

2023 CCP Global International Default Simulation (CIDS) Exercise

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Report

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The Global Association of Central Counterparties

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2. List of Abbreviation

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|-------------------|---|
| A.C.M.E. | A Clearing Member Everywhere (a hypothetical clearing member) |
| AML | Anti-money Laundering |
| BaFin | Bundesanstalt für Finanzdienstleistungsaufsicht |
| BAU | Business-as-usual |
| BoE | Bank of England |
| CCP | Central Counterparty |
| CCP Global | The Global Association of Central Counterparties |
| CFTC | Commodity Futures Trading Commission |
| CIDS | CCP Global International Default Simulation |
| CM | Clearing Member |
| CPMI | Committee on Payments and Market Infrastructures |
| DF | Default Fund |
| DMC | Default Management Committee |
| DMG | Default Management Group |
| DMP | Default Management Process |
| ESMA | European Securities and Market Authority |
| FMI s | Financial Market Infrastructures |
| GUI | Graphical User Interface |
| IM | Initial Margin |
| IOSCO | International Organization of Securities Commissions |
| KYC | Know-your-customer |
| MPOR | Margin Period of Risk |
| P&L | Profit and Loss |
| PFMI | Principles for Financial Market Infrastructures |
| SSBs | Standard Setting Bodies |
| VM | Variation Margin |

3. Introduction

The Global Association of Central Counterparties (“CCP Global”) collaborated with authorities, central counterparties (“CCPs”), and various stakeholders to organize the 2023 CCP Global - International Default Simulation (“CIDS”) Exercise, i.e. 2023 CIDS exercise. This report outlines the key activities undertaken during the 2023 CIDS exercise, analyses feedback and findings, and provides a reference for future exercises.

The Committee on Payment and Settlement Systems (renamed as Committee on Payments and Market Infrastructures (“CPMI”) in 2014) and the International Organization of Securities Commissions (“IOSCO”) issued a principles-based framework, *Principles for Financial Market Infrastructures* (“PFMI”)¹, which provides guidance for the risk management practices of Financial Market Infrastructures (“FMIs”), including CCPs. As outlined in Principle 13 for “Participant-default rules and procedures”, CCPs should have effective and clearly defined rules and procedures to timely manage a participant default. Further in the key consideration, the default management procedures (“DMP”) should be tested and reviewed at least annually.

As such, CCPs perform default simulations, which are often called “fire drills”, at least annually to confirm the readiness of participants, which include direct clearing members (“CMs”) and indirect participants, i.e., clients, for the DMP. The purpose of a default simulation is to check that operationally, the plans that a CCP and its participants have in place for managing an actual member default are fit for purpose. Such tests are distinct from stress testing which validates the financial resources of a CCP.

Default simulation exercises provide an opportunity for CCPs and participants to test the operational viability of the DMP as established by the individual CCPs. Such exercises, conducted by different CCPs in isolation, may not reflect the operational stress faced by CCPs and their participants, or the interplay of actions by multiple CCPs, in the event of a default by a common CM facing multiple CCPs or simultaneous default of unrelated CMs. Multi-CCP default simulation exercise offers to test such operational aspects. It also provides an opportunity to compare the diverse approaches adopted by CCPs in running the default simulations. Furthermore, it also allows the evaluation of the outcomes and participation rate from participants in light of such variations. Some regulators have also arranged occasionally for multi-CCP default simulation exercises to test participants’ preparedness.

Such an exercise will generally assume the defaulting CM is common to multiple CCPs, and the default will cascade or occur around the same time at other CCPs. Further hypothetical commonalities in the scenarios and product classes cleared may be built to assess more in-depth interactions between CCPs and non-defaulting CMs and other participants in the DMP. This type of joint exercise can help identify potential operational bottlenecks in the DMP when they are initiated by multiple CCPs concurrently.

This report summary is prepared in accordance with the responses received from CCPs and participants. The feedback from CCPs was based on a post-exercise survey prepared by CCP Global for participating CCPs. In total, 27 individual CCPs, as listed in [Appendix 1](#), submitted their responses to CCP Global. In addition, regulators and CCP Global prepared a feedback letter to CMs and clients and invited them to provide voluntary insights, along with areas for improvement at individual or multiple CCPs. CCP Global received a total of 19 individual feedback letters from participants, representing 16 individual group entities. The list of respondents can be found in [Appendix 2](#).

¹ CPMI-IOSCO, Principles for Financial Market Infrastructures, April 2012 ([link](#)).

4. Overview of the 2023 CIDS Exercise

The 2023 CIDS exercise was the first multi-CCP default simulation exercise coordinated with collective industry efforts by CCPs through CCP Global. Multiple international regulators were consulted, and CCP Global and its members were highly appreciative of their collaboration and further guidance. We are especially grateful for the enthusiasm and active interactions with the “core group” of regulators, including the Commodity Futures Trading Commission (“CFTC”), European Securities and Markets Authority (“ESMA”), Bank of England (“BoE”), and Bundesanstalt für Finanzdienstleistungsaufsicht (“BaFin”).

32 individual CCPs (consisting of CCP Global member and non-CCP Global member CCPs) participated actively in the 2023 CIDS exercise and conducted default simulations in November 2023. A full list of the participating CCPs and their supervisory authorities can be found in [Appendix 3](#). In addition, 14 CCP Global members joined as observers for the 2023 CIDS exercise and planned to take a more active role in future.

Following the CIDS exercise, CCP Global organized 2 workshop sessions with authorities only and with authorities and market participants respectively in March 2024 in Madrid.

4.1 Objectives

The primary emphasis of the 2023 CIDS exercise centered on evaluating the operational aspects, i.e., potential bottlenecks in the DMP, when they are initiated by multiple CCPs concurrently. The aspects encompassed critical processes and phase components, such as the execution of hedges, auctions, default management group (“DMG”) or default management committee (“DMC”) convention, and the liquidation of collateral.

The 2023 CIDS exercise sought to 1) foster communication and preparedness across CCPs, CMs, and clients for a live default, 2) compare and contrast approaches to continue developing best practices, and 3) bring a greater number of CCPs in multi-CCP default simulations to create more realistic testing.

The exercise also provided a chance to share default management best practices among CCPs, identify areas of potential interest for follow-on work, and develop insights on the default simulation for standard setting bodies (“SSBs”) and regulators in post-exercise deliverables.

4.2 Common narrative

In the 2023 CIDS exercise, participating CCPs conducted their respective default simulations under a high-level common narrative. A hypothetical defaulting CM, A.C.M.E. (“A Clearing Member Everywhere”), was assumed to be one of the 5 largest CMs as defined by each CCP. Each CCP defined its own scenarios (stressed or non-stressed market conditions) and created the defaulting CM’s portfolio(s). During the exercise, CCPs followed their established internal DMP to execute as it would be in a live default event. Each CCP was responsible for the invitation and communication to its CMs and clients.

4.3 Scope

The overall scope of asset classes and market segments was open. Participating CCPs had the flexibility to decide the composition of A.C.M.E.’s portfolios and the scope for their versions of the simulations. The asset classes included cash equities, fixed income, repo, structured products, swaps, and derivatives contracts of interest rate, equity, commodity, foreign exchange, credit, and cryptocurrency products. In most cases, the default simulation incorporated direct trading/ sale, hedging, and auctioning of the defaulted CM’s portfolio(s) according to the CCPs’ DMP. Additionally, other modules such as client porting and sales of collateral were tested.

It is interesting to note that the scenario of A.C.M.E. defaulting is in some sense a very worst case; as far as it is possible to tell, there is no single CM that is active across all the CCPs included in the CIDS exercise that would be in the top 5, perhaps different from the customary expectation. This is sensible given the great variety of localities, asset classes, and markets included in the CIDS exercise.

| Product classes covered by number of CCPs | | | | |
|---|---------|--------------------------|---------|----------------|
| | Hedging | Liquidation/ direct sale | Auction | Client porting |
| Interest rate swaps | 7 | | 7 | 5 |
| Commodities (Energy) | 1 | 4 | 4 | 3 |
| Commodities (Metals) | 2 | 3 | 3 | 1 |
| Commodities (Agriculture/ soft commodities) | 1 | 3 | 3 | 1 |
| Commodities (Others: Rubber, Freight) | | 2 | | |
| Equities derivatives | 7 | 8 | 12 | 4 |
| Credit default swaps | 3 | | 3 | 1 |
| Foreign exchange derivatives | 3 | 4 | 5 | 2 |
| Cash equities | | 4 | 1 | 1 |
| Crypto products | | 1 | 2 | |
| Repo | 1 | | 4 | |
| Fixed income/ interest rate | 1 | 2 | 1 | |
| Fixed income/ interest rate derivatives | 4 | 3 | 4 | 1 |
| Structured products | | 1 | | |

5. Activities during the CIDS Exercise and Feedback

The triggers of the default were assumed to commence during the weekend before 13 November. The first CCP who served A.C.M.E. in default began their default simulation on 12 November. Most participating CCPs started their DMP on 13 November if practical, while a few CCPs began their DMP on a later date, accounting for the local holiday schedules or holidays in overseas operations offices. In particular, the exercise overlapped with Diwali. All participating CCPs completed their DMP by 22 November. Such divergence in timing is realistic and reflective of actual historical default management at CCPs, often the result of differing ways in which a default unravels across the constituent legal entities of a global institution.

From the responses, all CCPs successfully hedged or closed out the positions of A.C.M.E. and returned to a matched book within the margin period of risk ("MPOR"), which represents CCP's estimate for the length of time required to liquidate, auction, or hedge the positions of a defaulting CM.

5.1 CCP Global Default Emergency Information Mechanism

During the exercise, CCP Global and its member CCPs tested the internal default mailing list under the Default Emergency Information Mechanism. This mechanism has been set up by CCP Global for its members to promptly inform others in the event of a participant default.

5.2 CCP communication with participants

Similar to other individual exercises, CCPs generally distributed information packs and addressed inquiries in advance to ensure participants were prepared for the default simulation exercises. A few CCPs reported receiving requests from participants for clarification and such volume of enquires was generally similar to other individual default simulation exercises. Overall, the CIDS exercise provided a good opportunity to confirm the market participants' readiness for different CCPs' DMP, auction methodologies, and practices.

Participants also reported that CCP staff were generally responsive during the 2023 CIDS exercise, and the level of responsiveness was deemed expected and reasonable. However, 3 CMs identified areas for improvement, including the remark that a few CCPs should be more responsive in resolving confusion from CMs, a request to communicate consistently regarding the scope of the exercise, and to maintain up-to-date contact lists to ensure timely notifications.

In addition, participants also suggested CCPs should inform CMs as early as practical if their participation in the DMP would be mandatory or not. There should be consistent format for announcement and communication. A common infrastructure, such as a portal, specifically to manage the DMP would improve efficiency and reduce errors, ensuring participants receive vital information related to the DMP. Thus, a more coordinated process using standardized infrastructure, e.g. auction portals, across all CCPs is preferred. However, another participant also mentioned that email notification would be helpful when there is an update.

CCP Global noted that further work should be done for a more consistent approach for communication regarding the scope of the exercise and whether participation from CMs is mandatory. This area can be improved in the upcoming exercise. However, the maintenance of up-to-date contact lists should be a collective effort from both CCPs and CMs. It was also discussed in the workshop that CMs should also inform CCPs in case of any personnel changes, and CCPs should correspondingly conduct regular review of contact lists. Overall, there is a preference to use auction portal which is also stated as the best practices in the operational aspects in the industry paper, "CCP Default Auctions Best Practices – Category 1 Issues: Terminology and

Operational Aspects”, jointly published by market associations in 2021.² CCP Global will continue its work on the Cat 1 monitoring for the adoption of the best practices among CCPs.

As a further point discussed in the workshop, participants also suggested having a centralized one-stop shop where they can obtain information regarding the auction timing and scope at multiple CCPs. CCP Global is concerned if such information can be reliably delivered centrally or pre-announced given the intense timeline and activities in a live default.

5.3 Auctions

27 individual CCPs reported 78 auctions conducted during the period. The date with the highest volume of auctions happening was 13 November. On that day, it was notable that 13 auctions took place simultaneously at 15:00 CET, covering multiple asset classes, including equity derivatives, interest rate swaps, commodities (energy), fixed income/ interest rate derivatives, and repo. The exact number of total auctions happening was expected to exceed this figure reported as not all participating CCPs submitted the responses to CCP Global or reported all hedging auctions. Despite the overlapping of bidding windows, most CCPs did not receive requests from CMs and clients to extend the bidding windows. Overall, the overlapping of bidding windows did not appear to pose operational challenges. It was also noted by participants that overlapping auctions were generally not an issue for their scope of participation (across CCPs, regions, and products). CCP Global and its members did not plan or choreograph auction timings, and indeed greater operational stress was predicted than the survey results which indicated that participants’ preparedness, a wide mix of asset classes and markets, and a natural sequencing according to local time zones diminished this concern.

Market scenarios

During the default simulations, participants were asked to consider specified market conditions and assumptions when submitting the bids. The scenarios can be categorized as stressed and non-stressed scenarios. Each of the options offers distinct advantages in terms of simulation dynamics and outcomes. In the 2023 CIDS exercise, 41 auctions (53%) conducted required participants to consider current market conditions for the bid submissions. The remaining 37 auctions (47%) simulated stress market conditions, requiring participants to contemplate a scenario where a significant CM has been placed into default. Participants generally aligned their submitted bids with the market conditions requested by the CCPs. However, CCPs also observed instances where participants submitted prices perceived as overly aggressive under stressed market conditions as communicated for specific auctions, or a few CMs did not take into account the market moves from the previous day’s close to market opening.

Auction timing and bidding windows

When multiple CCPs conducted their auctions simultaneously, this could exert pressure on participants, affecting their capacity to participate and potentially leading to reprioritization with implications for business-as-usual (“BAU”) processes. While there were multiple requests from the market, including CCPs and CMs, to coordinate auction schedules, CCPs generally expressed reservations and were concerned such coordination may create a false sense of comfort, and deviate from the intended objectives of the 2023 CIDS exercise in testing the operational aspects. We also note that the time frame of the 2023 CIDS included certain real market issues that participants handled while engaged in the scenario, such as a cyber-attack on a CM active in the US Treasury market.

Even though the actual bidding windows were overlapped, most of the participants responded that they did not need to provide quote requests or submit bids simultaneously, while noting that 13 November was a particularly busy day in terms of activities. CCP Global regarded this coincidence and overall smooth

² CCP Global (previously CCP12) , EACH, FIA and ISDA, CCP Default Auctions Best Practices - Category 1 Issues: Terminology and Operational Aspects, February 2021 ([link](#)).

execution of auctions as the positive outcomes of the exercise. This demonstrated the capability of CMs and clients in participating in multiple auctions when CCPs were running their DMP concurrently, even in the absence of a coordinated auction timeline.

However, participants also noted the challenge arose when bidding participants were often the same across multiple CCPs. It was also raised that resources may be stretched in a live default under a severely stressed market environment even though resources did not seem to be an issue in the 2023 CIDS exercise.

CCP Global also received the below suggestions from participants related to the auction schedule and bidding windows:

- A plan for a cross-border "traffic control" or sequencing of auctions is required, for which CCPs and regulators should develop a framework agreement. This could provide clarity, particularly in volatile market conditions, and help prevent further stress from spreading.

CCP Global appreciates the idea, but does not see a way that it could be implemented. The operation of a traffic control implies that some CCPs and their participants may need to wait. The fundamental responsibility of a CCP is to risk manage the exposures and restore to a matched book as soon as practical when a CM defaults. If CCPs are asked to coordinate and wait to conduct the auctions, it raises the critical question of liability (i.e., who bears the losses possibly arising from such a delay). In particular, each CCP must protect its surviving participants and mutualised resources.

- The time of the bidding windows should consider the actual market open hours of the main involved underlying, which could involve a combination of currency products. It was also suggested that the time to submit bids would be ideal if it is closer to market close/ settlement. Participants also recommended that CCPs consider extending the duration of bidding windows, permitting additional time to check the quality of bids.

CCP Global would like to highlight that certain CCPs specifically structure their auctions to match the feedback received from their participants. Others, however, purposefully and in consultation with their membership and regulators place their auction outside of usual trading times. As a collective, we appreciate the feedback and will continue to check that the bidding windows and binding times for bids are selected as well as can be for the market segment or asset class in question. We note that CCPs also observe that final bidding prices are usually submitted at the last minute to match with the market price no matter how long/ short the bidding window is.

- CCPs should release the portfolios earlier. This would provide participants more time to assess and price the portfolio. CCPs should assess if they can release through the auction systems, ideally before the bidding window opens.

CCP Global would like to comment that CCPs commonly release the portfolio with the specific intent that sufficient time is available. However, a balance needs to be struck; as a longer time will also mean a higher chance of information leakage or other factors that can complicate a successful auction.

Participation from CMs and clients

During the default simulations, CMs, and in some cases clients, were invited to participate in the auctions to refresh or enhance their understanding of the processes, systems, terminology used in the auction process, and tasks necessary for auction participation. The exercise also served as an opportunity for

participants to familiarize themselves with the auction methodologies as adopted by different CCPs for the specific product types or clearing services.

In the 2023 CIDS exercise, there was observed variability in participation requirements among CCPs. Some CCPs made it mandatory for all CMs to participate, while others made it voluntary or partly mandatory (i.e., some CMs were specifically requested to participate in the auctions).

| Participation by CMs | % of the total auctions conducted (# of auctions) |
|--|---|
| <ul style="list-style-type: none"> • Mandatory for CMs | 55% (43) |
| <ul style="list-style-type: none"> • Partly mandatory for CMs | 12% (9) |
| <ul style="list-style-type: none"> • Voluntary for CMs | 33% (26) |
| Participation by clients | 50% (39) |

No CCPs observed any concern on the participation level and reported similar participation rates compared with other individual exercises conducted by the CCPs, as well as previous multi-CCPs default simulation exercises.

From participants’ perspectives, most of them were adequately staffed to fulfil multiple CCP default simulations. Only 4 participants responded they experienced resource concerns in their feedback to CCP Global. While other participants did not report resource concerns, it was noted that the preparation required considerable effort in planning, coordination, and resource allocation in advance. Participants generally adopted internal processes and systems, or engaged third-party outsourced service provider, to efficiently manage the DMP with adequate internal planning and preparation. In addition, CMs reallocated resources across business support functions and prioritized the auction participation over the regular business operations. This led to staff being required to work extra hours with some internal projects postponed, due to preparation, execution, and post-exercise analysis of the default simulation.

When participants were required to participate in multiple auctions at different CCPs, they reported they decided to concentrate their efforts on mandatory auctions and participate in very few non-mandatory ones. It was also noted that pricing had to be split across multiple desks to cope with the workload and then combined into a single bid for certain asset classes. To further alleviate the resource constraint, a CM reported requesting CCPs to provide the portfolios for viewing earlier, and submitted more conservative bids earlier to fulfil the minimum requirement for juniorization (where applicable), with competitive bids re-submitted closer to the deadline using the latest prices.

CCP Global appreciates the efforts made by many participants to participate in the auctions as required. We would like to emphasize the importance of CMs’ auction participation even if the auctions are not mandatory for them, considering the potential juniorization of their default fund (“DF”) contributions. High levels of participation in auctions are instrumental in fostering a robust system, ensuring competitive bidding, and mitigating the likelihood of loss mutualization among the surviving CMs. Participation in the default simulation exercise, even if not mandatory, can allow CMs to gauge their readiness to handle multiple auctions and prepare effectively for real-life default scenarios.

Bidding format and bid submission

CCPs also reported instances of receiving bids with incorrect formats, sign conventions, or files from participants in the auctions. The frequency of such occurrences was consistent with other individual default simulation exercises. CCPs indicated that a typical reason for such incidents is the staff turnover from participants that undertake the exercise.

In a relevant topic on bidding format and methodology, participants suggested that CCPs should improve transparency and clarity on the auction processes, preferred bid calculation methodology, and bidding requirements. A glossary of terms should be available in the bidding tool/ portfolio pack as a quick reference guide. When CCPs ask for bids on different sizes of the same portfolio, they need to communicate clearly what the various bid levels mean, i.e. how much % a size bid represents in terms of total portfolio. 1 participant suggested having consistent pricing/ auction methodologies as best practices.

In addition, the bid submission format could be standardized across CCPs. Ideally, through one interface/ Graphical User Interface (“GUI”). CCPs should make it clear what a positive/ negative signage means with respect to the bidder pays or the bidder receives. A CM mentioned that at least one CCP now implemented a bidding interface where signage was replaced by “CCP pays/ CCP receives” dropdowns. Furthermore, file formats for auction portfolio publication can also be standardized and portfolios should be disclosed in a consistent format, such as column headers, nomenclature, parameters, and terminology. The file formats containing the portfolios should include minimum details on each instrument to allow participants to quote their prices.

CCP Global appreciates the suggestions on standardization and the discussion in the workshop on this topic. While certain areas will be challenging to harmonize and a complete standardization will not be realistic, CCP Global welcomes the idea of improvements if that can optimize the DMP and agrees that a certain degree of harmonization is desired. As such, the industry has published the “CCP Default Auctions Best Practices - Category 1 Issues: Terminology and Operational Aspects” in 2021.³ The paper covers most of the suggestions raised here, i.e., what the various bid levels mean and what a positive/ negative signage means with respect to the CCP pays or the CCP receives. CCP Global will continue its work on the Cat 1 monitoring for the adoption of the best practices among CCPs. CCPs also reflected that auction terminology and trading terminology may not be aligned and further work on this area should be conducted, including a simplified glossary.

Also discussed in the workshop, were the challenges of standardization of auction templates. CCPs are open to valid reasons to improve the templates. It appears that complete standardization is not practical, considering the costs and impact on all other market participants (including local CMs who may not agree with such a change), and those who have also integrated the templates into their internal systems. Standardization of templates also means any changes by a CCP on the templates need to be synchronized among CCPs and this maintenance is not feasible and will be onerous to CCPs, considering the wide range of different products that CCPs clear and the differing practices that CCPs conduct their auctions. We would like to highlight that CCPs do not develop the templates all by themselves, but also seek feedback from the market participants, including the DMGs/ DMCs or risk advisory committee, to ensure the templates are well-designed and fit for purpose.

5.4 Auction portals

The majority of the auctions were conducted on auction portals. Only 4 CCPs mentioned that there was failed access to the platform noticed, accounting for a small amount of the auctions conducted on the platforms. The reasons for such failed access included:

- IT system restrictions: Participants’ security system blocked their access to the auction platform. In such case, some participants corresponded by email instead of using the auction platform.
- Failed logins: Participants’ accounts were locked after failed password attempts. 1 CCP noted this incident was less than 1% based on all users logging in during the CIDS auction period.

1 CCP also reported minor issues when connecting with the IT system environment in which the default simulation was run, but the issues did not lead to failed access in connection.

³ CCP Global (previously CCP12) , EACH, FIA and ISDA, CCP Default Auctions Best Practices - Category 1 Issues: Terminology and Operational Aspects, February 2021 ([link](#)).

Participants advocated the use of auction portals with further improvements to reduce potential operational risks. The relevant recommendations include streamlining the portal login process, refining the auction platform for file consumption and pricing, improving the short time-out with password reset required, standardization of the portal within a CCP group, and access management (i.e., creating new users and credentials). It was also suggested that CCPs should ensure participants can grant permission to their bidders quickly and easily. The biggest logistical challenge in participating in the CIDS exercise was to ensure all bidders were granted the appropriate permission ahead of the exercise and in a position to bid. It was also advised that the permitted bidders should have access to the DMP tools in a timely manner as BAU, not just for the testing period. CCPs should allow a 'super-user' access in the portal that CMs can grant access, maintain, and reset internally by themselves where necessary.

CCP Global understands that user experiences can be improved for auction portals. We would also like to highlight that some CCPs have allowed 'super-user' access in the portal that CMs can grant access, maintain, and reset internally by themselves where necessary.

5.5 DMG convention

17 CCPs convened their DMGs, covering over 60 auctions conducted during the period. CCPs who called their DMGs generally did not encounter any challenges in the process.

Participants emphasized the strain experienced due to the secondment of seasoned traders to the DMGs. There may not be multiple resources available in specific locations meeting the profile as required by CCPs. A CM also suggested "leading practices" of DMGs to include a formal rotation with the appointment duration clearly articulated and make the associated terms of reference publicly available on CCP websites. These can facilitate the review and aid resource planning for fulfilling the DMG requirements.

This topic was discussed among CCPs and in the workshop, and pertains to those CCPs or asset classes for which DMGs are employed. Not all of the markets are included or require a DMG set-up. For CMs involved in the DMGs, they are informed of the specific terms and requirements associated with their participation. CCPs are also aware of the resource constraints and scarce resources of seconded traders at the DMGs, particularly from globally active CMs who are expected to participate in multiple auctions and DMGs at the same time in a global event of default. As such, in cases where CCPs have formed a DMG, this is for complex products with material exposures. The DMGs usually encompass a mix of local and globally active CMs. While not formally specified, CCPs clearing certain common derivatives products are, on a best-effort basis, structuring their DMGs with the least overlap of common CMs to alleviate the resources concern at the CMs.

5.6 Hedging

In addition to assessing the effect on auction participation when multiple CCPs conducted DMP simultaneously, CCP Global gathered feedback from CCPs to evaluate any potential effects of this exercise on hedging (and liquidation/ direct sale) when these components were being tested. 15 individual CCPs conducted hedging for various product classes as part of the DMP scope for the 2023 CIDS exercise. When hedging was conducted through auctions or brokers/ external parties, CCPs reported that the response time required was generally similar to other individual default simulation exercises. Participating CCPs did not report any problems with their current practices in hedging.

On the other side, a CM mentioned that it may be prudent for CCPs to put more focus on pre-auction hedging, rather than expecting all participants to be able to perform well in an auction. It was noted that some CCPs already made arrangements for a pre-selected set of hedging brokers as a way to have better participation during the hedging phase. This increases the likelihood of neutralizing the risk of the defaulting

CM's portfolio ahead of any auctions. It would be much easier to auction off a properly hedged portfolio with better results.

CCP Global understands the importance of hedging and CCPs usually conduct macro/ delta hedges to reduce the directional risk of the positions. The hedging activities also depend on the IM resources held for the defaulting CM's portfolio, market conditions and potential IM erosion over the period, cost of hedging versus the estimated level of risk reduction, and CCP risk appetite. A vigorous internal governance framework and approval process are also set up by CCPs to ensure that hedging activities are conducted in a robust manner. Depending on the complexity and materiality of the products and portfolios, CCPs have set up the DMGs/ DMCs and seek market experts for hedging advice. CCP Global also recommends participants reach out to CCPs for discussion on the best hedging practices.

5.7 Liquidation/ direct sale

CCPs may employ one or more strategies to close out the portfolios of the defaulted CM, taking into account factors such as product liquidity and market conditions. CCPs may contact their designated default brokers to liquidate the positions in the open market or through bilateral trades. In the 2023 CIDS exercise, CCPs reported that they liquidated defaulted CMs' positions through means in addition to/ other than auctions, i.e., placing on-exchange trades, engaging with authorized liquidation brokers or default brokers for bilateral trades, and entering directly negotiated trades on specific platforms. In cases where external brokers were involved in executing liquidation strategies other than auctions, CCPs generally reported similar response times when compared to other individual default simulation exercises.

5.8 Client Porting

Client porting was tested by 13 individual CCPs in the 2023 CIDS exercise. There were a variety on how CCPs tested porting.

| Test of Client porting | Number of CCPs |
|--|----------------|
| Internal operational tests | 4 |
| External tests with participation of CMs only | 5 |
| External tests with participation of CMs and clients | 4 |

Among the 9 CCPs involving CMs only or with clients, 7 CCPs observed that CMs and clients were acquainted with the porting procedures. However, 2 CCPs flagged that CMs and clients were not familiar with the porting process. 1 of them aimed to educate CMs and clients on the operational elements of the porting process and the other CCP suggested clients should be more aware of the need to have a backup agreement.

Participants commented that the porting process should be more realistically tested, i.e., including the steps for portfolio analysis and decision-making from CMs about accepting the portfolios. In the 2023 CIDS exercise, there was a large variation in how realistic the processes were tested. As there are some obvious challenges in the porting process, it is preferred that porting can be incorporated into the simulation by most CCPs.

Porting was also discussed in the workshop in Madrid. CCP Global agrees this is an important topic and there are persistent challenges hindering the success of porting. The challenges vary across different regimes, but clients should possess a clear understanding of the requirements and processes for successful porting. For instance, they should establish clearing relationships with alternative CMs if they would like to increase the likelihood of their positions being successfully ported.

Regulators should be aware of the regulatory impediments that have made porting challenging in some jurisdictions, particularly, the approval from the accepting CMs who would consider various risks and

regulatory factors before accepting a new client. The provisions of temporary exemptions (i.e., know-your-customer ("KYC"), anti-money laundering ("AML"), and capital requirements) where relevant would address the challenges concerned. Regulatory frameworks should also inform and recognize that certain client clearing models are not adequate for porting, and that some clients may prefer a timely liquidation.

From CCPs' perspectives, the porting process is similar to the BAU process of position transfer but it has to be done in a compressed timeframe. On this topic, CCP Global is working on a paper on how to increase the chance of successful porting.

5.9 Other improvements regarding DMP executions

CCP Global received further suggestions from participants on the below aspects.

Slicing portfolios

CCPs should improve on how the portfolios are sliced. To adopt a more aggressive approach to bidding, CCPs should split the portfolios by family products. This approach would allow participants who held open interest to better join the auction and result in more efficient auctions. Specifically, indices and single stock portfolios should be split.

CCP Global would like to highlight that CCPs generally slice the portfolio based on the product risk profiles (common risk factors), price-ability, and stabilizing effects due to risk-reducing/ offsetting characteristics across products. CCPs also work best to achieve a balance to have a portfolio size that can be taken by any of the participants and avoid too many portfolios for auctions that increase the burden on participants. CCP Global also recommends CMs and clients reach out to CCPs for discussion on this topic.

Changes in risk profile

CCPs should provide higher transparency regarding the change in participants' risk profile to assess the impact of winning such portfolio, i.e., change in profits and losses ("P&L"), change in the initial margin ("IM") and variation margin ("VM") requirements, risk limits, and potential implication for regulatory reporting issues. Additionally, CCPs should provide further metrics regarding the impact on the DF (i.e., loss attribution based on the ranking of bids) or stress test that could change a CM's risk profile at a CCP (i.e., potential margin add-ons due to winning the positions). These details should be available in the examples provided to participants as well.

CCP Global would like to highlight that while CCPs may not provide most of the data directly in the auction, i.e., change in the P&L, change in IM and VM requirements, and risk limits. Existing tools provided by CCPs, such as margin simulation tools and web interfaces for risk controls, are useful for estimating some of the data. Furthermore, participants should be able to maintain their evaluation of how the additional trades may change their risk profiles. For further metrics regarding the impact on the DF, this information will only be available post-auction and CCPs usually engage with participants separately for feedback. Generally, a number of the information requested is covered in the post-mortem discussions with participants in the default simulation exercises.

Confirmation of bids and transparency on auction results

CCPs should communicate when they have received the bids. CCPs should also ensure consistent and detailed feedback on the winning bids and how they were compared with the bids of others to all CMs. Apart from communicating such information to the winning CMs, other CMs should also receive feedback from the CCPs. This can be done with anonymized rankings.

CCP Global agrees that CCPs should confirm they received the bids from participants, but cautions that this is different from the bids accepted, i.e., the conclusion of the auction. This topic was also discussed in the workshop. CCPs generally confirm the winner as soon as practical once the bidding window is closed; however, other non-winning participants will be informed later to allow the auction winner to further liquidate or unwind the positions if needed. CCPs are also cautious about not disclosing the bids of other auction

participants even in anonymized rankings before the auction closes. These practices are designed to protect the auction winners. As such, CCPs generally provide thorough information on how participants perform by comparing their bids with others after the default simulation. This is usually done through bilateral meetings.

Pricing and reference data

CCPs should provide real-time pricing for every product and the intraday P&L per product and portfolio. Improvement in reference data quality was highlighted, i.e., CCPs should keep the product parameters across platforms and reports up-to-date.

CCP Global agrees that CCPs should maintain the reference data quality in the auction portal. While we note that CMs may not have proprietary trading desks and thus limited access to real-time pricing, CCPs generally expect CMs should be able to risk manage the positions of the clients and have such data to fulfil their risk management capacity. CCP Global recommends bilateral communication between CMs and CCPs on this topic.

6. Summary and Future Exercise

Participating CCPs generally provided positive feedback on the 2023 CIDS exercise to test the resilience and robustness of their existing DMP and the preparedness of their market participants. Despite the extensive scale of the 2023 CIDS exercise, the participation rate from the market participants was similar to previous multi-CCP default simulation exercises and individual default simulation exercises conducted by CCPs.

CCP Global appreciates the feedback received from the participating CCPs, CMs, and clients. The information and suggestions have provided valuable insights into the 2023 CIDS exercise and contributed to the planning of the upcoming exercise in 2025, more specifically in the following areas:

- Scenarios and scopes: There have been interests from both CCPs and participants to expand the scope with a theme (e.g., porting, collateral liquidation) and include more commonalities in the simulation, i.e., product classes and consistent market condition assumptions. Participants also expected more CCPs would conduct hedging and porting activities in a live default as the current exercise focused more on the auctions. There was also interest in testing the subsequent steps after the auctions are concluded.
- Scheduling: CCP Global will collaborate with CCPs and engage with market stakeholders on the schedule planning, in particular to seek alignment across existing, particularly mandatory (regulatory), default simulations held by CCPs. CMs also commented that start date alignment would be helpful to make the exercise more realistic.
- More consistent communication with participants: CCP Global would create a more consistent approach to communication for CIDS exercises based on the available information that was shared by CCPs in the 2023 CIDS exercise. This may include contour information for the high-level plan in the early stage and more specific information near the launch of the exercise.
- Participation: CCP Global will continue to work to get more CCPs to participate in the next exercises. Participants also suggested that participation from non-CMs/ clients should be increased.

CCP Global will continue to collaborate with CCPs to identify areas for possible improvements to further enhance the DMP execution, develop best practices, and make progress in the next CIDS exercise.

7. About CCP Global

CCP Global is the global association for CCPs, representing 42 members who operate over 60 individual CCPs across the Americas, EMEA, and the Asia-Pacific region.

CCP Global promotes effective, practical, and appropriate risk management and operational standards for CCPs to ensure the safety and efficiency of the financial markets it represents. CCP Global leads and assesses global regulatory and industry initiatives that concern CCPs to form consensus views, while also actively engaging with regulatory agencies and industry constituents through consultation responses, forum discussions, and position papers.

For more information, please contact the office by e-mail at office@ccp-global.org, or through our website by visiting www.ccp-global.org.

CCP Global Members



8. Appendix 1: CCPs Responded to the Survey

| | | | |
|----|---|----|-------------------------------------|
| 1 | ASX Clear (Futures) | 15 | KDPW_CCP |
| 2 | BME Clearing | 16 | Keler CCP Ltd. |
| 3 | Chicago Mercantile Exchange Inc. | 17 | LCH Ltd |
| 4 | Clearing Corporation of India Ltd | 18 | LCH SA |
| 5 | Dubai Commodities Clearing Corporation | 19 | LME Clear |
| 6 | Eurex Clearing AG | 20 | Minneapolis Grain Exchange, Inc. |
| 7 | Hong Kong Securities Clearing Company Limited | 21 | Muqassa |
| 8 | HKFE Clearing Corporation Limited | 22 | Nasdaq Clearing AB |
| 9 | ICE Clear Credit | 23 | Nodal Clear |
| 10 | ICE Clear US | 24 | Options Clearing Corporation |
| 11 | ICE Clear Europe | 25 | OMIClear, C.C., S.A. |
| 12 | ICE Clear Netherlands | 26 | SEHK Options Clearing House Limited |
| 13 | ICE Clear Singapore | 27 | SGX Derivatives Clearing |
| 14 | Japan Securities Clearing Corporation | | |

9. Appendix 2: Participants Responded to the Survey

The below participants submitted the responses to CCP Global directly. 1 participant requested anonymity. Additional participants' feedback was submitted through CCPs.

1. ABN AMRO Clearing Bank N.V.
2. Barclays Bank PLC/ Barclays Securities Japan Limited
3. Citigroup Inc. (multiple legal entities)
4. DZ Bank AG
5. HSBC Holdings PLC (multiple legal entities)
6. Intesa Sanpaolo S.p.A.
7. J.P. Morgan Chase & Co. (multiple legal entities)
8. Morgan Stanley
9. Optiver VOF
10. Societe Generale Group
11. Swedbank AB
12. TradeStation Securities, Inc.

10. Appendix 3: Participating CCPs

List of participating CCPs in the 2023 CIDS exercise and their local lead regulators and authorities:

| # | CCPs | Local Lead Regulator(s)/ National Competent Authorities ⁴ |
|----|--|---|
| 1 | Athens Exchange Clearing House | Hellenic Capital Market Commission |
| 2 | ASX Clear (Futures) | Reserve Bank of Australia / Australian Securities & Investment Commission |
| 3 | BME Clearing | Comisión Nacional del Mercado de Valores |
| 4 | Cboe Clear Europe | De Nederlandsche Bank |
| 5 | CCP Austria Abwicklungsstelle für Börsengeschäfte GmbH | Austrian Financial Market Authority |
| 6 | Chicago Mercantile Exchange Inc. | CFTC |
| 7 | Clearing Corporation of India Ltd | Reserve Bank of India |
| 8 | Dubai Commodities Clearing Corporation | The Securities and Commodities Authority |
| 9 | Eurex Clearing AG | BaFin/ Deutsche Bundesbank |
| 10 | Euronext Clearing | Banca d'Italia and Consob |
| 11 | Hong Kong Securities Clearing Company Limited | Securities and Futures Commission |
| 12 | HKFE Clearing Corporation Limited | Securities and Futures Commission |
| 13 | ICE Clear Credit | CFTC |
| 14 | ICE Clear US | CFTC |
| 15 | ICE Clear Europe | BoE |
| 16 | ICE Clear Netherlands | De Nederlandsche Bank |
| 17 | ICE Clear Singapore | Monetary Authority of Singapore |
| 18 | Japan Securities Clearing Corporation | Japanese Financial Services Agency |
| 19 | Keler CCP Ltd. | Central Bank of Hungary |
| 20 | KDPW_CCP | Polish Financial Supervision Authority |
| 21 | LCH Ltd | BoE |
| 22 | LCH SA | Autorité de Contrôle Prudentiel et de Résolution/ Autorité des marchés financiers/ Banque de France |
| 23 | LME Clear | BoE |
| 24 | Minneapolis Grain Exchange, Inc. | CFTC |
| 25 | Muqassa | Capital Market Authority |
| 26 | Nasdaq Clearing AB | Swedish Financial Supervisory Authority (Finansinspektionen) |
| 27 | Nodal Clear | CFTC |
| 28 | Options Clearing Corporation | Securities and Exchange Commission |
| 29 | OMIClear, C.C., S.A. | Comissão Do Mercado de Valores Mobiliários |
| 30 | SEHK Options Clearing House Limited | Securities and Futures Commission |
| 31 | SGX Derivatives Clearing | Monetary Authority of Singapore |
| 32 | SKDD-CCP Smart Clear d.d. | Hrvatska agencija za nadzor financijskih usluga |

⁴ ESMA acted as a coordinator and relay of information for several EU CCPs.