



15 October 2013

FINANCIAL STABILITY BOARD
Bank for International Settlements
Centralbahnplatz 2
Basel
CH-4002
Switzerland

Via email: fsb@bis.org

Response to FSB Consultative Report - Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions

Dear Sirs,

The Alternative Investment Management Association (AIMA)¹ and Managed Funds Association (MFA)² (together, we) appreciate the opportunity to provide comments on the Financial Stability Board (FSB) consultative document on the *Application of Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions (Consultation)*.³ Our members are substantial users of central counterparty (CCP) clearing services for both exchange-traded and cleared over-the-counter (OTC) derivative contracts, and their demand for such services will increase as different regulators fully implement their respective mandatory clearing initiatives.⁴ As significant users of CCPs, our members are exposed to the risk of losing their positions and posted collateral if a CCP fails, even though our members are indirect CCP participants, who access a CCP as a client of a clearing member.⁵ Our response, therefore, focuses on Appendices I and III.

Overall, we support the adoption of robust and tailored rules to avoid the failure of any systemically important financial institutions (SIFI) in the first instance and, should failure nonetheless occur, to enable the orderly, fair and transparent resolution of such SIFI without recourse to taxpayer funding.

Fundamentally, the most effective regulatory framework to address the prospect of CCP failure is one that focuses on preventing CCP failure *ex ante*. Existing financial resource requirements,⁶ risk management rules and default rules and procedures for CCPs⁷ are designed to achieve a viable financial structure and a confidence

¹ As the global hedge fund association, the Alternative Investment Management Association (AIMA) has over 1,300 corporate members (with over 7,000 individual contacts) worldwide, based in over 50 countries. Members include hedge fund managers, fund of hedge funds managers, prime brokers, legal and accounting firms, investors, fund administrators and independent fund directors.

² Managed Funds Association (MFA) represents the global alternative investment industry and its investors by advocating for sound industry practices and public policies that foster efficient, transparent, and fair capital markets. MFA, based in Washington, DC, is an advocacy, education, and communications organization established to enable hedge fund and managed futures firms in the alternative investment industry to participate in public policy discourse, share best practices and learn from peers, and communicate the industry's contributions to the global economy. MFA members help pension plans, university endowments, charitable organizations, qualified individuals and other institutional investors to diversify their investments, manage risk, and generate attractive returns. MFA has cultivated a global membership and actively engages with regulators and policy makers in Asia, Europe, the Americas, Australia and many other regions where MFA members are market participants.

³ Available at: http://www.financialstabilityboard.org/publications/r_130812a.pdf.

⁴ In particular, Regulation 648/2012 on OTC derivatives, CCPs and trade repositories (EMIR), available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:201:0001:0059:EN:PDF> and Title VII of the Dodd-Frank Wall Street and Consumer Protection Act of 2010, Pub. L. 111-203, 124 Stat. 1376 (Dodd-Frank) available at: http://www.cftc.gov/ucm/groups/public/@swaps/documents/file/hr4173_enrolledbill.pdf.

⁵ In this letter, we use the term 'clients' to mean the buy-side participants that undertake a contractual relationship with a clearing member that enables the relevant buy-side participant to clear derivative contracts indirectly with the relevant CCP.

⁶ Such financial resources include, among others, margin, the CCP's own capital, guaranty fund deposits, and assessment powers. See e.g., Articles 16, 41, 42 and 43 of EMIR and Article 35 of Commission Delegated Regulation (EU) No 153/2013 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties (Commission Delegated Regulation), available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:052:0041:0074:EN:PDF>.

⁷ See e.g., Chapter III of EMIR, and Chapter IV of CFTC Final Rule on Derivatives Clearing Organisation General Provisions and Core Principles, available: <http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2011-27536a.pdf>.

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buffer so that participants know that the CCPs they use will honour their contracts and repay their collateral. However, as no set of rules ensures the absolute safety and soundness of CCPs, there remains a residual risk, however remote, that a CCP failure will occur and that the results could be extremely damaging.

We, nonetheless, stress that any resolution regime must allocate losses in a fair and predictable manner in order to prevent disproportionate burdens from being placed on certain categories of clearing participants, particularly indirect participants. As clients of clearing members, our members require robust protection of their assets. We are, thus, extremely concerned about the possibility of a resolution authority using client assets as a potential loss allocation tool during a CCP resolution to cure a direct participant's default. Use of non-defaulting client assets should not form part of any resolution regime. If such use is permitted, it must only be as a last resort.

Summary of our key points:

We respond, below, to certain aspects of the Consultation and the questions posed therein. Our key points are as follows:

- *Ex ante* measures should be used to address the relatively remote risk of a CCP's failure.
- In situations where a CCP has failed and has entered into resolution, we recommend that, where possible, it be liquidated in as prompt and efficient a manner as possible, with clients gaining immediate access to their collateral held by the CCP. However, where prompt and orderly liquidation is not possible due to the size and complexity of a CCP, resolution authorities should implement the applicable resolution regime(s) in a manner that sustains the critical functions of the CCP until it can be wound up in an orderly manner. At all times, it must be ensured that losses arising from the resolution of the CCP are allocated in the fairest manner such that losses do not fall disproportionately on clients.
- The use of client margin haircutting as a loss allocation tool during the resolution of a CCP is antithetical to the agreed G20 objectives and would place burdens disproportionately upon clients. However, if resolution authorities must use posted client margin as a loss allocation tool of last resort, then resolution authorities should limit such use to variation margin (**VM**) haircutting on a **gross** basis only.
- Because CCPs are diverse in size and the products that they clear,⁸ in resolving a CCP, a resolution authority should also take into account the size of a CCP, the breadth of services that it offers, and the consequences to the broader financial system of its failure or cessation in providing clearing services.
- Maximising transparency at all stages of a CCP resolution is vital to ensuring predictability for market participants, and therefore, maximising the orderliness of the CCP's failure.
- The fact that clients will be impacted by a CCP failure, may bear losses, or may be required to contribute to the resolution of a CCP underscores the need for buy-side participants, as clients of CCP clearing members, to have affirmative and meaningful representation on CCP governing bodies, in particular, CCP Boards, Risk Committees and Default Management Committees.

We would be happy to discuss with you any of the points raised in this submission. Please do not hesitate to contact Jiří Król or Oliver Robinson of AIMA on +44 (0) 20 7822 8380 or Stuart J. Kaswell or Carlotta King of MFA on (202) 730-2600 with any questions you might have.

Yours truly,

/s/

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Alternative Investment Management Association

/s/

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Executive Vice President & Managing
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Managed Funds Association

⁸ In Europe, we are aware that ESMA has received over 40 applications from both EU and non-EU CCPs. These applicants include the major incumbent CCPs affiliated with major trading venues as well as smaller and more specialised CCPs.



Annex 1

In response to Question 1 of the Consultation,⁹ we believe that CCPs, like other financial market infrastructures (FMIs), tend to be SIFIs. CCPs, however, differ greatly in their structure and services from other FMIs. Furthermore, different CCPs pose very different challenges for resolution authorities upon their failure. Therefore, we strongly recommend that, in any guidance accompanying the FSB Key Attributes of Effective Resolution Regimes for Financial Institutions (Key Attributes),¹⁰ the FSB make a clear distinction between CCPs and other FMIs.

Ex ante measures

As a general matter, we believe that reasonable *ex ante* measures can play an important role in preventing systemic instability arising from the disorderly failure of a systemically important CCP. The extent to which such preventative measures are used must, nonetheless, be weighed against the CCP's relatively remote risk of failure. Preventing a CCP failure in the first instance is the goal, but not at any cost.

One option is additional *ex ante* capital charges and default fund contributions from CCP shareholders and clearing members. We recognise that rules enacted globally to implement the G20 agreements on derivatives market reforms provide *ex ante* CCP capital and default fund requirements. Such default waterfall requirements provide confidence that a CCP can avoid failure under foreseeable market conditions. However, it is important that the CCP itself is exposed to the loss of its own funds as part of the default waterfall so that its interests are harmonised to the greatest degree with the interests of its participants and it has a greater incentive to avoid default. Therefore, it is necessary to mandate that CCPs have 'skin-in-the-game' as an *ex ante* measure.¹¹

We also recommend that, upon a CCP exhausting its guarantee fund, the CCP should have another layer of CCP shareholder capital to assist with loss absorption and should use proportionate and contractually agreed liquidity calls on non-defaulting clearing members, as envisaged by section 4.8(i) of Part I of Annex I of the Consultation.¹² The use of such capital-based tools would substantially reduce contagion risk stemming from a CCP resolution. Moreover, if a goal of the resolution process is the restoration of the CCP's ability to perform its critical functions as a going concern,¹³ it will be necessary to recapitalise the CCP and the guarantee fund. CCP's shareholders and clearing members should be responsible for providing those assets.

Client asset protection in resolution

CCPs generally demand that clients post margin via title transfer collateral arrangements (TTCAs). Upon the CCP's failure, as the CCP has legal title over posted client assets pursuant to the terms of the TTCA, it is difficult for clients to recover their assets in a timely manner. We support section 1.1.(iii) of Part I of Annex I,¹⁴ which encourages participants' continuous access to their accounts and collateral held by the CCP under resolution. We also support section 1.1 of Appendix III of the Consultation, which focuses on ensuring clients' prompt access to their assets and avoiding adverse impacts that might arise from the lack of such client access.¹⁵ As a result, a desirable *ex ante* measure to further this client protection objective and to facilitate a more orderly resolution of the CCP is to permit clearing members and their clients to post margin by way of security arrangements (SAs) rather than TTCAs. Collateral posted by way of SAs is easier to recover upon a CCP liquidation as the client maintains ownership rights over the collateral, rather than merely a contractual right to receive equivalent assets.

We are concerned, nonetheless, that the FSB definition of 'client assets' contained within Section 2 of Annex III¹⁶ would exclude from the scope of the FSB guidance any collateral delivered by TTCA. As we point out above, collateral posted to CCPs is generally in the form of TTCA. To exclude it from scope would have systemic risk consequences in direct conflict with the objectives of the Key Attributes.

⁹ See Consultation at 7.

¹⁰ Available at: <http://www.bis.org/publ/cpss101a.pdf>.

¹¹ See e.g., Article 16 EMIR and Article 35 of Commission Delegated Regulation on requirements for central counterparties.

¹² See Consultation at 19.

¹³ See *id.*

¹⁴ See *id.*

¹⁵ See *id.* at 44.

¹⁶ See *id.* at 45, Subsection 2.2(iii).



Maintenance of critical services versus immediate orderly liquidation

In response to Question 3 of the Consultation,¹⁷ we are concerned that regulators appear focused on continuing the critical services of the CCP under resolution at any cost. We note the FSB guidance contained within section 1.1. of Part I of Annex I asserts that the use of resolution powers ‘should aim to achieve continuity of critical FMI functions’ ‘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’.¹⁸

We believe that, whenever the relevant supervisory and prudential authorities determine that the criteria for entering a CCP into resolution have been met, the relevant authorities should seek to liquidate the CCP in a swift and orderly manner that ensures that clients have immediate access to their collateral held by the failed CCP. A prompt and orderly liquidation may be preferable from the client perspective because it would allow them to close-out their open positions, access their funds, and enter new positions cleared with an alternative CCP. We, therefore, respectfully suggest that the FSB include an additional objective under section 1.1. of Part I of Annex I that provides that resolution authorities, wherever achievable, focus on a prompt and efficient liquidation of the failed CCP, with the immediate return of clients’ assets held at the CCP.

We, nonetheless, acknowledge that a prompt and orderly liquidation that also ensures that clients have immediate access to their collateral may not be possible for the largest and most complex CCPs. In such situations, we believe that resolution authorities should implement the applicable resolution regime(s) in a manner that preserves the CCP’s critical services until a point in the future upon which orderly liquidation becomes possible. We, therefore, propose an addition to the wording of section 1.1. of Part I of Annex I, as follows:

‘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~~ or the orderly liquidation of the FMI, the use of resolution powers should aim to achieve continuity of critical FMI functions, including, as applicable:’

In all CCP resolutions, resolution authorities should allocate losses among CCP owners and other stakeholders in the fairest manner possible, such that losses do not fall disproportionately on clients. We discuss our recommendations as to how resolution authorities should fairly allocate such losses, below.

In addition, resolution authorities should ensure that any auction process in respect of a particular defaulting member’s positions is open to clients as well as to clearing members. Increasing the number of buyers in an auction by permitting clients to participate would increase competition and likely result in higher auction bids and sales. Therefore, given the importance of clients to the continued functioning of the market in a CCP resolution scenario, clients should be able to participate in auctions to the same extent as dealers and other sell-side market participants.

We also strongly recommend that, when liquidating a CCP and returning assets to its client, relevant decision-makers should take into account the size of the CCP and the breadth of its service offerings and consider carefully the potential impact on the broader financial system.

Margin haircutting as a loss allocation tool

In relation to sections 4.8 and 4.9 of Part I of Annex I,¹⁹ we believe strongly that the use of non-defaulting client margin as a loss allocation tool is antithetical to the G20 objective of mitigating systemic risk in the derivatives market²⁰. Therefore, we believe that, as a general matter, a resolution authority should never subject client assets to margin haircutting or ‘bail-in’ as a resolution tool.

Nonetheless, we recognise that resolution authorities must allocate losses more broadly once they exceed all other available CCP resources. Thus, in such a circumstance, a resolution authority may have no option but to use margin haircutting (including of client margin) as a loss allocation tool. A core aspect of deciding how to apply any margin haircutting approach is determining who will bear the uncovered participant losses and how such losses will be allocated among CCP participants. Fundamentally, if a resolution authority decides to employ

¹⁷ See *id.* at 7.

¹⁸ *Id.* at 16.

¹⁹ See *id.* at 19.

²⁰ G20 Leaders Statement - Pittsburgh Summit - September 2009, available at: <http://www.g20.utoronto.ca/2009/2009communique0925.html>.



margin haircutting as a last resort, with respect to client assets, it must haircut solely client VM and only on a gross basis.

With respect to Question 5 of the Consultation on initial margin (IM) haircutting, we strongly object to IM haircutting in any CCP resolution. Many jurisdictions' legislative and regulatory frameworks prohibit the use of a client's posted IM to cover obligations other than those resulting from that client's own default. In the U.S., for example, such use of a non-defaulting client's IM is contrary to U.S. bankruptcy law,²¹ Dodd-Frank²² and related rules of the U.S. Commodity Futures Trading Commission (CFTC),²³ and we expect the rules of the U.S. Securities and Exchange Commission (SEC)²⁴ to prohibit it as well. In short, we do not believe IM haircutting presents a legally viable option as a CCP resolution tool.²⁵ Clearing participants have also made it clear that, in practice, IM haircutting is not suitable as it will result in procyclicality and contagion as participants will be required to replenish it during periods of financial stress.²⁶

Similarly, VM haircutting is not desirable and may exacerbate contagion throughout the broader financial system. In particular, VM haircutting on a portfolio or net basis results in the allocation of losses in a manner that is both unfair and unpredictable. Specifically, net VM haircutting allocates losses disproportionately to participants with directional positions, which are more likely to be buy-side participants²⁷ (as opposed to market makers, dealers and other sell-side participants). Dealers and market makers generally maintain a risk-neutral book at the CCP.

Many buy-side participants, however, are more likely to have a directional portfolio at the CCP, either because they are taking an outright view on the direction of certain products or markets, and or are using their positions at the CCP to hedge other positions. Other participants may not be subject to directional exposure voluntarily either. For example, a physical producer of commodities may make one directional trade at a CCP to hedge its future commodity production.

To illustrate the disproportionate impact on customers of a net VM haircutting paradigm, consider the following stylized market:

- The market consists of 50% sell-side participants and 50% buy-side participants.
- Sell-side participants (dealers and market makers) will generally have a risk-neutral book at the CCP.
- Buy-side participants, however, will generally have a directional book at the CCP because they are taking an outright view on the direction of certain products or markets and are using cleared positions at the CCP to hedge other positions, such as cash securities, physical commodities, or uncleared derivative positions. For example, a physical producer of commodities may have a directional trade at a CCP that is actually a hedge of its future commodity production.
- On any given day that the market moves, the risk-neutral books of dealers and market makers will not produce material VM inflows or outflows.
- By contrast, the directional books of customers will produce some material net VM inflows and some material net VM outflows (presumably 50% inflows and 50% outflows).
- If a resolution authority were to apply VM haircuts only to the net VM outflows, such a net VM haircutting regime would concentrate all the losses the resolution authority is seeking allocate on roughly 25% of the overall market, and 100% of the participants bearing such losses would be customers.

²¹ See U.S. Bankruptcy Code, 7 U.S.C. §741-753 and §761-766.

²² See Sections 724 and 763 of Dodd-Frank.

²³ See CFTC final rules on *Protection of Cleared Swaps Customer Contracts and Collateral; Conforming Amendments to the Commodity Broker Bankruptcy Provisions*, 77 Fed. Reg. 6336, (February 7, 2012), available at: <http://www.gpo.gov/fdsys/pkg/FR-2012-02-07/pdf/2012-1033.pdf>.

²⁴ See SEC proposed rules on *Capital, Margin, and Segregation Requirements for Security-Based Swap Dealers and Major Security-Based Swap Participants and Capital Requirements for Broker-Dealers*, 77 Fed. Reg. 70214 (November 23, 2012), available at: <http://www.gpo.gov/fdsys/pkg/FR-2012-11-23/pdf/2012-26164.pdf>.

²⁵ We also note that broad responses to regulators that have consulted on the application of bail-in to client IM have led to the adoption of a clear policy position excluding client IM from such loss allocation.

²⁶ Financial Stability Paper No.20 0 April 2013 on Central counterparty loss-allocation rules, available at: http://www.bankofengland.co.uk/publications/Documents/fsr/fs_paper20.pdf.

²⁷ Buy-side participants use cleared derivatives to hedge cash securities holdings, physical commodities, or positions they hold in the uncleared derivatives market.



This disproportionate loss allocation is neither fair nor predictable. Net VM haircutting also heightens contagion risk because it concentrates losses across a relatively narrow band of participants that may be least able to absorb the losses. Net VM haircutting also leads to market inequities by penalising buy-side participants that either used cleared derivatives to: (i) hedge non-CCP exposures, or (ii) to predicted correctly the direction of their cleared derivative positions.

As a result, if a resolution authority must use VM haircutting, we strongly believe it should be done on a **gross** basis (*i.e.*, at the level of individual positions rather than the net portfolio of each participant). By using gross VM haircutting, a CCP would haircut every individual contract with a daily mark-to-market gain, regardless of whether the relevant participant has other positions in its portfolio that have a daily mark-to-market loss. Gross VM haircutting, thus, ensures that a resolution authority allocates losses across 100% of its participants (*i.e.*, not just those participants with a net directional position that is 'in-the-money' on that day). Not only would gross VM haircutting spread losses more fairly, thus minimising contagion risk, but it would also:

- (1) Reflect each participant's usage of, and utility gained, from the CCP.²⁸ We consider that loss allocation according to 'use' of the CCP makes more economic sense than 'risk' posed to the CCP, since risk is collateralised;
- (2) Encourage all market participants to remain relatively willing liquidity providers in stressed market conditions, because, as haircuts are spread across a greater number of open positions, it would reduce the haircut per derivative contract that is in-the-money; and
- (3) Encourage market participants to improve the administration of their cleared portfolios, for example, by maintaining portfolio compression to the maximum extent possible.

We have provided graphical representation of the outcomes of using gross versus net VM haircutting within Annex 2, below.

Transparency

To maximise the orderly nature of any CCP resolution that involves the maintenance of that CCP's critical services (*i.e.*, until the CCP or a successor CCP can perform the services as a going-concern), participants must have sufficient confidence in the CCP's ability to perform on a relatively normal basis. To maximise this confidence, it is vital that participants have the requisite level of transparency into the resolution authority's decision-making. Relevant transparency could include, for example: (i) the timing and progress of the resolution; (ii) whether, how and when the resolution authority expects to terminate participants' remaining positions and return their assets held by the CCP; and/or (iii) whether the resolution authority intends to maintain the critical services of the CCP and stay participants' contractual termination rights for any period of time.

Buy-side representation on CCP governing bodies

The fact that clients will be impacted by a CCP failure, may bear losses or be subject to margin haircuts as a loss allocation tool underscore the need for buy-side participants, as clients of CCP clearing members, to have affirmative and meaningful representation on CCP governing bodies (in particular, CCP Boards, Risk Committees and Default Management Committees). Thus, we strongly support the EMIR provisions that: (i) promote CCP accountability and transparency;²⁹ (ii) require participation of clients in the risk committees of CCPs;³⁰ (iii) affirmatively limit the representation of any group on CCP committees to a percentage lower than a controlling majority;³¹ and (iv) require CCPs to invite client representatives to meetings of the CCP's board of directors for matters relating to transparency, segregation and portability.³²

However, since clients represent a substantial portion of the trading volume of each class of OTC derivatives, clients are important stakeholders and should have their views reflected in the critical decisions of these bodies.

²⁸ We believe gross VM haircutting is a fairer proxy for allocation of losses, because it reflects a participant's activity at the CCP. Accordingly, the greater a participant's usage of a CCP, the more the participant should contribute to the resolution of such CCP (*i.e.*, it is appropriate that the effect on a participant with one derivative contract would be less than then effect on a participant with 1,000 derivative contracts).

²⁹ See Article 26(7) of EMIR, which requires CCPs to, *inter alia*, make their governance arrangements available to the public free of charge.

³⁰ See *id.*, Article 28(1) of EMIR, which requires CCP risk committees to include representatives of clients as well as clearing member representatives and independent directors.

³¹ See *id.*, which provides that none of the groups represented on CCP risk committees will have a majority.

³² See *id.*, Article 27(2) of EMIR, which requires client representatives to be invited to Board meetings for matters relevant to Articles 38 (Transparency) and 39 (Segregation and portability) of EMIR.



Therefore, we strongly believe that it should be a global mandate (not just a mandate in the EU)³³ that clients have affirmative and meaningful representation on CCP governing bodies. We are concerned that without such a mandate and without the mandate applying to each CCP governing body, CCPs may not adequately take into account the views of all market participants. Thus, in our view, measures that require client representation will foster transparency and confidence in CCPs and greater parity in their governance structure. Such parity in CCP governance is essential for the fair and predictable deployment of CCP recovery tools to address uncovered losses.

³³ See CFTC proposed rules on *Governance Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities; Additional Requirements Regarding the Mitigation of Conflicts of Interest*, 76 Fed. Reg. 722 (January 6, 2011), available at: <http://www.gpo.gov/fdsys/pkg/FR-2011-01-06/pdf/2010-31898.pdf>, where the CFTC continues to consider whether to affirmative mandate client representation on CCP governing bodies. See also SEC proposed rules on *Ownership Limitations and Governance Requirements for Security-Based Swap Clearing Agencies, Security-Based Swap Execution Facilities, and National Securities Exchanges With Respect to Security-Based Swaps under Regulation MC*, 76 Fed. Reg. 12645 (Mar. 8, 2011), available at: <http://www.gpo.gov/fdsys/pkg/FR-2011-03-08/pdf/2011-5183.pdf>, where the SEC proposes governance requirements for CCPs that do not include affirmative client representation.



Annex 2

The example below demonstrates the different outcomes that result from applying VM haircutting on a net (portfolio level) vs. gross (position level) basis.

In this simple example, we assume that the CCP has 3 participants (A, B, and C) trading 2 different contracts (contract X and Y).

On a given day, Participant A goes bankrupt and is not able to make its \$2 VM payment on Contract X.

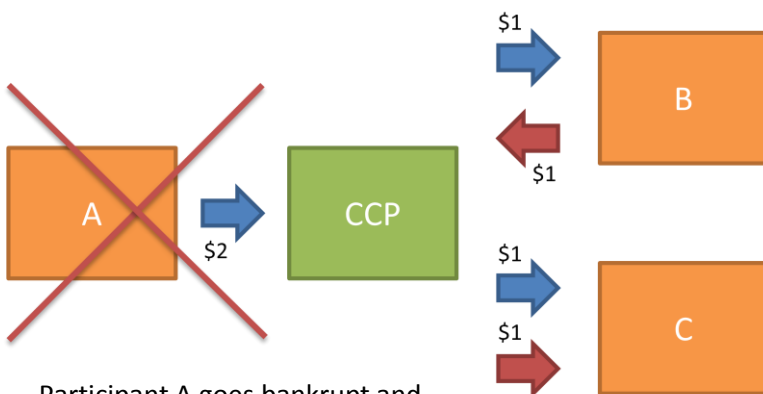
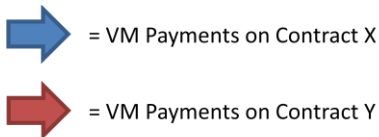
Using the financial resources available to it (including Participant A's IM, default fund contributions, assessment powers, etc.), the CCP is able to absorb \$1 of the shortfall.

Nevertheless, there remains a further \$1 of shortfall that the CCP needs to allocate among Participants B and C.

Given their respective portfolios:

- Under a 'net' VM haircutting model, Participant C would be forced to absorb 100% of the shortfall, while Participant B would absorb 0% of the losses.
- Under a 'gross' VM haircutting model, Participant B and C would share in the shortfall in proportion to the number of 'in-the-money' contracts each held at the CCP.

VM Haircutting – Impact of Net vs. Gross Approach



Final VM Position

	<u>NET</u> <i>(i.e. portfolio level)</i>	<u>GROSS</u> <i>(i.e. position level)</i>
Participant B	Flat	Out \$0.33
Participant C	Out \$1	Out \$0.66

- Participant A goes bankrupt and does not make its \$2 VM payment
- CCP has \$1 to satisfy obligations to Participants B and C (from Participant A's IM, default fund contributions, assessments, etc.)
- Then, CCP imposes VM haircuts on remaining VM payouts