

# CCP Default Management, Recovery and Continuity: A Proposed Recovery Framework

Central counterparties (CCPs) are required to develop recovery plans in order to avert a threat to their viability and ensure they can maintain continuity of critical services without requiring the intervention of resolution authorities or resorting to public money. In this paper, ISDA proposes a recovery framework – as well as tools to re-establish a matched book – for cases when the default of one or more clearing members threatens the viability of a CCP. The proposed recovery framework is consistent with the recommendations contained in an October 2014 CPMI-IOSCO report.

Crucially, ISDA believes recovery of a CCP is preferable to its closure, and recovery efforts should continue so long as the default management process is effective, even if pre-funded resources have been exhausted. In the event that the default management process is unsuccessful in re-establishing a matched book – signaled by a failed auction – the CCP may have to consider the closure of the clearing service. At this point, it is likely that resolution authorities will be evaluating whether this is a trigger for resolution.

ISDA also believes that recovery measures should be clearly defined in clearing service rule books to provide transparency and predictability, particularly over the maximum time given to the default management process before recovery tools are deemed to have failed, and the legal construct, source and utilization of resources.

The paper focuses only on losses caused by a CCP participant default, and does not expand upon other types of losses envisioned in the CPMI-IOSCO report – for example, those related to liquidity shortfalls.

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## I. OVERVIEW

Systemically important central counterparties (CCPs) are required to develop recovery plans that are comprehensive and effective to recover from a threat to their viability and financial strength. The aim is to maintain the continuity of critical services without requiring the use of resolution powers by authorities<sup>1</sup>. The Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) have provided guidance for the development of recovery plans in a recent report entitled *Recovery of financial market infrastructures*<sup>2</sup>.

The CPMI-IOSCO report defines ‘recovery’ as:

*“...actions of an FMI, consistent with its rules, procedures and other ex ante contractual arrangements, to address any uncovered loss, liquidity shortfall or capital inadequacy, whether arising from participant default or other causes (such as business, operational or other structural weaknesses), including actions to replenish any depleted pre-funded financial resources and liquidity arrangements, as necessary to maintain the FMI’s viability as a going concern and the continued provision of critical services.”<sup>3</sup>*

ISDA<sup>4</sup> is very supportive of the guidance provided in the CPMI-IOSCO report. We believe the recovery and continuity of a systemically significant or critical CCP clearing service is likely to be less disruptive and less costly to the financial market, as well as to the broad range of market participants that utilize cleared over-the-counter (OTC) derivatives to manage and hedge risk exposure. As such, the recovery of a clearing service is generally preferable to its closure (clearing service termination), particularly in times of severe market distress where the need for market participants to manage and hedge exposure is likely to increase. It is therefore critical that measures to prepare for a default of one or more clearing members (CMs) are employed and that the CCP’s default management strategy (DMS) incorporates recovery measures that are both comprehensive and effective.

Effective default management is predicated on the ability of a CCP to transfer the defaulted CM’s positions to solvent CMs in order to re-establish a matched book. The primary tool<sup>5</sup> to re-establish a matched book is a voluntary portfolio auction, which is already built into the default management process (DMP) of many leading CCPs<sup>6</sup>. In trying to achieve this objective, a CCP has loss-absorbing resources available that include the defunct CM’s pre-funded default resources (its initial margin (IM) and its contribution to the default fund (DF)), as well as mutualized resources. Such

<sup>1</sup> In this paper, we refer to each of a CCP’s clearing service(s) as an individual critical service(s) of the CCP (see Appendix VI)

<sup>2</sup> See CPMI-IOSCO report, *Recovery of financial market infrastructures*, issued in October 2014: <http://www.bis.org/cpmi/publ/d121.pdf>

<sup>3</sup> See page 3 of the CPMI-IOSCO report

<sup>4</sup> Since 1985, ISDA has worked to make the global over-the-counter (OTC) derivatives markets safer and more efficient. Today, ISDA has over 800 member institutions from 66 countries. These members include a broad range of OTC derivatives market participants including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, including exchanges, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association’s web site: [www.isda.org](http://www.isda.org)

This position paper is intended to reflect the consensus view of the ISDA Risk and Margin Regulatory Implementation Committee (Clearing Risk Committee). The Clearing Risk Committee is an industry forum with clearing-house, sell-side and buy-side representation, enabling policy-makers to engage with cross-industry aspects of the regulatory initiative to establish a comprehensive and effective framework for the recovery and resolution of central counterparties. While the content of the position paper is intended to represent the consensus view to the extent possible, it should not be regarded as the view of every individual member firm. For any enquiries regarding this paper, please contact George Handjinicolaou ([gandjinicolaou@isda.org](mailto:gandjinicolaou@isda.org))

<sup>5</sup> In this paper, references to ‘tools’ and ‘measures’ are used interchangeably

<sup>6</sup> Recovery and continuity mechanisms are already incorporated into the rule books of most leading CCPs as part of their overall design and mandatory implementation of recovery plans. In addition to the auction of a defaulted CM’s portfolio as part of the DMP and cash calls to solvent CMs (ie, assessment powers) to provide additional default resources, several CCPs have already implemented additional loss-allocation measures such as gains haircutting of variation margin (more appropriately referred to as a pro-rata reduction in unpaid payment obligations of the CCP, or PRO)

default resources are organized and consumed in the order of a pre-defined default waterfall (DW). A recovery framework must, among other things, consider measures that could provide additional loss-absorbing resources if all pre-funded resources have been exhausted and, in the event necessary, measures to allocate losses. As explored in this paper, the DMP should also consider additional tools if the auction has not been successful in fully re-establishing a matched book.

In the event these measures are ineffective in re-establishing a matched book, the CCP is faced with having to consider the closure of the clearing service (clearing service termination). As described in the Financial Stability Board's (FSB) *Key attributes for effective resolution regimes for financial institutions* report, it is at this stage that a resolution authority will be evaluating whether this is a trigger for resolution and whether resolution (as opposed to clearing service termination) could be effective in restoring the viability of the clearing service<sup>7</sup>.

In this paper, we propose a tailored recovery framework for the restoration of a CCP clearing service that has experienced a threat to its sustainability due to losses caused by a CM default (default losses), as well as tools to re-establish a matched book. The proposed recovery framework is consistent with the choice of instruments and mechanisms contained in the October 2014 CPMI-IOSCO report<sup>8</sup>. The paper does not expand upon other types of losses envisioned in the CPMI-IOSCO report – namely, those related to liquidity shortfalls or those not caused by a participant default (non-default losses, or NDLS).

The proposed recovery framework is guided both by key principles that have been set out by industry participants (see Appendix II) and by stated regulatory objectives for a comprehensive and effective recovery framework (see Appendix VII). It comprises the following elements:

### • Recovery measures

The following measures should be available to the CCP: a) portfolio auction of a defaulted CM's portfolio as part of the existing DMP; b) limited cash calls<sup>9,10</sup> to solvent CMs to increase default resources; c) loss-allocation mechanisms in the form of a pro-rata reduction in unpaid payment obligations of the CCP (referred to as PRO)<sup>11</sup>; and d) consideration of a partial contract tear-up to assist the CCP in re-establishing a matched book (subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment).

### • Transparency and timing

Recovery measures should be clearly defined in the respective clearing service's rule book to provide clearing participants with adequate transparency, predictability and ex-ante certainty

<sup>7</sup> See Paragraph 4.3 of Appendix II, Annex 1 of the FSB report, *Key attributes for effective resolution regimes for financial institutions*, October 15, 2014: [http://www.financialstabilityboard.org/publications/r\\_141015.htm](http://www.financialstabilityboard.org/publications/r_141015.htm)

<sup>8</sup> See Section 4.3 and 4.6 in the CPMI-IOSCO report

<sup>9</sup> Any calls to CMs should be pre-defined, limited, reasonable and quantifiable. Without certainty regarding exposures, clearing as a business becomes problematic because CMs would be deprived of the ability to quantify their risk exposures. Also, multiple assessment calls on non-defaulting CMs at a time of stress could become a significant source of pro-cyclicality with systemic consequences that could threaten the viability of remaining CMs

<sup>10</sup> JP Morgan, Blackrock and PIMCO have each advocated that cash calls cannot be depended upon at the time of need and could, in fact, can be pro-cyclical, thereby exacerbating systemic risk. JP Morgan and Blackrock suggest that CCPs should have ample loss absorbing resources so that assessments are not required

<sup>11</sup> See ISDA technical paper, *CCP loss allocation at the end of the waterfall*, which provides further discussion, detail and analysis regarding the utilization and requisite conditions under which PRO could be an effective component of the CCP's recovery framework: [http://www2.isda.org/attachment/NTc5Nw==/CCP\\_loss\\_allocation\\_waterfall\\_0807.pdf](http://www2.isda.org/attachment/NTc5Nw==/CCP_loss_allocation_waterfall_0807.pdf)

with regards to: a) the maximum time frame for the DMP before recovery measures are considered to have failed; and b) the applicable legal construct, source and utilization of resources. Because recovery measures are incorporated into the DMP of a clearing service, recovery should take place over the pre-defined time frame specified in the DMP.

### • **Appropriateness of utilizing recovery measures beyond pre-funded resources**

Such a decision should be based on an assessment of whether the clearing service is viable. Clearing service viability is based primarily on the effectiveness of the DMP (see Table 3) to re-establish a matched book. If default resources (fully funded IM, DF contributions and any CCP skin-in-the-game (SITG)) have been exhausted, then further measures to increase them through cash calls or measures involving loss allocation to clearing participants – beyond what is already provided through CMs' mutualizable DF contributions – should only be considered if the DMP is determined to be effective and based on consultation with an impartial authority (eg, a resolution authority).

### • **Segregated clearing services**

In the event that a CCP offers several clearing services (for example, it offers both interest rate swap and credit default swap (CDS) clearing services), each should be segregated and structured to be of limited recourse to the CCP (a limited recourse clearing service)<sup>12</sup>. This structure (see Appendix IV) acts to mitigate the potential for contagion across other clearing services of the CCP, allowing them to continue in the event of a single clearing service termination. This structure also focuses and strengthens the incentives of clearing participants to assist the CCP in the default management of each clearing service.

### • **Failure to re-establish a matched book**

If the DMP of a clearing service is unsuccessful in re-establishing a matched book (and all other alternatives to re-establish a matched book have failed or would not be effective), the sustainability of the clearing service is threatened, and the alternative of involuntary continuation (ie, forced allocation) is likely to only further exacerbate systemic risk, then the CCP is faced with having to consider the closure of the clearing service (ie, full contract tear-up, referred to as clearing service termination).

Given the severity of a full contract tear-up, a partial tear-up of problematic contracts or a subset of (or product type within) the clearing service may be preferable to full contract tear-up from a systemic and continuity point of view, and should be considered as an option in the clearing service rule book<sup>13</sup>.

<sup>12</sup> The benefits of limited recourse clearing services are widely recognized and have been adopted already by some leading CCPs. There are numerous motivations to offer limited recourse clearing services, but chief among them is that it allows for the pseudo-resolution of a single clearing service (ie, clearing service termination). Where a clearing service has failed as a result of a default event, it can therefore be terminated without placing the CCP legal entity itself into resolution and thus allow other clearing services of the CCP to continue. Where a CCP offers limited recourse clearing services, we believe that references to 'CCP wind-down' and 'CCP resolution' should be interpreted as 'clearing service wind-down' and 'clearing service resolution' (ie, clearing service termination)

<sup>13</sup> Subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment

- **Compensation for loss allocation**

The CCP should be obligated to fully compensate clearing participants if recovery measures involve loss allocation or partial contract tear-up. Affected participants should be compensated by receiving a pro-rata share in the CCP's claims against the estate(s) of the defaulting CM(s) and future CCP revenues/profits.

- **Condition for entry into resolution**

If the DMP has failed to re-establish a matched book, and attempts for position allocation (eg, partial contract tear-up) have been unsuccessful or may generate systemic instability if attempted, then the CCP may have to consider closing the clearing service (ie, full tear-up). It is likely that, at this point, the resolution authority will be evaluating which course of action is most effective.

ISDA believes this proposed recovery framework is comprehensive and will be effective in restoring a clearing service that has experienced a threat to its sustainability. Furthermore, the proposed loss-allocation framework simulates the economic outcome of an actual CCP insolvency, thereby acknowledging the principle of no-creditor-worse-off<sup>14</sup>, while avoiding the numerous adverse consequences of what would likely be a long, drawn-out and costly insolvency process. In the following sections, each element of the proposed framework is developed further.

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<sup>14</sup> See Key Attribute 5.2 and Paragraph 6.1 of Appendix II, Annex 1 of the FSB report

## II. PROPOSED RECOVERY FRAMEWORK

As outlined in the last section, the proposed recovery framework comprises:

- Auction of a defaulted CM's portfolio, together with any market hedges put in place by the CCP, as part of the existing DMP;
- Limited and pre-defined cash calls to solvent CMs to increase default resources<sup>15</sup>;
- Loss-allocation mechanisms in the form of a pro-rata reduction in unpaid payment obligations of the CCP (PRO); and
- Consideration of alternative forms of position allocation, such as partial tear-up, to assist the CCP to re-establish a matched book (subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment).

The following sections describe each of these recovery measures, providing further detail as to the restrictive conditions under which each recovery measure must be offered in order to be consistent with the industry key principles for an effective recovery framework (see Appendix II).

### 1. Default Resources and Loss Allocation

According to principles set out by the Committee on Payment and Settlement Systems (CPSS) and IOSCO<sup>16</sup>, default resources for systemically important CCPs should, at a minimum, be sized to withstand the default of the two CMs that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible conditions (so-called Cover 2)<sup>17</sup>.

Although the exhaustion of available default resources is extremely unlikely<sup>18</sup>, it is always possible that future market stresses could be larger than anticipated by the methodologies used to size both IM and the DF (including stress-test scenarios considered)<sup>19</sup>. In a scenario where default losses exceed the available default resources, limited cash calls to solvent CMs could be used to increase resources if that is provided for in the clearing service rule book. Should losses persist, a CCP could further reduce its liabilities through a tailored form of variation margin (VM) gains haircutting known as PRO<sup>20</sup>.

<sup>15</sup> See Footnote 9

<sup>16</sup> *Principles on financial market infrastructures* (PFMIs), CPSS-IOSCO, April 2012: <http://www.bis.org/cpmi/publ/d101a.pdf>

<sup>17</sup> A CCP that is involved in complex activities or is systemically important in multiple jurisdictions should maintain financial resources sufficient to cover, among other considerations, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. See Principle 4: Credit Risk of the CPSS-IOSCO *Principles for financial market infrastructures*, April 2012

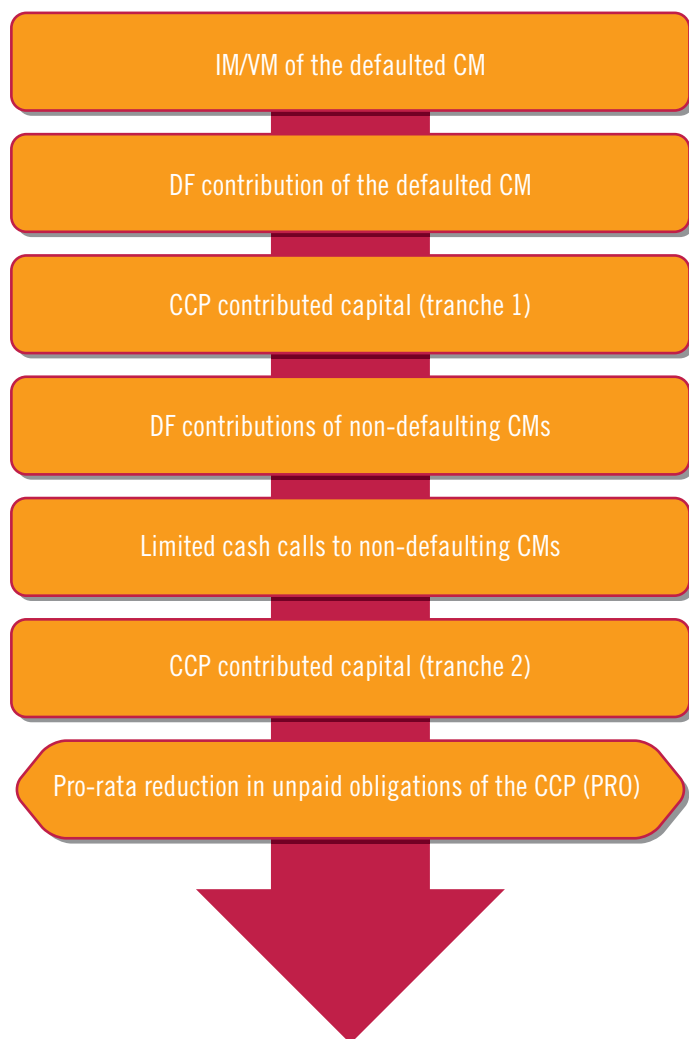
<sup>18</sup> For example, see Bank of England Financial Stability Paper No.26, *Assessing the adequacy of CCPs' default resources*, Fergus Cumming and Joseph Noss, November 2013. This paper concludes that there is one chance in 550 years for CCP default resources to be exhausted: [http://www.bankofengland.co.uk/research/Pages/fspapers/fs\\_paper26.aspx](http://www.bankofengland.co.uk/research/Pages/fspapers/fs_paper26.aspx)

<sup>19</sup> Because the methodologies to size both IM and the DF (including stress-test scenarios considered) are largely based on historical events, the potential for default resources to be exhausted is always a possibility. While most CCPs do not fully disclose the stress scenarios utilized to size aggregate financial safeguards to CMs, CCP regulators do have visibility and are further responsible to oversee the overall stress-testing framework of the CCP (eg, IM and DF). It is important that CCPs disclose greater details of the stress-testing framework, including scenarios, and make the results available to clearing participants and relevant stakeholders. We are aware that CPMI and IOSCO are considering a stress-testing framework for CCPs that, for example, could incorporate minimum or consistent benchmark stress scenarios across CCPs that clear the same asset class

<sup>20</sup> See ISDA technical paper, *CCP loss allocation at the end of the waterfall*, which provides further discussion, detail and analysis on the utilization and requisite conditions under which PRO could be an effective component of the CCP's recovery framework: [http://www2.isda.org/attachment/NTc5Nw==/CCP\\_loss\\_allocation\\_waterfall\\_0807.pdf](http://www2.isda.org/attachment/NTc5Nw==/CCP_loss_allocation_waterfall_0807.pdf)

## 2. Clearing Service Default Waterfall, Including Recovery Measures

Figure 1



In the event of a CM default, the CCP's DMP will be activated with the objective of re-establishing a matched book, primarily through the auction of the defaulted CM's portfolio to non-defaulting CMs. To manage the potential costs throughout the DMP, CCPs maintain a significant pool of default resources that are typically organized and consumed in the order of a pre-defined DW.

Figure 1 depicts such a systemically safe DW that contains the DF, CCP contributions (in the form of two tranches – one junior and one senior to mutualizable DF contributions of non-defaulting CMs), as well as proposed recovery measures.

Default resources are sized (pursuant to the PFMIs) to cover with a high degree of confidence the potential exposure that may arise from the default of one or more CMs over a pre-defined time period (typically referred to as the margin period of risk or liquidation period) while the CCP performs default procedures<sup>21</sup>.

As shown in the DW table, the default resources of the defaulted CM (its IM and its contribution to the DF) are first exhausted, followed by the CCP's SITG (tranche 1), before proceeding to the mutualized pre-funded default resources of non-defaulting CMs.

If further resources are required, the proposed recovery framework includes limited cash calls to non-defaulting CMs and, as an extreme measure, loss allocation to clearing participants through PRO.

## 3. Re-establishing a Matched Book

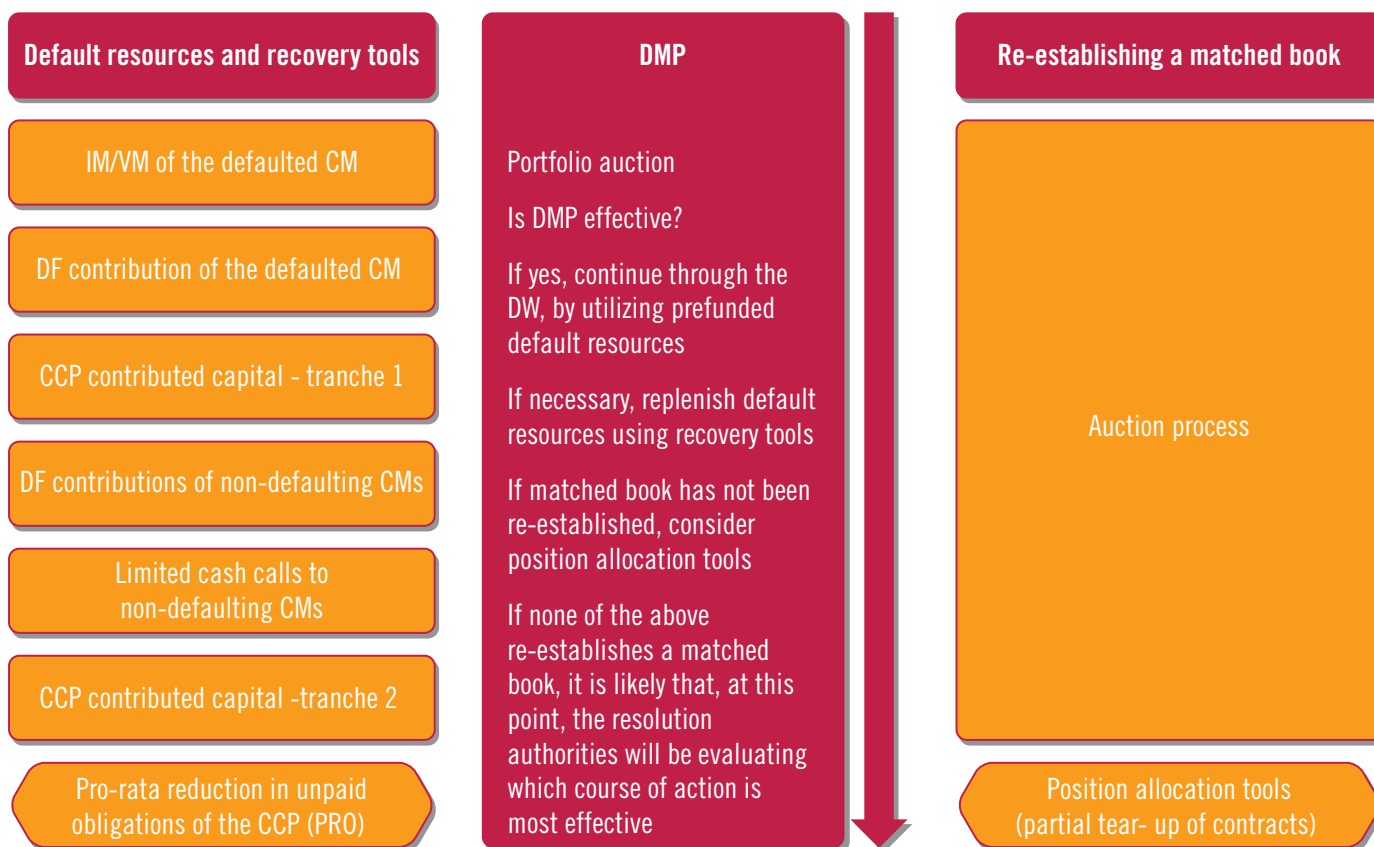
The primary tool to re-establish a matched book is the auction of the default CM's portfolio, and this is built into the DMP of many leading CCPs. The rule book of a clearing service will outline the time frame over which default procedures will take place, including certain milestones and/or individual components (eg, the portfolio auction will take place over a five-day period).

If the auction process is not successful in fully re-establishing a matched book, then the CCP may consider alternative measures, including certain forms of position allocation in the form of contract tear-ups. As discussed further in Section III, an unsuccessful DMP is one that has failed to cover – through the portfolio auction – all of the defaulting CM's positions, leading to an unmatched book. An auction that attracts enough bids to cover the entire CM's portfolio, but does so at a cost exceeding

<sup>21</sup> The IM collected by the CCP for each CM is designed to be sufficient (minimum standard of a 99% confidence interval) to cover the potential exposure of the portfolio over a pre-defined time period (a minimum five days for OTC derivatives). See Principle 6: Margin of the CPSS-IOSCO report *Principles for financial market infrastructures*, issued in April 2012: <http://www.bis.org/cpmi/publ/d101a.pdf>



**Table 1:** Schematic of The Default Waterfall



pre-defined default resources, does not constitute a failed auction. The adequacy of pre-defined default resources should not be a determinant of the success of an auction. If an auction draws bids for all the auctioned positions, then it needs to be respected, regardless of whether the auction prices lead to a demand for funds that is outside the pre-defined default resources. Recovery measures should be considered as a means of raising these additional funds, as long as the DMP is effective.

If the auction is unsuccessful in attracting bids – essentially, open positions cannot be auctioned at any price – then the availability of default resources becomes irrelevant, whether they have been exhausted or not: throwing more money to the problem will not make a difference. As such, DMP failure is not contingent on whether pre-funded default resources have been exhausted or not: the test is whether the DMP is effective in attracting enough bids to cover the open positions.

In the event that these measures are not effective in re-establishing a matched book, the CCP is faced with having to consider the closure of the clearing service (clearing service termination). As described in the FSB report, it is at this stage that a resolution authority may be evaluating whether this is a trigger for entry into resolution and whether resolution would be effective to restore the viability of the clearing service.

Tables 1 and 2 capture the proposed recovery framework in more detail and describe the conditions under which each recovery measure should be utilized.

**Table 2: Default Resources and Loss Allocation (Default Losses)**

<b>Default Resources (Default Waterfall)</b>	VM, IM and DF contributions of the defaulted CM(s).
	First tranche of CCP contributed capital/equity (SITG) in the DW, junior to mutualized funded DF contributions of non-defaulting CMs.
	Mutualized DF contributions of non-defaulting CMs.
	Limited cash calls (ie, assessment powers) on non-defaulting CMs as long as they are pre-defined, limited and quantifiable <sup>22</sup> .
	Second tranche of CCP contributed capital/equity (SITG) in the DW, senior to mutualized funded DF contributions of non-defaulting CMs
<b>Loss-Allocation Measures</b>	PRO that arises under a cleared contract to allocate losses related to a CM default <sup>23</sup> . PRO would allow the CCP to distribute any remaining losses by recourse to pro-rata unpaid obligations (eg, VM gains) owed by the CCP to clearing participants. The utilization of PRO is limited to payment obligations arising subsequent to the commencement of the DMP (ie, the day of CM default giving rise to default losses) and should not be used beyond the pre-defined time period of the DMP. PRO should not permit claw-back of mark-to-market profits of a clearing participant already settled nor affect clearing participant entitlement to full return of initial margin.
<b>Tools to Re-establish a Matched Book</b>	Portfolio auction of the defaulted CM's portfolio, as already built into the DMP of leading CCPs.
	Forms of position allocation. If the DMP has failed, the CPMI-IOSCO report <sup>24</sup> outlines two possible courses of action for re-establishing a matched book: a) a forced allocation of contracts that could not be auctioned (problem contracts); or b) contract termination (complete, partial and voluntary). Forced contract allocation (adding unwanted and unmanageable positions at a time of stress) could subject non-defaulting CMs to potentially even greater risks than contract termination, and there is strong consensus among market participants against its utilization. Given the potential severity of a full tear-up of such contracts, a partial tear-up of problematic contracts or a subset of (or product type within) a clearing service may be preferable to full tear-up from a systemic and continuity point of view, and should be considered as an option in the clearing service rule book (subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment) <sup>25</sup> .
<b>Compensation for Loss Allocation</b>	If recovery measures to restore the viability of the clearing service involve the allocation of losses to clearing participants or a partial tear-up of positions, then the CCP should be obligated to fully compensate affected clearing participants. Such losses should be compensated by a dollar of debt backed by the CCP's recovery on the defaulted CM's estate and a pro-rata share in the current and future CCP's revenues/profits should losses not be fully recovered from the defaulted CM's estate.
	In addition, if loss-allocation measures or contract tear-up are contemplated in the recovery phase, then we believed the guidance of an impartial authority (eg, resolution authority) should be compulsory. The impartial authority would attest to the viability of the clearing service, ensure that the utilization of any recovery measures is in the interests of both financial stability and the broader public, and provide the necessary confidence to clearing participants that there are no conflicts of interest motivating the continuity of the clearing service.

<sup>22</sup> Cash calls represent mandatory commitments of CMs (when incorporated into the rule book). Failure to fund such commitments would constitute an event of default, permitting the CCP to declare the CM a defaulter.

The industry acknowledges that there are likely to be funding and liquidity constraints in times of severe market distress. However, the consequences for a CM failing to fund such commitments and therefore being placed into default are so significant that it is expected that cash calls would be honored, except where the CM is itself at the point of default.

Most importantly, as outlined in the final CPMI-IOSCO report, if a CM fails to meet an unfunded commitment, the CCP is permitted to utilize the CM's IM on deposit as a temporary measure.

ISDA recommends that CMs take any unfunded commitments into account in their ongoing funding, capital and liquidity assessment

<sup>23</sup> PRO is a modified form of VM gains haircutting outlined in the CPMI-IOSCO *Recovery of financial market infrastructures* report (see footnote 20 for complete reference). Also, please see ISDA's technical paper, *CCP loss allocation at the end of the waterfall*, which provides further discussion, detail and analysis regarding the utilization and requisite conditions under which VMGH (PRO's predecessor) could be an effective component of the CCP's recovery framework: [http://www2.isda.org/attachment/NTc5Nw==/CCP\\_loss\\_allocation\\_waterfall\\_0807.pdf](http://www2.isda.org/attachment/NTc5Nw==/CCP_loss_allocation_waterfall_0807.pdf)

<sup>24</sup> See CPMI-IOSCO report, *Recovery of financial market infrastructures*, issued in October 2014: <http://www.bis.org/cpmi/publ/d121.pdf>

<sup>25</sup> The industry is actively considering the use of partial tear-up of problematic positions, given the alternative the CCP would be faced with is either the full tear-up of the clearing service or a forced allocation of such positions. On the condition that requisite legal, regulatory capital and accounting treatment is preserved and appropriate legal opinions to that effect are achieved, partial tear-ups would be a last attempt to achieve a matched book before a full tear-up of the clearing service is considered

### III. WHEN IS IT APPROPRIATE TO USE RECOVERY MEASURES?

The decision to activate one or a combination of recovery measures should be carefully considered and should be based upon circumstances of the default event, including: a) the assessed viability of the clearing service; and b) restoring the CCP’s financial strength. These considerations are further developed below.

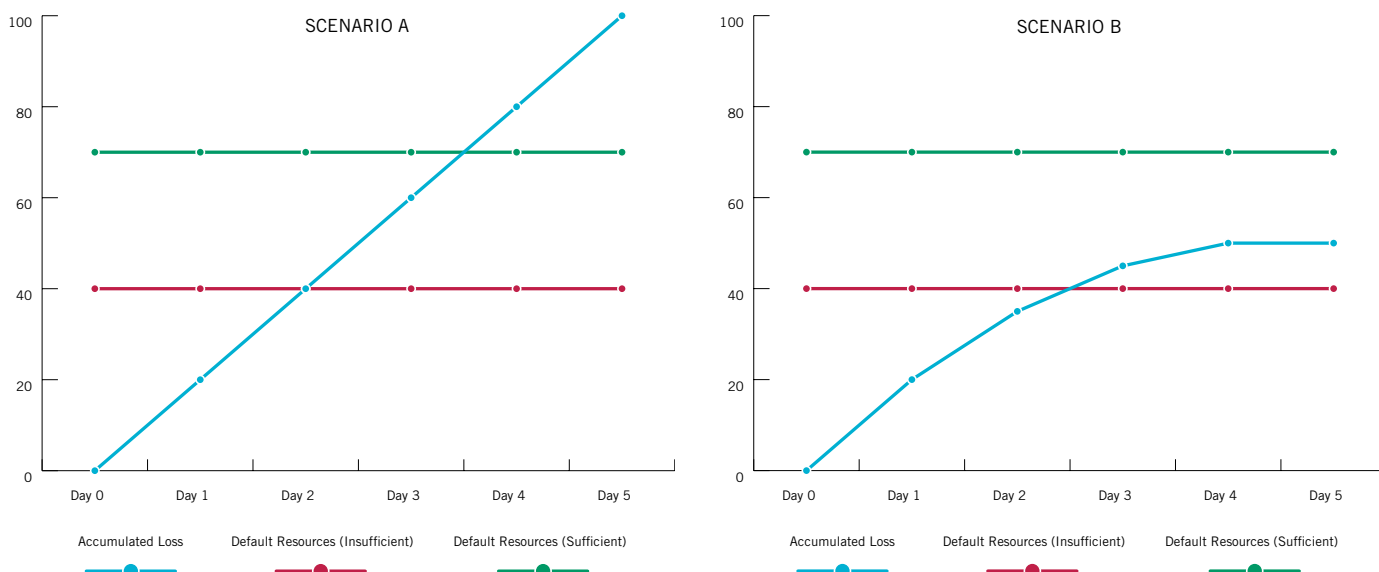
#### 1. Clearing Service Viability: Effectiveness of the DMP to Re-establish a Matched Book

The viability of a clearing service is demonstrated if the DMP has been successful – that is, it has achieved its intended objectives (see Table 3) and has been effective in: a) reducing the exposure of the (unmatched) portfolio (ie, stemming the accumulation of losses); b) transferring open positions to solvent CM(s); and c) re-establishing a matched book.

Although extremely unlikely, the DMP may fail, and this is something that must be anticipated prior to the clearing of any product (see Appendix IV). The primary indicator of a failed DMP is a failed auction<sup>26</sup>, precipitated by the inability or lack of market capacity to provide pre-auction risk-reducing hedges to the CCP at any price. In such a scenario, the clearing service is likely to be deemed no longer viable, regardless of the amount of default resources that have been used (or that remain available).

Figure 2 presents a typical five-day DMP timeline on the horizontal axis against the accumulation of losses on the vertical axis, and compares potential loss accumulation scenarios against the available pre-funded default resources. It contains two scenarios:

**Figure 2: DMP Timeline vs Loss Accumulation (Default Losses)**



<sup>26</sup> There are numerous circumstances that may lead to a failed auction – for example, if the current exposure of the portfolio or risk premium for a CM to accept an auctioned portfolio is far too excessive and/or exceeds capacity

- **Scenario A** illustrates a situation where the DMP has not been successful in controlling the accumulation of losses that exceed pre-funded default resources over the course of Day 1. There does not appear to be any ability of the DMP to neutralize loss accumulation. Such a scenario is characteristic of a failed DMP, irrespective of the amount of default resources that remain available. In this scenario, it is likely that the clearing service will be assessed as no longer viable. It is therefore likely that the resolution authority would evaluate whether this is a trigger for entry into resolution and whether clearing service termination or entry into resolution would be most effective in preserving financial stability.
- **Scenario B** illustrates a situation where the DMP has been successful in controlling loss accumulation – a characteristic of a successful DMP. In this scenario, clearing participants and CCP supervisors are likely to conclude that the clearing service remains viable.

To further illustrate this point, Scenario B displays two horizontal lines describing: a) a scenario where available default resources are sufficient (green line); and b) a scenario where available default resources are insufficient (red line). The exhaustion of a CCP's available default resources should not in itself be viewed as a condition for terminating the clearing service (or a condition for entry into resolution). If the DMP has been successful in neutralizing and constraining the accumulation of losses, the CCP should utilize recovery measures to restore its financial strength, since such measures will add to the resources available to the CCP to complete the process of re-establishing a matched book.

## 2. Restoring CCP Financial Strength: Utilization of Recovery Measures

The discussion in the previous section points to the importance of assessing whether the DMP is effective in neutralizing and constraining the accumulation of losses. An effective DMP is a precondition for utilizing any recovery tools defined in the DMP of the clearing service.

When considering the viability of the clearing service, it is essential to determine whether the CCP has failed in its overall risk management responsibilities (including default management), or whether an extreme event has occurred that was not previously anticipated that has led to the exhaustion of default resources.

While it may be easy to identify whether a larger than anticipated market stress event has occurred, it will be difficult, although critical, to assess whether the CCP's risk management framework, including its DMP, is effective in managing the default event(s). We propose to determine its effectiveness, and thereby the viability of the clearing service, by comparing the actions that are planned in the clearing service's rule book with expected outcomes during the DMP by referring to actual events. If the DMP is achieving expected outcomes, it should be deemed effective and allowed to run its course.

Table 3 describes such a framework with an illustrative DMP that is typical of leading OTC derivatives clearing services<sup>27</sup>.

<sup>27</sup> This approach might require changes to CCP rule books to clearly define expected outcomes and criteria at each stage of the DMP to assess its effectiveness. This will inform whether to: a) continue through the DMP; b) consider additional recovery tools in the form of position allocation; or c) proceed with full clearing service tear-up (ie, termination). In practice, CCPs may need to calibrate the triggers so, for example, the failure of a small auction (of the several) in a minor currency would not dictate a failed DMP

**Table 3: DMP Including Failure Conditions and Failure Actions**

Day	Action	Expected Outcome	Failure Condition	Failure Action
0	<b>CM Default</b>			
0-1	<b>Default Management Group (DMG) assembled</b>	DMG is assembled.	DMG is not sufficiently staffed or mobilized.	
0-4	<b>Hedging: DMG hedges defaulter's portfolio(s)</b>	Hedges received, portfolio exposure reduced to a 'satisfactory level' as defined by the DMP.	Hedges not received (eg, no market capacity to provide hedges).	Proceed directly to auction
1-5	<b>Auction: DMG constructs and performs a portfolio auction(s)<sup>28</sup></b>	Sufficient bids to transfer the entire portfolio(s) are received, allowing for some bad bids or bidders (level to be pre-defined). Matched book re-established.	Insufficient or no bids received to transfer the entire portfolio(s). Inability to establish an auction price. Inability to re-establish a matched book.	<ol style="list-style-type: none"> <li>1. Subsequent auction if the DMP allows; or</li> <li>2. Consider partial tear-up (see below)<sup>29</sup>; otherwise</li> <li>3. CCP faced with full tear-up (ie, clearing service termination); or</li> <li>4. Possible entry into resolution (if resolution authority believes more effective).</li> </ol>

The exact details of the DMP may vary slightly across CCPs, as they are designed to the specific nature of the clearing service – taking into account the products and the jurisdiction, for example. But the above framework can be generalized for use when assessing whether the DMP is effective.

ISDA strongly believes that a pre-defined and transparent process within the rule book of the clearing service that clearly identifies and specifies the failure conditions under which recovery measures may be used is critical to ensure the viability and continuity of a clearing service. In addition, it provides market participants with information so they can perform their own risk management processes. With respect to a clearing service termination, it is likely that the resolution authority would at that point be evaluating which course of action is most effective to preserve financial stability.

<sup>28</sup> Typically, a portfolio auction is administered by the CCP among its CMs. However, the industry is considering whether the auction process could be broadened to include other clearing participants

<sup>29</sup> The industry continues to consider whether a form of partial contact tear-up could be possible when faced with the alternative of full clearing service tear-up (clearing service termination). See Section IV

## IV. DETERMINING THE EFFECTIVENESS OF THE DMP: TRIGGERS FOR USING POSITION ALLOCATION TOOLS

The ultimate objective of the DMP is for the CCP to transfer the portfolio of the defaulted CM(s) to non-defaulting CMs, thereby re-establishing a matched book, and to do so with the default resources available in the DW. In a scenario where the DMP is not achieving expected outcomes (indicative of a failed DMP) and the CCP is faced with the prospect of a clearing service closure, we should consider whether any additional recovery measures could be effective in assisting the CCP to re-establish a matched book and restore the viability of the clearing service.

### 1. Alternatives for Re-establishing a Matched Book

In a scenario where the voluntary auction process has not been successful, the CPMI-IOSCO report contemplates the following courses of action for re-establishing a matched book: a) forced allocation of any contracts that were not successfully auctioned (problem contracts); and b) contract termination (complete, partial and voluntary).

Forced allocation of contracts (adding unwanted and unmanageable positions at a time of stress) could expose non-defaulting CMs to greater risks than forms of contract termination. For this reason, there is a strong industry consensus that forced allocation should not be included as a recovery measure.

With regards to forms of contract termination, and given the potential severity of a full clearing service tear-up, we believe that a partial tear-up of problematic contracts or a subset of (or product type within) a clearing service may be preferable to full tear-up from a systemic and a continuity point of view. As such, partial tear-up should be considered as an option in the clearing service rule book (subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment), provided that it is subject to the oversight of an impartial authority and there is commensurate compensation for affected clearing participants<sup>30</sup>.

While such additional tools could be effective in stabilizing the clearing service, the ability of CMs to support them and their compatibility with the broader regulatory framework that applies to central clearing must also be considered. In particular, any decision to activate one or a combination of these tools must reflect the following:

- Accounting and regulatory capital framework considerations

The viability of any form of position allocation must be evaluated through: a) an assessment against the relevant provisions of the accounting framework related to financial statement and regulatory capital reporting of cleared derivatives; and b) the potential to affect a CM's constructive participation in the DMP, which is designed – as part of the broader DMS – to promote clearing service continuity when a default occurs.

Certain position allocation mechanisms could frustrate requisite accounting and regulatory capital criteria for netting cleared derivatives for financial statement and regulatory capital purposes (see Appendix III). As a result, it is critical that any position allocation measure demonstrates

<sup>30</sup> Industry participants have been discussing compensation for affected participants. It has been suggested that affected participants submit claims against the clearing service for the cost of replacing the contracts that were torn up

compatibility with the applicable accounting and regulatory capital framework and is supported by CMs, while also being in the interest of financial stability. In particular, it is crucial that CM/CCP netting sets are preserved and legal opinions are obtained for both accounting and regulatory capital purposes.

- **Systemic risk considerations**

Forms of position allocation should only be considered if the following conditions are present: a) the DMP has failed and the CCP may therefore have to consider clearing service closure; and b) the clearing service is assessed to be viable (ie, a matched book could be re-established, if it were not for a few problematic positions and/or a problematic subset of the clearing service).

In a scenario where such positions are so undesirable or risky that there are no appropriate mechanisms for solvent CMs to price them during the auction process (thereby contributing to a failed DMP), any form of involuntary position allocation (eg, forced allocation) might further endanger systemic safety. Furthermore, involuntary position allocation would unfairly force unpredictable and potentially unmanageable exposure to non-defaulting CMs, as it is uncertain whether these allocated trades could be hedged, particularly in a situation where the market is aware of the position allocation.

Equally, it has to be recognized that the clearing of the product (or subset/product type within a clearing service) may be critical to the functioning of the financial markets. As such, the systemic implications of terminating the clearing service must also be considered. As a matter of prudence, it could be asked why these products were cleared to begin with, and whether they sufficiently demonstrated the requisite conditions for clearing. It is for this reason that the industry reiterates the conditions that should be demonstrated prior to mandating the clearing of a product (see Appendix V).

## 2. Partial Tear-up of Problematic Positions

In a scenario where the DMP of a clearing service has failed, a form of partial contract tear-up could be preferable to an involuntary position allocation and/or full tear-up. Partial tear-up could be preferable from the perspective of systemic safety and the continuity of a clearing service, as long as it is compatible with the accounting and regulatory capital framework. Specifically:

- When considering partial tear-up of problematic positions, it is critical that requisite accounting criteria to net cleared derivatives for purposes of financial statement and regulatory capital are not frustrated. Following extensive discussions with accounting firms and policy representatives, the industry is of the view that partial contract tear-up could be structured in such a way so as to not frustrate requisite accounting and regulatory capital criteria. It would be: a) performed on a pro-rata basis across all clearing participants that have a position opposite to those of the defaulted CM's positions (so as to not violate the CCP as a principal, as required by accounting guidance); b) conducted at the last settlement price of the position (ie, the prevailing market value); and c) not utilized as a means of loss allocation but rather as a method to re-establish a matched book (see Appendix III).

- Partial contract tear-up could also be performed for a subset of (or product type within) the clearing service, as long as it meets similar conditions to those above. However, the entire subset (or product type) of the clearing service would have to be torn up.

For example, let's assume that: a) the CCP offers a credit clearing service comprising two subclasses of credit products – CDS and CDS index tranches; and b) the defaulted CM's portfolio includes positions in both of these product subclasses. In the event of a default, the CCP would first proceed through the DMP as designed – that is, default procedures inclusive of all products in the entire aggregate defaulted CM's portfolio. The DMP would typically first seek risk-reducing hedges and then perform an auction that includes all subclasses of products (in this example, two subclasses: CDS and CDS index tranches). However, it is possible that the DMP may be unsuccessful (eg, there is no market capacity for CMs to provide risk-reducing hedges and/or the residual risk premium or exposure of the entire aggregate portfolio is too excessive). In this case, the CCP may have to consider the full tear-up of the credit clearing service.

However, it is conceivable that the CCP could re-perform the DMP by individual subclass (ie, CDS and CDS index tranches). If it subsequently becomes evident that the CDS subclass remains viable through the DMP (ie, successfully auctioned), but there is no market capacity to support the continued clearing of CDS index tranches, then the CCP could consider tearing up the CDS index tranches subclass.

### 3. Economics of Full Tear-up vs Clearing Service Continuity

The industry believes that if the DMP is achieving expected outcomes (as outlined in Table 3), then it should be allowed to run its course without preemptive intervention (eg, by resolution authorities)<sup>31</sup>. However, consideration must be given to whether a clearing service tear-up (ie, clearing service termination) prior to the completion of the DMP could provide a better outcome in certain scenarios. Important to such a determination is the loss that is or could be envisioned, as contemplated in the scenarios portrayed in Figure 2. Losses under these scenarios must therefore be considered.

When contemplating the losses in a full tear-up of the clearing service, it should be noted that once a market event has occurred that exceeds the amount of default resources of the clearing service, a loss will exist under any scenario. However, the amount of such loss will only be crystallized once the DMP has been completed. Therefore, proceeding directly to full tear-up of the clearing service, prior to the completion of a DMP that is achieving expected outcomes, would not only result in the allocation of losses, but such losses are likely to be at unknown prices that may or may not be market prices. In addition, the cost of contract replacement (ie, replacing hedges or contracts) must also be considered. The industry believes that the costs of contract replacement are likely to be relatively high and/or difficult to ascertain.

Therefore, on balance, the industry believes that if losses will be allocated in any case – either as a result of full tear-up of the clearing service or through a recovery measures (such as PRO) – continuity of the clearing service is preferable. Such belief is based upon the condition that the DMP of the clearing service is achieving expected outcomes, and both clearing participants and the supervisory authorities have comfort that the DMP will remain effective.

<sup>31</sup> In addition, see Section 4.4 Implementation of loss allocation rules and procedures prior to entry into resolution of the FSB report, which states: "Where the FMI has rules and procedures for loss mutualization or allocation, those rules and procedures should generally be exhausted prior to the entry into resolution [...]"



## Conclusions

CCPs have become critical components of the financial markets and are emerging as major hubs concentrating the vast majority of global OTC derivatives transaction flows and risk positions. Recognizing that, regulators have introduced numerous regulatory initiatives requiring CCPs to develop recovery plans that are both comprehensive and effective to avert a threat to their viability and restore their financial strength. The key aim is to maintain the continuity of critical services without requiring the use of resolution powers by authorities, or resorting to public money.

A fundamental building block of our proposed recovery framework is the concept of segregated clearing services – that is, in the event that a CCP offers several clearing services, each one is segregated and structured to be of limited recourse to the CCP. This structure acts to mitigate the potential for contagion across other clearing services of the CCP, allowing them to continue in the event of a single clearing service termination. This structure also focuses and strengthens the incentives of clearing participants to assist the CCP in the default management of each clearing service.

ISDA believes that the recovery and continuity of a systemically significant or critical CCP clearing service is likely to be less disruptive and less costly to the financial market, as well as to the broad range of market participants that utilize cleared derivatives to manage and hedge risk exposure. As such, the recovery of a clearing service is generally preferable to its closure (ie, clearing service termination), particularly in times of severe market distress where the need for market participants to manage and hedge exposure is likely to increase.

This paper contains a proposed a tailored recovery framework for the restoration of a clearing service that has experienced a threat to its sustainability due to losses caused by a CM default. The proposed recovery framework includes: a) portfolio auction of a defaulted CM's portfolio as part of the existing DMP; b) limited cash calls to solvent CMs to increase default resources; c) loss-allocation mechanisms in the form of PRO; and d) consideration of partial contract tear-up to assist the CCP in re-establishing a matched book (subject to certainty in satisfying requisite legal, regulatory capital and accounting treatment).

In the event that the DMP has not been effective in re-establishing a matched book, the CCP may have to consider the closure of the clearing service (ie, clearing service termination). As described in the FSB report, it is likely that, at this point, the resolution authority will be evaluating whether this is a trigger for resolution and whether resolution (as opposed to clearing service termination) could be effective in restoring the viability of the clearing service.

Finally, we strongly advocate that recovery measures should be clearly defined in the applicable clearing service rule book to provide clearing participants adequate transparency, predictability and ex-ante certainty with regards to: a) the maximum time frame for the DMP before recovery tools are considered to have failed; and b) the applicable legal construct, source and utilization of resources.

## APPENDIX I: ASSESSMENT OF PREVENTATIVE MEASURES AND RECOVERY MECHANISMS / TOOLS

The following table provides an outline of key components of the default management strategy of the CCP, including specific mechanisms and tools that have been contemplated within regulatory proposals. The table assesses whether the key component is consistent with the industry's key principles for an effective and viable recovery framework (see Appendix II), and whether there is principle alignment among industry participants<sup>32</sup>.

	Meets Industry Key Principles	Industry Position
<b>Preventative Measures</b>		
<b>Principles for Financial Market Infrastructures (eg, CCPs)</b>	Yes	Aligned
<b>Transparency / disclosure</b>	Yes	Aligned
<b>Default resources – CMs</b>	Yes	Aligned
<b>Default resources – CCP SITG tranche 1</b>	Yes	Aligned
<b>Default resources – CCP SITG tranche 2</b>	Yes	Aligned
<b>Financial resources – CCP capital</b>	Yes	Aligned
<b>Conditions for clearing mandate</b>	Yes	Aligned
<b>Protect risk incentives</b>	Yes	Aligned
<b>Adhere to accounting/capital/legal criteria</b>	Yes	Aligned
<b>Adhere to no creditor worse off principle</b>	Yes	Aligned
<b>Mitigate moral hazard risk</b>	Yes	Aligned
<b>Recovery Mechanisms and Tools (per CPSS-IOSCO)</b>		
<b>Uncovered losses caused by a participant default</b>		
- Cash calls on participants (assessment power)	Yes; conditional	Aligned
- Variation margin gain haircutting (PRO)	Yes; conditional	Principally aligned [recovery vs resolution]
- Initial margin haircutting	No	Aligned
<b>Uncovered liquidity shortfalls</b>		
- Third-party agreements / LOC / etc	Yes	Aligned
<b>Replenish financial resources</b>		
- Cash calls on participants (assessment power)	Yes; conditional	Aligned
<b>Losses not related to a participant default</b>		
- Investment risk / recapitalization / insurance / indemnity	Partly agree	Aligned
<b>Re-establish a matched book</b>		
- Voluntary position acceptance (eg, auction)	Yes; conditional	Aligned
- Involuntary position allocation (eg, forced allocation)	No	Aligned
- Tear-up (full)	Yes; conditional	Aligned
- Tear-up (partial)	Yes; conditional	No position
<b>Resolution Mechanisms and Tools (per FSB KA Annex)</b>		
<b>Powers to allocate losses and terminate contracts</b>	No official view	
<b>Termination (tear-up) or close out of contracts</b>		
<b>Transfer of critical functions to a solvent third party or bridge institution</b>		

<sup>32</sup> Where the table describes that a component is consistent with industry key principles, the industry believes that the mechanism is effective, although conditional to specific requirements (eg, limits, time period)

## APPENDIX II: INDUSTRY KEY PRINCIPLES TO ACHIEVE AN EFFECTIVE AND VIABLE RECOVERY FRAMEWORK

The following are the key principles outlined in ISDA's response to CPMI-IOSCO's consultation on the recovery of financial market infrastructures. The industry believes that any proposed recovery or resolution mechanism must be measured against these principles to ensure that an effective and viable recovery framework is adopted.

- Liabilities of clearing participants must be predictable and limited. No entity can support nor would be authorized by its regulator or management to participate in an activity where exposures are uncontrollable and either unlimited or unquantifiable.
- Recovery and continuity mechanisms must be economically viable for all categories of clearing participants – that is, both direct and indirect participants, as well as the CCP itself. Mechanisms should be at least consistent with the economic result that each type of clearing participant would experience in a general CCP insolvency proceeding (ie, no creditor is worse off).
- Recovery and continuity mechanisms must not challenge accounting criteria to net cleared exposures for financial statement and regulatory capital purposes. Where the specific requirements are not demonstrated, cleared exposures would need to be reported on a gross basis, thereby defeating the purpose of central clearing and consequently render clearing nonviable.
- A recovery framework must encourage and create incentives for clearing participants to participate in CCP default management practices (eg, providing risk-offsetting positions to the CCP or participating in the auction process). Any circumstances of discretion or uncertainty would frustrate such incentives and the overall viability to the recovery framework.
- Transparency and certainty must exist for clearing participants related to: a) the nature and operation of the default management process and default waterfall; b) the nature of loss allocation in all circumstances, including the exhaustion of the default waterfall; and c) the relevant decision-makers (ie, the risk committee, the CCP management) at each step of the default management process and any recovery and resolution measures.
- Recovery, continuity and resolution mechanisms should be designed to avoid creating moral hazard that may compromise risk practices of the CCP itself. These mechanisms should not in any way insulate the board and senior management of the CCP (or its holding company) from the consequences of losses resulting from inappropriate risk-taking by the CCP.
- Recovery plans should allow for the resolution of any non-critical functions if determined necessary for critical functions to continue. This would further help define clearing participants' liability, by placing a greater emphasis on continuity of critical functions and their restoration to viability. However, where a clearing service is no longer assessed as viable, it should be terminated.

## APPENDIX III: ACCOUNTING CONSIDERATIONS TO NET CLEARED DERIVATIVES

The following accounting considerations are consistent with those outlined in ISDA's response to the CPMI-IOSCO consultation on the recovery of financial market infrastructures, and reflect updated discussions between accounting representatives from the industry and accountancy firms. The industry believes that any proposed recovery or resolution mechanism must be measured against these accounting considerations to ensure that an effective and viable recovery framework is adopted.

To net cleared exposures for financial statement and capital reporting purposes, clearing participants must adhere to the relevant accounting guidance within their applicable generally accepted accounting principles (GAAP)<sup>33</sup>. Primary accounting guidance requires that entities have transactions against an identifiable party with which they have a legal right to offset (the 'principal counterparty'), and that the netting set with that principal counterparty is identifiable<sup>34</sup>.

The following accounting criteria must be considered when evaluating any proposed recovery mechanism<sup>35</sup>.

- **Determination of the CCP as principal counterparty:** Currently, for almost all CCPs, CMs consider the CCP to be their principal counterparty for proprietary (house) positions when determining to which entity they have exposure. Such an assessment is of key relevance in the ability to net cleared derivatives exposures for both financial statement and capital reporting purposes, as netting is only applicable to transactions with the same counterparty (in the case of cleared derivatives, the CCP). The method of loss allocation – forced allocation or partial tear-up of positions following an auction – will be determinative in this assessment, as it is indicative of whether the clearing process results in loss mutualization and transformation of the reporting entity's credit risk, or whether the CM's risk position effectively remains as if facing a bilateral counterparty prior to clearing. Recovery mechanisms that either allocate losses or close-out open trades on a basis that is dependent on which parties originally transacted with the defaulting CM prior to novation to the CCP, or seek to identify participants that have offsetting risk positions against the defaulting CM without substantial credit risk transformation, call into question whether the CCP is the principal counterparty, and consequently the loss mutualization and credit risk transformation benefits of the clearing model.

<sup>33</sup> For purposes of this response, the term 'accounting guidance' refers to accounting criteria to net cleared derivatives per the GAAP applicable to the clearing participant (ie, US GAAP, IFRS etc)

<sup>34</sup> FASB Interpretation No. 39 states that "it is a general principle of accounting that the offsetting of assets and liabilities in the balance sheet is improper except where a right to setoff exists". A right of setoff exists when all of the following conditions are met: a) each of two parties owes the other determinable amounts; b) the reporting party has the right to set off the amount owed with the amount owed by the other party; c) the reporting party intends to set off; and d) the right of setoff is enforceable at law. IAS 32 paragraph 42 states: "A financial asset and a financial liability shall be offset and the net amount presented in the statement of financial position when, and only when, an entity (i) has a legally enforceable right to set off the recognized amounts; and (ii) intends either to settle on a net basis, or to realize the asset and settle the liability simultaneously"

<sup>35</sup> The industry had developed these accounting considerations as guiding principles to inform the assessment of whether certain recovery mechanisms and tools would frustrate requisite accounting criteria. It is noted that the application of the accounting considerations is circumstantial and must be evaluated within the context of each individual CCP, including the procedures outlined within the rule book for a specific clearing service and any product specific characteristics

- **Ability to identify a netting set with the principal counterparty:** Once the CCP has been determined as the principal counterparty for CM proprietary positions, consideration must be given as to whether there is an identifiable and justifiable netting set for both accounting and regulatory capital purposes.

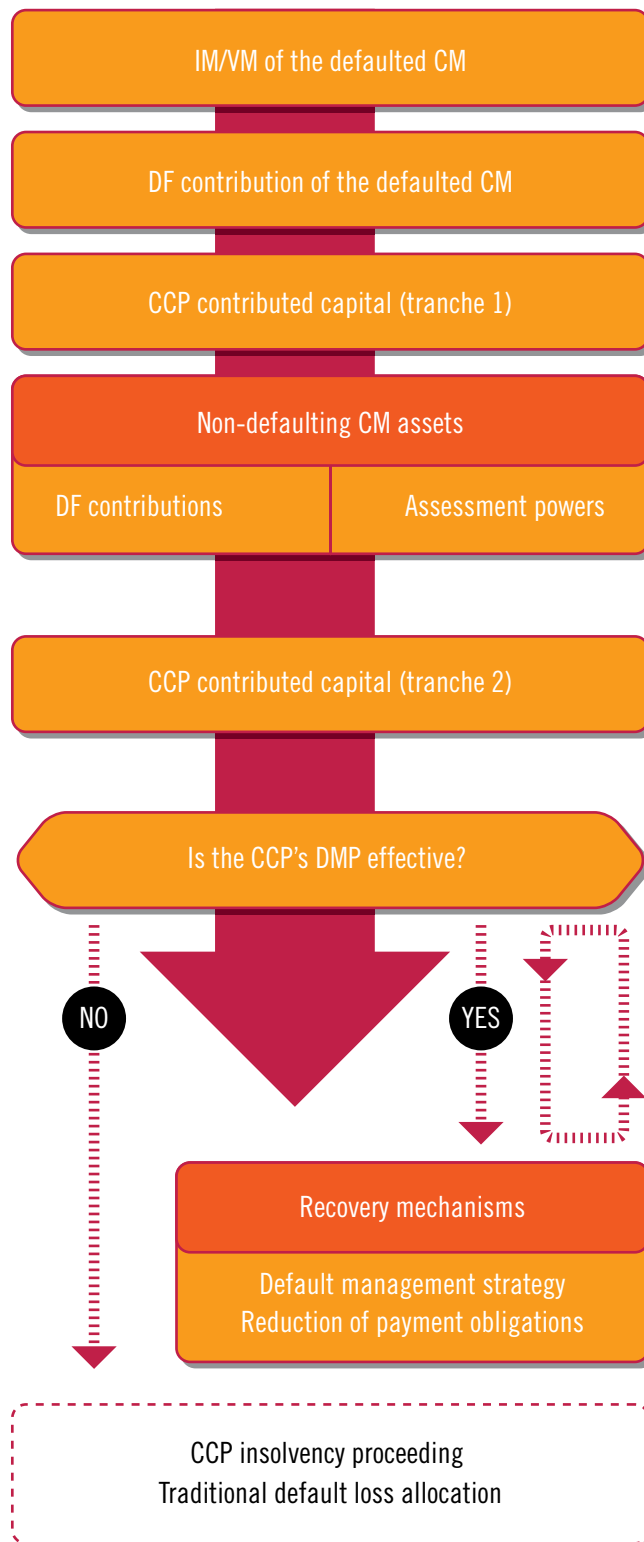
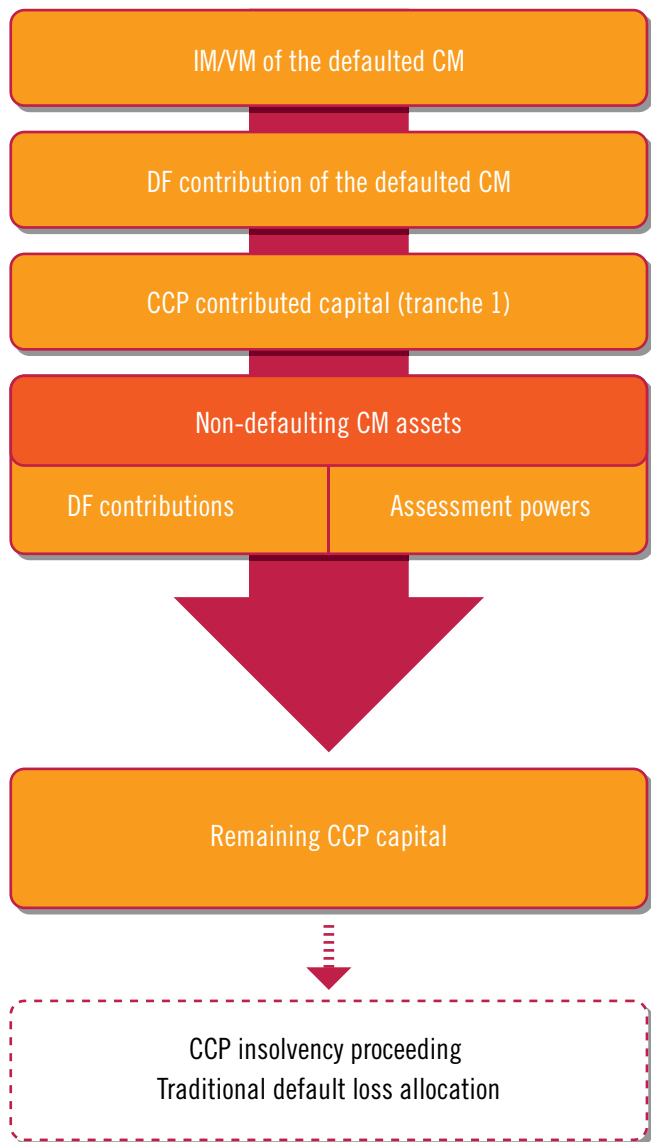
To the extent that a CCP's DMP is not clearly defined in the rule book for the clearing service, there is concern that certain proposed recovery mechanisms could challenge the ability to define such a netting set. That could be the case if the CM is unable to identify the process and potential tools that may be utilized and ultimately affect its population of trades. Specifically, any tool that involves a tear-up requires the CM to identify, at a point in time, the amount it would be able to offset against other positions and whether the value of these offsettable amounts is determinable. To the extent that any tear-up is at prevailing market value (ie, the most recent settlement price), the GAAP requirements should be satisfied.

- **Consideration of CMs' role in clearing indirect participant trades:** For GAAP purposes, some CMs have determined that they act as either legal agent or agent in substance for the indirect clearing participant, with the result that the CM does not reflect back-to-back derivatives trades (ie, between themselves and the indirect clearing participant and themselves and CCP). Recovery mechanisms that effectively result in the CM absorbing losses on behalf of indirect clearing participants or otherwise shielding them from being exposed to such losses could challenge this assessment and result in the CMs regarding themselves as principal to both sides of the trade for accounting purposes.

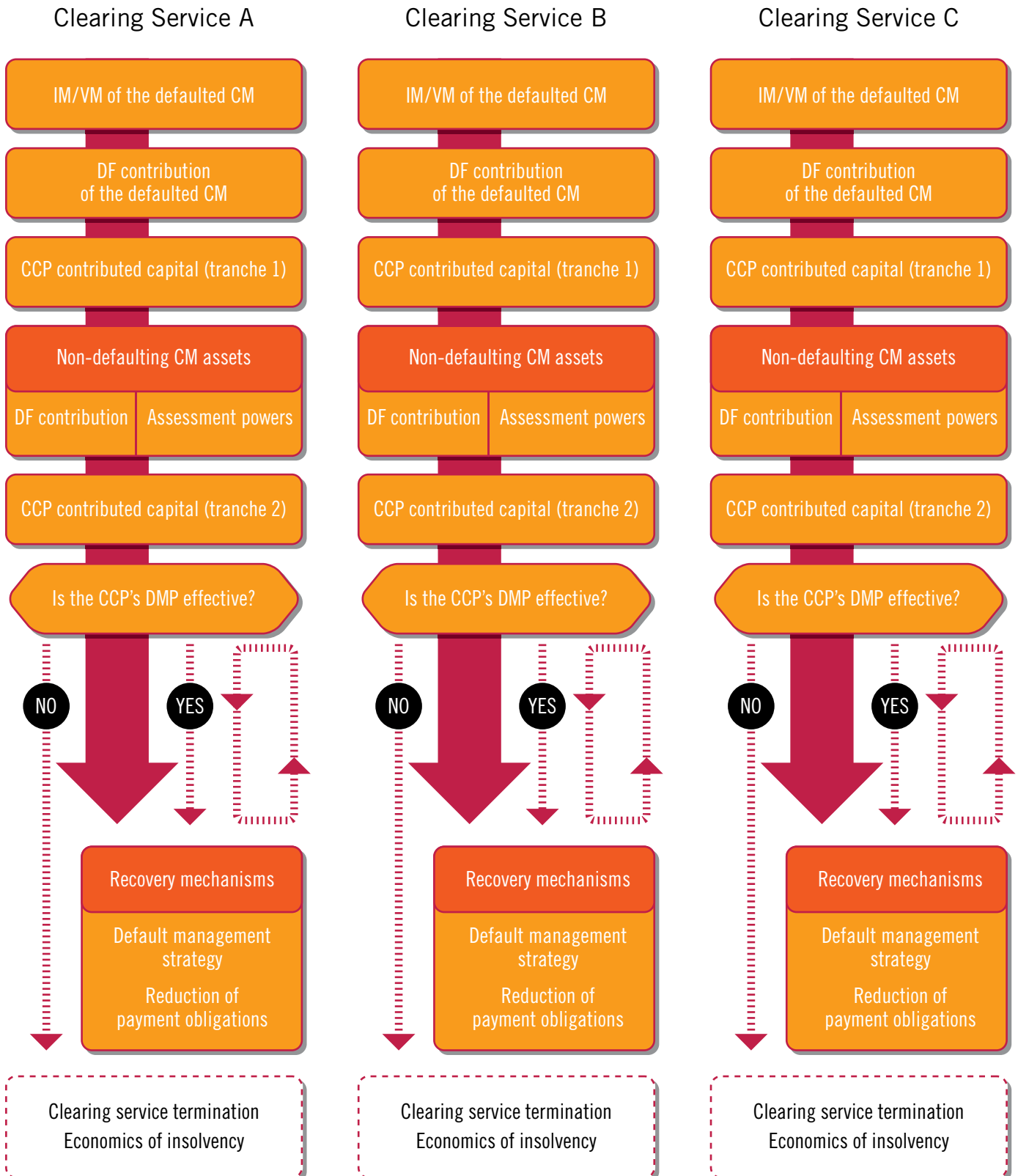
## APPENDIX IV: TRADITIONAL AND SYSTEMICALLY SAFE DEFAULT WATERFALL

CCP Traditional Structure

CCP Systemically Safe Structure



## APPENDIX IV: SYSTEMICALLY SAFE DEFAULT WATERFALL / LIMITED RECOURSE CLEARING SERVICES



## APPENDIX V: CLEARING CONDITION

An effective DMS is a mandatory prerequisite to both the voluntary or mandated clearing of a product. Therefore, prior to offering a product for clearing (and thereby potentially mandating clearing participants to clear it), the CCP must be able to satisfactorily demonstrate the following clearing conditions.

The industry believes that the DMS must be able with a high degree of confidence to significantly reduce the risk of a defaulted CM's portfolio within a specified period of time (as defined in the CCP rule book). For each product that is cleared, the DMS must consider the following:

- The specified period stated within the DMS needs to define the period over which the IM collected must cover close-on-close mid-market valuation changes.
- The DMS must also consider and define the hedging/liquidation and bid/ask costs related to reducing the portfolio risk by applying market hedges.
- The DMS must consider the market capacity to provide hedges in a time of default and whether incentives will exist for clearing participants to provide risk-reducing hedges and/or participate in a portfolio auction. The ready availability of market hedges during the DMS specified period defines the amount of risk that can be safely cleared.

Without a comprehensive and effective DMS that is able to be demonstrated through the DMP, there is no basis for believing that IM will cover the costs of default management and the risk assumed in the clearing of a certain product will be manageable.

In addition, it is strongly encouraged that where a CCP offers multiple clearing services, each be segregated and of limited recourse to the CCP (limited recourse clearing service). Limited recourse clearing services act to mitigate the potential for contagion across a CCP's numerous clearing services while also providing the opportunity, in the event of a single clearing service termination, for other clearing services to continue.



## APPENDIX VI: KEY TERMS AND DEFINITIONS

<b>Clearing Participant(s): Direct Participants – CMs and Indirect Participants – Clients</b>	<p>Full range of entities that may have direct (CM) or indirect (client of a clearing member) exposure to CCPs by virtue of their cleared positions.</p> <p>CMs are a subset of clearing participants, each of which unconditionally guarantees the performance of those participants it has as clearing clients, and provides a limited guarantee in the form of DF contributions that are highly expected to assure, but not guarantee unconditionally, the performance of the CCP and thereby other CMs and their respective client guarantees.</p>
<b>Clearing Service(s)</b>	<p>A CCP may clear numerous types of products (or product lines) that are typically organized and referred to as an independent clearing service. For example, a CCP may clear interest rate swaps (IRS) and credit default swaps (CDS). Typically, each clearing service is structured and maintains its own default resources and default management strategy.</p>
<b>Clearing Service Termination</b>	<p>Refers to the wind-down or complete tear-up of a clearing service. Where a CCP offers various limited recourse clearing services, it may terminate a single clearing service without exposure to other viable clearing services or the CCP legal entity itself. Where a CCP offers various clearing services that are not of limited recourse to the CCP, but which instead are full recourse, the failure of a clearing service may lead to resolution and/or insolvency of the CCP and all its clearing services.</p>
<b>Contract Termination: Tear-up</b>	<p>Refers to the establishment of a final price upon termination (eg, at the last available mark-to-market price). To the extent resources are insufficient to permit payment of mark-to-market-gains, payments due to participants would be reduced pro rata (ie, variation margin gains haircutting). The termination or allocation could be: a) of all open contracts in a particular CCP (complete tear-up); b) of all open positions in a particular service (eg, all CDS contracts, but not IRS contracts); c) of only those contracts needed to offset the default contracts; and/or d) contract tear-ups subject to appropriate safeguards to minimize impact on netting sets (CPSS109).</p>
<b>CPSS-IOSCO PFMI</b>	<p>In April 2012, CPSS-IOSCO published the Principles for financial market infrastructures (PFMIs). The PFMIs are designed to ensure that FMIs operate safely and efficiently in normal circumstances and in times of market stress. They require robust risk controls and contingency plans appropriate to the critical role played by FMIs in preserving financial stability.</p>
<b>Critical Service/Function</b>	<p>In general, a systemically important FMI's payment, clearing, settlement or recording functions will be regarded as critical. The failure of an FMI to provide a critical service would likely have a material negative impact on participants or significant third parties, give rise to contagion, or undermine the general confidence market participants. Such negative affects are dependent, in part, on the degree of substitutability of the service – that is, whether the service is also provided by another FMI (or another entity) and whether users of a potentially failed service can practicably switch to an alternative service (CPSS109).</p>
<b>Default Losses (DLs)</b>	<p>Refers to losses that occur as a result of a CM(s) default.</p>
<b>Default Management Strategy (DMS)</b>	<p>Refers to the CCP's overall strategy of default management, including default management practices, the default waterfall and the default management process (DMP). The DMS is inclusive of regulatory requirements for a CCP to implement a recovery and resolution plan.</p>
<b>Default Management Process (DMP)</b>	<p>Refers to the procedures documented in the CCP's rule book that outline the default procedures that a CCP would take in the event of a default event.</p>
<b>Default Resources</b>	<p>The resources available to the CCP in the event of a CM default (ie, default losses). Such resources are typically insulated from other CCP activities and losses that may arise in related to any such other activities (ie, non-default loss).</p> <p>Typically these resources include clearing participant IM (for only that CM's default) and CM default fund contributions, as well as any default resources that have been allocated or contributed by the CCP (ie, SITG).</p>
<b>Default Waterfall / End-of-the-Waterfall</b>	<p>The default waterfall refers to the financial safeguards available to the CCP to cover losses arising from a clearing member default (ie default loss), and the order in which they may be expended. End-of-the-waterfall refers to situations following the exhaustion of all such financial safeguards.</p>
<b>Limited Recourse Clearing Service</b>	<p>A CCP may legally structure its clearing service(s) to be of limited or full recourse to the CCP legal entity. Under a limited recourse structure (also referred to as segregated or silo'd), the same legal entity serves as the CCP for all clearing services, but each clearing service is 'ring-fenced' from other clearing services in such a way that losses arising from the default event in one clearing service cannot result in the default or insolvency of the CCP itself.</p>
<b>No Creditor Worse-Off Principle</b>	<p>Any determination of whether a participant is worse off as a result of resolution measures than in liquidation should, as far as practicable, be based on the losses incurred (or that would be incurred) and recovery made (or that would be made) by the participant after the full application of the FMI's rules and procedures for loss allocation.</p>

<b>Non-Default Losses</b>	Refers to losses that occur for reasons other than a CM(s) default.
<b>Pro-rata Reduction in Unpaid Payment Obligations (PRO)</b>	<p>Process where the CCP reduces pro-rata obligations that arise under a cleared contract. PRO would allow the CCP to distribute any remaining losses by recourse to pro-rata unpaid obligations (eg, variation margin gains) at the beneficial owner level that have accumulated since the commencement of the DMP (ie, day of CM default giving rise to default losses)</p> <p>For example, in the case of OTC IRS clearing, PRO would take the form of variation margin haircutting, where the CCP reduces pro rata the amount it is due to pay participants with in-the-money (net) positions, while continuing to collect in full from those participants with out-of-the-money (net) positions (CPSS109).</p> <p>A participant's loss would be limited by the size of the increase in the value of its positions. Thus, variation margin haircutting represents a measurable and controllable exposure within statistical confidence intervals (CPSS109).</p>
<b>Recovery</b>	<p>Concerns the ability of a CCP to recover from a threat to its viability and financial strength, so it can continue to provide its critical services without requiring the use of resolution powers by authorities (CPSS109).</p> <p>Defined as the actions of a CCP – consistent with its rules, procedures and other ex-ante contractual arrangements – to address any uncovered credit loss, liquidity shortfall, capital inadequacy or business, operational or other structural weakness, including the replenishment of any depleted pre-funded financial resources and liquidity arrangements, as necessary to maintain the FMI's viability as a going concern.</p>
<b>Skin-in-the-game (SITG)</b>	Refers to the CCP's own financial resource contribution to the default waterfall as part of its overall default resources. SITG is typically, by practice and by regulation in certain jurisdictions, placed senior to default resources of a defaulted CM, but junior to any mutualized default resources of non-defaulting CMs.
<b>Viability of the Clearing Service</b>	<p>The viability of a clearing service is demonstrated where the DMP has been successful – that is, it has achieved intended objectives and has been effective in reducing the exposure of the portfolio and ultimately transferring positions to solvent CM(s). Where the DMP is effective and the CCP maintains sufficient default resources, the clearing service is likely to be assessed as viable.</p> <p>The primary indicator that a clearing service may no longer be viable is a failed DMP. The primary indicator of a failed DMP is a failed auction (ie, an inability to transfer the portfolio), precipitated by the inability or lack of market capacity to provide pre-auction risk-reducing hedges to the CCP. If the DMP has failed, the sustainability of the clearing service is threatened and any form of involuntary continuation is likely to only further exacerbate systemic risk. Therefore, it is generally accepted that if the DMP has not restored the viability of the CCP, the CCP must consider clearing service termination (ie, the full tear-up of a clearing service).</p>

## APPENDIX VII: SELECTED EXCERPTS FROM RELEVANT REGULATORY TEXT

### 1. Financial Stability Board, *Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions*, August 2013 (selected excerpts)

<b>Objectives (pg. 15)</b>	<p>An effective resolution regime for FMIs should pursue financial stability and allow for the continuity of critical FMI functions without exposing taxpayers to loss from solvency support. From the point at which an FMI enters resolution pending the restoration of the ability of the FMI to perform those functions as a going concern, their performance by a successor to the FMI or their performance through an alternative mechanism, the use of resolution powers should aim to achieve continuity of critical FMI functions, including, as applicable:</p> <ul style="list-style-type: none"> <li>(i) continuity and timely completion of critical payment, clearing, settlement and recording functions;</li> <li>(ii) timely settlement of obligations due to participants and any linked FMI (subject to the use of any applicable loss allocation powers) and the continued application of relevant finality rules;</li> <li>(iii) continuous access of participants to securities or cash accounts provided by the FMI and (securities or cash) collateral posted to and held by the FMI that is owed to such participants (subject to the use of statutory loss allocation powers);</li> <li>(iv) no disruption in the operation of links between the FMI in resolution and other FMIs; and</li> <li>(v) adequate safeguarding, preservation and continuous processing of, and access to, data stored in a trade repository.</li> </ul>
<b>Statutory objectives (pg. 17)</b>	<p>As part of its statutory objectives and functions, an authority responsible for the resolution of FMIs should be guided in the exercise of its resolution powers by the specific objectives of pursuing financial stability and allowing for the continuity of the critical functions of an FMI in resolution without losses for taxpayers, in addition to the other relevant general objectives set out in Key Attribute 2.3.</p>
<b>Entry into resolution (pg. 18)</b>	<p>Entry into resolution should be possible when an FMI is no longer viable or likely to be no longer viable (before balance-sheet insolvency), and has no reasonable prospect of returning to viability with a reasonable timeframe through other actions taken by the FMI (that do not themselves compromise financial stability). Entry into resolution should be possible, in particular, if:</p> <ul style="list-style-type: none"> <li>(i) recovery measures taken by the FMI, including use of its available assets and default resources and application of any loss allocation rules, have failed to return the FMI to viability or have not been implemented in a timely manner; or</li> <li>(ii) the relevant oversight, supervisory or resolution authority determines that recovery measures will not be sufficient to return the FMI to viability or would otherwise compromise financial stability.</li> </ul>
<b>Implementation of loss allocation rules and procedures prior to entry into resolution (pg. 18)</b>	<p>Where the FMI has rules and procedures for loss mutualization or allocation, those rules and procedures should generally be exhausted prior to the entry into resolution of the FMI (unless it is necessary or appropriate to initiate resolution before rules and procedures have been exhausted). Where any such rules and procedures have not been exhausted prior to entry into resolution, the resolution authority should have the power to enforce implementation of those rules and procedures.</p>
<b>"No creditor worse off" principle</b>	<p>Any determination of whether a participant is worse off as a result of resolution measures than in liquidation (application of the no-creditor-worse-off safeguard set out in Key Attribute 5.3) should as far as practicable be based on the losses incurred (or that would be incurred) and recovery made (or that would be made) by the participant after the full application of the FMI's rules and procedures for loss allocation.</p>

### 2. CPSS-IOSCO, *Recovery and resolution of financial market infrastructures*, July 2012 (selected excerpts)

<b>Preventative measures and recovery planning (pg. 2)</b>	<p>The resilience of FMIs to shocks and their ability to recover from them relies on the FMIs (a) maintaining sufficient financial resources in sufficiently liquid form to withstand financial shocks, (b) developing a sound process for replenishment of financial resources that may be called upon in a stress event, and (c) designing effective strategies, rules and procedures to address losses. These preventative and recovery measures include plans for allocating uncovered credit losses and liquidity shortfalls, as well as maintain viable plans for restoring an FMI's ability to operate as a going concern or to wind down its operations in an orderly manner. Implementation of the CPSS-IOSCO PFMI's addresses prevention and recovery.</p>
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<b>Activation and enforcement of recovery plans (pg. 3, 2.6)</b>	Relevant supervisory, regulatory, and oversight authorities should oversee the execution of these plans, coordinating with the authority designated with responsibility for exercising resolution powers (the resolution authority) as necessary. Coordination and information-sharing among and between all relevant parties are critical to the successful execution of the FMI's plans. It is possible, however, that an FMI's execution of relevant recovery measures may be suboptimal in terms of timeliness, judgment or discretion. In addition, factors such as unanticipated conflicts of interest, uncontrollable external factors and human error could result in poor or inadequate execution. In such cases, the relevant authorities should have the necessary powers to require implementation of recovery measures and drive optimal execution. These powers may include issuing orders, imposing fines or penalties, or even forcing a change of management, as appropriate.
<b>Entry into resolution (pg. 10)</b>	Resolution should be capable of initiation once an FMI is no longer viable or likely to be no longer viable, and has no reasonable prospect of sustaining or recovery viability. Clear standards or suitable indicators of non-viability are needed to guide decisions on whether institutions meet the conditions for entry into resolution.  For an FMI, the possible stages which may precede an FMI's entry into resolution include the following: (a) the FMI's recovery plan have failed or have not otherwise been implemented in a timely manner; or (b) the relevant authority determines that recovery plans will not work, no further remedial action is feasible and the FMI needs to be placed into resolution immediately.

### 3. CPSS-IOSCO, *Recovery of financial market infrastructures*, August 2013 (selected excerpts)

<b>The importance of maintaining critical services (pg. 5, 2.1.3)</b>	Maintaining the continued provision of an FMI's critical services is particularly important where there is only one FMI providing those services or where there will be substantial practical problems in transferring these critical services rapidly to another FMI. Importantly, in many markets, the option of transferring critical services from a failed FMI to a viable FMI is not a practical recovery option. Given these practical issues, as well as the dependence of financial institutions and the market more generally on FMIs, the continuity of an FMI's critical services even under extreme circumstances is therefore essential. At the same time, FMIs should not expect public funds to be made available to maintain their viability. Thus, having a strong recovery plan is a vital element in enabling the continued provision of critical services.
<b>Triggers (pg. 9)</b>	FMIs should define the criteria (both quantitative and qualitative) that will trigger the implementation of part or all of the recovery plans. This will help avoid undue delays in the implementation of the plans.  In some cases the triggers will be obvious. For example, in the case of participant defaults, recovery plans will be triggered when the FMI has exhausted the pre-funded financial resources or the liquidity arrangements it has in place to deal with such defaults or when it has become unlikely the pre-funded financial resources or liquidity arrangements will be sufficient to deal with the defaults.
<b>Oversight and enforcement of implementation of recovery plans (pg. 11)</b>	In the event that an FMI's recovery plans need to be implemented, the relevant regulatory, supervisory, and oversight authorities should oversee the implementation consistent with their respective responsibilities. Coordination and information-sharing between all relevant parties are critical for the successful execution of the FMI's plans.  It is possible that an FMI's execution of relevant recovery measures may be ineffective (for example, in terms of timeliness). In addition, factors such as unanticipated conflicts of interest, uncontrollable external factors and human error could result in inadequate execution. In such cases, the relevant authorities should have the necessary powers to require implementation of recovery measures and drive optimal execution. These powers may include issuing directions or orders, imposing fines or penalties, or even forcing a change of management, as appropriate.
<b>Guidelines for appropriate recovery tools (pg. 13)</b>	[...] The tools should be designed to, in the aggregate, address all uncovered credit losses, liquidity shortfalls or unbalanced positions, to make good any capital shortfalls, and restore other financial resources to the minimum level required by regulation, while minimizing, to the extent possible, the negative impact on participants and the financial system as a whole. [...] The following guidelines are designed to help FMIs evaluate the strengths and weaknesses of tools so that they can choose an appropriate tool (or set of tools) for a particular recovery scenario.  <b>(i) Comprehensive</b> The set of recovery tools should provide a comprehensive description of how the FMI would, where relevant, allocate any uncovered losses; cover liquidity shortfalls; address an unbalanced position; and replenish its financial resources, including its own capital, in order to continue to provide critical services in all relevant circumstances. The set of recovery tools should be flexible enough to apply to a wide range of scenarios and should take account of the FMI's ongoing risk management as well as the event that has triggered the use of recovery tools.

	<p><b>(ii) Effective</b>                  There should be a high degree of confidence that the set of recovery tools will be effective. Therefore, the set of tools should be reliable, available in a timely manner and have a strong legal basis on which it can be enforced.</p> <ul style="list-style-type: none"> <li>• Reliability: there should be a high degree of certainty that the FMI will be able to implement each tool in all relevant circumstances, including in times of stress. FMIs should take into account the extent to which participants, owners and third parties would have sufficient resources to fulfill their potential obligations when considering the reliability of a tool.</li> <li>• Timeliness: the set of tools should provide the FMI with the required resources as soon as they are needed.</li> <li>• Legal basis: each tool should be consistent with the FMI's rules, membership agreements, contracts, and the regulatory and legal frameworks in all relevant jurisdictions.</li> </ul>
	<p><b>(iii) Transparent</b>                  The recovery tools should allow those who would bear the losses and liquidity shortfalls to understand clearly how the allocation of the losses and liquidity shortfalls would be determined given the use of such tools both individually and in the aggregate.</p>
	<p><b>(iv) Provide appropriate incentives</b>                  The set of recovery tools should be designed to provide appropriate incentives for owners and participants. In particular, they should provide incentives for:</p> <ul style="list-style-type: none"> <li>• participants to control the amount of risk that they bring to or incur in the system;</li> <li>• participants and owners to monitor the FMI's risk-taking and management activities; and</li> <li>• surviving participants to assist the FMI in its default management process.</li> </ul> <p>FMIs should be mindful of the incentives that a tool, or set of tools, creates for both direct and indirect participants to clear and settle trades safely and efficiently and should avoid unnecessary disincentives to participation in well-designed FMIs.</p>
	<p><b>(v) Minimum negative impact</b>                  Recovery tools that have a smaller negative impact on surviving participants, financial markets and the financial system more broadly are more desirable. It is especially important that any potential pro-cyclical effects are taken into account in making this determination.</p>

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