

CCP BEST PRACTICES

—

A CCP12 POSITION PAPER



office@ccp12global.com



5F No.55
Yuanmingyuan Rd.
Huangpu District,
Shanghai, China

CCP12

May 2019

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
EXECUTIVE SUMMARY	3
INTRODUCTION	4
CLEARING MEMBERSHIP CRITERIA.....	6
MONITORING OF FINANCIAL RISKS.....	8
FINANCIAL SAFEGUARDS	10
MARGIN METHODOLOGY	13
STRESS TESTING.....	16
DEFAULT MANAGEMENT.....	19
GOVERNANCE	21
ABOUT CCP12.....	23
CCP12 MEMBERS.....	23

EXECUTIVE SUMMARY

Central counterparties' ("CCP" and "CCPs") role in the financial marketplace has been subject to heightened focus since the G20 mandate to centrally clear standardized over-the-counter ("OTC") derivatives. This clearing mandate and other post-crisis regulatory reforms were driven by the robust performance of central clearing during the global financial crisis in 2008. The stability of cleared derivatives markets during this time of stress is unsurprising in light of the long history and demonstrated best practices of the clearing for exchange-traded derivatives ("ETD"). Policy-makers support the use of CCPs' clearing services due to the systemic risk benefits inherent to clearing and should do everything in their power to avoid taking steps that could undermine market participants' use of central clearing. Recognizing this important role in the marketplace, CCP12, the Global Association of Central Counterparties, decided to produce this CCP Best Practices Position Paper to contribute to ongoing discussions in the industry related to key practices surrounding CCPs' operations and risk management. It is absolutely critical that regulators, clearing members ("CM"), and other stakeholders clearly understand core risk management practices followed by CCPs to ensure that the ongoing dialogue on policy and regulatory reforms will contribute to market stability and efficiency.

CCP12 covers the following risk management topics in this paper:

- Membership Criteria;
- Monitoring of Financial Risks;
- Financial Safeguards;
- Margin Methodology;
- Stress Testing;
- Default Management; and
- Governance.

INTRODUCTION

CCPs are an important part of global financial markets that efficiently and effectively mitigate risks. In cooperation with standard setting organizations, regulators, and other stakeholders, CCPs have taken steps over the past decade to enhance their resilience in line with the Principles for Financial Market Infrastructures (“PFMI”) published by the Committee on Payments and Market Infrastructures (“CPMI”)¹ and International Organization of Securities Commissions (“IOSCO”) and local regulatory initiatives. CCP12 has been a valuable forum for CCPs to discuss and share best practices during this process. In an effort to communicate with the broader industry the current CCP best practices, CCP12 has, and will continue to, publish papers on core clearing subjects. Recent noteworthy publications include a white paper published in December 2018, “CCP12 Primer on Initial Margin – A CCP White Paper”² and a report published in February 2019, “Incentives for Central Clearing and the Evolution of OTC Derivatives – A CCP12 Report”³. Continuing this communication and open dialogue amongst key market stakeholders is critical to promoting the resilience of the global financial markets. To further this objective, CCP12 is publishing this paper to elaborate on best practices within central clearing that have been developed and enhanced across the industry and are designed to further bolster the resilience of CCPs and global financial markets as a whole.

This paper is intended to represent a general consensus view on CCP operations and risk management best practices while recognizing that market and jurisdictional specific risk practices exist amongst CCP12 membership. A “one-size-fits all” approach to CCPs is inappropriate and it is critical to recognize that differences rightfully exist due to cleared product types, market structures and characteristics, regulatory and legal environments in different jurisdictions, operational requirements, and other factors. Ultimately, CCPs must retain the appropriate level of discretion, in coordination with their local regulators, to structure their practices in a way that is most appropriate for their markets and participants whilst adhering to risk management principles established by CPMI-IOSCO’s PFMI. In part, the ability of CCPs to provide stability to the financial markets in periods of stress has been predicated on having appropriate risk management discretion within their rulebooks to manage the unique risk management environment

¹ CPMI was formerly known as the Committee on Payments and Settlement Systems, or “CPSS”.

² http://ccp12.org/wp-content/uploads/2018/12/CCP12_White_Paper_Primer_on_Initial_Margin.pdf

³ http://ccp12.org/wp-content/uploads/2019/02/INCENTIVES-FOR-CENTRAL-CLEARING-AND-THE-EVOLUTION-OF-OTC-DERIVATIVES-A-CCP12-REPORT_FINAL.pdf

inherent in different stress events. Therefore, this paper is designed to provide a high-level educational tool to the industry on certain risk management practices of CCPs, noting that variations may exist for the aforementioned reasons.

CLEARING MEMBERSHIP CRITERIA

Clearing membership criteria are an important component of a robust risk management framework. The adherence and review of CMs against these criteria serves as the first line of defense for CCP risk management. CCPs set clear, publicly disclosed, objectively determined membership criteria, which are commensurate with the risks of the products they clear and the participants to whom they provide clearing services. Membership criteria are merit- and risk-based and do not preclude certain classes of entities based on legal person type alone; CCPs should have the discretion to determine what types of entities are permitted to act as CMs so long as such CMs meet a CCP's rigorous standards for membership. The following criteria for membership are reviewed during the initial due diligence process and are required to be met on an ongoing basis.

They include but are not limited to:

- Meeting financial and capital requirements for establishing and continuing participation that are based on the type of legal entity and the types of services that the entity will use at the CCP in an effort to ensure proper CM creditworthiness/liquidity and CM robustness to support both house and client books;
- Holding all necessary regulatory authorizations, licenses, permissions and approvals in its country of origin and any other jurisdiction in which it conducts business;
- Having appropriate internal risk management systems and procedures for house and client clearing businesses, as applicable;
- Having appropriate technical and operational systems and controls;
- Having appropriate disaster recovery and business continuity procedures;
- Being able to meet margin requirements⁴ in a timely manner;
- Being able to comply with CCP rules;
- Having contributed to the default fund, as appropriate; and
- Being in good standing from a financial perspective.

⁴ Please see Margin Methodology section below for more information.

CCPs monitor the creditworthiness and operational reliability of CMs on an initial and ongoing basis, including monitoring daily obligations of CMs relative to historical activity and conducting periodic reviews of CMs' financial standing. CCPs also monitor CMs by requiring submission of annual audited financial statements and other periodic reports and notification of material changes in condition. It is also common practice for CCPs to conduct on-site inspections of CMs' risk management practices, including with respect to clients. CCPs also set objective and transparent procedures for the suspension and orderly exit of CMs that no longer meet their membership criteria.

MONITORING OF FINANCIAL RISKS

CCPs monitor and assess market, credit, and liquidity risks daily. CCP12 has outlined a number of considerations for a CCP in designing a framework to holistically assess market, credit, and liquidity risks. These considerations are intended to yield a framework that assists in the appropriate management of information using risk dashboards that can support risk management decisions taken by a CCP. The considerations identified below are also intended to guide the evaluation of the risks from both house and client exposures of CMs. Below is a breakdown of specific risks with related considerations:

Liquidity Risk

- A CCP evaluates changes in the liquidity profile of collateral and in particular, as it relates to its ability to liquidate its collateral in periods of market stress.
- A CCP evaluates the size of its liquid resources to cover its payment obligations on an intraday and end-of-day basis in a CM default scenario under extreme but plausible market conditions. This is performed per currency and on an aggregate basis to ensure risks are holistically evaluated.
- A CCP employs appropriate collateral acceptance standards for its specific clearing services. A CM's collateral composition is considered when modelling cash flows when assuming that CM's default.

Market Risk

- A CCP evaluates changes in position⁵ and prices throughout the day to assess the change in current exposures brought by CMs by utilizing relevant prices based on reliable sources, which are frequently updated.
- When measuring potential future exposures, a CCP evaluates both normal market conditions, which are typically captured by methodologies for sizing initial margin, and extreme but plausible market conditions which are typically captured by stress testing for sizing mutualized loss resources to cover at least the largest CM's default – also referred to as a “default fund”. A CCP also assesses a CM's potential future exposures considering the risk of concentration of its portfolio.

⁵ Positions would include cleared financial instruments as well collateral provided as cover for initial margin or default fund requirements.

Credit Risk

- A CCP measures and evaluates the financial resilience of CMs to absorb losses and satisfy their obligations, including by monitoring asset quality, leverage, profitability, and access to liquidity. A CCP receives regular financial information from its CMs, which supplements qualitative information it uses to monitor its counterparties.
- A CCP monitors the creditworthiness of its counterparties (e.g., CMs and collateral issuers), including against market indicators, if available, such as stock prices and credit default swap spreads for counterparties, as well as external ratings. A CCP may also monitor news and regulatory actions related to a given counterparty.
- A CCP generally has practices and measures for evaluating the creditworthiness of non-CM counterparties. These could include investment entities, settlement banks, custodians, agents, central securities depositories, and other third-parties. Any counterparties which could materially impact the operations of the CCP should be appropriately monitored.
- A CCP should consider evaluating the uncovered stress loss of a CM relative to the capital of the CM in the context of both house and client positions.⁶

⁶ CCPs may account for hedges when assessing the risk to capital. For example, physical/cash inventory hedged with derivatives.

FINANCIAL SAFEGUARDS

CCPs introduce efficiency and stability to various markets while increasing market transparency and reducing risks. Principle 4 of the PFMI⁷ requires a CCP to maintain financial resources to cover current and potential future exposures, including losses that could result under extreme but plausible market conditions from the largest CM's default, or two CMs in the case of a CCP which has a more complex risk profile or is systematically important in multiple jurisdictions. Managing the risk of CM default(s) through ensuring the adequacy of financial safeguards is one of a CCP's core functions. CCPs at a minimum size financial resources based on local regulatory requirements (e.g., cover one or cover two scenarios) and, in some cases, go beyond regulatory requirements to refine default assumptions to cover additional losses, including of smaller CMs.

Each CCP must have the discretion to determine the appropriate composition of its financial resources (e.g., initial margin, mutualized resources, et cetera), also known as the "default waterfall". Such discretion allows each CCP to determine the composition of its default waterfall based on the products it clears and the related market structure for those products, the market participants the CCP supports, and other relevant factors. However, in practice, most CCPs apply default waterfalls of similar functionality to protect against the losses caused by a CM default. The default waterfall includes multiple layers of funding which create a pre-defined and transparent system of protections, which provides safety for all participants and also creates clear incentives for the CCP and CMs to manage risk. An important part of a CCP determining the appropriate composition of its financial resources is the creation of incentives for market participants to proactively manage their risks. Incentives should support the management of CMs' own risks and their clients, as well as CMs' active participation in the management of another CM's default.

In addition to determining the appropriate composition of its financial resources a CCP also must be able to determine whether to aggregate or disaggregate (also, sometimes referred to as "siloes" clearing services) products in specific default waterfalls. One of the key benefits of the central clearing model is the ability to effectively manage risks across different products by optimizing the benefits of the diversification of risks, including with respect to the types of products cleared and the participants clearing

⁷ <https://www.bis.org/cpmi/publ/d101a.pdf> at page 36

them. This not only results in the risk management benefit of allowing market participants to more holistically manage their risks on portfolio-level basis, but also provides capital efficiencies to market participants. Any decision to silo the clearing of products in distinct default waterfalls must be holistically evaluated by a CCP, subject to the appropriate regulatory oversight. A CCP is best suited to understand the risk characteristics of the products it clears and the collective risks it manages, as well as the implications of having a siloed default waterfall. CCPs design financial safeguards in a manner that accounts for newly introduced products for clearing. New products should not necessarily be deemed risky on the basis of being new alone; that is not a reason in itself to clear a new product in a siloed default waterfall. Even some of the most liquid products cleared today took time to build liquidity and open interest. It would be highly inefficient to silo a new product solely because it has no open interest, particularly since products with little or no open interest poses little risk to a CCP or its CMs.

Below is a high-level overview of a generally standard default waterfall design:

- The first, second, and third layers of default waterfall consist of the defaulter's funded resources which include, and are exhausted in the following order: (i) the defaulter's initial margin; (ii) the defaulter's contribution to the mutualized default fund⁸; and (iii) any additional resources available to the CCP from the defaulted CM.
- If the default losses exceed the defaulter's funded resources, then it comes to the fourth layer of the default waterfall, a part of the CCP's own capital (i.e., "CCP skin in the game" or "SITG"). Contributing a meaningful amount of capital to the default waterfall prior to the non-defaulting CMs is one way that CCPs may demonstrate their commitment to risk management.
- In the event default losses exceed the funded resources above, the next layer is the mutualized default fund contributions of non-defaulting CMs that are designed to cover tail risks. It is a fundamental benefit of central clearing to mutualize such remaining losses among non-defaulting CMs as it reduces the impact of a counterparty default, under extreme but plausible market conditions, on any single individual counterparty and mitigates systemic risk.
- Beyond the mutualized default fund, CCPs may call for unfunded contributions from non-defaulting CMs (typically referred to as "assessments" or "cash calls") and/or contribute additional CCP capital to cover any remaining losses. Beyond that, CCPs may also take extraordinary measures stipulated in a CCP's rulebook consistent with international standards and related local

⁸ May also be known as Reserve Fund, Guarantee Fund, Clearing Fund, or Security Deposits.

regulatory requirements to maintain continuity of its clearing service; such measures may vary across CCPs.

Peripheral Note: CCP Skin-In-The-Game

Generally, CCP SITG levels are publicly reported on CCPs' websites and within their quantitative PFMI disclosures. It is important to remember in the context of CCP SITG that a CCP's franchise value is directly tied to the provision of its risk management practices and thus, it is inherently incentivized to effectively manage the risk that is brought to it by its CMs. CCPs manage the market risk brought to them and do not generate market risk in their ordinary activities. CCP SITG, and the very position it sits in the default waterfall (i.e., after the defaulter's contribution but prior to non-defaulters) provides additional, quantifiable evidence that CMs' and CCPs' interests are aligned in mitigating risk in a CM default event, further reassuring markets that a CCP is inherently committed to supporting financial stability, while acting in the best interests of its CMs and market participants as a whole.

The appropriate sizing of CCP SITG needs to balance the goal of aligning CCP and CM interests and also ensuring proper incentives for CMs to manage the risks they bring to the CCP, as well as participate in the default management process. As such, the amount of funding required from CMs is based on the risk they bring to the CCP. Likewise, the amount of funding required from CCPs should consider their market risk neutral position, meaning their contributions serve a different purpose than the contributions of CMs. CCP SITG should be determined by the CCP, considering the characteristics of the products it clears and the market participants it serves, as well the regulatory framework under which it operates. There is no "one-size-fits-all" approach to CCP SITG and it needs to be determined based on the totality of circumstances for that particular CCP. CCP SITG must be fit for purpose and neither CCPs nor international standards contemplate it being a significant loss absorbing resource. Therefore, the size of CCP SITG should not undermine the incentives for market participants to manage the risk they bring to the CCP. If CCP SITG is overly large, it will subsidize the risk taking of market participants, creating moral hazard concerns and distorting the fundamental CCP clearing model. This will weaken market participants' incentives to participate in the default management process, as they will consider CCP SITG and the potential for their own mutualization when constructing bids in a default management auction.

MARGIN METHODOLOGY

Initial margin is a core tool in the risk framework for CCPs. Due to the importance of this principle CCP12 has released a White Paper entitled, “CCP12 Primer on Initial Margin – A CCP White Paper”⁹; it is highly recommended that any interested audience review that document as a supplement to this section.

CCPs require their CMs to deposit initial margin to protect against future risk exposures in the event a CM defaults on its obligations. It is important that the initial margin requirements a CCP imposes are adequate and appropriate for the markets cleared as it covers counterparty credit risk arising from the potential default of a CCP’s CMs.

Initial Margin Design

As prescribed in the PFMI, initial margin models¹⁰ may comprise a number of components which all are designed to fit the requirements of an overall system which ensures robust credit and liquidity risk control. These components frequently include a model, such as value-at-risk or other statistically risk-based estimates, designed to capture the potential price movements and other relevant factors of cleared products. Some factors which influence cleared product risk profile include the liquidity of the market, the market venue (e.g., OTC or ETD), whether the product is standardized or bespoke, and various other factors. Furthermore, it should be highlighted that since market venues (e.g., OTC and ETD) by their very nature are not identical, due in some part to the aforementioned factors, the initial margin design should account for these variances. It is important to consider any and, where practical, all influential factors when measuring the risk level to ensure prudent risk management by covering risks such as liquidity, concentration, de-correlation, wrong-way risk, and idiosyncratic risks where appropriate. CCPs typically consider initial margin models holistically when they set their risk parameters (e.g., confidence levels, margin period of risk (“MPOR”), initial margin scenarios, look back periods, aggregation algorithms, et cetera).

⁹ http://ccp12.org/wp-content/uploads/2018/12/CCP12_White_Paper_Primer_on_Initial_Margin.pdf

¹⁰ Such models should be independently validated annually.

Portfolio Initial Margining and Restrictions on Offsets

A CCP that uses a portfolio approach to calculate initial margins should identify, document and apply clear criteria when determining which products are correlated and, therefore, potentially eligible for portfolio initial margining. This includes criteria to evaluate whether portfolios may be reliably liquidated and risk-managed on a consolidated basis in the event of a CM default.

In order to provide risk offsets, the significance and reliability of products correlation should be demonstrated on an economic and statistical basis. CCPs use a risk-based approach when establishing, reviewing and assessing margin offsets. Specifically, CCPs avoid relying on minimum correlation rather they incorporate economic basis as a consideration and also utilize back-testing to ensure margin offsets are quantitatively appropriate. Portfolio initial margining provides a much more accurate estimate of the likely worst-case loss (to some defined statistical confidence level) of the overall portfolio.

Procyclicality

Depending on the product they clear, CCPs adopt measures to prevent and control possible procyclical effects of their risk management practices to the extent practicable and prudent in light of CCPs' soundness and financial stability. To address procyclicality concerns, CCPs incorporate elements into their initial margin methodology that mitigate the need and likelihood of large or unreasonable changes in initial margin levels due to volatility. To accomplish this CCPs can: (i) utilize floors on the initial margin rate, amount, or risk factors; (ii) install a buffer which is adjusted lower as volatility increases; (iii) include data from stressed market episodes in the initial margin methodology; (iv) increase the look-back period; (v) and/or utilize other mitigation techniques.

Frequency of Margin Calls

CCPs measure exposures at least once a day and have the operational ability to measure their exposures on an intraday basis. Intraday margin calls are a key component of ensuring CMs mitigate CCP risks surrounding liquidity and this coupled with strong credit controls form a robust framework for resilience. In general, there are three types of intraday margin calls, namely:

- A routine intraday margin call at a set time;
- Price-driven triggers to call at predefined, transparent threshold; and
- A selective margin call, which requires the deposit of additional collateral by one or more CMs, whose variation margin losses or initial margin deficits have reached a certain threshold.

Concentration, Liquidity and Other Risks

Many CCPs also utilize additional techniques to capture greater market moves resulting from large or relatively large positions, illiquid products, and other further concerns not initially captured under base level initial margin calculations. These add-ons are generally referred to as concentration or liquidity margin. Initial margin add-ons are very important to capture risks that might not be incorporated into the core initial margin model. These risks are often portfolio and/or CM specific and can in some cases be more challenging to model. Concentration charges and liquidity add-ons also require detailed reviews of actual and hypothetical portfolios, in order to calibrate the add-ons for a variety of portfolio types (e.g., hedged, directional, spreaders, et cetera). Other add-ons may include credit risk, sovereign risk, wrong-way risk, jump-to-default, basis risk, delivery risk, fixing risk, and various others as appropriate. These add-ons may also be utilized for adjustment of particular products where material open interest is ongoing but liquidity has diminished as a way to keep the market alive instead of discontinuing clearing services for that product. CCPs consider whether to apply add-ons, and which add-ons, when calculating the appropriate amount of initial margin as this supports a strong overall credit control mechanism.

Back-Testing

CCPs assess their initial margin coverage by performing an ex-poste comparison of observed profit and loss moves of a given portfolio against the initial margin collected. Such back-testing analysis is performed each day in order to evaluate whether there are any testing exceptions to initial margin coverage. Coverage is evaluated on current positions for financial instruments for all CMs.

Peripheral Note: Approaches of Initial Margin Model

The following are differing and standardized approaches that may be employed by a CCP to determine initial margin requirements, based on characteristics of the products cleared and markets served by the CCP: Historical Simulation, Standard Portfolio Analysis of Risk, Filtered Historical Simulations, Monte Carlo Simulation, et cetera. For more details on these different approaches it is suggested one review the “CCP12 Primer on Initial Margin – A CCP White Paper”.¹¹

¹¹ http://ccp12.org/wp-content/uploads/2018/12/CCP12_White_Paper_Primer_on_Initial_Margin.pdf

STRESS TESTING

CCPs should carry out distinct stress testing for credit risk and liquidity risk to evaluate the impacts of extreme but plausible market conditions. The purpose of conducting such testing is to adequately gauge the appropriate amount of required financial resources for credit and liquidity exposures and adjust such resources as required. CCPs must regularly assess the adequacy of their financial resources to cover future stress events, so that their resources are sufficient to cover the default of at least one CM and its affiliates that would potentially cause the largest aggregate credit exposure in extreme but plausible market conditions; CCPs with more complex risk profiles or that are systematically important in multiple jurisdictions should expand this coverage to include the default of two CMs and their affiliates. These assessments are reported internally and provide a feedback mechanism for prudent risk management decision-making. Stress testing frameworks include an effective and comprehensive governance structure at the CCP supporting consistent oversight and monitoring of the stress testing process, including generation and evaluation of scenarios and monitoring of related results.

When designing the stress testing framework and performing stress tests, CCPs consider the unique characteristics of the CCP itself, including specific characteristics and breadth of products for which it provides clearing to determine the appropriate methodologies, parameters, and assumptions. Further, a CCP sizes and evaluates the appropriateness of its resources to address credit and liquidity resources separately. Among other factors, a CCP's stress testing:

- Incorporates a varied range of relevant scenarios;
- Captures an appropriate stressed period of risk ("SPOR") and confidence interval for the products cleared;
- Captures at least end-of-day prices and positions and may also include, peak historical price volatility and hypothetical price moves;
- With respect to liquidity, considers relationships a CCP may have with third-parties; and
- Occurs daily, with more comprehensive analysis monthly and is subject to an independent validation at least annually.

Scenario Generation

One of the most important factors in designing and performing stress tests is appropriate scenario coverage. Typical CCP stress testing scenarios capture a combination of historical, hypothetical, and/or theoretical stress events. A CCP should consider the effect of a wide range of relevant stress testing scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.

Historical scenario generation is based on historical price movements observed during the SPOR over stressful market conditions that may be appropriately adjusted to account for current market conditions (e.g., change in interest rate regime). CCPs should have a robust process for selecting which historical scenario dates, relevant to the individual CCP and the markets it clears, to include in the historical scenario set. The historical scenario set used by CCPs will differ across CCPs as historical market moves over an event are typically only relevant to one or a few CCPs in a similar region and/or that clear similar products and, the process for selecting scenarios will be different. Some examples of historical stress periods that may be relevant to some CCPs could include scenarios based on the following events:

- 2011 European Union Credit Crisis;
- 2008 Global Financial Crisis;
- 2007 Inception of Credit Crunch;
- 2001 September 11th Terrorism Event; and
- 2000 Dot Com Collapse.

Hypothetical and theoretical stress testing scenarios are generated to capture extreme but plausible market events which have not necessarily been observed in the past, but could occur in the future. Theoretical scenarios are usually model driven while hypothetical scenarios are usually workshop or story board driven. These scenarios need to be relevant to the current market conditions with embedded economic rationale. Hypothetical and theoretical stress events are commonly based on risk factors. The following are examples of risk factors that may be considered, which similar to historical scenarios, are largely dependent on the products cleared:

- Sector shocks for corporate equities or bonds;
- Correlation changes whereby techniques are used to increase or decrease the overall correlation among products cleared;

- Implied volatility level and slope changes;
- Changes in interest rate swap and foreign exchange rate levels, curve and slope; and
- Idiosyncratic events, such as jump-to-default events, large single stock price movements, and currency de-pegging events.

Scenarios may capture a combination of the above as appropriate depending on the risk profile(s) of the market participants the CCPs clears.

Peripheral Note: Reverse Stress Testing

The adequacy of a CCP's stress testing can be tested by evaluating the plausibility of scenarios and circumstances that would exhaust the prefunded resources to cover the applicable CM defaults (known as "Reverse Stress Testing"). Reverse Stress Testing is a key input for reviewing the appropriateness of a CCP's stress testing framework. CCP's can perform Reverse Stress Testing in a number of ways, which may comprise: (i) including extreme but implausible scenarios by varying the price, volatility, correlation, tenor and other market risk variables; (ii) increasing the number of hypothetically defaulting CMs; (iii) adjusting the SPOR; and (iv) considering liquidity resources are unable to be utilized. These types of tests can inform the CCP about the resiliency of its resources beyond its normal stress testing scenarios.

DEFAULT MANAGEMENT

A CCP establishes default management procedures (“DMP”) which are designed to support the resilience of the CCP, and are tailored for the markets and products it clears. While a CCP maintains defined policies and procedures for managing a CM’s default that are regularly tested for appropriateness and preparedness of the CCP and its markets participants, a CCP must have the necessary flexibility to manage a default considering its unique circumstances. A CCP must be able to act swiftly to manage a CM’s default event and be able to react to the event in a manner that best supports the stability of the broader financial system. As such a CCP must be able to structure the auction and/or liquidation, including a hedging process, if applicable, given the circumstances of the default. Therefore, prescriptive requirements for a CCP to address a CM’s default are inappropriate and could in fact undermine the CCP’s ability to effectively mitigate the risk of the event. This could raise systemic risk concerns, depending on the circumstances surrounding the default.

More specifically, CCPs should consider the unique risks of the products it clears, including the differences between OTC markets and ETD markets, as well as account for liquidity and market depth and the risk profile of market participants, when designing and evaluating the appropriate DMP for a product. The default management assumptions underpinning a specific CCP’s DMP should be routinely validated and tested within a CCP’s governance framework.

Examples of how a given CCP’s DMP could vary include, but are not limited to:

- For an ETD market, a CCP may first act to hedge the portfolio and then consider auctioning and/or liquidating positions itself or together with brokers/advisors;
- For a cleared OTC market, a CCP could employ external traders, seconded from non-defaulting members, to assist with hedging, as applicable, and the auction process;
- Independent sales; and
- Other forms of auctions (e.g., winner-take-all, Dutch style, et cetera).

For products or markets where auctions are expected to be utilized, CCPs should seek to have an appropriate number of participants, which are well suited to participate in the auction for the given portfolio. For cleared OTC markets, a CCP’s clearing membership requirements typically mandate that a CM

participates in the default management auction.¹² For markets which are highly liquid, CCPs should have access to market participants that are available to participate in an auction or assist in the liquidation of the positions. The entities may be direct CMs or clients of CMs which are endorsed by the CMs to participate in the default management process. Another alternative in the case for ETD and cash markets would be for the CCP to liquidate these products by itself due to the liquid nature of the products.

Additionally, the following guiding principles are designed to support an effective DMP:

- CCPs have both the risk management expertise and technology to support and manage the DMP under extreme but plausible market conditions;
- CCPs regularly conduct “fire drills” with market participants to thoroughly test their DMPs, including hedging, auction, and liquidation practices, as well as internal systems used to execute the DMP;
- CCPs’ calculation of initial margin should include an appropriate MPOR, as well as liquidity, concentration, and other add-on considerations, to support an effective DMP¹³;
- CCPs need to have a robust governance structure and provide sufficient transparency with respect to their DMPs;
- CCPs need to support the appropriate incentives for market participants to actively participate in their DMPs, such as maintaining sufficiently sized mutualized default fund resources;¹⁴ and
- CCPs may also provide incentives to participate in their DMPs by utilizing mandatory bidding with “juniorization” of the default fund contributions of CMs that fail to bid or bid poorly.

Peripheral Note: CCP Harmonization Efforts in Auctions

To the extent allowed by CCP rules and regulations, information and data sent to participants on the DMP should be provided in standardized formats and terminology which are vetted well in advance and tested as part of fire drills. The mediums can be standardized flat files or electronic APIs, provided this is technologically and otherwise viable for all participants.

¹² The CM may nominate another agent to handle this responsibly. In such case, the nominated agent must be assessed.

¹³ Please see Margin Methodology section above for more information.

¹⁴ Please see Financial Safeguards section above for more information.

GOVERNANCE

A key component of best practices for CCPs include their governance structures. A CCP designs its governance structure where the CCP's board of directors provides effective ongoing oversight and scrutiny of the CCP's management. This is intended to ensure that key risk matters are adequately escalated in a timely manner to decision-makers, which have the proper authority, oversight, and competency to make decisions that support financial stability. A CCP's governance structure must afford a CCP's management the proper authority to act effectively and efficiently to manage the CCP's risks on a day-to-day basis under the variety of market conditions, which may present themselves in light of the products cleared and market participants served.

The objective of a CCP's governance structure should be to prioritize the safety and efficiency of the CCP's markets and support the stability of the broader financial system, while considering the legitimate risk management interests of its CMs and their customers.

Board of Directors

A CCP's board of directors is ultimately responsible for establishing the CCP's risk tolerance, setting and maintaining accountability for the strategic direction of the CCP's risk management practices through the approval of the risk management framework, and decisions with a significant impact on the risk profile of the CCP. A CCP's board of directors should serve as a check and balance to the CCP's management. Therefore, it is important for CCPs to have directors that can exercise objective judgment, have sufficient expertise, and the necessary availability to oversee the safe and efficient functioning of the CCP.

Risk Committee

CCPs have independent risk committees, or entities similar in function such as working groups or advisory forums, consisting of industry experts and/or subsets of the board of directors that advise a CCP on certain risk-related matters affecting CCP risk management. Risk committees, or similar functions, are an important feature to allow for market participant input that may affect decisions made by the CCP. In particular, the risk management input provided by these bodies is independent from the management team of the CCP and, therefore, provides another layer of oversight, which is helpful in informing the CCP's risk management practices.

It is also important that during any consultation with a CCP's independent risk committee, or similar function, members provide risk-based feedback and focus on supporting the financial stability of the market. CCPs must carefully design their independent risk committees, or similar functions, to ensure that its members do not provide commercially focused feedback or represent the best interests of their employer rather than the market as a whole. As a general matter, a CCP's risk management practices and decisions should not be inappropriately influenced by the commercial views of its market participants. While it is important for a CCP to have an open line of communication with its market participants, allowing for market participants' commercial feedback to influence how a CCP manages risk, including its parameterization of margin models, composition of financial resources, and stress testing scenarios, among other things, could undermine financial stability. The role of a CCP is to manage the risk brought to it by its market participants and in order to effectively fulfil this role, commercially driven market participant views cannot influence a CCP's risk management practices. This is in part why a CCP's risk committee, or similar function, performs such an important role for a CCP and its market participants because it acts as mechanism for market participants to provide risk-based feedback, which supports the stability of the broader financial system, the ultimate objective of a CCP.

Peripheral Note: Transparency

Another important practice CCPs embrace is the principle of transparency. In practice, CCPs provide a tremendous amount of transparency through publicly available quantitative and qualitative PFMI disclosures, rulebooks, circulars, and website resources, as well as risk committees, various discussion venues, conferences, one-on-one meetings with CMOs, et cetera. In fact, CCPs are of the view that they generally demonstrate the most transparency of any participant in the clearing chain. However, CCPs need to strike the right balance when determining the appropriate level of information sharing and transparency. They must disclose necessary relevant information to stakeholders without causing adverse market and operational effects. CCPs should continue to provide the appropriate level of transparency and encourage other stakeholders to follow this principle as well.

ABOUT CCP12

CCP12 is a global association of 36 members who operate more than 50 individual CCPs globally across Europe/Middle East/Africa (EMEA), the Americas, and the Asia-Pacific (APAC) regions. CCP12 aims to promote effective, practical and appropriate risk management and operational standards for CCPs to ensure the safety and efficiency of the financial markets it represents. CCP12 leads and assesses global regulatory and industry initiatives that concern CCPs to form consensus views of its members and seeks to actively engage with regulatory agencies and industry constituents through consultation responses, forum discussions and position papers.

For further details please email office@ccp12global.com or visit www.ccp12.org.

CCP12 MEMBERS

