Response to the FSB Discussion Paper
"Financial resources to support CCP resolution and the treatment of CCP equity in resolution"

Introduction

The International Swaps and Derivatives Association (ISDA), The Futures Industry Association (FIA) and the Institute of International Finance (IIF), collectively the Associations, represent the largest number of participants in national and global clearing, banking and financial markets. The Associations appreciate this opportunity to comment on the discussion paper "Financial resources to support CCP resolution and the treatment of CCP equity in resolution" (the discussion paper).

This response covers the positions of our members on the buy-side and sell-side. The paper does not reflect the views of many CCPs, and many of the CCPs are in disagreement with the views.

Management Summary

We believe that the five-step process described in the first part of the discussion paper forms a helpful basis for the analysis of the appropriateness of the financial resources of a CCP in light of its recovery and resolution plans. Applying these five steps will highlight that most CCPs will not have sufficient equity[1] or other resources to deal with extreme events, especially for non-default losses (NDL). CCPs should be well capitalized for the risks they face, and the outcome of this five-step process should be to right-size minimum capital requirements. We propose a combination of increased CCP equity and other tools to bridge this gap.

The second part of the discussion paper on treatment of CCP equity in resolution highlights the issue that the exposure of CCP equity to losses in resolution in excess of those to which it would be exposed in liquidation assuming full application of a CCP's loss allocation rules will likely lead to a "No Creditor Worse Off than in Liquidation" (NCWOL) compensation claim, in particular for default losses. This is because in recovery prior to insolvency, at least for default losses, such losses will in most CCPs be allocated to clearing participants (clearing members and their clients). These recovery tools therefore shield the CCP equity (other than the skin-in-the-game (SITG), the amount of CCP funds that are exposed to losses in default management) from losses. As the discussion paper states, for NDL this is less of an issue as the CCP will not be able to allocate many NDL to participants.

We do not agree that the NCWOL safeguard should apply to CCP equity. However, to the extent that it is, we also put forward a solution to the issues that the use of CCP equity for resolution from default losses will likely lead to a NCWOL claim. Clearing participants should receive compensation for the amount of their total losses resulting from the use of recovery tools above default fund and limited assessments (including, for example, variation margin gains haircutting (VMGH) and limited

[1] When not stated otherwise, references to equity are meant as equity in the accounting sense, not in the sense of minimum capital requirements.

recourse provisions that would operate to extinguish affected clearing participants' deficiency claims in connection with the closing of a contractually silo'ed clearing service). This compensation should be senior to CCP equity and entitle the holders to a portion of the CCP's future income up to the full amount of the loss. Such compensation of clearing participants for losses suffered in recovery as a result of the use of such tools would be fair, as the CCP would not be a viable business without these incremental loss allocations to participants that go beyond the agreed-upon limited assessments. If losses from recovery tools were compensated in recovery with an instrument senior to CCP equity, recoveries in liquidation would go to the holders of those instruments first. It is therefore less likely for CCP shareholders to have a NCWOL claim in resolution if the CCP equity is used in resolution to bear losses.

The discussion paper covers recapitalization of a CCP in resolution. We believe that loss allocation and recapitalization need to be looked at separately. Whoever provides this capital should either receive equity in the CCP or the proceeds from any sale.

Spanning both parts of the discussion paper is the size of the SITG. A CCP should expose a significant part of its capital as part of the default management waterfall so the incentives of the CCP and its clearing members and their clients are aligned. This SITG should be material and dynamically grow with the risk being cleared.

The level of SITG is ultimately a judgement call and is still debated between many CCPs and clearing members. We believe that the optimum level of SITG is difficult to agree between CCPs and clearing participants and ask global regulators to develop standards and guidelines as to sizing SITG for CCPs.

In looking at the financial resources for CCP resolution, we also propose not to look at CCP recovery and resolution in isolation, but to ensure the stability of the whole market and that incentives are aligned between all actors.

General Comments

Financial resources for CCP resolution

We believe that the five-step process described in the first part of the discussion paper forms a helpful basis for the analysis of the appropriateness of the financial resources of a CCP in light of its recovery and resolution plans. The Associations have produced a list of potential NDL and the maximum losses stemming from those (see the response to question 4 for more detail). Some of these maximum losses, for instance the loss of cash in settlement accounts in case of a cyber-attack and/or fraud can be very large. We estimate that most CCPs will not have sufficient equity or other resources to deal with such extreme losses.

The risks that can lead to NDL are generally managed by the CCP. The CCP must therefore be responsible for such losses too. As clearing participants are neither responsible for NDL, nor can they manage or monitor those risks, they are opposed to any solution where NDL for which the CCP is responsible, are allocated to clearing participants, especially in recovery. There are some recovery tools that do not rely on clearing participants, like

- Insurance – will mainly be used for NDL
- Debt that can be converted into equity
- Pre-funding of losses, for instance by higher CCP minimum capital requirements
- Committed but unfunded capital instruments (similar to ancillary own-funds arrangements)

We acknowledge that all these tools come with ongoing costs and that, in some cases, the CCP may pass on these costs, leading to CCP participants paying for these tools.

We believe that CCPs should be well capitalized commensurate with their risks and that current CCP capital requirements in most jurisdictions are too low. The best solution would be a combination of increased CCP equity and other tools.

Treatment of CCP equity in resolution: NCWOL claims if CCP equity is used in resolution

The exposure of CCP equity to losses in resolution in excess of those to which it would be exposed in liquidation assuming full application of a CCP's loss allocation rules will likely lead to a NCWOL compensation claim, in particular for default losses. This is because in insolvency, at least for default losses, such losses will in most CCPs have been contractually allocated to clearing participants in recovery through the use of default fund resources and recovery tools, such as VMGH and/or limited recourse provisions. These recovery tools therefore shield the CCP equity (other than SITG) from losses in insolvency. We agree with the discussion paper that "*a resolution in which shareholders remain in place might raise concerns about whether such resolution achieves an optimal outcome, and could potentially give rise to moral hazard.*"[2]

The discussion paper describes the NCWOL safeguard as follows:

> "*The NCWOL safeguard confers on creditors a right to compensation where the hierarchy of claims in liquidation and the principle of equal (pari passu) treatment of creditors of the*

[2] Page 18 of the discussion paper

same class are not respected in resolution and, as a result, they do not receive what they would have received in a liquidation of the firm under the applicable insolvency regime."[3]

However, the FSB has materially modified the safeguard stated above for application in the context of CCP resolution:

> *"CCP participants (if and to the extent that the resolution authority departs in resolution from the loss allocation under the CCP's rules and arrangements), equity holders and creditors should have a right to compensation where they do not receive in resolution at a minimum what they would have received if, instead of resolution, the CCP had been liquidated under the applicable insolvency law ("no creditor worse off than in liquidation" (NCWO) safeguard).*
>
> *For the purposes of determining whether a participant, equity or creditor is worse off as a result of resolution measures than in liquidation of the CCP under applicable insolvency law, the assessment of the losses that would have been incurred or the recoveries that would have been made if the CCP had been subject to liquidation should assume the full application of the CCP's rules and arrangements for loss allocation."*[4]

We believe that the extension of the safeguard to CCP equity is unwarranted given the history of its development in the context of bank resolution. We call upon the FSB to clarify its articulation of the safeguard for the reasons we set out in the appendix to this letter.

For clarity, should resolution be triggered in scenarios, posited by the FSB in the discussion paper, in which a "*CCP's loss allocation arrangements set out in its recovery plan do not operate as intended, so that the resources are not in fact available or the tools are not able to be used at the time of recovery*" or "*multiple clearing members do not meet their obligations under the CCP's recovery actions,*" the full application of the CCP's loss allocation arrangements should not be assumed as part of the counterfactual when assessing NCWOL claims.[5]

Please find below three proposals that could solve the issue that CCP owners could receive NCWOL compensation if CCP equity is used to absorb losses in resolution.

The Associations clearly prefer the first proposal, the compensation of clearing participants for losses suffered in recovery (above the default fund and limited assessments) and resolution. This solution is fair, as it provides to the entities that incur the losses, which help the CCP to survive, with a share of the future incomes that would not have been there without clearing participants taking losses in recovery. It also prevents CCP shareholders from having a NCWOL claim if the CCP equity is used to bear losses in resolution. This solution should however be combined with our proposal of additional right-sized tranches of SITG and compensation for recapitalization.

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[3] Page 17 of the discussion paper
[4] Page 20 of the discussion paper
[5] Pages 6, 8 and 9 of the discussion paper

1. Compensation of participants for losses in recovery and resolution

The first proposal to solve the issue that the use of CCP equity in resolution will likely lead to a NCWOL compensation claim is for clearing participants to be compensated for losses suffered in recovery.

As described in a prior ISDA whitepaper[6], the Associations support compensation for clearing participants for all losses suffered during recovery and resolution.

Current legislative proposals on resolution and CCP rulebook provisions disproportionately allocate the burden of recovery and resolution on clearing participants in general and clearing members in particular. On the other hand, in recovery from large defaults, the CCP will solely lose its SITG. While profits in business are privatized by the CCP equity holders, losses in recovery and resolution will be socialized to clearing participants and in extremis the tax payer. It is inappropriate and in contrast to basic corporate finance principles that clearing participants are asked to “bail out” a CCP yet future profits that the CCP would not have had without the support from participants go to the shareholders of the CCP.

Clearing participants should retain claims for the amount of their total losses resulting from the use of:

(A) any loss-allocation tools beyond the CCP’s funded default fund contributions and clearing member assessments up to the applicable cap (e.g., VMGH); and/or
(B) any involuntary position allocation or tear-up tools (e.g., partial tear-ups (PTUs) or the full tear-up that would occur in the shutdown of a silo’ed clearing service)

For clarification, losses under (A) would also include losses allocated to clearing participants by the resolution authority (RA), the use of default resources for NDL or any other NDL recovery tools that affect clearing participants[7].

Compensation should:[8]

- Be senior to existing CCP equity in the creditor hierarchy (both in an insolvency and in resolution), but junior to taxpayer claims if taxpayer funds have been used.
- Not be extinguishable prior to satisfaction or conversion into an instrument of corresponding value (in accordance with the terms of the compensation instrument and resolution strategy).
- Include rights to port over to a new entity if the existing CCP legal entity is terminated in resolution[9].
- Not trigger balance sheet insolvency if compensation is awarded in recovery.
- Entitle holders to future CCP accumulated earnings or returns in excess of regulatory capital requirements (i.e, future CCP profits or something of economically equivalent

[6] http://assets.isda.org/media/85260f13-48/d1ef0ce0-pdf/
[7] Please note that this affects only NDL that will lead to a resolution of the CCP. This can be only NDL types that are in the responsibility of the CCP. Other NDL types (e.g. investment losses for self-directed investments that are borne by the clearing members directing the investment) and cannot push a CCP into resolution).
[8] There might also be tax issues and capital requirements implications of awarding compensations that would have to be worked through. Also, not all clearing participants, especially on the buy-side will be able to hold certain forms of instruments. There could also be operational and legal challenges in identifying and providing certain forms of instruments to end-clients.
[9] This and the previous bullet will require adjustments to non-recourse provisions.

value) until they are paid in full, taking the time value of those payments into account (this could for instance be done by attaching an inflation linked coupon to these instruments). During that time, strict limitations should apply to any dividend payments by both the CCP and its parent, including in particular, dividends to any pre-existing equity (for which heightened limitations would be appropriate).

- Keep the non-recourse default waterfall principle intact so as not to threaten the solvency of an operating CCP.
- Not be a longer term controlling interest in the operating CCP, which might distort bidding in the auction and affect the ability to raise new equity in the recovered CCP.

How such compensation claims should be structured can be dependent on the jurisdiction and will require more analysis. A potential solution could be preferred shares, but other instruments or contractual obligations that would be more senior in the creditor hierarchy would be preferable.

Given that compensation would only be paid if and when the CCP returns to profitability, this not only creates additional incentives for clearing participants to contribute to the CCP's default management process, but also encourages clearing participants to continue clearing at the CCP. Continued participation in the CCP would, in turn, preserve the CCP's value and help attract new investors.

If these compensation instruments are structured in a way that they do not push a CCP into insolvency, but are senior to CCP equity, then in liquidation any assets would flow to creditors and holders of the compensation instruments before CCP equity would receive any funds. CCP equity would not be shielded from losses anymore.

Compensation claims by the CCP owners would be less likely if they suffer losses in resolution because they would also be exposed to losses in liquidation.[10]

None of the CCPs that have implemented recovery tools thus far have provided for compensation. Such compensation can only be implemented if there is strong regulation.

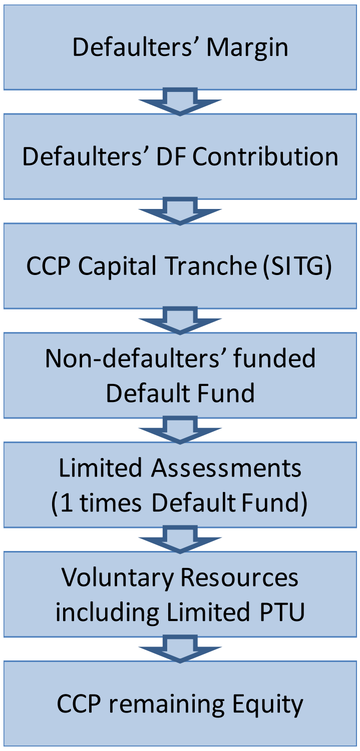
2. Clear distinction between recovery and resolution

The second proposal to solve the issue that the use of CCP equity in resolution will likely lead to a NCWOL compensation claim is to remove loss allocation tools like VMGH from recovery and ensure that non-recourse or similar provisions do not shield equity from losses outside resolution.

These changes would result in more of a boundary between recovery and resolution. For default losses, this boundary could for instance be after the last assessment, or after prefunded resources are depleted. Were recovery and resolution clearly delineated, the responsibilities and activities during recovery and resolution could be clearly separated.

[10] There might be situations where there are so many assets left that some of those can be paid out to equity holders. In such cases resolution would however be unlikely.

The waterfall could look as follows:[11]



At the last step the CCP will be liquidated, or the CCP will elect to implement its wind down plans. In case authorities determine that wind down is not appropriate for market stability, they would step in at the latest before wind-down starts.

The calculation of the costs in liquidation would not include any loss allocation to clearing participants beyond an assessment of up to one times the default fund contribution. Provided that non-recourse provisions are also amended so that they do not shield CCP equity in liquidation, equity holders would not have a claim if they suffered losses in resolution (because they would have also suffered losses in liquidation).

Whether VMGH should be used in recovery as a general matter or be reserved for use by the RA is subject to wider discussion and a variety of factors and considerations that are not covered here. However, as a result of this broader debate over VMGH, not all Association members agree with this approach, and the Associations therefore prefer option 1 (compensation).

3. Exposure of some or all CCP equity during recovery

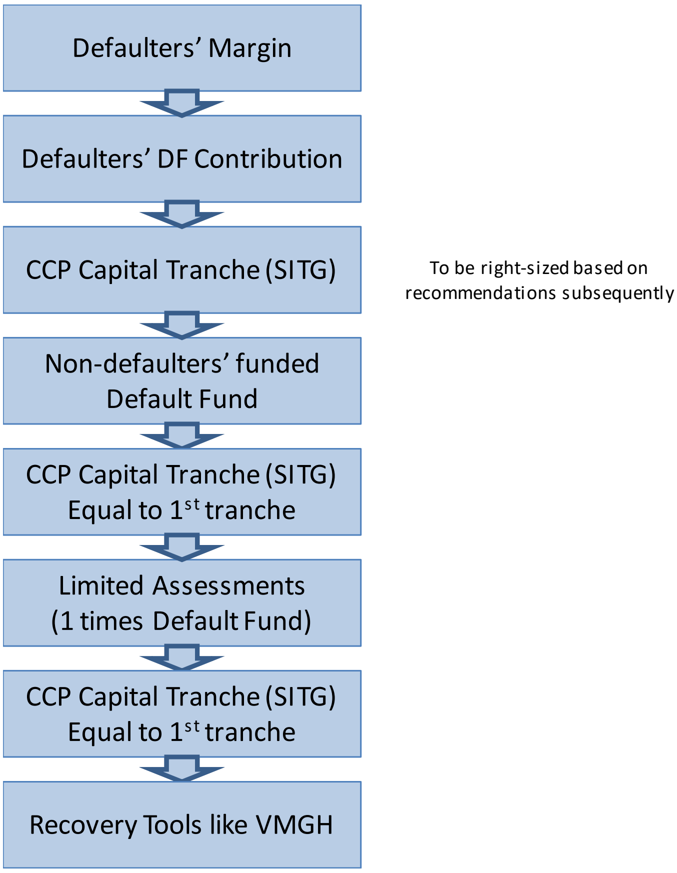
One of the proposals put forward in the discussion paper to solve the issue that the use of CCP equity in resolution will likely lead to a NCWOL compensation claim is to expose some or all CCP equity to losses during recovery at predefined steps in the waterfall.

The Associations generally support larger SITG and additional tranches of SITG, for instance before assessments and/or before recovery tools are used. This would mean that more of

[11] We haven't included desirable resources like a second tranche of SITG to focus on the key aspects of this proposal.

the CCP equity is exposed during recovery and therefore not shielded by recovery tools. Incentives between CCPs and clearing participants would also be better aligned.

The waterfall could have the following steps:[12]



The second tranche of SITG could be before the first assessment or pari passu to the first assessment. If there are more assessments then there should be more SITG, either different tranches or more SITG to be applied pari passu to each assessment.

While additional tranches of SITG are welcome to clearing participants, these additional tranches of SITG would not be a comprehensive solution to the issue that the use of CCP equity in resolution will likely lead to a NCWOL compensation claim.

During recovery these additional tranches of SITG would only include equity in excess of the CCP's minimum capital requirements. Should the RA utilize the remaining CCP equity to bear losses in resolution, the CCP shareholders would still have a NCWOL claim for the equity that was used to bear losses in resolution.

[12] Based on the view that each level of the default waterfall for clearing participants is accompanied by CCP SITG

Treatment of CCP equity in resolution: recapitalization

In the discussion paper and in other regulations regarding CCP resolution, loss allocation and recapitalization are treated in a very similar fashion, especially in terms of funds for recapitalization.

The discussion paper covers recapitalization of a CCP in resolution. We believe that loss allocation and recapitalization need to be looked at separately. The aim of loss allocation is to deal with a past crisis. Recapitalization is to provide capital to the CCP for the future. Whoever provides this capital, should also become the owner of the CCP and either receive equity in the CCP or the proceeds from any sale.

We believe that the RA should not by default look at clearing members for recapitalization. There are other options available that the RA should take into account:

- Third parties willing to buy the CCP, in the process providing capital.
- Use bail-in-able long term debt to provide pre-funded resources reserved solely for recapitalization.
- A subset of clearing participants agrees to recapitalize the CCP.
- Committed but unfunded capital instruments held by sophisticated, well-capitalized institutional investors unaffiliated with the CCP (which could, but not necessarily need to, include clearing participants)

Most currently proposed regulations on CCP resolution would allow the RA to use a cash call without any compensation, even for recapitalization. We do not believe that clearing members should participate in recapitalization via cash calls and welcome that the DP questions whether cash calls should be used for recapitalization. As stated above, the Associations believe there should be compensation instruments issued to clearing participants who suffer losses beyond the CCP's funded default fund contributions and clearing member assessments up to the applicable cap.

If a cash call or any other tool is used for recapitalization, there are three possible options for the RA to compensate the affected clearing members:

- Members could receive compensation instruments as described above.
- Members could receive equity in the CCP.
- A combination of both – compensation instruments from losses in recovery and resolution are converted to true shares.

The value of a CCP for a potential buyer is roughly the sum of discounted future dividends. Should clearing participants receive claims on future income, part of the future dividends will go to the clearing participants who took losses, and not the shareholders. This will reduce the value of the CCP to the buyers by the same sum as the losses suffered (assuming similar discount rates and no upper limit for claims), and might make shares in the recovered CCP difficult to market. In such a case, we propose for the compensation instruments to be converted into true shares.

For clearing participants who do not want to hold equity, or cannot hold equity, for instance due to investment restrictions, the RA could hold an auction for these shares to be sold off to other clearing participants or third parties who are interested in holding shares in the resolved CCP.

Treatment of CCP equity in resolution: SITG

A CCP should expose a significant and dynamic part of its capital as part of the default management waterfall so the incentives of the CCP and its clearing members and their clients are aligned. There are no globally comparable minimum requirements for SITG, and practices differ considerably, as the percentages of SITG as part of the funded default fund of selected CCPs in the table below shows.

CCP	30-Jun-2016	30-Jun-2017	29-Jun-2018
ASXCLF	60%	60%	
CCIL Rupee Derivatives			47%
CME Base	3%	3%	2%
CME IRS	5%	6%	5%
Eurex Clearing	3%	4%	4%
HKEX OTC Clear	27%	20%	10%
ICC_CDS	2%	3%	2%
ICEU_CDS	3%	4%	5%
ICEU_F&O	5%	5%	6%
ICUS_F&O	12%	12%	9%
JSCC IRS	6%	2%	2%
LCH ForexClear	1%	1%	1%
LCH SwapClear Ltd	1%	1%	1%
NCC Derivatives		152%	146%
SGX-DC	24%	26%	25%

We note that some regulators have already mandated significant levels of SITG (see for instance above for SGX, or 100% in the case of Indian equity CCPs), based on their local market requirements, products cleared and other considerations.

Clearing participants believe that CCPs should establish an appropriate amount of SITG by calculating a capital layer in a way that reflects the level of risk in the CCP's system rather than maintaining a fixed amount. *De minimis* amounts of SITG which are justified on the basis of providing an incentive to employees of the CCP to be prudent are sub-optimal, since they are not dynamic and reflective of the CCP's level of activity and risk profile. In order for CCP SITG to genuinely incentivize behavior, a CCP should be required to stand behind the adequacy of its own risk model relative to the business it is choosing to take on – and so SITG for the purpose must take into account the level of risk in the system.

In addition, CCP SITG should have regard to fairness as to who should bear losses. CCPs are in many cases for-profit entities and it is problematic that CCP profits are distributed for the benefit of equity holders whilst CCP losses are borne by participants and not those same equity holders who have benefited from the CCP's business before losses have arisen. CCPs should thus provide SITG at a level determined with regard to fairness towards non-defaulters. Taking into account the level of risk in the system (and thus how much business a CCP has chosen to take on) in calculating SITG will thus also ensure fairness in distribution of losses.

Clearing participants would like to see SITG set to a percentage of the full DF and/or linked to the DF contribution of the largest clearing members. The sizing of DFs reflects the level of business a CCP has chosen to take on and so a calculation based on a percentage of the DF or the contributions of the largest members is appropriate from the perspective of both incentives and fairness. Many clearing participants ask for SITG to be set between 8% and 10% of DF. More work on calibration needs to be done. This calibration could include other factors like products being cleared or margin period of risk.

The level of SITG is ultimately a judgement call and is still debated between many CCPs and clearing members. We believe that because the optimum level of SITG is difficult to agree between CCPs and clearing participants, it would be the most beneficial for all market participants if global regulators develop standards and guidelines as to sizing of appropriate SITG for CCPs.

Treatment of CCP equity in resolution: recoveries

Most CCP rulebooks have provisions that clearing participants who took losses, including losses from mutualized resources like the default fund or assessments, will be reimbursed from recoveries from the estate of the defaulter in the reverse order to the waterfall. There is not a conclusive history of defaulted clearing participants, but in recent cases there were recoveries, or could have been had the default fund be used, from defaulters at the CCP.

These provisions should be honored by the RA too. This can be done by

- Awarding claims to recoveries from the defaulter in the membership agreement, rule book or similar contract that must be honored by the RA.
- Adding suitable rules to applicable regulation or legislation on resolution, or into binding resolution plans.

In both cases we are not asking for these recoveries from the defaulter's estate to be paid out if this would lead to the use of taxpayer funds. To illustrate, we are looking at cases where for instance two or more large clearing members default and the initial losses are so big that the CCP will have to be resolved, and losses be allocated to clearing participants. It is likely that subsequently recoveries will be made from the estate of the defaulter. In this case the recoveries should be used to pay back parties who took losses in resolution and recovery, in opposite order of the use of their funds. If taxpayer funds had been used for resolution, the taxpayer would be at the first position should recoveries be made.

Allocating compensation instruments to clearing participants, the Associations' preferred approach described above would automatically provide a mechanism for returning recoveries to parties who took losses in recovery.

Consultation Questions

Financial resources for CCP resolution

1. Do you agree with the suggested five-step process to evaluate the financial resources and tools for resolution? What other elements, if any, should be considered?

We believe that the five-step process described in the first part of the discussion paper forms a helpful basis for the analysis of the appropriateness of the financial resources of a CCP in light of its recovery and resolution plans. Applying these five steps will highlight that most CCPs will not have sufficient equity or other resources to deal with extreme NDL.

For many CCPs, recovery plans for DL are part of the rulebook. Recovery plans for NDL for most CCPs, and recovery plans for DL for some CCPs are not known, and therefore it is difficult to opine on resolution actions for such CCPs. It is important that not only authorities, but also clearing participants are able analyze recovery and resolution tools, for instance so they can estimate the risk they take with a CCP.

2. The discussion paper outlines a number of CCP and product specific factors that authorities should consider when assessing the adequacy of resources and tools in resolution. Are these factors appropriate or are there other factors that should be considered?

These factors are appropriate.

We however would highlight specific issues, for instance repo CCPs where the use of certain tools can actually result in liquidity implications for the market place, or equity CCPs that may have retail customers, which would make some resolution tools inappropriate.

3. Should the assessment of financial resources for CCP resolution take into account (a) different CCP ownership structures; (b) different CCP organisational structures; or (c) the products cleared by the CCP? If so, how?

Differences in CCP ownership structure, organizational structure or products cleared will have an impact on available resources or tools:

1. Different CCP ownership structures might affect the available resources in terms of equity and parent guarantees.
2. Products being cleared will drive the availability of tools like VMGH.
3. Organizational differences will affect how clearing services are segregated from each other. This might allow for additional resources, but will also open the door for propagating shocks through markets (if members of an unaffected segment have to take losses for another unrelated segment).

These differences will however naturally feed into the analysis of available tools and resources. It is unclear whether they need to be formally added to the process.

There might be cases where exchange and CCP are integrated or critical services are managed by other entities in the group, or cases where a single holding company has CCPs operating in different regions which might mean that analysis of potential contagion needs to consider impacts on thirdcountry regulators' jurisdiction. Review of such cases would be an important part of the resolvability analysis. Operating entities providing central services could for instance be ring-fenced.

4. Step 1: The discussion paper outlines a number of high-level default and non-default loss scenarios that might lead to resolution. Does this cover a sufficiently broad range of scenarios? What other relevant scenarios, if any, should authorities consider in resolution planning?

We believe these lists are comprehensive.

For case (i) in both DL and NDL we would be surprised if a CCP would not have any recovery tools and resources. What might happen is that a CCP will miss certain scenarios. We propose for supervisors and clearing participants and CCPs work on a detailed standardized catalogue of scenarios.

In the past, the focus in relation to recovery and resolution was on DL. We believe that these scenarios and available tools are reasonably well understood. NDL scenarios are still being analyzed and discussed. The associations developed a list of NDL scenarios:

NDL from:	Specific scenarios	Maximum potential losses
Custodial risk (including both custodian and central security depositories)[13][14]	CCP's custodian defaults or has a sustained outage as a result of operational, cyber, fraud or similar issues – assets transferred to CCP by security interest.	Cost of replacement liquidity for inaccessible assets at the custodian (which would include initial margin of all clearing participants using the custodian) during the time period that such assets are inaccessible. Credit losses are less likely (particularly in jurisdictions with bank resolution regimes that would apply to custodial banks and/or additional legal protections for custodial assets). If credit losses, then cash initial margin of all clearing participants using the custodian plus costs associated with any temporary inability to access securities held by the custodian (which would include securities initial margin of all clearing participants using the custodian).
	CCP's custodian defaults or has a sustained outage as a result of operational, cyber, fraud or similar issues – assets transferred to CCP by title transfer.	
	CCP's custodian defaults or has a sustained outage as a result of operational, cyber, fraud or similar issues – assets held pursuant to tri-party agreement among CCP, custodian and clearing participant.	
	CCP's custodian defaults as a result credit losses – assets transferred to CCP by security interest.	If collateral can actually be lost, maximum loss would be the amount of collateral kept in the largest custodian or sub-custodian, or the amount in the two largest custodians.
	CCP's custodian defaults as a result of credit losses – assets transferred to CCP by title transfer.	

[13] Under EMIR, European CCPs must use direct accounts at CSDs and central banks where available, rather than commercial custodians.

[14] Note that as used herein, custodial risk does not cover losses associated with a clearing member's custodian that is holding assets of the clearing member's clients but that does not have a legal relationship with the CCP.

NDL from:	Specific scenarios	Maximum potential losses
	CCP's custodian defaults as a result of credit losses – assets held pursuant to tri-party agreement among CCP, custodian and clearing participant.	NB Where the CCP takes security interest, losses will typically fall on the clearing member and not the CCP, since the clearing member is the beneficial owner and the CCP is a trustee with no separate obligation to return the lost assets (unless it is in breach of trust or its rules).
	CSD imposes its market-wide loss-sharing rules on participants following a CSD loss.	Losses, where passed on, will be calculated in accordance with CSD's rules.
Settlement bank risk[15]	CCP's settlement or concentration bank are inaccessible as a result of operational, cyber or similar issues.	Liquidity costs associated with inaccessible amounts at the settlement bank (which would include up to one day of margin movements for clearing participants using the settlement bank). Credit losses are less likely (particularly in jurisdictions with bank resolution regimes that would apply to custodial banks and/or additional legal protections for custodial assets).
	CCP's settlement or concentration bank defaults as a result of credit losses.	Up to one day of margin movements (including VM and daily IM changes) for clearing participants using the settlement bank. This could include funds that CCPs keep at the settlement bank, of funds that are in the settlement bank before those are invested. NB Settlement bank risks are mitigated in Europe due to mandatory use of central banks under EMIR.
Investment risk	Losses from investment actively directed by clearing participant – gains passed through to clearing participant.	Largest cash IM amount in any investment, or invested with any counterparty.
	Losses from investment actively directed by clearing participant – gains not passed through to clearing participant.	
	Losses from investments per the CCP's investment policies – gains	

[15] Note that as used herein, settlement bank risk does not cover losses associated with a clearing participant's settlement bank. Such losses would be borne by the affected clearing participants.

NDL from:	Specific scenarios	Maximum potential losses
	passed through to clearing participant.	
	Losses from investments per the CCP's investment policies – gains passed through to clearing participant.	
Operational risk	Temporary outage of clearing system or connection.	Costs associated with returning to business as usual after outage.
	Misdirection of funds.	Cost of misdirected funds.
Liquidity risk[16]	Default of liquidity provider.	Cost of liquidity provision would accrue during the default management process if the CCP cannot immediately monetize the posted collateral. We expect this cost to be paid from the margin or estate of the defaulted member.
General business risk	Losses from costs of providing clearing services.	Amount of such losses that cannot be absorbed by excess capital. We assume such losses to be "slow-burning" and as such to be covered by management actions / recapitalization / sale of business, instead of recovery.
	Losses from costs of providing non-clearing services that cannot be absorbed by such services.	
Legal and regulatory risk	Lawsuit against CCP related to non-clearing services in an amount that cannot be absorbed by such services.	We assume that this is a slow-burning event and can be covered by management actions / recapitalization / sale of business, instead of recovery.
	Lawsuit related to clearing services outside of default scenario.	
	Loss of license	
	Regulatory fines, for instance due to anti money laundering issues	
	Inability to enforce contractual provisions of rulebook in default scenario.	An extreme event would be that the CCP does not have a right to the margin collected, and therefore all market moves since the last VM payments are not covered by collateral.
	Inability to enforce against collateral in a default scenario.	Such a situation could arise if the CCP's assessment of enforceability of the rulebook was wrong. Maximum cost is theoretically the full margin of the defaulter, but more likely will affect only part of the collateral, and would be largest amount kept an any one custodian, or

[16] Liquidity risk could be associated with default losses and/or NDL. In the context of NDL, liquidity risk includes, *e.g.,* the risk that a liquidity provider defaults and the CCP experiences liquidity stresses that are uncreated to a clearing member default.

NDL from:	Specific scenarios	Maximum potential losses
		sub-custodian (as with custodial losses). By way of example, in *Re MF Global UK Ltd [2012] EWHC 3415 (Ch)* group companies litigated the characterization of transferred collateral. The case attracted intervention by two UK CCPs but was ultimately settled out of court. If the claim had succeeded, a CCP could have had its default processes disrupted as it would have been deprived of the right to use the defaulting clearing member's collateral in accordance with its default rules.
Cyber risk	Cyber-attack resulting in temporary outage of clearing system or connection.	Costs associated with returning to business as usual after outage and with any required repairs to systems.
	Cyber-attack resulting in "stolen" assets.	Value of "stolen" assets (which could include initial margin, default fund contributions, CCP resources). Maximum would be the cash held at the CCP in the largest account. If the largest account is the concentration bank, this could be all cash.
	Ransomware attack.	We believe that a ransomware attack would ask for sums the CCP can actually pay.
Risk of fraud or other internal 'bad acts'	Employee theft.	Value of "stolen" assets – see under cyber-attacks.
Interconnectivity	Non-enforceability of collateral from the "other CCP", or collateral not being segregated.	Losses due to market movements of all linked transactions are not covered by margin.

This list highlights two important aspects of NDL:

1. Many NDL are "slow-burning" scenarios that likely won't affect clearing continuity. For instance, in case of a cyber-attack and loss of cash IM, the CCP would likely call for replenishment of margin from clearing participants. Following that, courts would determine responsibility for these losses. This would allow the market enough time to deal with the situation, from voluntary solutions to an orderly resolution or wind-down.
2. The maximum potential losses can be very high, for instance the amount of uninvested cash in a settlement account. The potential losses, although unlikely, are multiples of the equity and other resources available at most CCPs.

CCP and RA need to consider liquidity impact of each of those NDL scenarios – many scenarios might not immediately push the CCP into resolution, but require liquidity, by for instance asking participants for margin top-ups. This might be procyclical, propagate shocks to clearing participants and could end up being worse for financial stability than financial problems of the CCP, which could be managed by supervisors and market participants.

5. Step 2: Are the considerations for conducting an evaluation of existing tools and resources appropriate and comprehensive? If not, what other considerations should be included?

Auctions should serve as the primary recovery tool for restoring a matched book. Default auctions can be designed to incentivize participation and robust bidding and provide an efficient means for the CCP to return to a matched book and allocate losses based on actual bids made by market participants. Auctions also give members and end-users an opportunity to participate in default management and protect themselves against the use of recovery tools that they may view as unfavorable or undesirable, such as VMGH or tear-up. Auctions should be explicitly prioritized in the recovery/resolution toolbox and, unless subject to strong overriding consideration, should have proven unsuccessful prior to the use of any other, more drastic, tool. However, the CCP should be entitled to close out liquid book (and other contracts) on the market, since this is quicker than managing auctions and so is more likely to limit losses and risks.

We propose to also allow flexibility for voluntary solutions. Albeit more relevant in recovery, the RA might even in resolution identify clearing participants or third parties who will provide funds to support continuity of the CCP.

While all six of the considerations set out in the FSB paper are important, the Associations do have significant financial stability concerns about some of the tools that are set out in the final FSB 2018 guidance:

We welcome that initial margin haircutting (IMH) is not explicitly mentioned in the discussion paper (other than in under bail-in in a slightly different context). In no event should a CCP in recovery, or a RA in resolution, be able to apply IMH to allocate losses stemming from a member default. IMH would have knock-on effects in an already distressed market and could disincentivize participation in the CCP's default management process. That is because clearing members may not want to bid on positions that would increase their initial margin requirements if this initial margin could then be subject to a haircut. If IMH is permitted in some jurisdictions, it could drive clearing participants to clear only through CCPs in jurisdictions that either prohibit IMH or require initial margin to be held in a bankruptcy remote manner (so it is not able to be haircut). In resolution from NDL, there is are potential tools that are akin to IMH, for instance by using a bridge strategy or the write-down-and-conversion tool in the European proposed regulation on CCP resolution.

We also welcome that forced allocation is not explicitly mentioned. In no event should a CCP in recovery, or a RA in resolution, be able to apply forced allocation of positions to non-defaulting clearing members. Unlike PTUs, whereby clearing participants would 'lose' their existing positions, forced allocation would require clearing members to take on positions they may not be suited to risk manage in extreme market conditions (e.g., positions in products that such clearing participants intentionally do not transact), and could therefore have a negative impact on financial stability. Moreover, any application of forced allocation that attempts to allocate positions to those clearing members that could 'bear them' would be completely inequitable. Any decision about which clearing members could 'bear' positions would be arbitrary at best and, at worst, could be made in a way that intentionally favors certain classes of clearing participants over others.

While we believe that VMGH is an effective tool to address default losses for suitable products, some members are concerned about the procyclical effects of this tool is used in a crisis situation. These members believe that VMGH should be reserved for use by the RA. VMGH cannot be a tool to address liquidity issues for a longer period and should be used for a very short period, ideally one day, and only once remaining positions in the defaulter's book have been liquidated and the amount of losses is known.[17]

We do not think that "allocation of losses to participants" should generally be viewed as a tool for addressing NDLs, as it is mentioned on page 12 of the discussion paper. Please see the response to question 6 for more detail.

We would also like to point out that it is important for partial and full tear-up, both in recovery and resolution, to have be subject to a transparent method of price determination and appropriate governance. We further note that we do not view full tear-up as a viable option for systemically important financial market utilities.

6. Step 3: Are the considerations for analysing the hypothetical resolution costs (covering total losses and operational costs) appropriate?

This step is understandably less detailed, as the process is highly dependent on the structure, resources and product cleared by the CCP. This step is also the most difficult – many of these losses are difficult to measure/project, as there is not much available loss data history.

Some of those costs have to be analyzed relative to the tools available, for instance by confirming that a tool like VMGH would be able to cover all possible costs from member default.

For NDL however there is no dynamic tool available, other than allocation of losses to clearing participants. It is important to note that the Associations oppose the use of clearing member cash calls (first tool in the list above) to cover NDL. The mutualization of default losses among clearing members in order to prevent a CCP's insolvency cannot serve as the model for addressing NDL in CCP recovery or resolution.

While default loss mutualization can be rationalized on the basis that it encourages clearing member participation in the default management process, allocating NDL for which the CCP is responsible to clearing members and their clients can increase moral hazard risks if it shields the CCP's parent from the consequences of the CCP's failed risk management. Moreover, allocating NDL to clearing members could be procyclical as it concentrates losses on a small subset of market participants and can lead to cascading defaults. A cash call applicable to NDL would be difficult if not impossible for clearing members to risk manage.

For most NDL, mutualization, or loss allocation to clearing participants would violate the guiding principle that NDL should be allocated to the party or parties who manage the risk.

The Discussion Paper does not currently contemplate if, and to what extent, third parties can be compelled to act by a RA if a CCP is in a resolution situation. Resolution authorities should consider

[17] Some members, in particular on the buy-side, have different views on VMGH and PTU.

during their assessment whether critical service providers to CCPs may be forced to perform during a crisis situation and how this would be accomplished in an international context. This could be a key tool for easing a non-default loss scenario.

7. Step 4: Is there merit in relevant authorities and CMGs conducting quantitative analyses for the purpose of identifying and sizing potential additional tools or resources for resolution purposes? If so, what quantitative analysis should relevant authorities and CMGs conduct and how could they obtain the necessary data?

Generally, we agree that all recovery and resolution tools should be analyzed in detail ex-ante.

Please also see question 6 regarding quantification of costs. While it will be possible to confirm that VMGH will be in principle sufficient to allocate all potential default losses, for certain NDL there are no loss history and quantification will be difficult. Please also see at the response to question 4 where we offer some maximum loss quantification for NDL.

8. Step 5: Are the considerations regarding potential means to address funding gaps (including of any proposals to reserve resources for use in resolution) appropriate? Do they adequately address the issues of availability, costs and benefits, impact on and interaction with recovery and business as usual? If not, how should they be framed?

We welcome that the paper suggests potential changes in the resolution strategy based on available resources. As already mentioned above, for certain loss types it is difficult to size finite resources, as the maximum size of losses is either not known, or too large for pre-funded resources like CCP equity. In addition recapitalization costs have to be considered (please see under the section "General Comments").

We would like to point out that there are several ways to address funding gaps for loss allocation in resolution: CCPs, participants and RA could introduce more resources or additional tools. CCPs however should also work on making their operations stable and by doing so reduce the maximum losses that could be envisaged in resolution. This could be done by diversification of custodian or settlement banks, or depositing funds at a central bank in order to avoid investment risk.

In terms of bail-in, we don't believe this to be a tool to be used for losses that could or should be dealt with by right-sizing CCP equity, especially in NDL. We however accept that CCP equity cannot be "sized for Armageddon" and there might be a remaining risk for clearing participants in resolution. If that is the case, bail-in is preferable to resolution tools where clearing participants have to take losses, but won't receive any compensation. We propose to implement bail-in by issuing compensation instruments (please see above for a detailed description).

We however note that it will not be possible in many jurisdictions to bail-in client funds.

We agree with the proposal to reserve resources / tools for use in resolution – it ensures clarity on the stages of recovery vs. resolution and ensures that the RA has access to credible sources of funds that can be used in resolution. (If tools were not reserved and were all used in recovery, then there would be no incremental tools / resources available in resolution.)

Overall, tools to be used in resolution should be documented in rulebooks and be followed by the RA to ensure participants can predict potential impact and continue to support resolution.

Treatment of CCP equity in resolution

9. Do you agree that the key issues to CCP equity bearing loss in resolution have been accurately identified? Are there other key issues regarding equity bearing loss? What are they and how should they be addressed?

We agree that CCP equity should be loss absorbing in resolution and welcome the excerpts from the Key Attributes and FSB Guidance compiled in Box 2. As the discussion paper rightly says, anything else would give rise to moral hazard.

We also agree that the NCWOL principle will make the use of CCP equity to absorb losses in resolution difficult, assuming that equity holders are creditors for purposes of the NCOWL safeguard. As only a small part of CCP equity is exposed in recovery or insolvency/liquidation (at least for default losses), CCP owners are likely to receive compensation if CCP equity was to be used in resolution. In the section "General Comments" we make several proposals how this compensation for the use of CCP equity to absorb losses in resolution can be avoided.

Implicit in the discussion paper is an assumption that CCP equity would be available in resolution. We strongly support use of CCP equity in resolution, as we believe it is consistent with globally agreed principles for resolution (including Section 4 of the July 2017 FSB *Guidance on Central Counterparty Resolution and Resolution Planning*, which references Section 5.1 of the FSB *Key Attributes of Effective Resolution Regimes for Financial Institutions*), consistent with article 33 (*Provisions governing the write-down or conversion of instruments of ownership and debt instruments or other unsecured liabilities*) of the current proposal and crucial to ensuring that CCP equity does not benefit at the expense of clearing participants. However, we note that existing non-recourse provisions and CCP structures could currently shield CCP equity from loss, even in resolution. We therefore propose to review such instruments as part of a resolvability analysis and make sure those are changed if required to make sure CCP equity is loss bearing in resolution.

10. Should the treatment of CCP equity in resolution take into account different ownership structures? If so, how?

Generally, in resolution, CCP equity should be used first to absorb losses, unless the CCP parent provides support (e.g., because it has entered into a guarantee or similar arrangement) in case of resolution of a CCP, which could and should be used before CCP equity is used to absorb losses. Such guarantees would however likely be used in recovery. Such guarantees are likely put in place so the CCP parent can ensure their ownership of the CCP stays intact. It would not make sense to use this guarantee after wiping out CCP equity. Should the guarantees not be sufficient, CCP equity should be used next, before any other resources provided by clearing participants and creditors.

We agree that treating CCP equity differently on the basis of ownership structure could be unhelpful. We would therefore suggest indicating that ownership structure plays no material difference to the CCP's resolution/recovery success.

11. What are your views on the possible mechanisms for adjusting the exposure of CCP equity in bearing loss in resolution set out in Section A? What other possible mechanisms, if any, should be explored?

The list of possible mechanisms to adjust CCP equity in resolution is comprehensive.

Please see above under “General Comments” our thoughts on how CCP equity can be used for loss absorbency in resolution and recovery without triggering NCWOL claims by CCP shareholders.

Please find below some comments to the mechanisms proposed by the discussion paper:

I. Exposure of some or all of the equity of the CCP via modification of the contractual loss allocation arrangements.

   See above under “General Comments” – such a solution could increase the CCP equity exposures to losses during recovery but will not allow the RA to use all CCP equity in resolution for losses without the risk of a NCWOL claim by equity holders.

II. Full or partial write down of equity and cancellation of existing shares

   This will be an effective measure to implement the use of CCP equity in resolution, assuming that the RA has the right statutory tools. This however does not solve the issue that the RA potentially has to compensate the owners of the CCP. Also, depending on what assets the CCP holds, writing down CCP equity will not necessarily result in liquid resources being available to cover losses.

III. Transferring critical CCP operations (assets and certain liabilities) to a bridge entity and placing the remnant CCP into liquidation/receivership.

   Using a bridge entity has many advantages, especially shielding the newly set up operating entity from lawsuits on the failed “old” entity. Depending on whether the loss scenario is a default loss or NDL, the type and amounts of liabilities that the CCP has to clearing participants and other creditors, using a bridge CCP may however lead to losses to participants and other creditors that are not in line with the counterfactual of insolvency.

IV. Dilution of existing shares as a result of raising new capital through conversion, issuance or transfer of new shares.

   Dilution could be a tool used by the RA. However dilution would mean that the CCP equity will lose value, but not that it will be used in its completeness.

   We refer to our proposal of compensation to clearing participants by awarding compensation instruments for losses suffered during recovery or resolution. While this is not strictly dilution of the CCP equity, as the clearing participants would receive other instruments than shares, the principle is similar.

The first option alone will not make all CCP equity loss bearing in resolution. We believe that the second option will give the RA the most resources and flexibility.

12. Section B outlines different options for the point in time or in the waterfall for imposing losses on equity. What are your views on these options? Are there any other possible options?

We believe that the options for the point in time or in the waterfall for imposing losses on equity listed in the DP are comprehensive:

- Entry into resolution.
- A point following entry into resolution that is determined ad hoc and on a case by case basis at the discretion of the RA.
- One or more specific, fixed point(s) in the loss allocation waterfall (including in parallel to the use of other resources in the waterfall).

As mentioned above (question 9), we believe that CCP equity should be used to absorb losses before any other resources of clearing participants or creditors. When this will be exactly is partially dependent on the situation and the resolution plan, i.e. when the resources are needed. This would usually be right at entry of resolution, but, depending on circumstances, can be later if funds are not required immediately. The decision on this should be part of the RA's flexibility in exercising the resolution plan.

Exposing CCP equity to losses in resolution (at the latest) will align incentives better between CCP owner, CCP management and clearing participants.

As per the third option, we assume that the funded resources and one capped assessment in the waterfall are used up before resolution commences. If the default fund or assessments haven't been used up, it is reasonable that those could be used first, assuming these resources would have been used in recovery.

In terms of NCWOL, the first two options will have the same issue with the "identified NCWOL obstacle". Using specific points on the waterfall will avoid the NCWOL issue, as long as these capital tranches are part of the rulebook, but not allow the RA to use the full CCP equity in resolution without NCWOL claims by equity holders.

13. What are your views on the potential constraints and challenges described in Section C? Are there other challenges or constraints to equity bearing loss? What are they and how should they be addressed?

We believe that the issue that CCP owners could receive NCWOL compensation if CCP equity is used to absorb losses in resolution is the main constraint to CCP equity bearing losses. To solve this issue, we put forward that CCPs should award compensation instruments to compensate for losses suffered in recovery. Please see section "General Comments" for more details.

It is also possible that limited recourse provisions in existing CCP rulebooks that shield equity from losses could be an issue if those are applicable also to resolution.

A RA lacking the powers to impose losses on equity in resolution is a clear constraint to equity bearing losses. This is however a problem each jurisdiction can and should solve ex-ante and therefore is not unsurmountable.

14. Section D outlines a number of policy considerations for the treatment of CCP equity in resolution. Are they appropriate and comprehensive? Would you suggest any additional policy considerations?

We hear often that the use of CCP equity in resolution, especially if coupled with compensation to clearing participants, could incentivize clearing members to “wait” for resolution (e.g., by not participating in auctions or other recovery measures) as CCP shareholders would absorb losses first in resolution. However, “waiting” is not without significant costs to the clearing participants. Particularly, while “waiting”, clearing participants would lose their default fund contributions, have to pay assessments and potentially be subject to additional loss allocation tools. These loss absorbing tools, coupled with auction-based incentives such as juniorisation for off-market or non-bids, incentivize clearing members to actively participate in auctions as a recovery measure. Moreover, clearing participants cannot necessarily predict whether they will suffer losses as a result of the use of recovery tools (e.g., VMGH and/or partial tear-up) and, with a diversified membership base, the outcomes across the entire range of participants will vary significantly from participant to participant. It is important to clarify that clearing participants would never be incentivized to “wait”, regardless of whether CCP equity bears losses in recovery. Moreover, provided that compensation is in the form of claims that are not paid until the CCP returns to profitability, clearing participants would be incentivized to ensure that the CCP remains viable and does in fact return to profitability.

15. Does the treatment of CCP equity in resolution appear clear under existing arrangements in your jurisdiction or in relation to CCPs you are familiar with?

Jurisdiction	Understanding of a jurisdictions approach to CCP equity in resolution
US	DFA Title II provides some powers for CCP resolution. Not all of these powers will be used for CCPs.
EU	Current rules in the EU are member state dependent. The European Commission adopted a legislative proposal on CCP recovery and resolution in November 2016. This proposed legislation sets out provisions comparable to those in the framework applicable to banks and investment firms under EU law, but seeks to adapt them to the specific features of CCPs' business models and the risks they incur, including by determining how losses would be shared in scenarios where existing CCPs’ pre-funded resources required under EMIR are exhausted. It remains to be seen when this legislation is ultimately brought into force and if so, whether in its current form. Under the proposed legislation, a CCP should be placed in resolution when it is failing or likely to fail, when no private sector or supervisory alternative can avert failure, and when its failure would jeopardize the public interest and financial stability. Even if all of these conditions are not met, a CCP may be placed into resolution where the application of further recovery measures by the CCP could prevent its failure but could compromise financial stability in the process. Resolution is to be undertaken by way of several tools which could be used separately or in conjunction: (i) sale of a CCP’s entire or critical functions to a viable competitor, (ii) creation of a publicly controlled bridge CCP, (iii) allocation of losses and positions among clearing members and (iv) the write-down and conversion of the CCP's instruments of ownership and debt instruments or other unsecured liabilities. Where using the write-down and conversion tool, prior to

Jurisdiction	Understanding of a jurisdictions approach to CCP equity in resolution
	reducing or converting the principal amount of debt instruments or other unsecured liabilities, the RA shall reduce the notional amount of instruments of ownership in proportion to the losses and up to their full value, where necessary. The EU regulation on CCP recovery and resolution would provide more uniform rules and powers, but are unfortunately currently paused in EU rulemaking process.
UK	CCP recovery and resolution is governed by the Banking Act 2009. To implement the EU's Bank Recovery and Resolution Directive (Directive 2014/59/EU) ("BRRD"), the Banking Act 2009 was amended to incorporate BRRD provisions but in a manner whereby such provisions would not apply to CCPs. Therefore, CCP resolution is currently governed by an earlier version of the Banking Act with similar rules as those applicable to UK banks before BRRD came into force. Under the Banking Act, a stabilization power may be exercised in respect of a CCP if the Bank of England is satisfied that the CCP is failing, or is likely to fail, to satisfy the recognition requirements applicable to CCPs under the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges, Clearing Houses and Central Securities Depositories Regulations 2001 and if, having regard to timing and other relevant circumstances, it is not reasonably likely that (ignoring the stabilization powers) action will be taken by or in respect of the CCP that will enable the CCP to maintain the continuity of any critical clearing services it provides while also satisfying the recognition requirements. In a CCP resolution, the Bank of England may transfer some or all the business of a CCP or its group undertaking to a commercial purchaser or transfer some or all the business of a CCP or its group undertaking to a bridge CCP (a company wholly owned and controlled by the Bank of England). Unlike in bank resolution, the bail-in tool and the asset management vehicle tool are not available. The Bank of England also has the power to transfer ownership of the CCP to any person. The Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges, Clearing Houses and Central Securities Depositories) Regulations 2001 (the "Recognition Requirements Regulations") set out the recognition requirements applicable to clearing houses which are not authorized under EMIR (a "recognized clearing house") and central counterparties which have EMIR authorization. Under Schedule 1, Paragraph 24, a recognized clearing house must have default rules which, in the event of a member being or appearing to be unable to meet his obligations (or appearing to be likely to become unable to meet his obligations) in respect of one or more market contracts, enable action to be taken to close out his position in relation to all unsettled market contracts to which he is a party. The content of the recognized clearing house's default rules is further prescribed under paragraphs 25-28; inter alia, a recognized clearing house's rules must provide that once the rights and liabilities of a defaulter are aggregated or set off and a net sum is produced, in accordance with the recognized clearing house's rules, any sums owed by the defaulter to the clearing house are to be set off against any of the defaulter's margin and then its default fund contribution. To the extent any sum remains due after such set off, amounts owed by the defaulter are to be paid from such other funds, including the default fund, or other resources the clearing house may apply under its default rules.

Jurisdiction	Understanding of a jurisdictions approach to CCP equity in resolution
	Under Schedule 1, paragraph 36 of the Recognition Requirements Regulations, the default rules of a central counterparty must contain provisions ensuring that losses that arise as a result of clearing member default, which remain after the resources to which the central counterparty has access pursuant to Article 45 of EMIR have been exhausted, that threaten the central counterparty's solvency are allocated with a view to ensuring that the central counterparty can continue to provide the services and carry on the activities specified in its recognition order. In respect of NDL, under paragraph 29A the central counterparty must maintain effective arrangements (which may include rules) for ensuring that NDL that arise and threaten the central counterparty's solvency are allocated with a view to ensuring that the central counterparty can continue to provide the services and carry on the activities specified in its recognition order.
Australia	There is no specialized legislative regime under Australian law for the resolution of financial market infrastructures (FMI) such as CCPs. The Financial Sector Legislation Amendment (Crisis Resolution Powers and Other Measures) Act 2018 which took effect in March 2018 to enhance crisis management powers in relation to authorized deposit-taking institutions (ADIs) and insurers did not deal with FMI resolution. In February 2015, the Australian Government, acting on the advice of the Reserve Bank of Australia (RBA), the Australian Securities and Investments Commission (ASIC), the Australian Prudential Regulation Authority (APRA) and the Australian Treasury, conducted a public consultation on a special resolution regime for clearing and settlement (CS) facilities and trade repositories (TRs). The consultation response was published by the Council of Financial Regulators (being APRA, ASIC and the Reserve Bank) in November 2015, but no further developments have taken place since.
Singapore	There is no specific targeted resolution framework for CCPs under Singapore regulatory law. CCPs are included in the general resolution framework applicable to "pertinent financial institutions" under the Monetary Authority of Singapore Act, Chapter 186 of Singapore ("MAS Act") and the Monetary Authority of Singapore (Resolution of Financial Institutions) Regulations 2018. "Pertinent financial institutions", in this context, includes any person that is approved, authorized, designated, recognized, registered, licensed or otherwise regulated by the MAS under the MAS Act or a number of other financial laws, including inter alia the Banking Act, Securities and Futures Act and the Financial Advisers Act. Typical examples of CCPs that would fall within the scope of this resolution framework are exchanges and clearing houses that are regulated under those laws. Under Parts IVA and IVB of the MAS Act, the MAS has a wide range of statutory powers relating to the control and resolution of pertinent financial institutions (including inter alia in respect of recovery and resolution planning, compulsory transfers of business and shares and the restructuring of share capital).These provisions apply not just to CCPs, but also generally to licensed banks, finance companies, trust companies, insurers and capital market intermediaries.
Hong Kong	Hong Kong enacted the Financial Institutions (Resolution) Ordinance in June 2016 to establish a resolution regime for systemic financial institutions. However, there are no special rules for CCP resolution and the same rules apply as for Hong Kong

Jurisdiction	Understanding of a jurisdictions approach to CCP equity in resolution
	companies. A recognized clearing house (RCH) would be a "securities and futures sector entity" for which the RA would be the Securities and Futures Commission (the "SFC"). If the conditions for resolution are met, the SFC would have the ability to apply one of the stabilization options to the recognized clearing house or its holding company/affiliated operational entities. Some of those stabilization options may not be practical in the context of a CCP. There are (as yet) no special carve outs for CCPs.

It would be helpful if the FSB collects and documents resolution regimes in jurisdictions where such regimes have been introduced.

16. How could authorities reconcile the expectations that equity bears loss in resolution with the 'no creditor worse off than liquidation' safeguard?

Please see section "General Comments" for our recommendation to solve this issue.

17. What, if anything, should change with respect to the treatment of CCP equity in resolution either to clarify existing arrangements or to potentially adjust the exposure of equity bearing loss in resolution (for example, setting out any additional measures to have equity bear loss in resolution in CCP rulebooks)?

We propose the following changes:

- Implement claims for losses of clearing participants in recovery and resolution in the form of compensation instruments.
- Make sure non-recourse provisions do not limit actions of the RA.
- Require further tranches of SITG, after the use of the non-defaulters prefunded DF, at each level of the default waterfall.

We believe all these proposals cannot be implemented by the market itself, as the interests of clearing participants and CCPs are not aligned. While there is a possibility for CCPs to implement such tools based on guidance or nudges by their regulator or supervisor, globally consistent guidance and standards would be preferable.

Appendix: CCP equity should not be covered by the NCWOL safeguard

Given the history of the development of the NCWOL safeguard in bank resolutions, we do not agree that the NCWOL safeguard should be extended to CCP equity. We believe that the safeguard was first utilized by the Federal Deposit Insurance Corporation (the "FDIC") in bank resolutions involving "purchase and assumption" arrangements (in which the FDIC, as receiver of a failed bank, would sell substantially all of the assets and liabilities of the bank to another bank or bridge, but leave certain liabilities in the receivership), in order to protect against litigation by creditors that suffered losses on their claims when they were not assumed by the purchaser banks/bridges along with the claims of other similarly situated creditors (whose claims paid in full). The development of the safeguard as a defensive measure came as a response to suits brought by creditors in which they successfully asserted that the disparate treatment of their claims relative to those of other creditors whose claims were assumed constituted a violation of federal statutory provisions requiring ratable distributions to similarly situated creditors in bank liquidations. In those cases, courts held that the aggrieved creditors were entitled to full payment of their claims if their fellow creditors' claims that were assumed by the purchasing banks or bridges were paid in full[18]. Other courts, however, rejected creditor challenges to purchase and assumption arrangements when the FDIC ensured the NCWO safeguard was observed and unassumed creditors received amounts from the receiverships that they would have received in liquidation.

In 1989, existing law was clarified by the enactment of federal legislation that adopted the NWCO safeguard and limited the FDIC's maximum liability to any *creditor* whose claims were not assumed and were left in a receivership was limited to the amount the creditor would have received if the assets of the bank in receivership had been distributed in a liquidation (not involving a transfer to a bridge or purchasing bank). The legislation also confirmed that *shareholders* of a failed national bank were entitled to distribution of amounts remaining in a *receivership* after payment of all other claims and expenses – i.e., the residual value remaining in the remnant bank after higher priority creditors have been satisfied.

Given this history, it is not at all clear why a safeguard that was specifically designed to reduce the risk of challenges by creditors aggrieved that they were not treated the same as other creditors should be extended to CCP equity holders. Their property interest and entitlement to distributions in resolution should be viewed as limited to the residual value of the *remnant* CCP after payment of its higher priority creditors, and it would be inconsistent with this basic principle to apply a counterfactual that compares their treatment in resolution to their treatment in a hypothetical liquidation. This is reflected in the conceptual challenges with reconciling the FSB's current formulation of the safeguard with the principle that equity should represent a true first-loss position in a CCP's capital structure, and we believe that the FSB should re-evaluate its position with respect to the applicability of the NCWOL safeguard to CCP equity. As currently formulated, the safeguard could result in significant challenges to an RA in structuring an effective resolution strategy that would allocate losses to equity in resolution.

Consider, for example, a CCP whose own-funds capital is in excess of the minimum regulatory requirement and whose rules provide for a default waterfall with no second SITG tranche, VMGH (without compensation) as a recovery tool available after member DF assessments and cash calls reserved for use by the RA for recapitalization (but which, if used, would give rise to senior compensation claims for clearing members meeting their calls). Assume the CCP exhausts its DF

[18] See https://www.fdic.gov/bank/historical/managing/documents/history-consolidated.pdf at page 251

resources and utilizes VMGH but fails to restore a matched book. The RA subsequently commences resolution, tearing up contracts and utilizing VMGH in connection with rebalancing the portfolio. The RA establishes a bridge and transfers to it the rebalanced book, associated margin, DF replenishment commitments and DF assessment commitments. The RA also causes the remnant CCP to make cash calls, in exchange for which surviving members receive compensation claims, and the RA then transfers that cash to the bridge to capitalize it. The RA also transfers to the bridge the CCP's remaining own funds that are in excess of estimated resolution administrative expenses, leaving little resources in the remnant other than the minimum regulatory capital amount. Also left in the remnant CCP are claims in respect of resolution administrative expenses, the senior compensation claims of the surviving members and the CCP's equity.

We believe that the better strategy would involve using the remaining own-funds capital of the remnant CCP to satisfy administrative expenses and exchanging equity issued by the bridge for members' senior compensation claims, which would result in no residual value left in the remnant CCP for distribution to its equity holders. However, based on our understanding of the FSB's current NCWOL safeguard and counterfactual, we think a compensation payment, equal to at least the amount of own funds capital in excess of the failed CCP's minimum regulatory requirement, would likely be due to equity since it would be determined by reference to the amount due equity in liquidation assuming full application of the CCP's loss allocation arrangements. Sourcing funds for this payment would make structuring an effective resolution strategy more challenging than it would need to be were the safeguard not extended to equity and its payment entitlement in resolution limited to the residual value, if any, in the remnant CCP.

If after further evaluation, the FSB were to leave the current formulation of the safeguard and counterfactual unchanged, we believe that it should provide greater detail as to its reasoning supporting deviating from the safeguard established in the context of bank resolution.

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About ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has more than 900 member institutions from 69 countries. These members comprise a broad range of 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, such as exchanges, intermediaries, 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 website: www.isda.org. Follow us on Twitter @ISDA.

About FIA

FIA is the leading global trade organization for the futures, options and centrally cleared derivatives markets, with offices in Brussels, London, Singapore and Washington, D.C.

FIA's mission is to:

- support open, transparent and competitive markets,
- protect and enhance the integrity of the financial system, and
- promote high standards of professional conduct.

As the leading global trade association for the futures, options and centrally cleared derivatives markets, FIA represents all sectors of the industry, including clearing firms, exchanges, clearing houses, trading firms and commodities specialists from more than 48 countries, as well as technology vendors, lawyers and other professionals serving the industry.

About IIF

The Institute of International Finance is a global association of the financial industry, with close to 450 members from 70 countries. Its mission is to support the financial industry in the prudent management of risks; to develop sound industry practices; and to advocate for regulatory, financial and economic policies that are in the broad interests of its members and foster global financial stability and sustainable economic growth. IIF members include commercial and investment banks, asset managers, insurance companies, sovereign wealth funds, hedge funds, central banks and development banks.