firm Customers of this activation date and define production migration timelines to avoid possible issues on day of activation.</li> <li>▪ At this stage, the membership relationship is handed off from DTCC's Integration Team to Relationship Management.</li> </ul>



## Section 8: Regulatory capital impacts

## 8.1 Introduction

Determining the impact on regulatory capital of moving to central clearing for U.S. Treasury securities, repos, and reverse repo transactions collateralized by U.S. Treasury notes depends on multiple factors. The first is the capital regime for which the in-scope entities are subject to<sup>59</sup>. This will set the framework for how exposures are classified, the calculation method and the level(s) of capital required based on the governing rule set.

## 8.2 Applicable U.S. regulatory capital approaches

Depending on the entity type supporting the selected access models, different regulatory capital approaches may apply. To understand the potential capital impacts, participants should determine the applicable capital regime for that entity type. In the U.S., the following two regimes apply<sup>60</sup> to banks or broker-dealers:

- Bank Entities: U.S. Basel rule for entities that are prudentially regulated (e.g., Federal Reserve, Office of the Comptroller of the Currency)
- Broker-Dealer Entities: Minimum net capital rule for SEC registered broker dealers under Rule 15c3-1

The move of bilateral repo activity to cleared impacts different individual inputs into the capital calculations driving changes in overall capital levels. For example:

- Bank Capital: Exposures, Risk Weights and Default Fund Exposures
- Broker-Dealer Capital: Aggregate Debit

### 8.2.1 Bank Capital

The below diagrams outline the calculation framework to consider for Bank Capital applicable to repo-style transactions. Under the standardized approach, Bank Capital is calculated by combining default risk and CCP capital charge(s).

Bank capital calculation framework considerations:



The key inputs for regulatory capital calculation under the standardized approach include:

- Exposure at Default (EAD): Calculated by using the Collateral Haircut Approach<sup>61</sup>, which takes into account exposure value, collateral value, netting benefits, and collateral haircut.
- Risk Weight: Varying input based on counterparty type an institution is facing as part of the transaction (e.g., 100% Risk Weight for Corporates / Nonbank Financial Institutions, 20% Risk Weight for Bank, 2% Risk Weight for Qualifying Central Counterparties)

<sup>59</sup> This paper focuses on the capital rules in the U.S. that Banks and Broker-Dealers are subject to.

Bank Capital Rule: "Part 217 – Capital Adequacy of Bank Holding Companies, Savings and Loan Holding Companies, and State Member Banks (Regulation Q)," SEC, <https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-217>.; Broker-Dealer Capital Rule: "240.15c3-1c Consolidated computations of net capital and aggregated indebtedness for certain subsidiaries and affiliates (appendix C to 17 CFR 240.15c3-1)," SEC, <https://www.ecfr.gov/current/title-17/chapter-II/part-240/subpart-A/subject-group-ECFR541343e5c1fa459/section-240.15c3-1c>.

<sup>60</sup> The focus of this paper is the standardized approach for calculating regulatory capital for Repo-style transactions.

<sup>61</sup> The Collateral Haircut Approach is the standardized approach for calculating EAD for Repo-style transactions and is the focus for this paper. Additional methods for calculating EAD under the Bank advanced approaches capital framework include simple VaR or a models-based approach.

- Default Fund Exposure: Aggregate hypothetical CCP capital requirement allocated to individual clearing members in proportion to their contribution to the default fund / loss sharing obligation(s)

The impact to the key inputs in the regulatory capital calculation will differ depending on the type of access model(s) that are supported when moving current bilateral activity to cleared. For the Sponsored and Agent access models, the Risk weight will reduce to 2% for the exposure facing the CCP (vs. the current 100% if the bilateral exposure is facing a Corporate or Nonbank Financial Institution). However, by moving bilateral activity to cleared there will be an increase in contributions to the default fund exposure and CCLF that will be subject to capital charges. This increase will either be net new charges for banks who are establishing clearing capabilities for the first time or in addition to what is currently capitalized today for banks that have current clearing capabilities. The impacts to the key inputs to the regulatory capital calculation are further explained by access model in the table below.

In addition, market participants should also take into account any potential differences in balance sheet, regulatory capital and liquidity considerations associated with done-with and done-away transactions under the sponsored clearing model and agent clearing model.

Key considerations: Market participants should consider the below impacts to regulatory capital when assessing the migration from bilateral repo activity to cleared repo and the various access models:

		Bilateral	Sponsored	Agent <sup>62</sup>
Exposure at Default (EAD)	Exposure Value	<ul style="list-style-type: none"> <li>▪ Repo-style transaction exposure to counterparty</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repo-style transaction exposure to central counterparty (CCP) and guarantee exposure to counterparty</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repo-style transaction exposure to central counterparty</li> <li>▪ No exposure if agent</li> </ul>
	Collateral Value	<ul style="list-style-type: none"> <li>▪ Bespoke margin requirements</li> <li>▪ Potential netting benefits</li> </ul>	<ul style="list-style-type: none"> <li>▪ Margin requirements associated with both legs of the transaction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Netting benefits when margin accounts are not segregated</li> </ul>
	Net Position	<ul style="list-style-type: none"> <li>▪ Potential netting of exposures with same counterparty</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased netting of exposures due to novation of repos and reverse repos to the CCP</li> <li>▪ No netting of guarantees across clients</li> </ul>	<ul style="list-style-type: none"> <li>▪ Netting of positions to CCP similar to sponsored models</li> <li>▪ No exposure to counterparty if agent</li> </ul>
	Collateral Haircut	<ul style="list-style-type: none"> <li>▪ Standard haircuts per capital rules</li> </ul>	<ul style="list-style-type: none"> <li>▪ Standard haircuts per capital rules</li> </ul>	<ul style="list-style-type: none"> <li>▪ Standard haircuts per capital rules</li> </ul>
Risk Weight	<ul style="list-style-type: none"> <li>▪ 0 - 100% depending on type of counterparty</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2% facing the CCP</li> <li>▪ 0 - 100% depending on type of counterparty on guarantees</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2% facing the CCP</li> <li>▪ No exposure if agent</li> </ul>	
Default Fund Exposure	<ul style="list-style-type: none"> <li>▪ Not applicable</li> </ul>	<ul style="list-style-type: none"> <li>▪ Initial Clearing Fund Deposit</li> <li>▪ Required Fund Deposits based on volumes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Initial Clearing Fund Deposit</li> <li>▪ Lower Fund Deposits if agent</li> </ul>	

## 8.2.2 Broker Dealer Capital

A broker dealer may calculate its net capital requirement by one of the two methods:

1. Basic or Aggregate Indebtedness method
2. Alternative method

<sup>62</sup> Certain benefits are contingent upon receiving favorable accounting opinion to treat positions as agency transactions.

Broker-dealer capital calculation method overview:

1. Basic or aggregate indebtedness method	2. Alternative method
<ul style="list-style-type: none"> <li>▪ The net capital of a broker-dealer conducting a general securities business (i.e., a firm that clears securities transactions and carries customer accounts) be equal to the <b>greater of:</b> <ul style="list-style-type: none"> <li>▪ \$250,000</li> <li>-or-</li> <li>▪ 6-2/3% percent of its aggregate indebtedness (i.e., \$1 of net capital for every \$15 of its indebtedness)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ The net capital of a broker-dealer is required to have net capital equal to the greater of:           <ul style="list-style-type: none"> <li>▪ \$250,000</li> <li>-or-</li> <li>▪ 2% of aggregate debit items from the <b>15c3-3</b> reserve formula</li> </ul> </li> </ul>



Key considerations: The proposed FICC rule change would provide Sponsoring and Agent Clearing Members the option to collect and segregate customer margin to enable recording a 15c3-3 debit in the customer or Proprietary Account of Broker Dealer (PAB) reserve formula under recently added Note H to Rule 15c3-3a.

Question to be asked: Will customers contribute margin requirement?	
Yes	No
Considerations for taking debit	Considerations not for taking debit
<ol style="list-style-type: none"> <li>1. Determine which customers and PAB clients will be contributing margin requirements.</li> <li>2. Set up separate accounts at the FICC by account type (e.g., proprietary account, indirect participant account) to enable separate margin calculation and collection.</li> <li>3. Set up segregated indirect participant accounts at the FICC to enable segregated margin calculation.</li> <li>4. Determine if the account opening and setup process should be modified for changes required to map customer/PAB account information for FICC margin requirement.</li> <li>5. Assess margin requirement buffer for temporary prefunding customer/PAB margin requirements.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set up separate accounts at the FICC by account types (e.g., proprietary account, indirect participant account) for portfolio margining.</li> <li>2. Account types cannot be netted against each other but can net within.</li> <li>3. Assess how the broker dealer will fund margin requirements for customers/PAB.</li> <li>4. Assess impact of increased clearing volume on business strategy/investment strategy, liquidity and fee structure/charge back for cost of capital.</li> </ol>

In the case where:

- Customer is contributing cash collateral to satisfy margin,
- Margin collateral is a segregated FICC account, and
- The alternative net capital method is utilized by the broker dealer

Balance Sheet Impact:

- The increase in cash received from the customer will be offset by the increase in obligation due to the customer, resulting in no net impact on the broker dealer's balance sheet

15c3-3 Reserve Requirement Impact:

- The cash margin received from the customer will increase the total credit items in the customer reserve formula and the cash margin posted to FICC will increase the total debit items in the customer reserve formula
- The total credits items in the reserve formula will be offset by the total debit items
- Under the alternative method, a firm is required to take a 3% haircut on total debit items, as such, resulting in a 3% increase in the reserve requirement (i.e., total credits - total debits x 97%)

15c3-1 Net Capital Impact:

- Under the alternative method, the increase in total debit items will result in an increase in the minimum net capital requirement, which calculated by taking the greater of 250,000 or 2% of total debit items

In the case where:

- Customer is contributing eligible securities collateral to satisfy margin,
- Margin collateral is a segregated FICC account, and
- The alternative net capital method is utilized by the broker dealer

Balance Sheet Impact:

- Eligible securities received from a customer is recorded off-balance sheet. Therefore, there will be no impact to the broker dealer's balance sheet for margin collateral securities received from a customer

15c3-3 Reserve Requirement Impact:

- Customer margin securities recorded off-balance sheet will have no impact on the 15c3-3 customer reserve requirement
- Alternatively, firms will need to lock up fully paid for customer collateral in a good control<sup>63</sup> location

15c3-1 Net Capital Impact:

- Customer securities recorded off- balance sheet will have no impact on the 15c3-1 minimum net capital requirement

In the case where:

- Firm is contributing cash collateral to satisfy margin
- margin collateral is an omnibus FICC account, and
- the alternative net capital method is utilized by the broker dealer

Balance Sheet Impact:

- The firm will record on the balance sheet, the cash margin paid to FICC as outstanding cash and a corresponding receivable from FICC, resulting in no net impact on the broker dealer's balance sheet

15c3-3 Reserve Requirement Impact:

- There will be no impact to the customer 15c3-3 reserve requirement as the firm is funding 100% of the margin requirement with firm funding

15c3-1 Net Capital Impact:

- Since there will be no net impact on the balance sheet, tentative net capital (TNC) and the minimum net capital requirement will not be impacted either

In addition to the capital regime, when determining the impact on regulatory capital of moving bilateral activity to centrally cleared, internal business-driven decisions and market-wide considerations will need to be taken into account to determine the level of capital required. Key areas that industry participants may consider include access models, business activity, and market structure, amongst other factors.

<sup>63</sup> SEC must approve FICC as a good control location

## Section 9: Industry challenges

## 9.1 Introduction

In preparation of this report, SIFMA members and report contributors identified several open questions, issues and gaps (collectively, industry challenges) during workshops, report preparation and review discussions. The items outlined in this section reflect a point-in-time set of challenges that industry participants and trade associations are seeking to resolve. Some of the industry challenges included in this section are covered in greater detail in other sections of this report.

## 9.2 Industry challenges

25 industry challenges were identified and organized into the following categories:

Challenge Type	Definition	Done-away	Margin	Commercial	General	Total
Open Questions	Further analysis and/or information is needed prior to determining path forward	1	2	0	1	4
Issues	An impediment has been identified that must be resolved to make progress	0	3	0	5	8
Gaps	No critical impediments exist, but firms/vendors must implement changes to enable a smooth transition to central clearing	7	0	2	4	13
Totals		8	5	2	10	25

### 9.2.1 Done-Away

In addition to the report section highlighting considerations for the USTC done-away clearing model, the following open question and seven gaps were identified during the drafting of this report:

1							
Open Question	Accounting treatment of ACM transactions						
Overview	Dealers have not reached a conclusion on the accounting treatment for their involvement with transactions submitted on behalf of their Executing Firm Customers pursuant to FICC's proposed Agent Clearing Model. The outcome of the accounting treatment question could have significant balance sheet and capital implications, as well as impact to other relevant functions such as regulatory reporting and capital planning. If Dealers conclude they are an accounting principal to their customer's trade, the trade will be recognized on balance sheet. If they conclude they are an accounting agent, the customer trade will not be recognized on balance sheet. As part of this exercise, Dealers should reaffirm the accounting treatment of existing access models to ensure accounting opinions are consistent across offerings.						
Remediation Path	The SIFMA Accounting Committee is in the process of drafting a principal vs. agent analysis which is intended to be shared more broadly. Each company that is a participant should be gaining an understanding of the Agent Clearing Model and will need to arrive at their own accounting conclusion considering their specific facts and circumstances (including customer agreements). Market participants may consider coordinate with other organizations (e.g., FICC) and working groups (e.g., SIFMA Legal docs) as well as internal legal departments to discuss the key factors impeding and supporting reaching intended accounting treatment.						
Impacted Product and Timeline	<table border="1"> <thead> <tr> <th>Cash</th> <th>Repo</th> <th>Applicable Timeline</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td>Yes</td> <td>Ahead of December 2025</td> </tr> </tbody> </table>	Cash	Repo	Applicable Timeline	Yes	Yes	Ahead of December 2025
Cash	Repo	Applicable Timeline					
Yes	Yes	Ahead of December 2025					



2

Gap	Done-away contractual documentation standardization		
Overview	Standardized done-away legal documentation has not been developed. While existing legal documentation for Correspondent / Prime Broker Clearing Services may be leveraged, market participants may benefit from standardization of documentation for done-away model.		
Remediation Path	The SIFMA US Treasury Clearing Legal Documentation working group is in the process of developing standard templates with SIFMA members to 1) agree on the key components of done-away contractual agreements and 2) establish standardized templates that can be leveraged by market participants to tailor to their specific relationships. The SIFMA US Treasury Clearing Legal Documentation working group is also incorporating feedback from other working groups (e.g., SIFMA Accounting Committee).		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

3

Gap	Tech solutions to perform pre-trade limit checks		
Overview	Existing pre-trade limit checks will need to be calibrated for the cash and repo markets (i.e., venue level customer limits). This step is intended to serve as a confirmation to 1) the executing broker that a trade will be accepted for clearing before execution occurs, and 2) the CCAs that a limit check has been performed for the trading counterparties and the underlying transaction in situations where the platform (e.g., trading venue) is submitting both sides of the trade for clearing.		
Remediation Path	Market participants should discuss any gaps in required capabilities with trading venues and/or key technology vendors that provide similar solutions and share any feedback from the SIFMA US Treasury Clearing working group. Subsequently, industry technology vendors should calibrate existing infrastructure and workflows to support pre-trade checks for U.S. Treasury clearing. Note: Refer to section 6 of this report for key considerations.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

4

Gap	Industry solution for voice trade matching		
Overview	Increased use of industry solutions such as a vendor platform to match voice trades and notify the Clearing Firm to submit trades to clear (or submit trades to clear on behalf of both trading counterparties) should be considered to increase straight-through-processing and reduce potential exceptions.		
Remediation Path	Market participants should discuss the gaps in required capabilities with key technology vendors that provide similar solutions and share any feedback from the SIFMA US Treasury Clearing working group. Subsequently, technology vendors should calibrate existing infrastructure and workflows to support voice trade matching for U.S. Treasury clearing. Note: Refer to sections 5 and 6 of this report for key considerations.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

Gap		Trade submission process for electronic trades	
Overview	Additional processes for submitting done-away trades to clear should be designed and implemented to enhance operational efficiencies and reduce fragmentation in the trade submission for clearing process. For example, alternative trade submission process may allow direct connectivity from trade execution venue to CCAs to enable execution venue submitting both sides of a trade.		
Remediation Path	CCAs and industry technology vendors to discuss and reach agreement on proposed infrastructure and workflows to allow certain industry utility platforms to submit both sides of a trade to the CCA for clearing. Subsequently, technology vendors and CCAs will need to design solutions once greater clarity is provided on front-to-back models. <i>Note: Refer to sections 5 and 6 of this report for key considerations.</i>		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	Ahead of December 2025

Gap		Trade not accepted for clearing	
Overview	In the event a trade fails to clear, or cannot be cleared, a process is needed to address the uncleared trade. Baseline assumption is to allow resubmission of trades or settling trades bilaterally uncleared in the event that trades are not accepted for clearing.		
Remediation Path	CCAs should establish guidelines for permitted actions. Subsequently, market participants need to develop solutions as part of their exception management process for resolving trades that are not accepted for clearing.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	Ahead of December 2025

Gap		Customer default practices	
Overview	In the event of a customer default in a done-away model, terms set forth in the bilateral agreements between customers and their Clearing Firms apply. Additionally, to the extent CCAs rules are implicated, further clarity needs to be provided by CCAs on practices around the closeout of customer positions. On the back of industry comments, FICC responded on August 1 <sup>st</sup> that future rule update proposals will include facilitation of the ability of a Netting Member to close-out a defaulted customer positions <sup>64</sup> .		
Remediation Path	Firms should review future CCA Rulebook proposals and determine if they address the industry's needs in support of this default scenario.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	Ahead of December 2025

Gap		Bunched order – Done-away workflow	
Overview	Industry solutions for done-away block trade/bunch orders do not currently exist for centrally cleared transactions. In other PB/FCM world, buy-side firms tend to execute trades at block level and then allocated across individual funds for all executed blocks post market closure.		
Remediation Path	SIFMA should facilitate discussion with market participants, CCAs and industry vendors, as part of the done-away group discussion, to design a hypothetical bunched order done-away flow and provide feedback on challenge areas if there are any. Subsequent follow-up conversations with market participants may be necessary to provide additional information.		

<sup>64</sup> Fixed Income Clearing Corporation. "FICC response letter to industry feedback on Customer Member Default Practices". p. 26.

Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

## 9.2.2 Margin

In addition to the report section highlighting considerations for the USTC margin management, the following two open questions and three issues were identified during the drafting of this report:

9

Open Question	Direct participant ability to pre-fund segregated customer margin obligations due to inability to substitute after certain timelines		
Overview	Inability for a direct participant to use cash to pre-fund an indirect participant's margin will create a timing issue if the indirect participant sends U.S. Treasuries to cover customer margin (e.g., Netting Member posts U.S. Treasuries to FICC at 8:00a.m. ET and client delivers cash at 3:00p.m. ET. Netting Member is unable to substitute securities for cash because the cutoff has passed). The question firms should consider is whether this will be an issue if a direct participant's pre-funded securities meet a client's minimum "cash" obligations.		
Remediation Path	CCAs should establish additional guidelines for permitted actions, requirements and limitations around direct participant pre-funding segregated customer margin obligation. Subsequently, market participants should subsequently consider preferred courses of action. CCAs should be consulted for solutions and market participants should subsequently consider preferred courses of action.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of June 2026</i>

10

Open Question	Management of customer assets and margin transfers to FICC		
Overview	The proposed Rulebook changes will require that a separate Deposit ID be established for each type of margin (referred to in the proposed rulebook as "Required Fund Deposit Portion"). If the Netting Member wanted to establish a separate Deposit ID for an individual customer, it would have to establish a separate Indirect Participant Account for just that customer's activity, and then set up a separate Deposit ID for that separate Indirect Participant Account. Further clarification is needed from FICC regarding if multiple margin calls for a single access model (e.g., ACM Omnibus and ACM Segregated accounts) will be required, and what the associated margin collection and return processes will be.		
Remediation Path	Individual dealers to identify and raise to FICC for further clarifications on any additional questions and/or challenges related to transferring margin for segregated customer accounts. Upon receiving additional clarification, market participants should subsequently consider preferred courses of action. Note: Refer to section 4 of this report for key considerations.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of June 2026</i>

11

Issue	Overnight handling of margin		
Overview	Firms are concerned with meeting intraday margin requirements and are also contemplating what they should do with client collateral overnight (e.g., are there specific assets which are allowed to remain at FICC overnight to cover client shortfall? What should firms do with holding client collateral overnight?).		

Remediation Path	Individual dealers should consult CCAs for additional clarification. Upon obtaining additional information from CCAs, individual dealers should then leverage considerations in section 4 of the report to establish processes and guidelines for handling margin overnight. Note: Refer to section 4 of this report for key considerations.		
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Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of March 2025</i>

12

Issue	Fulfilling FICC start-of-day (SOD) and intraday margin calls		
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Overview	The timeline of margin calls is concerning to firms as well as the associated challenges (e.g., How will firms replicate FICC margin call calculations? Will firms have an equivalent of an EOD snapshot from FICC to help prepare for morning calls?).		
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Remediation Path	FICC and individual dealers should connect on any remaining concerns or questions raised. Individual dealers should then leverage section 4 considerations to establish processes and guidelines for fulfilling the SOD and Intraday margin calls. Note: Refer to section 4 of this report for key considerations.		
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Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of March 2025</i>

13

Issue	Manage collateral posted – Substitute request with FICC		
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Overview	Collection and segregation of customer margin in line with 15c3-3 requirements present operational and timing constraints for the sell-side given the current FICC substitution timelines. Under the scenario of collecting client margin, passing collateral to FICC to meet margin obligations and (when required) requesting substitutions to meet customer needs poses a challenge for firms. Further clarification is being sought from FICC regarding target state timelines and capabilities to support collateral substitution for margin purposes.		
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Remediation Path	Firms should discuss the following with FICC – scenarios in which firms will need to request substitution and determine if the current FICC timelines can support any challenges identified. FICC and individual dealers should connect on any remaining concerns/questions by individual dealers. Individual dealers should then leverage section 4 considerations to establish processes and guidelines for substitution requests with FICC. Note: Refer to Section 4 of this report for key considerations.		
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Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of March 2025</i>

### 9.2.3 Commercial

Commercial decisioning related to USTC is expected to be made at the firm level and based on their individual business strategy. The following two gaps were acknowledged during the drafting of this report for individual firm contemplation:

14

Gap	Commercial models – Fee structures		
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Overview	Done-away fee calculation methodology and commercial constructs are not in place. While fees in done-with are typically embedded in the spread, this is not a viable option given trades will be executed away from the Clearing Firm.		
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Remediation Path	Individual dealers and their clients should discuss fee calculation methodology outside of SIFMA forums, to determine fee structures suiting their relationships. Individual dealers may also consult SIFMA and other market participants as necessary for establishing baseline market practices.		
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Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

15

<b>Gap</b>	<b>Capped Contingency Liquidity Facility (CCLF) responsibility</b>		
Overview	Responsible party for funding CCLF in a done-away model has not been agreed to by market participants (e.g., sell-side and buy-side).		
Remediation Path	FICC and individual dealers should connect to outline CCLF responsibilities. If necessary, SIFMA should help facilitate the conversations.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

## 9.2.4 General

Supplemental to the considerations listed in the report and prior industry challenge sub-sections, the following one open question, five issues, and four gaps were identified during the drafting of this report for contemplation by market participants along the path to mandatory clearing implementation:

16

<b>Open Question</b>	<b>Regulatory capital impacts</b>		
Overview	U.S. Treasury Clearing mandate could result in a material increase in regulatory capital for clearing members, which will impact the ability for clearing members to provide balance sheet capacity to clients. It is important to note that the impact to regulatory capital is dependent on accounting treatment.		
Remediation Path	Sell-side market participants should be evaluating the feasibility of done-away models and potential impact to regulatory capital under current capital regimes based on accounting assumptions. Individual dealers should review accounting treatment decisions arrived at the SIFMA Accounting Committee discussions, consult internal financial and liquidity teams to determine regulatory capital impacts and changes required.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

17

<b>Issue</b>	<b>Triparty considerations – Triparty Repo</b>		
Overview	The scope of triparty repo activity subject to the mandatory clearing is unknown (e.g., triparty shell filled with mixed CUSIPs, and differences in treatment for non-FICC eligible securities).		
Remediation Path	CCAs should continue discussions with the SEC to determine a solution, and once there is further clarity on a path forward, CCAs should discuss triparty repo treatments with the market. CCAs and SEC should publish guidelines on treatment of general collateral triparty shell, and CCAs should consult market participants as necessary and convey applicable information to SEC.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	<i>No</i>	Yes	<i>Ahead of June 2026</i>

18

<b>Issue</b>	<b>Domicile challenges – Netting and close-out</b>		
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Overview	Market participants have not developed, or obtained, netting and close-out opinions in certain jurisdictions (e.g., Australia), which impedes the ability for accounts in those jurisdictions to obtain access to clearing.		
Remediation Path	Continue discussions between SIFMA and market participants to determine best course of action to obtain netting opinions in relevant jurisdictions with SIFMA.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

19

Issue	Domicile challenges – Eligible FICC jurisdictions		
Overview	FICC only permits access from about twenty jurisdictions globally		
Remediation Path	Market participants should identify jurisdictions that are the highest priority for consideration for review and approval by FICC and should discuss the possibility for inclusion of such jurisdictions with FICC. Market participants should also consider how ACM provides an alternative avenue for clearing.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

20

Issue	Account and Investment Fund Type Restrictions – Challenges in setting up Sponsored accounts for certain fund and account types (e.g., UCITS due to granting of security interest)		
Overview	Certain fund and account types face issues in obtained Sponsored access to FICC due to local regulatory requirements. For instance, Undertakings for Collective Investment in Transferable Securities (UCITS) investment funds face challenges due to restrictions on granting of security interest with respect to FICC cleared repo. Other funds and account types may face similar restrictions, impacting the ability to obtain Sponsored access. Additional fund types that may potentially have a similar issue include (but are not limited) to AIFs (EU), superannuation funds (Australia), ERISA (US), and 1940 act funds.		
Remediation Path	Individual buy-side firms are responsible for identifying types of funds and accounts that may pose challenges for obtaining Sponsored access. Individual firms should consult FICC and other market participants on challenges identified in setting up Sponsored accounts. Individual firms should then proceed in reconciling challenges and setting up accounts for the specific fund and account types.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

21

Issue	Restrictions impacting margin and collateral – 2a-7 fund collateral requirements		
Overview	2a-7 regulated funds face constraints that will impact the ability and process of posting margin. 1) 2a-7 fund positions must be fully collateralized at all times. In practice, 2a-7 funds receive 102% of securities as collateral when acting as a cash provider to mitigate risk of under collateralization. 2) posting fund assets as margin to FICC or a direct participant of FICC could raise custody issues. A 5-year no-action relief was granted but industry path-forward needs to be designed and agreed.		
Remediation Path	Regarding the first issue, SIFMA AMG & ICI discussions about the following should be continued: 1) pledge back model, 2) permissibility in 2a-7 funds becoming CCIT members are FICC, 3) no action relief on 5B3. Regarding the second issue, SIFMA AMG should facilitate discussions with market participants and CCA to discuss potential solutions.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	No	Yes	<i>Ahead of June 2026</i>

22

Gap		Registration of other Covered Clearing Agencies	
Overview	Impacts, open issues, interoperability, and cross-margining considerations will need to be addressed as additional clearinghouses (e.g., CME, ICE) enter the clearing market.		
Remediation Path	CCAs to publish their respective rulebook for clearing of U.S. Treasury transactions. Subsequently, SIFMA should facilitate discussion with market participants to review the rulebooks published by new CCAs and provide commentary and assess implications.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	N/A

23

Gap		Bank regulatory capital treatment for cross-margining	
Overview	The proposed Regulatory Capital Rule: Large Banking Organizations and Banking Organizations With Significant Trading Activity would remove cross-product netting sets from the definition of a “netting set”, and defines a “netting set” as a group of single-product transactions with a single counterparty that are subject to a qualifying master netting agreement <sup>65</sup> . This revision, if approved, will affect the impacted institutions’ ability to realize regulatory capital benefit from cross-product margining. The proposed capital rule could result in misalignment between margin and exposure for the impacted institutions, whereas the impacted institutions’ exposure will be viewed as having large unsecured exposure due to the reduced margin amount as a result of cross-margining, and subsequently lead to significant capital implications.		
Remediation Path	SIFMA should consider facilitating discussions with market participants and CCAs to review the proposed capital rule to assess potential impact on USTC.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	N/A

24

Gap		FICC rejection process – Symbol confirmation	
Overview	Prior to the FICC implementing a rejection process, a participant notification period is proposed in the month leading up to March 31, 2025 go-live that would provide a list of customer trades that are missing symbols that will require remediation prior to March 31, 2025 go-live date. Netting Members can use the RTTM Web to monitor their activity for transactions that do not contain a client identifier. The capability can be accessed at any time and for historical submissions.		
Remediation Path	Individual dealers should use the RTTM Web to assess whether their historically submitted transactions contain the required client identifier. In cases where there are missing client identifiers, dealers should remediate and create the required identifiers prior to March 31, 2025.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	<i>Ahead of December 2025</i>

25

Gap		Clearing member default practices	
Overview	In the event of clearing member default, a process is needed for a customer’s positions to move on to another clearing member. On the back of industry comments, FICC responded on August 1 <sup>st</sup> that		

<sup>65</sup> Comptroller of the Currency, Federal Reserve System, and the Federal Deposit Insurance Corporation. “Regulatory Capital Rule: Large Banking Organizations and Banking Organizations With Significant Trading Activity (proposed)”. September 18, 2023. <https://www.federalregister.gov/d/2023-19200/p-433>



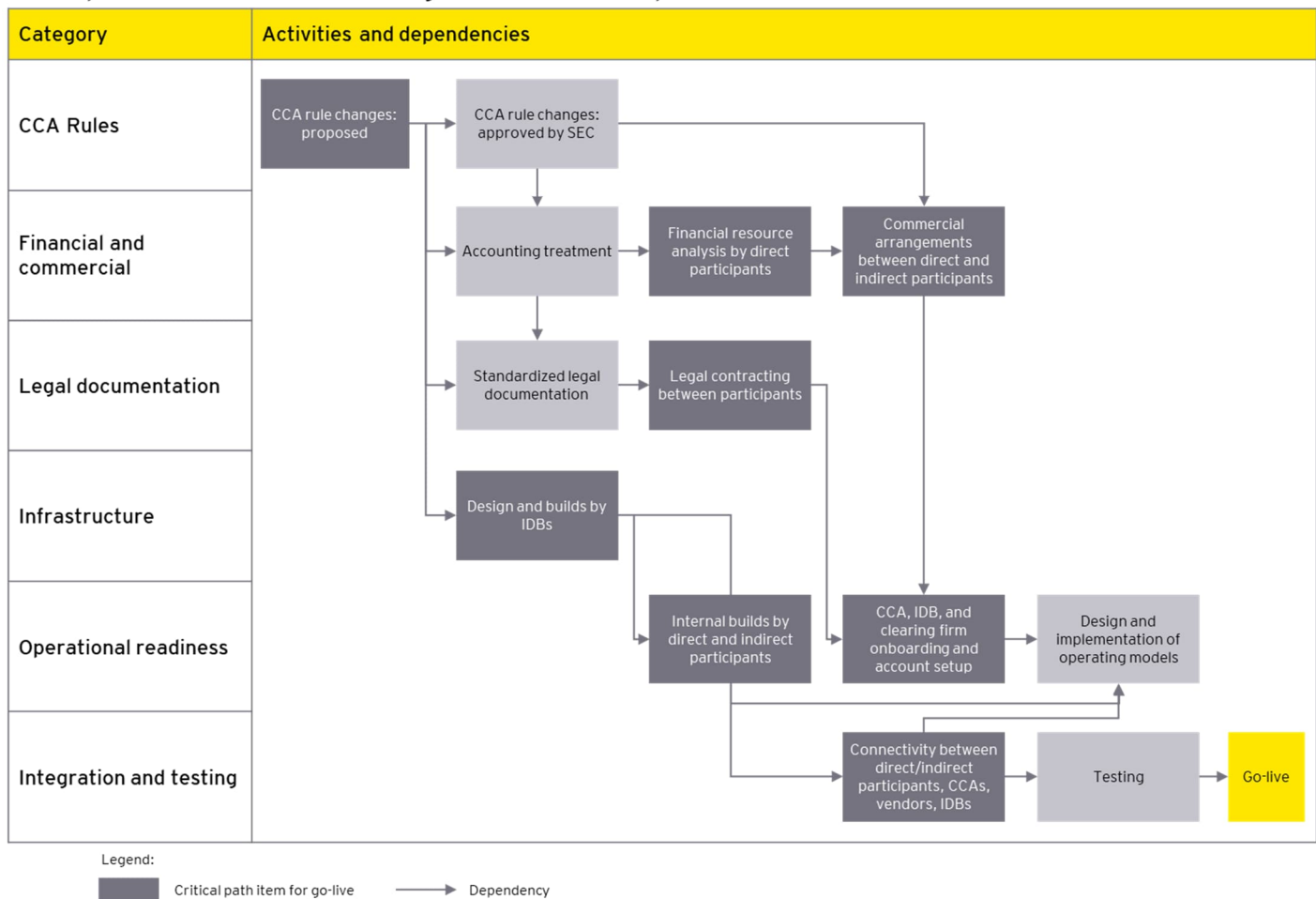
	future rule update proposals will include facilitation of porting and allow for settlement of Agent Clearing Member transactions upon a Netting Member default <sup>66</sup> .		
Remediation Path	Firms should review future CCA rulebook proposals and determine if they address the industry's needs in support of this default scenario. CCAs should also establish default management guidelines based on market participants feedback and practices adopted by other cleared products; SIFMA may need to facilitate conversations to gather market participants perspectives and determine proposed solution.		
Impacted Product and Timeline	Cash	Repo	Applicable Timeline
	Yes	Yes	Ahead of March 2025

### 9.3 Conclusion

The industry-level challenges highlighted in this section reflect the input of SIFMA members on topics that are in-focus for their organizations. While trillions of dollars in U.S. Treasury transactions are centrally cleared daily, industry participants have emphasized the importance of done-away clearing models in enabling a smooth transition to mandatory clearing of U.S. Treasuries. In some cases, resolution of a given industry challenge may be dependent on the resolution of one or more other industry challenges.

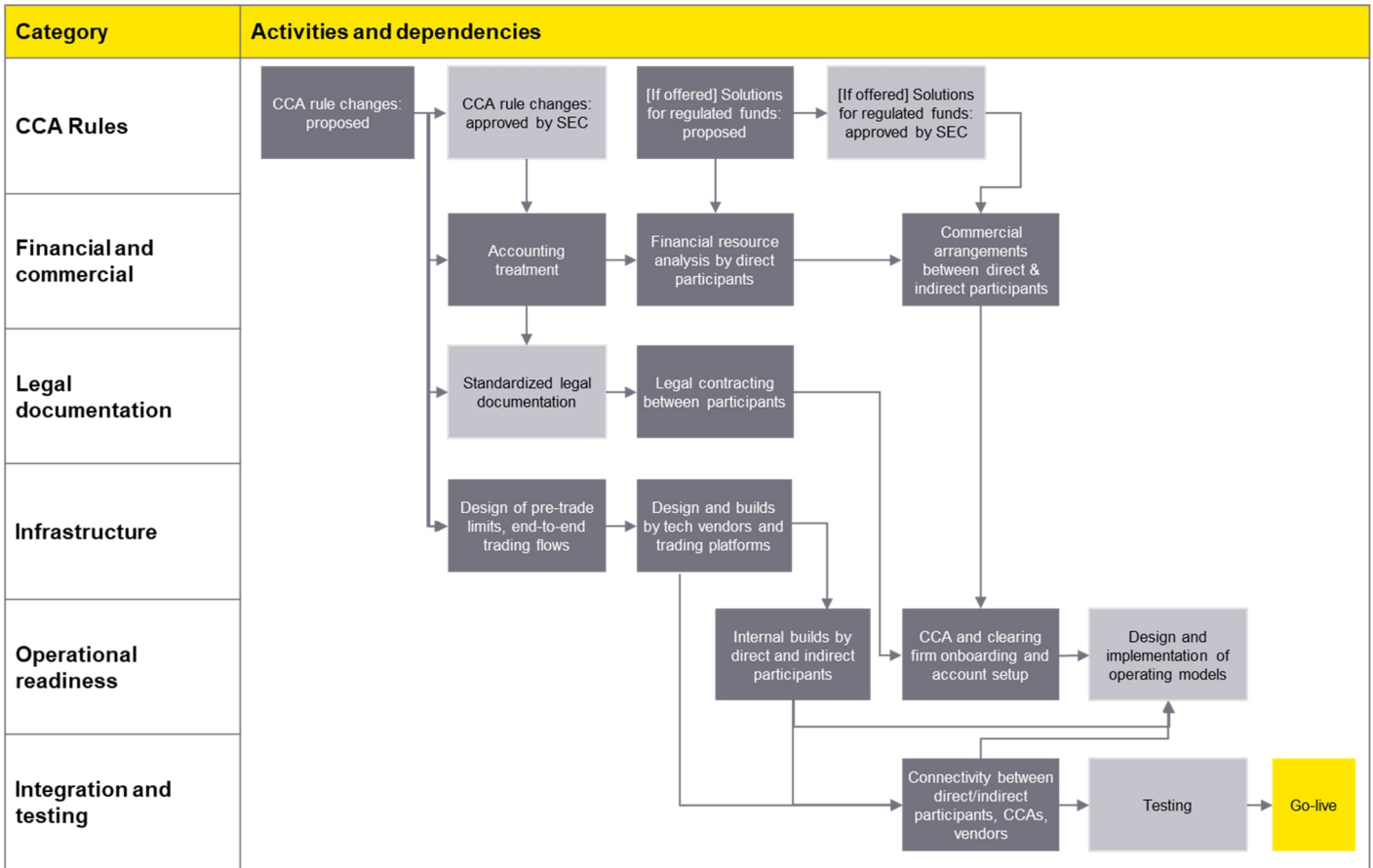
The following diagrams highlight key activities, dependencies and relative sequencing to enable development of done-away models to enable the transition to mandatory clearing of cash purchases and sales and U.S. Treasury repo, respectively.

#### Cash purchases and sales clearing mandate: critical path



<sup>66</sup>Fixed Income Clearing Corporation. "FICC Response Letter to industry feedback on Clearing Member Default Practices." p.24. (srficc2024007-500915-1465682.pdf (sec.gov))

## Repo clearing mandate: critical path



Legend:

Critical path item for go-live      → Dependency

## Section 10: Other functional considerations

## 10.1 Introduction

In addition to the key focus areas discussed in earlier sections, the implementation of USTC brings other functional changes to areas including reference data, technology and infrastructure, testing, and resiliency. This section highlights example considerations that market participants should be contemplating at the functional level while preparing for the transition to mandatory U.S. Treasury clearing.

## 10.2 Functional considerations

At the time of the publishing of this report, the following activities and example considerations were identified to assist firms in addressing the key functional impacts at their respective organizations.

### Market Participants Considerations

Activity type	Example considerations
Client reference data	<p>Assess the need to adjust existing and/or onboard new client reference data to identify counterparties in-scope for mandatory clearing:</p> <ul style="list-style-type: none"> <li>▪ In client reference data systems, include the capability to store additional flags denoting counterparty entity types subject to mandatory clearing and designated CCA in multi-CCA environment. For example:               <ul style="list-style-type: none"> <li>▪ Entity type (e.g., Registered broker dealer)</li> <li>▪ Designated CCA (e.g., FICC)</li> </ul> </li> <li>▪ In client/account reference data systems, include the capability to store flags denoting client account types eligible to clear (e.g., Sponsored, Executing Firm Customer)</li> </ul> <p>Due to no golden source of data or industry standard practice currently exist, firms should consider potential methods to source counterparty entity types subject to mandatory clearing (or certain exceptions):</p> <ul style="list-style-type: none"> <li>▪ Leverage existing practice or disclosure practice (e.g., ISDA supported self-disclosure and exchange between market participants to allow for transparency into counterparty designations as defined by the rule set for Security-Based Swap Dealer implementation)</li> <li>▪ Assess data available through external reporting required by regulatory bodies</li> <li>▪ Conduct client outreach to confirm whether client entity type meets definition of in-scope firm types or exclusion.</li> </ul>
Product reference data	<p>Assess the need to adjust existing and/or onboard new product reference data to identify transactions in-scope for mandatory clearing:</p> <ul style="list-style-type: none"> <li>▪ In product reference data systems, have abilities to flag products eligible to clear at CCAs. For example:               <ul style="list-style-type: none"> <li>▪ Security type/CUSIP (e.g., 3-month Treasury bill)</li> <li>▪ Transaction type (e.g., cash, forward starting repo)</li> </ul> </li> </ul> <p>Applicable products within FICC's current rulebook include:</p> <ul style="list-style-type: none"> <li>▪ U.S. Treasury bills, notes, and bonds</li> <li>▪ U.S. Treasury Inflation Protected Securities (TIPS)</li> <li>▪ U.S. Treasury Separated Trading of Registered Interest and Principal of Securities (STRIPS)</li> </ul> <p>Types of Repos that GSD supports include<sup>67</sup>:</p> <ul style="list-style-type: none"> <li>▪ Overnight–Repos that start today with a close date of the following business day</li> <li>▪ Term–Repos that start today with a close date of more than one business day but up to two years in the future</li> <li>▪ Forward-Starting–Repos that have a start date of one or more business days greater than the trade date</li> <li>▪ Repo-to-Maturity–Repos in which the repo close date is the same as or later than the maturity date of the underlying security</li> </ul>

<sup>67</sup> "Repo Services - How the Service Works," FICC, accessed October 18, 2024, <https://www.dtcc.com/clearing-and-settlement-services/ficc-gov/repo#:~:text=How%20the%20Service%20Works%20Participants%20execute%20repos%20with,matching%2C%20comparison%2C%20risk%20management%20and%2C%20ultimately%2C%20net%20settlement.>

Activity type	Example considerations
	<ul style="list-style-type: none"> <li>▪ General Collateral Finance Repurchase Agreement (GCF Repo)—GCF Repos allow dealers to trade general collateral repos, based on rate and term, throughout the day on a blind-brokered basis</li> </ul>
Data governance	<ul style="list-style-type: none"> <li>▪ Enhance data storage requirements to enable annual attestation submission process</li> <li>▪ Establish process and governance framework for:               <ul style="list-style-type: none"> <li>▪ Reference data updates (e.g., assign dedicated data owners and reviewers)</li> <li>▪ Periodic verification of external reference data sources to ensure accuracy and integrity</li> <li>▪ Periodic review of reference data to ensure they are up to date (e.g., LEI)</li> </ul> </li> </ul>
Technology capability (Internal/Vendor)	<ul style="list-style-type: none"> <li>▪ Assess and inventory capabilities of existing internal systems and technology vendors that will be impacted by U.S. Treasury Clearing.</li> <li>▪ Identify system functionality needs to be changed or newly implemented.</li> <li>▪ Partner with technology vendors to understand their implementation plan and corresponding internal changes may be needed to support</li> </ul> <p><i>Key technology capabilities needed across the trade lifecycle are discussed in detail in Section 11 of the report.</i></p>
Testing	<p>Consider developing test plans for the following areas:</p> <ul style="list-style-type: none"> <li>▪ Functional testing of changes implemented into internal systems.</li> <li>▪ Regression testing to ensure interoperability between upstream and downstream systems are not impaired by implemented changes.</li> <li>▪ Connectivity testing with FICC and select customers/brokers</li> <li>▪ Integration testing with other market utilities and vendor platforms</li> <li>▪ Participant in industry testing</li> </ul>
Resiliency	<ul style="list-style-type: none"> <li>▪ Develop disruptive scenarios for resiliency testing (e.g., system outages preventing submitting trades for clearing).</li> <li>▪ Conduct tabletop exercise of the resiliency scenarios and document remediation processes, including roles and responsibilities, path of resolution and escalation, relevant communications may be needed if issues are impact external stakeholders</li> </ul>

# Section 11: Technology capability considerations

Technology plays a pivotal role in the transition to U.S. Treasury clearing, supporting day-to-day operations through each stage of the trade lifecycle and providing connectivity between market participants and market infrastructures. This section outlines technology capabilities should be considered as firms and technology vendors design target state operational capability required to support: 1) the end-to-end trade lifecycle of clearing U.S. Treasury transactions, 2) margin segregation, 3) a functional done-away workflow, and 4) operations in a multi-CCA environment. The list of capability is intended to be leveraged for technology vendor solutioning and individual firm in-house solution design and implementation.

The following key denotes the relevant action required for each capability as to whether the given capability is likely to be a net new build or changes to existing functionality.

Action Required	Key
Changes required to existing capability	Change
Net new capability	New

Pre-Trade Check / Risk Management		
#	Capability	Action
1	Allow Clearing Firms to establish and maintain various types of limits (e.g., notional, tenor-based limits).	Change
2	Allow Clearing Firms to establish and maintain limits at different level (e.g., individual client, single trade vs. block trade)	Change
3	Mechanism to automate pre-trade check to verify that counterparties are within clearing limits of designated Clearing Firm before trade execution	Change
4	Allow Clearing Firms to manage CCA-specific clearing limits for multiple CCAs	New
5	Enable rule-based designation of preferred CCA (e.g., by product, jurisdiction, Clearing Firm)	New
6	Allow indirect participant to designate preferred Clearing Firm which the pre-trade check will be performed against at time of trade	New
7	Workflow to enable near-real-time limit updates (temporary or permanent) by Clearing Firms for a given customer	Change
8	Near-real-time visibility into clearing limit utilization with tailored view for Executing Brokers, Clearing Firms, and indirect participants	Change
9	Messaging capability to communicate pre-trade check status to the trading counterparties and Clearing Firm	Change
10	Stamp approved trades with an indicator (e.g., a token) that indicates that the pre-trade limit check has been completed and approved.	New
11	Capability to initiate secondary pre-trade check with an alternative Clearing Firm in the event of a trade exceeds limits set for a given client's primary Clearing Firm.	New
12	Update internal risk analytics and models for counterparty credit risks to incorporate factors associated with trades moving from bilateral to central clearing	Change

Execution / Trade Capturing		
#	Capability	Action
1	Integrate with reference data systems to verify if trades are subject to mandatory clearing based on counterparty entity type and traded product	Change
2	Connectivity and workflow to initiate pre-trade check and consume pre-trade check results to determine subsequent actions (e.g., cancelling orders, proceeding with trade execution)	New



Execution / Trade Capturing		
#	Capability	Action
3	Messaging capability to transmit executed trade details to trading counterparties and Clearing Firms (in a done-away construct)	Change
4	Capability to support block trade execution and able to trigger block trade specific workflow (e.g., notify Clearing Firm of block trade pending allocation)	New
5	Connectivity to CCAs for submitting trades for both trading counterparties (with opt-in/opt-out capability in case certain Clearing Firms may want to retain the capability of trade submission)	New
6	Consume allocation for block trade from indirect participants and notify Executing Broker and Clearing Firm of allocation instructions	New
7	Connectivity to middleware or trade matching platform for subsequent trade comparison	New

Middleware / Trade Matching		
#	Capability	Action
1	Consume executed trade details from execution platform or trading counterparties' trade capturing systems.	Change
2	Near-real-time comparison of defined trade details (e.g., quantity, price, commission, buy/sell) at either single trade or block trade level and allow counterparties to confirm/affirm trades	Change
3	Connectivity and workflow to initiate pre-trade check and communicate pre-trade check results to execution platform to determine subsequent actions (e.g., cancelling orders, proceeding with trade execution)	New
4	Messaging capability to notify trading counterparties and Clearing Firms of trade matching status	Change
5	Connectivity to CCAs for submitting trades for both trading counterparties (with opt-in/opt-out capability in case certain Clearing Firms may want to retain the capability of trade submission, or similar capability is provided by execution platform)	New
6	Allow trading counterparties to resubmit trades that are previously unmatched	Change

Post-Trade Processing		
#	Capability	Action
1	Based on client setup, consume executed trade details from execution venue, middleware, or from client directly.	Change
2	Capability to consume allocation details from Executing Brokers and customers for internal reconciliation purposes or as pre-requisite for affirming trades.	New
3	Access to middleware/trade matching platform to confirm/affirm trades.	New
4	Connectivity to CCAs for submitting mandatory clearing trades with distinct account designation for proprietary activity and customer activity.	Change
5	Capability to suppress trade submission to CCAs for those that will either be submitted by the execution platform or middleware.	New
6	Consume data and report outputs from CCAs; automate booking to reflect trade novation and netting.	Change

Margin Analytics and Collateral Management		
#	Capability	Action
1	Consume margin output (e.g., Clearing Fund Letters for FICC) from CCAs.	Change
2	Distinguish between proprietary and customer account margin requirements and generate relevant bookings.	New

Margin Analytics and Collateral Management		
#	Capability	Action
3	Forecasting margin requirements based on position and CCAs margin component and formulas, as well as margining type (gross vs. net across clients).	Change
4	Perform cross margining calculation and produce client level margin report based on CCA margin output for it to be used for client margin calls (e.g., exposure report, collateral statement, reconciliation)	New
5	Reconcile and validate margin calls from the CCAs and Clearing Firms against internal calculations	New
6	Optimize collateral delivery to ensure assets are allocated as efficiently as possible to meet margin calls	New
7	Monitoring and tracking of collateral posted by clients and those that have been onward posted to CCAs.	New
8	Establish and maintain CCA-specific minimum margin / cash requirements and perform eligibility checks on collateral received based on pre-defined rules	New
9	Connectivity to workflow tools to automate margin calls and track exceptions (e.g., disputes, outstanding margin calls)	Change
10	Valuation of collaterals and workflow capabilities to automate transfer of margin calls and requests for return of excess collateral	Change
11	Connectivity with settlement agent to facilitate tri-party settlement	Change
12	Reporting of collateral amount eligible for 15c3-3 debit	New

Controls and Reporting		
#	Capability	Action
1	Metadata repository for data retention and extraction to support CCA trade submission attestation and ad-hoc informational requests.	Change
2	Reporting capability to flag mandatory clearing trades not submitted to CCA.	New
3	Updated reconciliations for cleared U.S. Treasury transactions, including comparison to CCP data for components such as trades, positions, cash and margin.	Change
4	Enhanced reporting tool / interface to provide client with views on transactions submitted for clearing, margin requirements, and collateral details.	Change

## Section 12: The path forward

As market participants and the industry as a whole continue to advance on decisioning and solutioning for open issues and questions affecting implementation of U.S. Treasury clearing, there are actions individual market participants can take to operationally prepare their organization for the compliance deadlines. Below is a list of near-term next steps indirect and direct participants should consider, for addressing March 2025 implementation requirements and establishing the necessary groundwork to achieve adherence to the cash and repo clearing mandate.

Activity category	Indirect participant next steps:	Direct participant next steps:
Current Activity and Relationships	<ul style="list-style-type: none"> <li>▪ Analyze fund structures, fund types, and jurisdictions that transact in cash and repo transactions subject to mandatory clearing</li> <li>▪ Evaluate existing execution and clearing bank / broker relationships</li> <li>▪ Assess regulatory restrictions that may exist for specific fund types to understand implications on USTC. Examples include:               <ul style="list-style-type: none"> <li>▪ 2a-7 fund issues</li> <li>▪ Domicile issues (e.g., CCA eligible jurisdictions, netting opinions in each jurisdiction)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify activity and relationships in-scope for mandatory clearing by each of the compliance dates:               <ul style="list-style-type: none"> <li>▪ December 2025 (cash)</li> <li>▪ June 2026 (repo)</li> </ul> </li> <li>▪ Review internal data and/or review existing account setup with FICC. Identify where existing and/or legacy setups are not aligned with the FICC revised account structure and require remediation.</li> <li>▪ Separate client and house activity where currently comingled</li> <li>▪ Understand firm and customer needs for transacting in and clearing of eligible secondary market transactions</li> </ul>
Access Models	<ul style="list-style-type: none"> <li>▪ Understand eligibility and requirements of different access models</li> <li>▪ Engage with banks / brokers to understand their service offerings:               <ul style="list-style-type: none"> <li>▪ Sponsored vs. ACM</li> <li>▪ Done-with vs. done-away</li> </ul> </li> <li>▪ Discuss with legal and compliance which access model best aligns to your needs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Understand eligibility and requirements of different access models</li> <li>▪ Evaluate available access models and gather customer feedback to determine model(s) that is (are) best suited for meeting firm and customers' needs               <ul style="list-style-type: none"> <li>▪ Sponsored vs. ACM</li> <li>▪ Done-with vs. done-away</li> </ul> </li> </ul>
Legal and Contracting	<ul style="list-style-type: none"> <li>▪ Assess and consider the onboarding timeline and required trading agreements:               <ul style="list-style-type: none"> <li>▪ Negotiating legal agreements</li> <li>▪ Setting up new accounts / sub-accounts with existing and new broker relationships</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Review current contractual agreements to identify where new agreements and/or amendments are required.</li> <li>▪ Establish new, or update current, agreements based on selected customer clearing relationships               <ul style="list-style-type: none"> <li>▪ ACM and Executing Firm Customer vs. Sponsoring and Sponsored Member</li> </ul> </li> </ul>
Margin	<ul style="list-style-type: none"> <li>▪ Discuss with banks / brokers the different margin segregation options (e.g., seg vs. non-seg)</li> <li>▪ Understand banks / brokers expected changes to margin processes and amounts</li> <li>▪ Estimate potential margin obligations (e.g., using FICC VaR calculator)</li> <li>▪ Assess cost of posting margin and implications on fees</li> </ul>	<ul style="list-style-type: none"> <li>▪ Decide which margin flow to adopt - segregated vs. non segregated.</li> <li>▪ If decided to segregate customer margin:               <ul style="list-style-type: none"> <li>▪ Understand necessary process and operational changes required to operationalize the Segregated Customer Margin flow.</li> <li>▪ Review existing collateral management systems to assess changes required to support margin processing with customers</li> <li>▪ Update 15c3-3 computations to include logic for debit</li> </ul> </li> <li>▪ Assess cost of posting margin and funding customer margin</li> </ul>
Operational Processes	<ul style="list-style-type: none"> <li>▪ Based on access model and arrangements with banks / brokers:</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assess current operations to identify changes required to support U.S. Treasury clearing (e.g.,</li> </ul>

Activity category	Indirect participant next steps:	Direct participant next steps:
	<ul style="list-style-type: none"> <li>▪ Assess operational changes and headcount to support changes to processes</li> <li>▪ Design new processes to support clearing and margin capabilities</li> </ul>	<p>trade processing platforms to support submission to FICC)</p> <ul style="list-style-type: none"> <li>▪ Design new processes and/or enhance existing processes to support U.S. treasury clearing and customer /FICC margin capabilities.</li> </ul>
Technology Infrastructure	<ul style="list-style-type: none"> <li>▪ Evaluate changes required for internal systems supporting the end-to-end trade lifecycle.</li> <li>▪ Evaluate scalability and resiliency of current capabilities for risk management, trade processing, settlement, margin, reporting, etc.</li> <li>▪ Review data model and structure is fit for clearing and margin purposes</li> <li>▪ Establish connectivity for done-away (e.g., execution venues)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Evaluate changes required for internal systems supporting the end-to-end trade lifecycle.</li> <li>▪ Discuss with technology vendors solutions for enhanced operations and workflows (e.g., done-away).</li> <li>▪ Evaluate scalability and resiliency of current capabilities for risk management, trade processing, settlement, margin, reporting, etc.</li> <li>▪ Review data model and structure is fit for clearing and margin purposes</li> </ul>

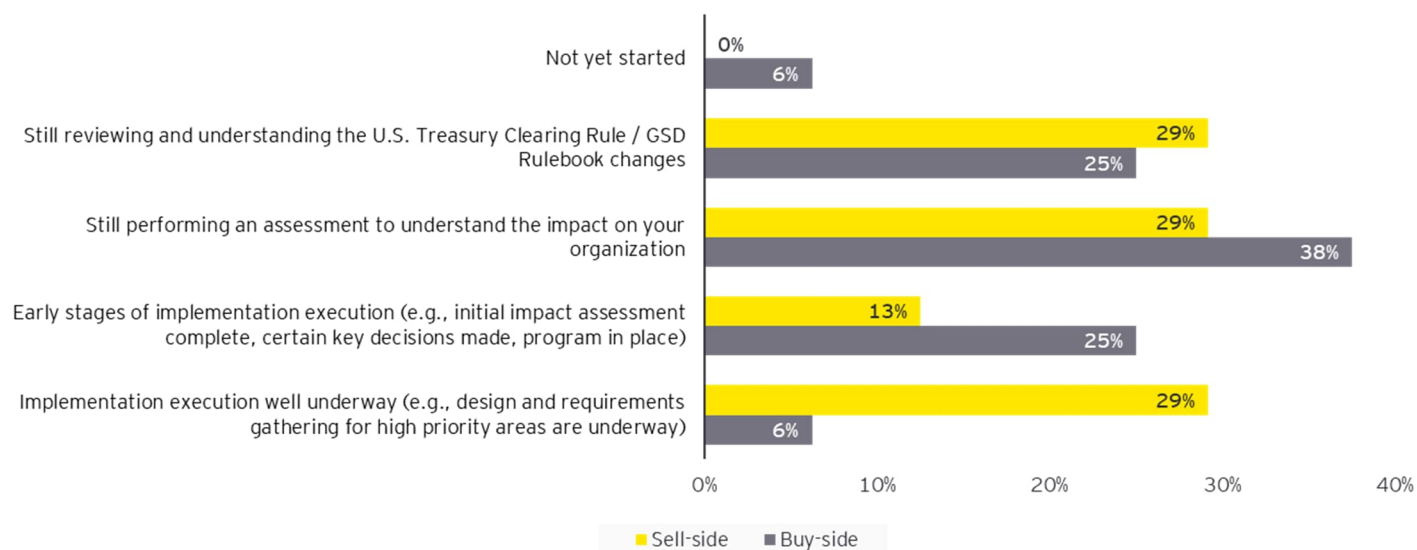
## Section 13: Appendix

## 13.1 Survey results

SIFMA sent a survey to the USTC working group participants to gauge insights on industry preparedness and key challenges in addressing the U.S. Treasury Clearing Mandate impacts and compliance dates. The insights gather from the survey will also help inform the USTC industry considerations report being developed. The survey was distributed to both buy-side and sell-side participants and consisted of 18 questions, with some questions applicable to certain firm types (e.g., buy-side only, sell-side only). 40 responses were received, of which 24 are sell-side and 16 are buy-side.

Preparedness for implementation – All respondents:

Q3: How prepared is your firm for implementing the requirements set forth in the U.S. Treasury Clearing Rule and proposed GSD Rulebook updates?



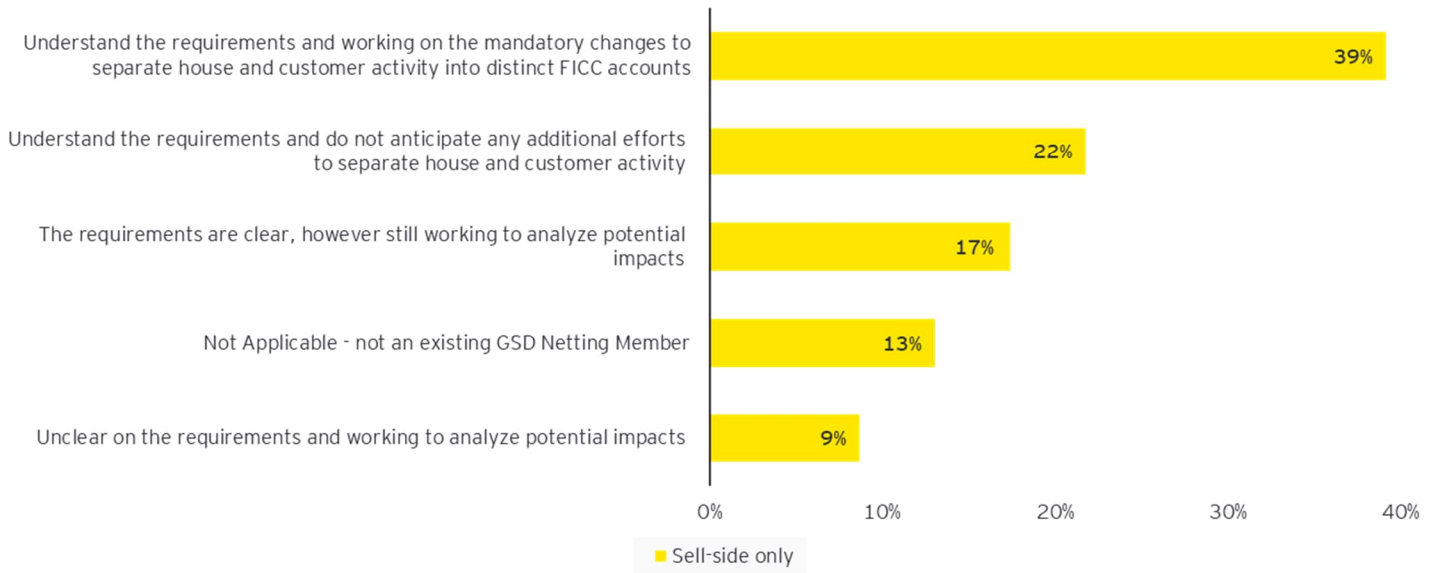
Sample population: 40 responses were received, of which 24 are sell-side and 16 are buy-side.

Key takeaway: Generally, sell-side participants are further along in the implementation process comparing to buy-side participants. However, over half of the respondents indicated that they have not started implementing changes. Specifically, 58% of sell-side respondents and 69% of buy-side respondents are still reviewing and assessing implications of the SEC Rule and proposed GSD Rulebook changes or have not yet started their USTC analysis.

Preparedness for March 2025 compliance – Sell-side respondents:

Q4: How would you describe your organization regarding related efforts (if any) to separate house and customer activity submitted to FICC by the March 31, 2025 compliance date?



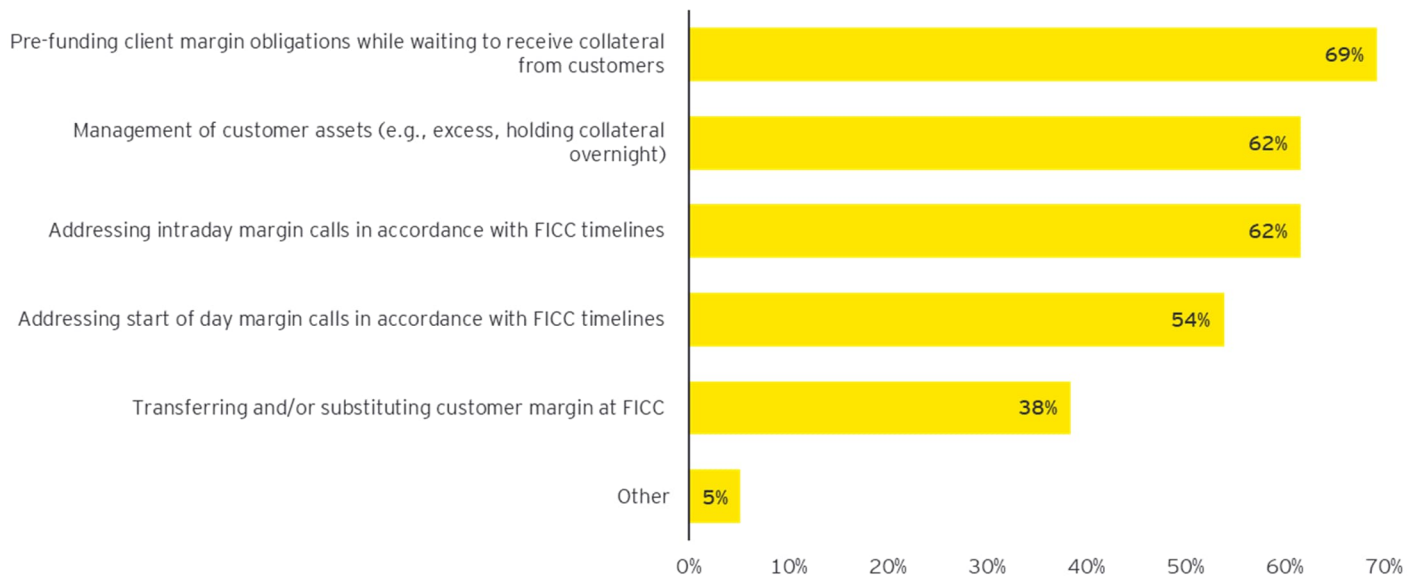


Sample population: 23 sell-side responses were received.

Key takeaway: Majority (78%) of respondents indicated that the requirements of March 31, 2025 compliance date are clear to them, and that they either do not anticipate any changes or are working towards making the necessary changes.

Key challenges associated with customer margin segregation – Sell-side respondents:

Q7: For existing and prospective Sponsoring/Agent Clearing Members considering segregated customer accounts, what are the key challenges associated with collecting and then posting customer margin? (select up to 3)

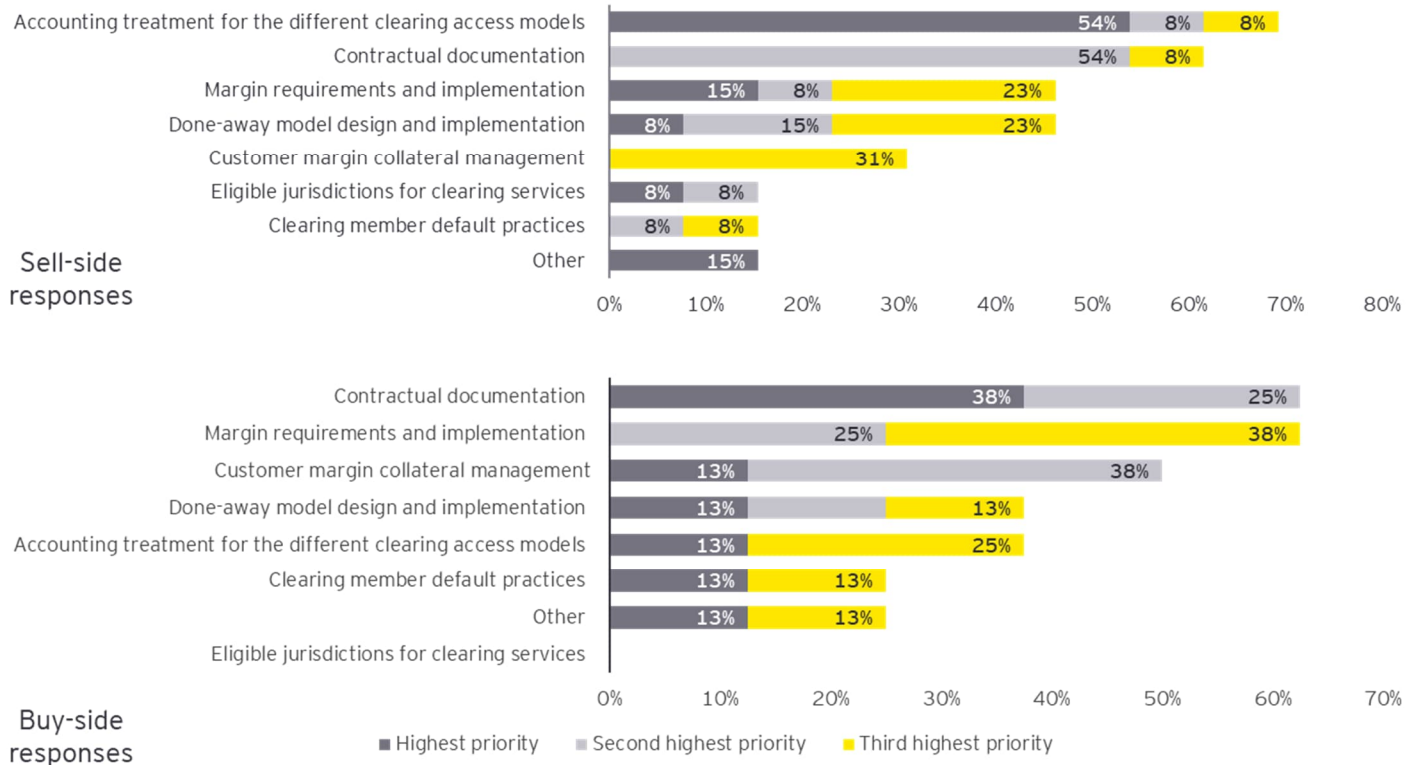


Sample population: 13 sell-side responses were received.

Key takeaway: The survey results indicated that each of the key steps in the end-to-end segregated margin process are viewed as challenging. Out of the steps in the segregated margin process, the three challenges agreed upon by respondents as being most significant are 1) pre-funding client margin obligations while waiting to receive collateral from customers, 2) management of customer assets and 3) addressing intraday margin calls in accordance with FICC timelines.

Top critical issues require industry focus – All respondents:

Q11: From the following list, please rank the top critical issues that industry working groups should focus on resolving:

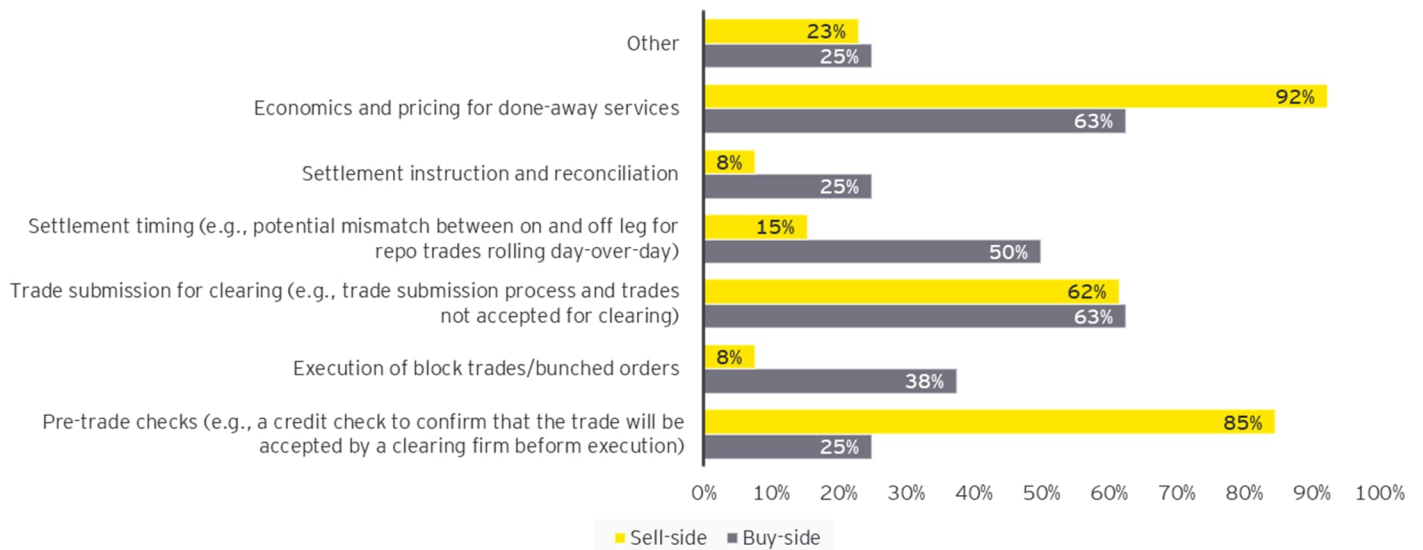


Sample population: 21 responses were received, of which 13 are sell-side and 8 are buy-side.

Key takeaway: More than 60% of the sell-side respondents indicated accounting treatment and contractual documentation as a top 3 critical issue. Roughly half of the sell-side respondents also selected margin and done-away. Over 60% of buy-side respondents also view contractual documentation and margin as critical issues to be addressed. The result is consistent with the SIFMA working group discussions.

Top challenges associated with done-away model adoption – All respondents:

Q13: What are the key challenges your firm foresees in implementing a done-away model?



Sample population: 21 responses were received, of which 13 are sell-side and 8 are buy-side.

Key takeaway: Challenges associated with pricing implications and commercial model are on top of both sell and buy-side respondents' list for implementing a done-away model. Sell-side respondents also see pre-trade risk management as a key hurdle to overcome, while buy-side participants focus more on the operational component to implementation.

## 13.2 Glossary

### Agent Clearing Member (ACM)

A Netting Member of FICC that provides Agent Clearing Services, acting as an intermediary between indirect participants and FICC.

### Agent Clearing Service (ACS)

An FICC clearing service in which the indirect participant access FICC's clearance and settlement services via an Agent Clearing Member.

### Covered Clearing Agency (CCA)

Defined in Exchange Act Rule 17Ad-22(a) as "a registered clearing agency that provides the services of a central counterparty or central securities depository."

### Centrally Cleared Institutional Triparty (CCIT)

Defined by FICC in its GSD Rulebook as "the services offered by the Corporation to clear institutional tri-party repurchase agreement transactions"<sup>68</sup>.

### Contingent Liquidity Facility (CCLF)

Defined by FICC as "a rules-based liquidity resource facility that would provide FICC with additional liquid financial resources to meet its cash settlement obligations in the event of a default of the largest GSD family of affiliated Netting Members"<sup>69</sup>.

### Commodity Futures Trading Commission (CFTC)

An independent agency of the U.S. government that regulates the U.S. derivatives markets.

### Direct participant

Entities with direct access to CCAs' clearance and settlement services. In this report, direct participant is used to describe cases which are CCA agnostic, and not specific to FICC or the GSD Rulebook.

### Depository Trust & Clearing Corporation (DTCC)

Depository Trust & Clearing Corporation is a U.S.-based financial market infrastructure company that provides settlement, clearing, and trade reporting services for financial market participants.

### Eastern Time (ET)

Eastern Time denotes the local time of the fifth time zone west of Greenwich.

### Futures Commission Merchant (FCM)

An organization that facilitates transactions for customers in futures, options, and swaps market. FCM acts as an intermediary between customers and the exchange or clearinghouse.

### Fixed Income Clearing Corporation (FICC)

Fixed Income Clearing Corporation. A subsidiary of DTCC that provides real-time trade matching, clearing, risk management, and netting for trades in U.S. Government debt securities.

### Government Securities Division (GSD)

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<sup>68</sup> FICC GSD Rulebook, Definitions.

<sup>69</sup> "Capped Contingency Liquidity Facility (CCLF) Calculator Announcement", DTCC, June 12, 2024, <https://www.dtcc.com/news/2024/june/12/dtcc-ficc-launches-cclf-public-calculator-to-support-expansion-of-us-treasury-clearing>.

Acts as a central counterparty, providing trade matching, novation, and guarantee services along with clearing, risk management, settlement services for government issued debt securities.

### Indirect participant

Entities that rely on direct participants for access to FICC's clearance and settlement services.

### Interdealer brokers (IDBs)

A financial institution that operates as an intermediary to facilitate transactions between financial institutions such as broker-dealers, hedge funds and principal trading firms. In the Treasury market, IDBs act as principal to both sides of a trade executed on their platform.

### Legal Entity Identifier (LEI)

A unique 20-character alphanumeric code that identifies legal entities participating in financial transactions.

### Netting Member

As defined by FICC in its GSD Rulebook, "a Member that is a Member of the Comparison Systems and the Netting System"<sup>70</sup>. In this report, Netting Member is used in lieu of "direct participant" in cases which are specific to FICC and the GSD Rulebook.

### Proprietary Account of Broker Dealer (PAB)

Refers to accounts that are proprietary securities account of a broker or dealer.

### Principal Trading Firm (PTF)

Financial institution that trades for its own accounts.

### Qualified Institutional Buyer (QIB)

An investor that can trade Rule 144A securities without the regulatory protection of Securities Acts.

### Request for Quote (RFQ)

A trading mechanism that allows participants to send out electronic requests for quote from other market participants.

### Registered Investment Company (RIC)

A company that invests the money it receives from investors on a collective basis. Registered Investment Companies are regulated primarily under the Investment Company Act of 1940 and the rules and registration forms adopted under that Act.

### Real-Time Trade Matching (RTTM)

FICC's trade matching system that provides a common electronic platform for collecting and matching trade data and for trading parties to monitor and manage the status of their trade activity in real-time.

### Securities and Exchange Commission (SEC)

A federal government regulatory agency responsible for overseeing the stock marketing and regulating the securities industry.

### Straight-through-processing (STP)

Processing completed automatically without manual intervention.

### U.S. Treasury Inflation Protected Securities (TIPS)

U.S. Government issued bonds with low-risk and inflation protection properties.

### U.S. Treasury Separated Trading of Registered Interest and Principal of Securities (STRIPS)

U.S. Government issued bonds in which investors are repaid full value when bonds reach maturity.

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<sup>70</sup> FICC GSD Rulebook, Definitions.

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