



The Clearing House Banking Brief White Paper Series

Central Counterparties: Recommendations to Promote Financial Stability and Resilience

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This document was prepared under the auspices of The Clearing House Association L.L.C. (TCH) and its CCP Working Group. The CCP Working group is comprised of representatives from TCH's 18 owner banks and several other financial institutions who are active market participants. The group has worked together to identify the critical issues and develop the proposed solutions described in this white paper over a six month period commencing in the spring of 2012. TCH has also received feedback on this document from former regulators, academics, consultants, and other trade associations. Although the collective input from these non-TCH sources contributed to a more robust consensus document, the final white paper represents the views of TCH alone.

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1. INTRODUCTION

Central counterparties (CCPs) play a key role, directly and indirectly, in the promotion of financial stability. With increasing focus on the use of CCPs, and an increasing number of CCPs, the importance of this contribution will only increase. Concomitantly, if not carefully structured, CCPs can, under conditions of extreme market stress, impose significant additional strains on capital and liquidity, reinforcing destabilizing forces in stressed markets.

The CPSS-IOSCO *Principles for Financial Market Infrastructures* is an important starting point in addressing the risks associated with financial market infrastructures.¹ The subsequent CPSS-IOSCO Consultative Report on *Recovery and Resolution of Financial Market Infrastructures*,² which is expected to be finalized in 2013, expands on the resolution and recovery requirements described in CPSS-IOSCO Principle 3, “Framework for the Comprehensive Management of Risk”, and addresses the application to financial market infrastructures of the Financial Stability Board’s *Key Attributes of Effective Resolution Regimes for Financial Institutions* in a manner that is consistent with the principles of supervision and oversight that apply to them.³ However, as acknowledged in the CPSS-IOSCO Principles, CCPs play a unique role in the market and in reducing systemic risk. This paper addresses issues specific to CCPs and makes nine recommendations regarding their structure, operation and regulation. In many instances, these recommendations are extensions of the CPSS-IOSCO Principles.

CCP clearing members (CMs) appropriately provide key elements of the credit support infrastructure that underpins the financial integrity of CCPs. A number of CCP rules and related provisions have the potential, however, to result in the allocation to CMs of potentially unlimited CCP losses in excess of funded and committed financial resources. Many of the largest CMs, directly and through their affiliates, are also key providers of liquidity and credit intermediation, both to the financial sector and to the real economy. As a result, the allocation of unanticipated excess, and potentially unlimited, losses incurred by a CCP during periods of market stress could rapidly transform CMs from a source of financial stability to a vector for the transmission of systemic risk.

The Clearing House Association L.L.C. is pleased to provide this paper on private sector steps and supervisory principles designed to avoid arrangements that, under adverse circumstances, could frustrate shared objectives for the promotion of financial stability and resilience during periods of market stress.

¹ Committee on Payment and Settlement Systems (CPSS), Bank for International Settlement, and Technical Committee of the International Organization of Securities Commissions, *Principles for Financial Market Infrastructures*, April 2012 (CPSS-IOSCO Principles).

² CPSS, Board of the International Organization of Securities Commissions, *Recovery and Resolution of Financial Market Infrastructures, Consultative Report*, July 2012.

³ Financial Stability Board, *Key Attributes of Effective Resolution Regimes for Financial Institutions*, October 2011.

2. EXECUTIVE SUMMARY

1. **CM liability must be limited, ascertainable and manageable.** Certain loss mutualization and default management arrangements used by CCPs, such as uncapped assessment authority and the forced allocation or invoicing back of defaulted portfolios, can expose non-defaulting CMs to unpredictable and potentially unlimited liability as part of the loss mutualization framework. These arrangements present potentially significant risk management concerns and can undermine market confidence in CMs, even absent market stress or the realization of mutualization losses. In times of stress, however, they create potential vectors for the transmission of systemic risk.

Recommendation: CCP rules and related supervisory guidance should require clear limits on the allocation of losses to non-defaulting CMs. Rights of assessment, default management procedures and other rules that could have the effect of imposing unlimited liability on non-defaulting CMs should be prohibited. CCP resolution and recovery should be subject to clear, *ex ante* rules that address end-of-waterfall scenarios and preserve limitations on CM liability.

2. **CCPs must have appropriate “skin in the game.”** Although some CCPs contribute to their guaranty fund, CCP exposure is generally quite limited and capped at the amount of the CCP’s funded or dedicated contribution. In a number of cases, CCPs only participate in the default waterfall after non-defaulting CMs have been forced to absorb significant losses.

Recommendation: To provide CCPs with appropriate incentives for the oversight and management of risk, CCPs should be required to put meaningful levels of their own capital at risk in the default waterfall and participate in the waterfall before losses are mutualized among non-defaulting CMs. CCP risk management should be governed by a committee comprised of persons with strong incentives to effectively manage the CCP’s risk and to do so in ways that promote financial stability.

3. **Initial margin should be limited to cash and high-quality, liquid instruments.** The nature of the collateral accepted by a CCP as initial margin affects the risk that the CCP and, indirectly, non-defaulting CMs may face upon a CM’s default. There has been a trend among certain CCPs to broaden the range of acceptable initial margin and the percentage that may be comprised of less liquid forms of collateral. This trend could result in increased risk throughout the market as clearing mandates become effective.

Recommendation: Initial margin collateral should be limited to that which a systemically important CCP could pledge to a central bank under an ordinary-course liquidity facility and should consist primarily of cash and highly-rated sovereign debt.

4. **CM collateral should be subject to investment and custodial risk protections.** Little attention has been paid to the protection of CM “house” collateral and guaranty fund contributions held by CCPs, which may be exposed to investment risk and custodial risk under current CCP practices.

Recommendation: CCPs should seek to minimize risk and protect principal when investing CM collateral and should be limited in rehypothecating, or otherwise impairing CMs’ rights in, posted collateral.

5. **Potentially unrealistic liquidity demands must be addressed.** Recent regulatory priorities, such as clearing mandates and limits on counterparty exposures, have the potential to create aggregate CCP liquidity demands that the market, as a whole, may not be able to satisfy. As CCP regulatory and market structures continue to evolve, the net effect of these liquidity demands must be considered.

Recommendation: CCPs should be required to obtain liquidity from diversified sources, including, primarily, sources other than CMs and their affiliates, and should be severely limited in their ability to rely on less liquid forms of collateral for purposes of obtaining liquidity. Because there is a limited range of CCP liquidity providers, and because CMs and their affiliates face ‘wrong-way’ risk when undertaking to act as committed liquidity providers to CCPs, we encourage consideration of a framework that could enable CCPs to access expanded liquidity sources under appropriate circumstances and conditions.

6. **Liquidity demands on CMs from intraday margin calls must be coordinated.** Clearing mandates and the prospective increase in derivatives CCPs raise the possibility of multiple CCPs for the same product. In any such fragmented market, CMs could lose the benefit of offsetting intraday exposures and may therefore face significantly increased intraday margin calls.

Recommendation: A variety of measures should be discussed more fully by CCPs, CMs and supervisors in an effort to agree on practical and effective industry-wide solutions to maximize netting of risk and better manage unnecessarily large intraday liquidity demands.

7. **CCP emergency authority must effectively balance competing interests.** During emergencies or times of market stress, CCPs may reserve the ability to alter their rules or standard practices without customary CM or regulatory review. While necessary, CCP emergency decision making must consider systemic risks posed by *ad hoc* actions to shift losses onto non-defaulting CMs in an effort to preserve the CCP.

Recommendation: CCPs should seek to minimize the need for emergency rule changes by creating rules that address severe stress scenarios. Permitted emergency rule changes should be clearly prescribed and should exclude changes that would alter the loss expectations of non-defaulting CM liability.

8. **Enhanced CCP transparency is critical to effective CM risk management.** CCP disclosure is typically insufficient to enable CMs to determine the resiliency of the CCP, to replicate the CCP’s risk-management and loss-allocation models or, as a result, to manage their resulting risk exposure to the CCP.

Recommendation: CCP disclosure should be sufficient to enable CMs to accurately monitor the safety and soundness of the CCP and to model the costs and risks associated with their membership in the CCP and changes to their individual portfolios.

9. **Losses within a product type should be silo’d to mitigate the risk of contagion.** Many CCPs clear multiple product types. Certain CCP practices and structures may extend losses in one product type to CMs or customers participating in other product types.

Recommendation: CCPs should be required to implement legally enforceable structures that contain the losses within a particular clearing service upon the insolvency of the service or the CCP as a whole.

3. DISCUSSION

1. **Clearing Member Liability Must Have Reasonably Ascertainable Limits with a Risk Profile that Can Be Managed Like Other Credit Risks**

CCPs currently utilize several layers of financial safeguards to cover losses resulting from the default of one or more clearing members. Following application of a defaulting CM's initial margin, guaranty fund contribution, and any other CCP credit support, including, in some cases, a portion of the CCP's own assets, CCPs generally mutualize remaining losses through a formula-based application of pre-funded guaranty fund assets contributed by non-defaulting CMs. Some CCPs have an additional ability to assess non-defaulting CMs for losses in excess of their funded guaranty fund contributions.

These credit support and loss mutualization arrangements play a key role in mitigating bilateral credit risk and facilitating market liquidity. However, certain loss mutualization and default management arrangements can raise concerns in circumstances in which they expose non-defaulting members to unpredictable and, in circumstances of extreme market stress, potentially unlimited, liability. In particular, a CCP's ability to assess non-defaulting CMs in amounts that are uncapped or are otherwise uncertain in scope, and a CCP's ability to require non-defaulting CMs to take allocations of defaulted portfolios raise these concerns. Similarly, the absence of clear, *ex ante* rules governing CCP recovery (including recapitalization arrangements) and resolution in the event that the safeguards provided by the default waterfall are exhausted could expose non-defaulting CMs to additional, and potentially unlimited, liability.

Exposure to any form of uncapped loss mutualization liability may discourage firms from acting as CMs, or make participation by CMs subject to counterparty credit exposure limits impossible. The resulting degree of CM concentration would be highly undesirable from both financial stability and competition perspectives. Further, exposure of CMs to losses that are unascertainable in advance creates a risk for CMs that is unmanageable. The resulting uncertainty has the potential to undermine market confidence in CMs, even absent market stress or the realization of mutualization losses. Such exposures also create potential vectors for the transmission of risk beyond the CCP and into the broader market.

Key Concerns

The potential for unlimited loss mutualization exposes non-defaulting CMs to losses that they cannot anticipate; CMs lack the means and incentives to control the risk to which they are exposed.

CMs are subject to internal, as well as to direct and indirect public sector, mandates to monitor, measure and manage the credit and other risks to which they are subject. Many CMs are also directly and indirectly subject to single counterparty credit limits. These risk management mandates inform capital adequacy and underpin, at its basic level, the global framework for financial stability. In order for non-defaulting CMs to manage their CCP credit risk meaningfully, they must have the ability to anticipate their potential risk exposure and the means and incentives to manage that exposure.

CMs generally cannot accomplish either objective in circumstances in which the CCP's rules governing mutualization of loss or related default management processes present the possibility for uncapped exposures. The potential for uncertain and potentially uncapped liability can arise, by way of example, where:

- A CCP's assessment authority against non-defaulting CMs in a single default or over a series of defaults during a given period is, by its terms, unlimited in amount;
- CCP rules governing the withdrawal of CMs delay withdrawal, thereby exposing non-defaulting CMs to liability for additional CM defaults during the delay and preventing CMs from being able to cap their liabilities for subsequent defaults;
- A CCP's rules and governing regulations do not restrict its ability to modify its loss mutualization, assessment and default management rules in respects that could retroactively increase non-defaulting CMs' exposure to loss;
- A CCP's rules permit the CCP, following a failed or incomplete auction of a defaulted portfolio, to require non-defaulting CMs to accept the allocation of the defaulted portfolio (or portions of it) and incur the potential unrealized losses associated with the allocated positions or to invoice the shortfall on defaulting CM positions to non-defaulting CMs;⁴ and
- A CCP has discretion under its rules when auctioning the portfolio of a defaulted CM to determine the final auction price or establish a reserve price, which may be off-market, thereby imposing immediate and unexpected losses on non-defaulting CMs.

Uncapped liability for non-defaulting CMs exacerbates the risk of chain-reaction failures that could amplify systemic risks.

Rather than acting as a firewall and protecting non-defaulting CMs from the defaults of fellow CMs, the potentially unlimited liability of non-defaulting CMs arising from assessments that are explicitly or implicitly uncapped and forced allocations of defaulted portfolios, in particular, or other provisions of similar consequence, amplifies the losses that non-defaulting CMs must bear, particularly in low probability scenarios in which multiple CMs default. As each subsequent CM defaults, the loss that must be borne increases while the number of CMs who must bear the loss decreases, thereby increasing the maximum potential loss per non-defaulting CM.

Because CMs are required to provide credit support for the CCP, there exists an unexplored assumption that the greater the level of credit support, the better. In cases of extreme market stress, however, an important question exists as to whether the distribution of excess losses

⁴ Consideration should also be given to the risk of increased liability posed by CMs or CCPs who outsource their default-management responsibilities to unaffiliated third parties who do not have a financial incentive sufficient to ensure their active participation in the default-management process during periods of market stress. This risk is particularly acute where the third-party provider may have significant exposures of its own (or its affiliates), or their fiduciary clients, to manage in a crisis.

broadly across the market would be preferable, on the basis of systemic implications, to the concentration of those risks across a small cross section of financial institutions who also, directly and indirectly, supply credit to the markets and the real economy.

The ability of non-defaulting CMs to cap their liability by withdrawing from a CCP is often limited.

The only avenue available to a non-defaulting CM to cap its membership-related liability may be to withdraw from the CCP. However, CCP rules frequently make immediate or reasonably prompt withdrawal impossible. For instance, CCPs may impose extended notice periods for withdrawal and may have discretion to delay the exit of a CM. Under CCP rules, a withdrawing CM's liability could potentially increase during the period prior to withdrawal in circumstances involving cascading CM failures.

The ability of CCPs to alter their rules in ways that could effectively expand non-defaulting CM liability through assessment, default management or other provisions is frequently unclear. For example, some CCPs' rules anticipate prior risk committee approval of certain rule changes. However, a CCP's rules may not explicitly require such approval as a condition to CCP action, or the rules governing such approval processes may themselves be subject to modification by the CCP at its discretion. This risk would be exacerbated if CCPs were construed to have emergency authority to alter their rules in ways that could, directly or indirectly (e.g., through limitations or delays on withdrawal), affect the maximum membership liability profile of non-defaulting CMs (see the discussion of CCP discretion via emergency powers in Section 3.7).

Certain institutions may not be permitted to participate in CCPs with uncapped liability provisions.

Certain jurisdictions impose limits on the liabilities that regulated entities can incur.⁵ This could make it impossible for such entities to participate in CCPs with uncapped liability provisions.

⁵ In the United States, national banks generally cannot be subject to unlimited liability and there must be some mechanism to limit the liability arising from certain transactions, structures or memberships. See, e.g., OCC Corporate Decision No. 2000-07 (May 10, 2000); OCC Conditional Approval No. 243 (May 9, 1997). More specifically, the Office of the Comptroller of the Currency (OCC) has permitted national banks to participate as CMs in CCPs, but has conditioned approval on (1) ensuring that the bank's liability does not exceed either its statutorily imposed legal lending limit or other lower limits specified to the individual bank by the OCC (see, e.g., OCC Interpretive Letter No. 1102 (Oct. 14, 2008) (addressing membership in the National Securities Clearing Corporation of India) and OCC precedents cited therein) and (2) the bank implementing risk management procedures that would enable the bank to withdraw from the CCP or to otherwise curtail its liability (such as by reducing amount of trades) if the bank's potential liability would exceed such limits (see, e.g., OCC Interpretive Letter No. 1122 (July 30, 2009) (addressing membership in ICE Europe); OCC Interpretive Letter No. 1113 (March 4, 2009) (addressing membership in ICE Trust)). Further, in analogous situations, Regulation Y prohibits a bank holding company from guarantying a subsidiary's liability to a CCP in order to prevent the top-tier parent holding company from being subjected to unlimited liability (12 C.F.R. § 225.28(b)(7)(iv)) and Regulation K, which governs the ability of banks, bank holding companies and certain related entities to make investments and participate in overseas organizations, prohibits such entities from participating as CMs in CCPs (among other entities)

More limited participation in CCPs due to such regulatory restrictions further concentrates risk with fewer participating CMs, increasing the potential for systemic risk effects. Additionally, regulators may view exposure to uncapped liability as contrary to principles of sound prudential supervision, particularly in an environment of heightened sensitivity to systemic risk and the potential for uncapped liability provisions to cause chain-reaction failures.

Forced allocations can give rise to membership liability of uncertain magnitude.

In circumstances where the auction of a defaulted portfolio is unsuccessful or incomplete and the portfolio cannot be liquidated at levels fundable by application of the CCP's default waterfall resources, the forced allocation of the defaulted portfolio to non-defaulting CMs, in effect, subjects these CMs to potential liabilities in excess of their funded and unfunded commitments to the CCP. The scope of this potential additional liability is likely to be greatest in times of market stress and associated market illiquidity. Recognizing that the successful disposition of a defaulted portfolio is a key element of a CCP's default management process, like other post default measures, default portfolio disposition could potentially contribute to systemic risk in circumstances where the CCP is permitted to forcibly allocate positions to non-defaulting CMs that could result in losses that are uncapped and of uncertain scope.

The lack of clear, ex ante CCP rules addressing recovery and resolution scenarios increases uncertainty and creates additional potential for uncapped liability for CMs.

In the event that a CCP enters resolution and has exhausted its financial resources under its rules, the absence of CCP rules allocating any remaining losses invites the resolution authority to use its own discretion to determine how such losses should be allocated. This raises the possibility of unpredictable and uncapped liability for non-defaulting CMs. Similarly, the absence of rules addressing replenishment of the guaranty fund and recapitalization of the CCP after default scenarios that severely deplete or exhaust the CCP's financial resources under its rules creates uncertainty about the ability of the CCP to continue to operate. This, in turn, raises the potential for unpredictable replenishment assessments on CMs.

Proposed Solutions

Several major CCPs clearing OTC derivatives have adopted rules that cap the assessments that may be made against non-defaulting CMs to cover losses at the CCP. These rules address some of the key concerns noted above. However, these structures need to be replicated broadly throughout the market and implemented by other CCPs. To that end, we recommend the adoption of a principle requiring CM liability to be capped, as more fully described below.

- Loss allocation through assessment of non-defaulting CMs should be available only in circumstances where the default waterfall for the particular product at issue, including the CCP's own financial resources committed to such default waterfall, has been exhausted and the CCP silo for the product at issue would become insolvent,

where the entity's potential liability would exceed specified limits in Regulation K without first obtaining the consent of the Board of Governors of the Federal Reserve System (12 C.F.R. § 211.10(a)(18)).

but for the application of assessments (see the discussion of product silos in Section 3.9).

- CCP rules should establish a clear limit on the amount of a non-defaulting CM's collateral that may be used to cover losses stemming from the default of one or more CMs (see the discussion of CCP discretion via emergency powers in Section 3.7).
- Such caps should address single defaults as well as a series of defaults, with CM liability limited over a reasonable rolling period. The liability limitation should then reset after the expiration of a specified number of days without a CM default.
- CCPs should be prohibited from using default management procedures that could have the effect of imposing unlimited liability on CMs, such as through forced allocations of defaulted clearing portfolios or invoicing back of losses arising from a defaulted CM's positions, either on a selective basis (i.e., imposing liability only on those non-defaulting CMs that hold positions opposite the defaulting CM) or on a *pro rata* basis across all non-defaulting CMs.
- CCP rules should permit CMs to withdraw from a clearing segment upon the later of the closeout of positions and a reasonable prior notice period, without liability for increased exposures arising after the effective date of withdrawal. The notice window should be short enough to enable the withdrawing CM to use withdrawal as an effective risk-management strategy while not further destabilizing the market. Once the withdrawing CM closes out all of its open positions following the end of the notification period, CCP approval should not be required.
- CCP resolution and recovery (including recapitalization of the CCP) should be subject to clear, *ex ante* rules that address end-of-waterfall scenarios while at the same time maintaining limits on existing non-defaulting CM liability. In situations where losses remain at the end of a CCP's loss allocation waterfall (i.e., after funded and unfunded CM guaranty fund contributions and the CCP's capital have been exhausted), non-defaulting CM positions (house and customer) with cumulative gains since the applicable CM(s) default should be subject to prorated variation margin haircuts to allocate any remaining losses across the universe of beneficial owners of positions. Losses would thereby be limited to mark-to-market gains and, because such losses would arise from the positions held by a CM, the risk of loss would be ascertainable in advance and could thus be properly managed.

2. CCPs Must Have Appropriate "Skin in the Game"

A CCP's guaranty fund is typically the primary line of defense against losses incurred by a defaulting CM that exceed the defaulting CM's margin. However, the guaranty fund is typically funded almost entirely by CM contributions. Although some CCPs do contribute to their guaranty fund, CCP exposure is generally minimal and capped at the amount of the CCP's funded or dedicated contribution. In a number of cases, CCPs only participate in the default waterfall after non-defaulting CMs have been forced to absorb significant losses. In order to

align the interest of a CCP in risk management with those of its CMs, the CCP should put meaningful levels of its own capital at risk in the default waterfall and alongside non-defaulting CMs so that it has real “skin in the game,” and appropriate risk management incentives.

The CPSS-IOSCO Principles make reference to a CCP’s own funds being at risk in the loss-waterfall structure, but would not impose such a requirement.⁶ Under the current proposed final draft of the European Market Infrastructure Regulation (EMIR), European CCPs would be required to contribute 25% of their minimum required capital to their guaranty funds.⁷ Similarly, the Monetary Authority of Singapore currently requires the Singapore Exchange’s clearing division to maintain a minimum contribution to the default waterfall equal to 25% of the aggregate guaranty fund.

Key Concerns

A CCP can have conflicting commercial and risk mitigation incentives; a CCP with limited exposure to loss has little incentive to manage risk effectively.

CCP default waterfalls typically require non-defaulting CMs to bear the majority (or the entirety) of losses caused by a defaulting CM. Limiting a CCP’s loss exposure to only a fraction (or less) of the loss to which CMs are exposed may fail to discourage the CCP from taking on excess risk in pursuit of increased earnings. This effect may be particularly pronounced in the case of a CCP that is operated on a for-profit basis.

For-profit CCP owners, who might otherwise have an incentive to ensure sound risk management practices, are largely insulated from losses at the CCP.

When a defaulting CCP’s losses are very limited, owners of for-profit CCPs do not have sufficient incentive to ensure that risk is effectively managed. Such CCP owners may prefer to use capital or retained earnings to finance the expansion of services or products offered rather than to invest in technological and operational controls to support risk management in respect of existing clearing services. Rather than being in the first-loss position, as equity traditionally is, CCP owners are largely insulated from losses at the CCP but yet benefit from the fee income associated with increased activity at the CCP, regardless of the incremental risk of additional CMs or transactions. Such a misalignment of risk and reward creates moral hazard and undermines the role of the CCP as a firewall against systemic risk.

Risk governance and risk management incentives must be appropriately aligned.

To the extent that supervisors do not require appropriate levels of CCP “skin in the game,” it is all the more important that risk governance structures place decision-making under the control of those having appropriate incentives to ensure the CCP does not assume excessive risk.

⁶ CPSS-IOSCO Principles, paragraph 3.4.6.

⁷ European Securities and Markets Authority, *Final Report: Draft technical standards under the Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC Derivatives, CCPs and Trade Repositories*, Annex IV, Article 35(1) (page 123).

Proposed Solutions

We recommend that the loss participation and governance structures described below be required of all CCPs, to ensure that CCPs have proper incentives to effectively manage risk.

- Authorities in the U.S. and other G-20 states should require CCPs to fund a minimum contribution to each of their guaranty funds.
- A CCP's capital at risk should be scaled to the level of risk at the CCP, as reflected in the CCP's guaranty fund, and should also be subject to a floor based on its regulatory capital requirements.⁸ Requiring a proportional CCP contribution limits the growth of the guaranty fund that can occur (and, by extension, the risk that the CCP can take on) without further allocation of capital by the CCP. This linkage would help to internalize the incremental risks associated with continued growth and would strengthen the incentive that shareholders have to ensure that CCP management effectively manages the CCP's risk and deploys capital for such purposes appropriately.
- In positioning the CCP in the default waterfall, regulators should require that the CCP has a material level of capital at risk prior to any loss mutualization among non-defaulting CMs. This would ensure that the actor with the greatest ability and incentive to devote sufficient resources to monitor and mitigate risk—the CCP—takes the first loss resulting from any failures of risk management. A qualitative impact study should be performed to identify the optimal level of CCP capital to place at risk prior to loss mutualization.⁹
- To ensure that the CCP will be able to meet any obligations in the default waterfall, the CCP's obligations should be funded and held at all times in a segregated account at the CCP operating entity level (rather than at a holding company entity) and operating entities should be prohibited from distributing such funds as dividends to their parent company.
- CCP rules should provide for the replenishment of CCP capital as it absorbs losses, subject to clearly established limits on the losses the CCP is required to absorb for a single default, as well as a series of defaults, with replenishment liability limited over

⁸ See, e.g., the comment letter, dated August 5, 2012, in response to the European Securities and Markets Authority's consultation paper on *Draft Technical Standards for the Regulation on OTC Derivatives, CCPs and Trade Repositories* submitted by the International Swaps and Derivatives Association, the Association for Financial Markets in Europe, the British Bankers Association and Assosim (the Joint Trades ESMA Letter), which proposes that CCPs be required to have "skin-in-the-game" equal to 50% of their regulatory capital, subject to a maximum equivalent to a CM at the 75th percentile's guaranty fund contribution and a minimum floor of \$50 million.

⁹ See, e.g., the Joint Trades ESMA Letter, which calls for a quantitative impact study to be conducted with respect to skin-in-the-game requirements.

a rolling period and resetting after the expiration of a specified number of days without a CM default.

- The ability of a CCP (or its parent) to pay dividends to shareholders or otherwise distribute profits to owners should be restricted following a clearing CM's default, until the CCP's guaranty fund contribution and standby liquidity obligations have been satisfied.
- The assumption of risk by a CCP must be governed by a risk management committee comprised of persons whose interests are aligned by exposure to the losses associated with such risks (including CMs and, where a CCP has capital at risk in the waterfall as described above, representatives of the CCP). A majority of the members of such committee should be CMs with the greatest risk exposure within the CCP. Such a structure would ensure that the CCP's risk management function—including CM membership criteria, initial margin and variation margin calculation, guaranty fund contribution determinations and investment decisions—are appropriately aligned with risk mitigation incentives.

3. Initial Margin Should Consist of Cash and High-quality, Liquid Instruments

The nature of the initial margin accepted by a CCP to secure CM market exposures affects the risk that the CCP may face upon a CM's default: the less liquid the initial margin, the greater the risk to the CCP and its non-defaulting CMs upon the default of a CM. To attract business from certain end-users, in particular, CCPs have an incentive to widen the acceptable types of initial margin to include less liquid and riskier forms of initial margin. There has been a trend among certain CCPs to accept a broader range of initial margin and to increase the maximum percentage of total initial margin permitted to be comprised of less liquid collateral. This trend could result in increased risk throughout the market as client clearing regulations become effective.

Key Concerns

Alternative forms of collateral serving as initial margin may prove insufficient to cover CCP exposures upon a CM default.

The haircuts applied to alternative forms of collateral for initial margin purposes may not be adequate to cover liquidation costs, particularly during times of market stress. High concentrations of alternative forms of collateral may further increase the risk of liquidation losses. In conditions of extreme market stress, liquidity for lower quality collateral may cease to exist for a potentially significant period.

The acceptance by CCPs of less liquid collateral for initial margin purposes could place additional stress on non-defaulting CMs, liquidity providers and other market participants.

The acceptance of less liquid forms of collateral for initial margin could directly increase the size of collateral shortfalls following the default of a CM, and therefore the extent of losses mutualized among non-defaulting CMs.

Proposed Solutions

CPSS-IOSCO Principle 5 recommends that a CCP “should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity and market risk.”¹⁰ We believe, however, that regulators should go one step further and prescribe specific limitations on the characteristics of collateral that a CCP may accept as described below.

- Only collateral that a systemically important CCP would be permitted to pledge to a central bank under an ordinary-course liquidity facility should be accepted by CCPs as initial margin.
- In addition, CCPs should be limited to accepting predominantly the following forms of initial margin:
 - Cash denominated in U.S. dollars, Euros, Japanese yen, British pounds, or the currency of the underlying obligation, the instrument being secured or in which the relevant transactions are settled; and
 - Obligations issued or guaranteed by the sovereign (or government-sponsored entity) of the jurisdiction in which the CCP is incorporated and other sovereign (or government-sponsored entity) obligations rated “A” or higher, to the extent consistent with applicable law and regulation.
- In order to avoid the impairment of a CCP’s liquidity due to high concentrations of alternative forms of collateral, regulators should also severely limit the amount of such collateral, particularly corporate bonds, equities, and gold, that a CCP can accept for initial margin purposes, except in cases where the collateral is deliverable against the collateralized exposure.
- Only the most liquid corporate bonds, or those rated “A” or higher, should be permitted as initial margin, and the percentage of aggregate collateral posted by a CM as initial margin permitted to consist of such bonds should be further limited to a relatively small amount (e.g., 5%).

¹⁰ CPSS-IOSCO Principles, Principle 5, Key Consideration 5.1; see also Explanatory Note 3.5.2.

- Only the most liquid equities (i.e., those included in a local market index), and each only up to relatively small amount (e.g., 5%) per issuance or free float, should be permitted as initial margin.
- CCP rules and governing regulations should preclude CCPs from accepting as initial margin securities issued by any CM (or a consolidated affiliate).
- In the aggregate, alternative forms of collateral posted for initial margin purposes by a given CM should constitute no more than the lower of 10% and an appropriate dollar (or equivalent) value of collateral posted as initial margin by a CM, and not more than 10% of the total collateral posted as an initial margin at the CCP. Further, any amounts of alternative collateral should be closely monitored by the CCP's risk committee and regulators.
- The haircuts applied by CCPs to alternative forms of collateral should be based on conservative and appropriately stressed market conditions, taking into account potentially dynamic volatilities and correlations (including wrong-way risk considerations), rather than being based on fixed percentages applied to notional amounts.
- Although variation margin typically consists of cash, CCPs should be further required to hold variation margin in cash denominated in the currency of the position or instrument secured by the collateral.

4. **Clearing Member Collateral Should Be Segregated and Subject to Investment and Custodial Risk Protections**

While there has been a significant focus on the segregation and protection of client collateral, little attention has been paid to the protection of CM collateral—"house" initial margin and guaranty fund contributions—held by CCPs. Current CCP practices expose CMs to investment risk and custodial risk with respect to guaranty fund contributions and initial margin in the CM's house account securing proprietary positions. Investment policies and practices with respect to these funds vary across CCPs, as do practices such as rehypothecation and title-transfer security arrangements with respect to securities posted by CMs. These practices could impair a CM's ability to recoup collateral upon the CCP's insolvency.

Key Concerns

House collateral is inadequately segregated.

Insolvency law governing the failure of a CCP is not well developed. Inadequate assurance currently exists that the initial and "excess" margin of CMs held by CCPs, as well as the guaranty fund contributions of CMs posted to CCPs, are adequately segregated from the CCP's own assets. Due to commingling and inadequate traceability, CMs' rights to the return of their collateral upon the insolvency of the CCP are uncertain and could be impaired.

Current investment practices expose CMs to unnecessary risk of loss.

Some CCPs are permitted to rehypothecate CM securities collateral or to secure their investments using title transfer arrangements. Each of these practices exposes the CM to the risk of loss of its collateral upon the insolvency of the CCP or the CCP's investment counterparty. When a CCP pledges securities collateral to a third party, it retains a property interest in the securities pledged. Upon the insolvency of the investment counterparty, the CCP would be entitled to the return of the pledged securities so long as the CCP can locate the securities and has satisfied its obligations to the counterparty. However, if there were a shortfall in property custodied at the investment counterparty, the CCP may only be entitled to the return of a *pro rata* portion of the pledged securities. By contrast, when a CCP transfers title to securities to an investment counterparty to secure its obligations, subject to the counterparty's contractual obligation to return the securities in the absence of the CCP's default, the CCP loses its property interest in the transferred securities and would have the status of a general unsecured creditor upon the insolvency of the investment counterparty, potentially increasing the CCP's risk of loss.

CCP investment policies and practices expose CMs to interest rate and credit risk, putting CM principal at risk.

The types of investments a CCP is permitted to make with CM collateral vary widely throughout the industry and can include higher-risk and longer-term investments that expose the CCP and, by extension, CMs to credit, liquidity and interest-rate risk and, ultimately, the risk of loss of principal. Losses on investments put the CCP at greater risk and could be passed on to CMs in the case of the CCP's insolvency. Further, if the proceeds of such investments accrue to the CCP, investment practices create a conflict of interest between the CCP and the CM, encouraging the CCP to make more aggressive investments.

Proposed Solutions

CPSS-IOSCO Principle 16 recommends that CCPs safeguard CM assets and seek to minimize the risk of loss of such assets.¹¹ We recommend that this principle be expanded, as described below, to provide specific protections for collateral posted by CCP CMs.

- The primary objective of the policies governing a CCP's investment of CM collateral should be the minimization of investment, credit, liquidity, interest rate, and custodial risk and the protection of principal. CCP investments should be limited to those with a credit quality, tenor and investment structure that supports these goals, consistent with the CCP's projected liquidity needs and subject to appropriate concentration limits. CCPs should minimize the investment of CM cash on an unsecured basis, including by holding it in settlement bank accounts and should instead seek to maximize the use of secured investments with a tenor consistent with projected liquidity needs. Limitations on CCP investments should be as, or more, restrictive

¹¹ CPSS-IOSCO Principles, Principle 16.

than the limitations placed on the securities collateral that may be provided by CMs to CCPs.

- A CCP should be limited in its ability to encumber, or otherwise impair CMs' rights in, guaranty fund contributions and initial margin posted to the CCP in support of proprietary positions.
- The CPSS-IOSCO Principles recommend that a CCP “track the extent of reuse of collateral (both cash and non-cash) and the rights of [a CCP] to the collateral provided to it by its counterparties.”¹² The full traceability of the use of CM collateral is an important starting point, although not sufficient on its own.
- With respect to cash collateral, CCPs should be permitted to invest CM cash only in overnight reverse repos on highly liquid government or agency bonds rated “AA-” or above, subject to specified minimum haircuts. In circumstances where the repo market is not cost-effective or accessible, direct purchase of short-term securities could be permitted, but within limits, e.g., with maturities limited to 1 year and the maximum portfolio weighted average maturity across the CCP’s entire portfolio limited to 14 days.
- With respect to securities collateral, CCPs should only be permitted to re-hypothecate securities collateral posted by a defaulting CM in order to obtain funding in circumstances where the alternative—an immediate liquidation of CM collateral—would lead to severe asset value depreciation.
- In situations where the CCP secures its investment obligations using securities collateral posted by a CM, the CCP should be required to use, whenever possible, pledge arrangements, rather than title transfer arrangements, so as to better protect the CM’s rights in the securities in the event of the insolvency of the CCP or its investment counterparty.
- A CCP’s investment policies and results should be clearly communicated to CMs. On a periodic basis, CMs should receive standardized reports with respect to the CCP’s investment policies, the actual investments made and investment results. Further, CCPs should periodically obtain legal opinions on at least an annual basis regarding the treatment of, and protections for, CM collateral posted as “house” initial margin and as guaranty fund contributions (in addition to any opinions addressing customer collateral). These opinions should be made available to CMs.

5. **Market and Regulatory Structures Creating the Potential for Unrealistic Liquidity Demands Must Be Addressed**

Recent regulatory priorities have the potential, when fully implemented, to create aggregate liquidity demands—on CCPs, CMs and other market actors—that the market, as a whole, may

¹² CPSS-IOSCO Principles, Explanatory Note 3.5.9.

not be able to satisfy. The G20 commitment to require clearing for the majority of OTC derivatives products has caused CCPs to grow in number, size and significance.¹³ This trend has been reinforced by member-nation steps to implement mandatory clearing requirements.¹⁴ Moreover, regulations designed to avoid concentrations of risk, such as the U.S. single counterparty credit limit, will both further encourage the proliferation of CCPs and create conflicting mandates for CMs. Single counterparty credit limits could also impact liquidity in products subject to mandatory clearing.¹⁵ The Clearing House has previously suggested that inclusion of exposures to CCPs in the single-counterparty credit limits framework in the Federal Reserve Board's proposed rules for implementing Section 165 (e) of the Dodd-Frank Act could unduly restrict the activities of covered companies to centrally clear OTC derivatives transactions.¹⁶ Such limitations would substantially impede and contradict other statutory and regulatory requirements and industry initiatives to move significant portions of current and future OTC derivatives exposures to CCPs.¹⁷

The net effect of these regulatory trends is to dramatically increase the aggregate liquidity demands on CMs. More liquidity is needed to address the needs of more CCPs, to cover the increased volume of cleared transactions and to ensure the safety and soundness of an increasing number of systemically significant CCPs. Individually and in the aggregate, these factors increasingly strain the capacity of banks to provide committed liquidity facilities to CCPs and the broader market, unnecessarily tie up high-quality collateral and discourage banks from providing CCPs services that are essential to the expansion of clearing services.

¹³ G20 Leaders Statement: The Pittsburgh Summit, September 24-25, 2009, available at <http://www.g20.utoronto.ca/2009/2009communique0925.html>.

¹⁴ See clearing requirements implemented in the United States (Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) sections 723 (swaps) and 763 (security-based swaps)), the European Union (EMIR, Title II, Article 4(1)) and Japan (Financial Instruments and Exchange Act, as amended, Article 2, Paragraph 28) and the South Korea. Two other G20 member nations have proposed clearing requirements: Australia (exposure drafts of Corporations Legislation Amendment (Derivatives Transactions) Bill 2012, July 25, 2012 and September 12, 2012, with implementation expected by the end of 2012) and China. Other G20 member nations are considering implementing similar clearing requirements, including Hong Kong (Hong Kong Monetary Authority and the Securities and Futures Commission, "Joint Consultation Conclusions on the Proposed Regulatory Regime for the Over-the-Counter Derivatives Market in Hong Kong", July 20), Singapore (The Monetary Authority of Singapore, "Consultation Paper II on Proposed Amendments to the Securities and Futures Act on Regulation of OTC Derivatives", August 3, 2012) and Mexico.

¹⁵ See the rules proposed by the Board of Governors of the Federal Reserve System, 77 Fed. Reg. 594 (Jan. 5, 2012), implementing the single counterparty credit limit requirements of Section 165(e) of the Dodd-Frank Act.

¹⁶ See Single Counterparty Credit Limits: The Clearing House Study, July 2012, available at <http://www.theclearinghouse.org/index.html?f=074112>.

¹⁷ Id. at 5.

Key Concerns

CCP reliance on CMs and their affiliates for liquidity increases risks to CCPs, CMs and the broader market.

CCPs face wrong-way risk when relying on CMs or their affiliates for liquidity, as CCP demands for liquidity are likely to arise in situations where CMs are already under pressure, such as when one or more CMs have defaulted and non-defaulting CMs are forced to absorb related losses. Even if CCPs turn to non-CMs for liquidity, the liquidity providers are typically affiliates of CMs, resulting in the concentration of liquidity demands within a limited number of financial groups. Further, the pro-cyclical nature of CCP liquidity demands on CMs and their affiliates has the potential to exacerbate liquidity pressures driven by market-wide stress and, as a result, to increase vulnerability to financial shocks.

Subjecting CM exposures to CCPs to single counterparty credit limits dramatically increases the fragmentation of the clearing environment and, correspondingly, aggregate CCP liquidity needs.

The need for CMs to limit their credit exposure to any one CCP would fuel the establishment of new CCPs in order to diversify CCP credit exposures of CMs. This fragmentation introduces netting and intraday liquidity inefficiencies for CMs and multiplies the aggregate demand by CCPs for committed liquidity.

There may be insufficient capacity in the market to satisfy the aggregate CCP demand for committed liquidity facilities in combination with other demands on liquidity.

The increased number of CCPs and the fragmentation of the clearing environment significantly increase the aggregate demand for large committed liquidity facilities required by CCPs and regulators. Other regulatory initiatives, such as margin requirements for non-cleared derivatives and the Basel III framework, create significant additional demands on liquidity. Absent changes to the trajectory of current regulatory and market trends, aggregate demands for liquidity, particularly the committed facilities required by CCPs, may outstrip available supply and will in any event increase liquidity risk. Even if supply is sufficient, the dramatically increased demand from CCPs may make liquidity significantly more expensive or ultimately unavailable for existing users of such facilities, both in the financial and non-financial sectors.

Risks are increased by increasing fragmentation of the OTC clearing market.

With greater numbers of CCPs clearing OTC products, more extensive segregation of client collateral, and greater insulation of client collateral from “fellow customer risk,” potentially significant increased demands are placed on CM liquidity. One-way calls for intraday variation margin by CCPs (i.e., calls to post variation margin without offsetting releases of, or credit for, variation margin payable by the CCP) will, in the ordinary course, place additional strains on liquidity and, in times of extreme stress, could be a significant destabilizing force (see the discussion of intraday liquidity demands in Section 3.6).

Proposed Solutions

CPSS-IOSCO Principle 7 requires CCPs to have access to liquidity sufficient to meet the demands caused by significant CM closeouts.¹⁸ We recommend that this principle be expanded, as described below, to address the significantly increased liquidity demands that could result from current regulatory and market trends.

- The ability of CCPs to pledge riskier types of CM-posted securities collateral to commercial credit facilities should be severely constrained through regulatory limitations that are as, or more, restrictive than the limitations imposed on the types of collateral that CMs are permitted to pledge to CCPs. Moreover, the expansion of acceptable collateral types should be strictly overseen by regulators to avoid spreading liquidity risk to other market participants.
- CCPs should additionally be required to obtain liquidity from diverse sources and types of providers, and should be limited in their ability to obtain liquidity from their CMs and their CMs' affiliates.
- Because there is a limited range of CCP liquidity providers, and because CMs and their affiliates face 'wrong-way' risk when undertaking to act as committed liquidity providers to CCPs, we encourage consideration of a framework that could enable CCPs to access an expanded range of liquidity sources. We urge regulators and the industry to undertake consultations in the near term designed to address these very real concerns regarding liquidity concentration risk and develop appropriate solutions. While access to liquidity from the central bank in the jurisdiction in which a CCP operates (under appropriate circumstances and conditions) may address the CCP's need for liquidity in the currency of that jurisdiction, it may not address liquidity needs in other currencies or the risks associated with foreign currency-denominated liquidity needs.

Finally, consideration also needs to be given to the potential liquidity impact of counterparty credit exposure limits. These restrictions should not exacerbate liquidity demands and should take into account the risk-mitigating effects inherent in clearing.

¹⁸ CPSS-IOSCO Principles, Principle 7. A CCP "should maintain sufficient liquid resources in all relevant currencies to effect sameday and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions." *Id.* "In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions." *Id.*, Explanatory Note 3.7.9. See also, *id.*, Explanatory Notes 3.7.10 and 3.7.11, addressing sources of CCP liquidity.

6. **Industry-wide Solutions Are Needed to Better Manage the Increased Liquidity Demands Associated with Intraday Margin Calls**

As a result of the mechanics and market structure for cleared OTC derivatives, CMs may face significantly increased intraday liquidity demands. In the existing listed derivatives markets, it is common for CCPs to make intraday margin calls. In such markets, with few exceptions, a single CCP clears all trades for a given product. In addition, offsetting intraday exposures are netted by the CCP, generally reducing the magnitude of a CM's intraday margin calls. However, in the cleared OTC derivatives markets, due to regulatory clearing requirements and the proliferation of CCPs, there is an increasing likelihood of multiple CCPs clearing the same product and of CMs clearing the same product on multiple CCPs. Because of this fragmentation of cleared positions across multiple CCPs, CMs may potentially lose the benefit of offsetting intraday exposures. This would significantly increase intraday margin calls that do not accurately reflect prevailing levels of risks and can have destabilizing, potentially systemic, effects during periods of market stress.

Key Concerns

Intraday margin currently moves only in one direction—from the CM that is out of the money to the CCP.

There is no requirement or mechanism allowing net intraday gains to flow to CMs for OTC cleared products. As a result of the fragmented structure of the OTC cleared derivatives market, a CM that clears a single asset class across two or more CCPs may be required to fund intraday loss positions without receiving the liquidity from its gain positions. This introduces liquidity demands that do not currently exist in the non-cleared OTC derivatives market, in which gains and losses flow according to bilaterally negotiated terms that are designed to avoid this result.

Cleared OTC markets lack the typical source of liquidity to fund intraday margin calls.

Typically, intraday margin calls are covered by excess funds maintained in the CM's omnibus customer account. However, as a result of developments such as the CFTC's legal segregation regime for client collateral, cleared OTC derivatives markets are not expected to produce a large pool of excess funds. As a result, CMs will need to look to other sources for intraday liquidity needs.

Proposed Solutions

There are a number of possible solutions to this problem, as outlined below. Some of these can be addressed by CCPs individually, while others may require coordinated action by CCPs and regulators. Consideration should be given to whether these problems are best addressed individually or by creating or requiring new, inter-CCPs structures. We recommend that these issues be discussed more fully by CCPs, their members and regulators in an effort to agree upon the appropriate approach.

- CCPs making intraday variation margin calls should be required simultaneously to release or, at a minimum, provide offsets for variation margin payables.
- Alternatively, additional initial margin should be collected to reduce the need for intraday margin calls.
- At the industry level, there have been bilateral discussions about establishing interoperability agreements between CCPs that would allow for the netting of intraday exposures across CCPs that clear the same product. The development of transparent and regulated structures permitting interoperability between CCPs in a particular jurisdiction or, in appropriate cases (based on applicable insolvency law), in different jurisdictions would significantly ease the liquidity strain imposed on CMs.

7. **When Taking Emergency Actions, CCPs Must Consider the Interests of CMs and Market Stability in Addition to Those of CCP Owners**

CCPs typically reserve for themselves broad discretion during emergencies or times of market stress to manage risk. In some cases, CCPs can alter their rules or standard practices on an expedited basis and without customary CM or regulatory review.¹⁹ In the EU, the EMIR would require a CCP to use “reasonable efforts” to consult with the CCP’s risk committee before taking emergency action. CCPs need the discretion to respond to extreme and unanticipated situations, to protect both themselves and the broader market. However, in such situations, CCP decision-making must also take into account the interests of CMs, and potential financial stability concerns raised by actions driven by the desire to sustain the CCP at the risk of non-defaulting CMs.

Key Concerns

Changes to CCP rules and procedures and other actions taken during emergencies can affect the economic position of CMs, imposing unexpected losses and liquidity demands, and can thus have spillover effects in the broader market.

Actions that a CCP takes in such situations could affect the magnitude of losses incurred and the mutualized loss that CMs are required to absorb. Further, these actions could also affect the economic value of the CM’s positions. Depending on how the CCP exercises discretion in choosing among the many actions it is permitted to take, these losses could fall more heavily on some CMs than on others. Additionally, CCP decision-making in these circumstances may not take into account the legitimate commercial expectations of CMs, but instead focus solely on shareholder or related market-confidence interests. In times of market stress, the uncertainty about CM loss mutualization liability could undermine confidence in CMs, which would only be

¹⁹ Under the Dodd-Frank Act, CCPs that have been designated as systemically significant generally must notify regulators 60 days in advance of any changes to rules, procedures or operations. Section 806(e)(1) of the Dodd-Frank Act. However, during emergencies, systemically significant CCPs can make such changes with immediate effect if necessary to continue operating in a safe and sound manner, with notice required only after the fact within 24 hours of the change. Section 806(e)(2) of the Dodd-Frank Act.

exacerbated by any unpredictable loss mutualization liabilities that are imposed on CMs. The consequences of CCP emergency decision-making can thus affect not just CMs but also the broader market.

Unchecked and unbounded discretion could permit a CCP to alter the fundamental economic relationship between it and its CMs without notice or the chance for CMs to evaluate the consequences of such changes.

In determining whether to participate in a particular CCP, CMs develop various risk management and operational expectations based on the CCP's rules and procedures. A CCP's unlimited ability to alter these rules and procedures outside of normal governance procedures and without prior notice to CMs undermines CMs' ability to model the risks of their participation in a CCP.

Proposed Solutions

CPSS-IOSCO Principle 23 recommends that CCP rules "enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating" in the CCP.²⁰ Further, rules "should clearly disclose the degree of discretion that an FMI can exercise over key decisions that directly affect the operation of the system, including in crises and emergencies".²¹ However, we recommend that this principle be expanded, as described below, to further constrain CCP discretion to protect CM interests and thereby avoid raising unnecessary concerns about the stability of CMs during crises and emergencies. We note that our recommendations are consistent with the recommendations made by CPSS-IOSCO in its "Detailed guidance on CCP emergency actions and market protocols" in its consultation leading up to the issuance of the CPSS-IOSCO Principles.²²

- A CCP should only be permitted to take emergency action to alter its rules in situations caused not by CM defaults but by unanticipated market events, such as *force majeure* events, physical emergencies or extraordinary market disruptions. CCP rules should therefore be required to comprehensively address the stresses a CCP may experience during the default of one or more CMs and the range of actions the CCP can take in response.
- If it is necessary to permit emergency rule changes, the scope of such changes should be clearly defined and restricted. For instance, changes to the default waterfall should be prohibited without reasonable notice periods. The *post-hoc* disclosure of such changes is insufficient to satisfy CMs' legitimate need for clear, comprehensible rule sets that are predictable and applied consistently.

²⁰ CPSS-IOSCO Principles, Principle 23.

²¹ CPSS-IOSCO Principles, Explanatory Note 3.23.3.

²² Committee on Payment and Settlement Systems, Bank for International Settlement, and Technical Committee of the International Organization of Securities Commissions, *Principles for Financial Market Infrastructures, Consultative Report*, March 2011, Annex E, Part 2.

- In exercising discretion, CCPs should be required to take into account the interests of their CMs. In particular, CCPs should be required to seek to minimize the amount of losses that will be mutualized. Similarly, when taking actions that could affect the economics of CM positions, CCPs should be required to seek to minimize such effects and to avoid changes that would disproportionately affect a minority of CMs. In all circumstances, CCPs should be required to make reasonable efforts to consult in advance of any action with their risk committees.²³
- Actions should not be permitted that are intended simply to expand the scope of CM credit support that is available to satisfy losses or that would otherwise, directly or indirectly, effect a retroactive change in the maximum loss to which a non-defaulting CM would be subject.

8. **CCPs Should Provide Sufficient Transparency to Enable Members to Model Their Exposure to the CCP and Related Risk**

CCPs typically disclose to CMs the CCP's rules and general information about their governance structure, risk management practices and operations. However, the disclosure provided is generally insufficient to enable CMs to determine the resiliency of the CCP or to replicate the CCP's models for their internal risk measurement and management purposes.

Key Concerns

Based on current disclosure practices, CMs are unable to effectively measure or manage their risk exposure to CCPs.

Because internal models are not disclosed at a sufficient level of detail, CMs are unable to accurately predict initial margin requirements, guaranty fund contributions or possible loss allocations. As a result, CMs are unable to predict exposures or to hedge resulting risks. As the percentage of transactions in the market that are cleared increases, the inability of CMs to accurately model risk raises greater systemic concerns.

Members and prospective CMs lack sufficient information to determine the adequacy of a CCP's risk management or its resiliency during a crisis.

The way a CCP evaluates the creditworthiness of prospective CMs or monitors the creditworthiness of existing CMs is generally not shared with CMs. Further, CMs typically do not have sufficient insight into proprietary risk management models and practices to determine a CCP's ability to withstand multiple CMs' failures or market stress. Members are therefore unable to determine or manage with confidence the risk of a CCP failure.

²³ For instance, in the United States, under the Dodd-Frank Act, we recommend that the FSOC implement rules requiring designated financial market utilities to seek to minimize the economic effect on members of any emergency actions it takes under 806(e)(2) and to require that reasonable efforts be made to consult with the entity's risk committee prior to taking any such emergency actions.

Disclosure to a CCP's risk committee is generally insufficient due to confidentiality restrictions.

Risk committee members are typically subject to strict confidentiality provisions and may be unable to share relevant information with their employer CM. Further, not all CMs of a CCP have employees on the CCP's risk committee. Consequently, even if risk committee members were permitted to share relevant information with their CMs, not all CMs would receive the information.

Proposed Solutions

CPSS-IOSCO Principle 23 recommends that CCPs provide sufficient information to enable CMs to have “an accurate understanding of the risks, fees, and other material costs they incur by participating” in the CCP.²⁴ Some disclosure by CCPs is therefore already mandated under the CPSS-IOSCO Principles. However, current disclosure practices are inconsistent and ultimately inadequate. We recommend that Principle 23 be expanded to require CCPs to disclose sufficient information, as described below, to enable CMs to accurately monitor the safety and soundness of the CCP and to model the costs and risks associated with membership in the CCP.

- CCPs should be required to disclose to the risk functions of CMs (subject to appropriate confidentiality protections) comprehensive information about the CCP's organization and operation. Such disclosure should include, at a minimum, information on the following:
 - CCP governance structures and decision-making processes, including decision making upon the default of one or more CMs and during times of market stress;
 - Methodologies for evaluating the creditworthiness of prospective CMs and monitoring the creditworthiness of CMs;
 - Methodologies for determining initial margin and guaranty fund contributions;
 - Methodologies for stress testing the adequacy of the guaranty fund and, on a periodic basis, the results of such tests;
 - The procedures used to address the default of one or more CMs;
 - The policies governing the CCP's investment of initial margin and guaranty fund contributions and, on a periodic basis, the performance of any such investments; and
 - The CCP's treatment and segregation of CM (house) initial margin and guaranty fund contributions, the CCP's use of such funds as security for investments, and the

²⁴ CPSS-IOSCO Principles, Principle 23.

legal opinions the CCP has received in respect of the rights of CMs and the CCP in such funds.

- Members of CCPs should also be able to accurately predict the fees, margin requirements and guaranty fund contribution requirements associated with participation in the CCP and changes to the CM's portfolio or clearing activity. Similarly, CMs should be able to accurately predict and model the consequences of a default by one or more CMs, including how losses would flow through the default waterfall, the performance of the guaranty fund under such circumstances, and the extent of any loss mutualization.
- We recognize the proprietary nature of the models used by CCPs for these activities and do not believe that their disclosure should be required. However, in the absence of such disclosure, CCPs should be required to provide their CMs (and prospective CMs) access to applications that permit the CM to determine the costs, initial margin, guaranty fund contributions, guaranty fund performance and loss allocations associated with changes to the CM's portfolio or a hypothetical portfolio, CM defaults, changes to prevailing economic conditions and other relevant factors. Further, CCPs should be required to verify the sufficiency of the risk models they use for establishing initial margin requirements through back testing reports and an "end-to-end" understanding of the stress scenarios used by the CCP for evaluating the adequacy of initial margin, guaranty fund contributions and other CCP financial safeguards.
- CCPs should be required to provide advance notice to CMs of any proposed changes to policies, procedures, models, or other elements of the CCPs' operations that could have a material adverse economic effect on CMs. Such advance notice is necessary to protect CMs' ability to manage their risk by withdrawal from the CCP if necessary. Further, to the extent possible, CCPs should seek CM input on any such changes through a formal consultation process.

9. Losses within a Product Type Should Be Silo'd

Many CCPs clear multiple asset classes or multiple product types. As a result, certain CCP practices and structures may permit losses arising from a default of a CM in one asset class or product type to be imposed on CMs or customers participating in other asset classes or product types cleared by the CCP.

Key Concerns

Transmitting losses from one product type to another increases systemic risk.

When a particular product type or asset class experiences stress and a CM defaults, imposing those losses on CMs in other product types or asset classes creates a vector for contagion and systemic risk.

Proposed Solutions

Some U.S. and European CCPs have instituted contractually segregated structures to limit the risk of a disruption in one market from spilling over into other markets served by the CCP. However, the legal enforceability of these measures upon the insolvency of the CCP remains uncertain, particularly in the U.S. We therefore recommend that CCPs be required to implement structures, as described below, that contain the losses in a particular service to that service only.

- CCPs should segregate clearing services for each asset class and product type for which they offer clearing and be able to continue operations for other services notwithstanding the need to wind down operations for a particular service. To achieve this segregation, each clearing service should have its own default waterfall and be subject to its own limited liability framework, under which only the CCP and the CMs participating in the service would be exposed to losses arising from activity in the service, following application of all of the available resources of the defaulting CM.
- CCPs should be required to obtain, on at least an annual basis, legal opinions on the enforceability of structures used to contain losses within a clearing service upon the insolvency of the clearing service or the CCP and to disclose such opinions to CMs. Where contractual segregation of clearing services is insufficient to contain losses within a service, CCPs should establish separate legal entities for each service they offer in order to preserve the segregation of losses upon the insolvency of the CCP or a clearing subsidiary.
- Portfolio margining should be permitted across silo'd structures within a CCP, subject to appropriate risk controls and safeguards to ensure the enforceability of the silo'ing.