

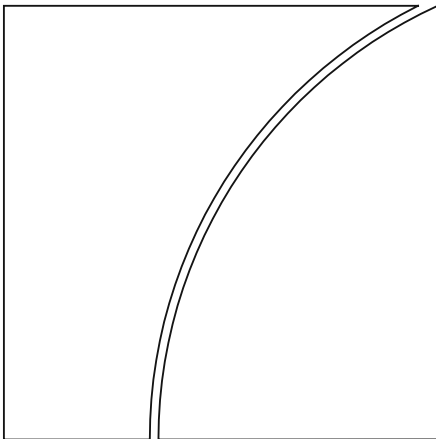
Basel Committee on Banking Supervision

Consultative Document

Capital treatment of bank exposures to central counterparties

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Capital treatment of bank exposures to central counterparties

I. Executive summary

1. Further to feedback received from industry on the interim rules for capital treatment of banks' exposure to central counterparties (CCPs), the Basel Committee on Banking Supervision (BCBS), in cooperation with the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO), is seeking views on some potential changes to those rules.

2. The Basel Committee published interim rules for banks' exposures to CCPs in July 2012¹, but noted that additional work was needed to improve the capital framework. This consultative document sets out the potential changes to the capital treatment of exposures to Qualifying CCPs (QCCPs) that have been identified following additional work that has since been undertaken by the Basel Committee in cooperation with CPSS and IOSCO.

3. The objective of the suggested changes is to establish a capital treatment that ensures banks' exposures to central counterparties are adequately capitalised, while also – in support of the G20 mandate to clear centrally all standardised over the counter derivatives – preserving incentives for central clearing, and promoting robust risk management by banks and CCPs, including by encouraging CCPs to satisfy the CPSS-IOSCO *Principles for financial market infrastructures* (PFMIs).² The changes respond to evidence that application of the interim rules could lead both to instances of very little capital being held against exposures to some CCPs, and potentially in certain cases, to capital charges higher than for bilateral transactions. There was also concern that, in some cases, the capital treatment might create disincentives to the maintenance of generous default funds. These outcomes are potentially inconsistent with the Committee's objectives. The changes seek to address those concerns.

4. In parallel to this consultation, the Committee will also be collecting quantitative data on the potential impact of the changes. It will make its decisions on amendments to the rules in the light of feedback on this consultative document, evidence from the quantitative impact study that will be conducted alongside this consultation, and further consultation with CPSS and IOSCO.

5. The Committee is not proposing any change to the capital treatment of exposures to non-qualifying CCPs. Nor does this paper consider any changes to the rules on capital treatment of clearing member exposures to clients.

6. The Basel Committee welcomes comments on this consultative document. Comments on the proposals should be submitted by **Friday 27 September 2013** by e-mail to: baselcommittee@bis.org. Alternatively, comments may be sent by post to: Secretariat of the Basel Committee on Banking Supervision, Bank for International Settlements, CH-4002 Basel, Switzerland. All comments may be published on the website of the Bank for International Settlements unless a comment contributor explicitly requests confidential treatment.

¹ BCBS, *Capital requirements for bank exposures to central counterparties*, July 2012, accessible at www.bis.org/publ/bcbs227.htm.

² See www.bis.org/publ/cpss101.htm for a further discussion of the PFMIs.

II. Background

A. The interim rules on capital treatment of bank exposure to CCPs

7. In July 2012 the Basel Committee published interim rules for the capitalisation of bank exposures to central counterparties (CCPs).

8. Introduction of the interim rules represented an important step towards ensuring measurement, monitoring and management of banks' exposures to CCPs, exposures which had previously attracted no capital charge. Further to feedback received in the development of those interim rules, however, the Committee recognised that additional work was needed to improve the capital framework.

B. Issues identified in development of the interim rules

9. In order to achieve a degree of risk sensitivity in the level of capital charges applied to exposures to CCPs, the interim rules set out a method for calculating a "hypothetical" level of CCP default resources that it was deemed desirable that the CCP should meet or exceed. The capital charge on member contributions to actual QCCP default resources is then determined, in this method, by a set of formulae that relate the actual prepaid default resources to this hypothetical level.

10. Under the interim rules, the hypothetical level of default resources is determined using the Current Exposure Method (CEM). Consultation during the development of the interim rules exposed concerns that CEM is not an appropriate method for calculating CCP risk exposures given that CEM was designed for simpler and more directional derivatives positions. Impact studies found that calculating the hypothetical level of default resources using CEM – combined with the nature of the formulae for determining the capital charge – meant that capital charges on member contributions to default funds varied significantly between CCPs. In many cases the charges were very small, and in some cases they were very large. While there may potentially be a case for some variation in charges based on different risk profiles, the degree of variation was difficult to justify. Moreover, the very small capital charges may not meet the objective of ensuring adequate capital is held against CCP exposures, while very large charges could undermine the objective of creating incentives for banks to increase their use of CCPs rather than preferring non-cleared trades.

11. There were also concerns that, in certain circumstances, the interim rules might disincentivise QCCPs and their members from increasing member contributions to QCCP default resources, notwithstanding that this would, all else equal, make the QCCP safer.

12. In cooperation with the CPSS and IOSCO, the Committee has therefore been considering how these concerns can be addressed by amendments to the interim rules that, as far as practicable, avoid features of the interim approach which have fallen short of the desired objectives, but preserve the desirable features of the interim approach.

13. These changes would affect exposures only to QCCPs. The Committee is not proposing changes to the capital treatment of non-qualifying CCPs.

C. Objectives to be achieved by the capital treatment

14. The Committee considers that the capital treatment of exposures to CCPs should, as far as practicable, achieve a number of objectives.

(i) It should ensure that banks' exposures to CCPs are adequately capitalised, consistent with the Committee's and CPSS-IOSCO's shared objective of ensuring a resilient financial system. To this end, it should seek to ensure that CCP clearing members' prefunded default fund contributions

- are capable of absorbing losses in times of stress without the drawing down of the default funds threatening the viability of the non-defaulting members who have contributed to them.
- (ii) It should support the broader G20 mandate to promote central clearing of OTC derivatives as a way to reduce systemic risk as well as strengthen the risk management of centrally cleared counterparty credit risk exposures.
 - (iii) It should recognise each source of risk to a bank's financial position that stems from exposures to CCPs, but in a holistic way that recognises how the different forms of exposure interrelate, and is therefore sensitive to the aggregate risk as well as to how it is distributed. This includes recognising (a) that the risk of loss on default fund contributions, and commitments to contribute to replenishment of default funds, decreases as initial margin levels increase, and (b) that a generous mutualised default fund will absorb and reduce losses that would otherwise fall on trade exposures to the CCP, as well as (c) recognising the manner in which losses will fall on trade exposures if the mutualised default funds are exhausted.³
 - (iv) It should promote robust risk management practices by both banks and CCPs, including by encouraging CCPs to satisfy the PFMLs. For example, it should provide an incentive for, or at least not discourage, contributions to default funds to be prefunded, rather than commitments to pay ex post.
 - (v) It should avoid unnecessary complexity and be simple to communicate, explain, justify and apply.

15. Guided by these objectives, the options identified by the Committee in this consultative document recognise that the primary source of risk in a CCP comes from the possibility of a member default on the trades cleared by the CCP, and the potential insufficiency of the margin and prefunded default fund contribution posted to the CCP by the defaulter to cover this default. The creation of a default fund does not itself create new risk for the system, but serves to mutualise and distribute, in a pre-agreed manner, a risk that would otherwise fall largely on non-defaulting members' trade exposure claims on the CCP (given the limited additional capital resources of the CCP). Consistent with that understanding, an increase in member contributions to default resources does not result in an increase in overall risks to CCP participants. Potential losses on these increased contributions to default resources are offset by reductions in the losses that would otherwise have fallen on participants' trade exposures to the CCP. Indeed, a pro-rata increase in prefunded contributions to a CCP's default resources by all members will mean an increase in prefunded contributions by whichever of the members turns out to be the defaulter, and thus a *decrease* in the loss that will have to borne by non-defaulting members.

16. The overall aim of the proposals is to achieve a quantum of total capital that satisfies the resilience and loss absorbency objectives (objective i), without undermining the broader G20 mandate to promote central clearing of OTC derivatives (objective ii), and in particular, therefore, without exceeding the level of capital that would be required if the same trades were executed bilaterally and were not centrally cleared.

³ For example, this might consider whether initial margin is a senior claim to variation margin.

III. Capital treatment of banks' contributions to QCCP default funds: options for change

17. Working with CPSS and IOSCO, the Committee has identified two options for change to the capital treatment of bank contributions to QCCP default funds. Subject to responses to this consultative document and quantitative evidence, the Committee, in consultation with CPSS and IOSCO, intends to choose one of these options to replace both Method 1 and Method 2 in the interim rules.

18. One of these options takes a different approach from that adopted in Method 1 of the interim rules. It sets a capital charge based on the minimum level of default resources that a CCP must maintain under the CPSS-IOSCO PFMI, or, if higher, a hypothetical level of default resources calculated using a BCBS-approved methodology for measuring derivative exposures.⁴ This approach adjusts the risk weight on members' actual contributions to prepaid default resources according to the *ratio* of this minimum or hypothetical level to actual prepaid default resources. This is described as the "ratio approach" below.

19. The other option is a modified and simplified version of Method 1 of the interim rules. This is described below as the "tranches approach".

20. Box A on the following page describes the terminology used in this document (both in this section and in Section IV).

⁴ As noted in paragraph 10 above, the interim rules employed CEM for purposes of determining the hypothetical level of default resources in accordance with Method 1. In this consultative document, the Committee proposes to use the proposed non-internal model method (NIMM) for determining the hypothetical level of default resources. For additional details regarding the NIMM, please see the BCBS consultative document, *The non-internal model method for capitalising counterparty credit risk exposures*, June 2013 ("NIMM consultative document").

Box A – terminology used in the capital charge approaches

The capital charge approaches are based around comparing the QCCP's actual default resources with a reference level of default resources. The components of the QCCP's actual default resources are defined as follows:

- IM_i – the initial margin collateral posted by an individual clearing member with the QCCP;
- DF_i^{pref} – the prefunded default fund contribution by an individual clearing member;
- DF_{CM}^{pref} – the total prefunded member default fund;
- DF_{CCP} – the total amount of the CCP's own contribution to prefunded default resources (eg from its equity) which are contributed to the default waterfall, *either* junior or *pari passu* to prefunded member contributions;
- $DF_{CCP, junior}$ – the amount of the CCP's own contribution to prefunded default resources that is used to cover losses falling on the default fund *before* clearing members' contributions to the default fund are drawn upon;
- DF^{pref} – the total prefunded default fund size, including CCP and member contributions, such that $DF^{pref} = DF_{CM}^{pref} + DF_{CCP}$.

The reference level of default fund resources (RLDF) is defined as:

$$RLDF = \max\{DF^{cover*}, K_{CCP}(NIMM)\}$$

As such, RLDF is the maximum of two quantities:

- DF^{cover*} – the CCP's calculation of the minimum prefunded amount of default resources (including both contributions from the CCP and from all members) required such that the CCP's total prefunded default resources meet the CPSS-IOSCO minimum standard Cover 1 or Cover 2 requirement;
- $K_{CCP}(NIMM)$ – a hypothetical amount of capital calculated by assuming the CCP is a bank using the non-internal model method (NIMM) to calculate its derivatives exposures to its clearing members (or paragraphs 173 to 177 of the Basel II accord for its exposures to clearing members with respect to securities financing transactions). $K_{CCP}(NIMM)$ is therefore derived from:

$$K_{CCP} = \sum_{CM\ i} EAD(NIMM)_i \cdot RW \cdot capital\ ratio$$

where:

- RW is a risk weight of 20%;
- capital ratio means 8%;
- $EAD(NIMM)_i$ denotes the exposure value to clearing member '*i*'. For derivatives, this is calculated using NIMM. For SFTs, EAD is calculated under paragraphs 173 to 177 of the accord, and clearing member collateral posted to the CCP is accounted for in the same way as in the interim rules;
- The sum is over all clearing members.

The approaches produce a capital charge on members' default fund contributions of K_{CMI} where:

- K_{CMI} – is the capital requirement on the default fund contribution of member *i*

A. Risk sensitivity

21. QCCPs have to maintain a minimum level of default resources under the PFMI. Subject to that minimum, actual QCCP default funds can vary in size significantly. The risk to a QCCP member of suffering the complete loss of their contributions to a default fund that is many times larger than the regulatory minimum must be lower than the risk of suffering the complete loss of their contribution if the same CCP held a much smaller default fund. For the capital treatment of default fund contributions to be risk sensitive, it may therefore be appropriate to vary the effective risk weight applied to those contributions according to whether the default fund is large or small relative to a defined reference level. This is the approach taken in both approaches set out in this consultation paper. A first necessary step is therefore to determine the appropriate reference level. Drawing on BCBS methodologies for modelling derivatives exposures and the CPSS-IOSCO PFMI provides the option of using two different ways to calculate the reference level.

22. Under the PFMI, a CCP's total default resources must be sufficient to cover the default of either the one, or in some cases the two participants, plus affiliates, that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions (as defined in stress scenarios identified by the CCP but subject to supervisory review). In the rest of this consultative paper, the level of default resources (including both contributions from the CCP itself and those from all members) required to meet this minimum level of coverage is identified as the Cover* default fund.⁵

23. The BCBS is proposing a new methodology for modelling derivatives exposures to replace CEM, called the non-internal model method (NIMM). This method is described in the NIMM consultative document that was issued by the BCBS in June 2013. NIMM, as proposed, is intended to better capture the effects of collateral and netting than CEM, and is calibrated to a stress period. As such, NIMM should be more appropriate to centrally cleared derivatives transactions than CEM. The treatment of securities financing transactions (SFTs) will remain the same as under paragraphs 173 to 177 of the Basel II accord.

24. The Committee expects QCCPs' margin coverage policies and the stress scenarios used to calculate minimum default funds under the PFMI will in most cases mean that the minimum Cover* default fund is larger than the hypothetical default fund requirement calculated under NIMM. However, using the Cover* requirement alone might create an incentive for QCCPs to adjust the stress scenarios used to calculate the Cover* requirement in order to reduce the capital charges faced by their bank clearing members, possibly, to try and gain competitive advantage. While such gaming of the system would entail financial risks for the QCCP, and would be resisted by QCCP supervisors, the Committee proposes to use the larger of the Cover* requirement and the hypothetical level of default resources calculated using NIMM to provide an additional safeguard to reduce the risk of a deterioration in the resources of CCPs and to ensure a prudent amount of capital is held by bank clearing members. NIMM would effectively be a floor on the Cover* requirement for the purposes of calculating bank clearing member capital requirements.

25. This proposed approach would rely on the NIMM producing values for hypothetical CCP default resources that reasonably reflect the risk that the CCP faces. The Committee is therefore seeking to verify the suitability of NIMM for this purpose through a quantitative impact study which will assess, inter alia, how NIMM compares with the Cover* calculations. Verifying the suitability of NIMM will be important because both of the approaches set out in sections III.B and III.C below have the effect, like the interim Method 1 currently in force, of requiring capital to be held against any shortfall between the

⁵ The Basel Committee, CPSS and IOSCO will consider in the light of the QIS and consultation responses how to address the issue of CCPs clearing the same products potentially being subject to different Cover* requirements, with a view to ensuring that the final treatment establishes an appropriately level playing field between CCPs in different jurisdictions.

hypothetical level of default resources calculated using the NIMM and the actual level of default resources. As noted above, the reason for taking this approach is to introduce a floor that provides comfort that CCP Cover* calculations do not suggest a materially lower level of default resources than would be required if the CCP were a bank calculating its capital requirement using the BCBS NIMM. Applying the capital charge in this way also helps to ensure that the regulatory capital treatment does not materially disincentivise CCPs and their clearing members from maintaining member default funds that exceed the CPSS-IOSCO minimum. However, this approach could in principle mean that where $K_{CCP}(NIMM)$ is greater than actual prepaid default resources,⁶ total capital requirements on clearing members will exceed the amount that clearing members have contributed to the default fund (ie the effective capital charge could be higher than 100%). If $K_{CCP}(NIMM)$ is significantly larger than actual default contributions, it could even mean that the capital charges on exposures to a QCCP would be higher than for a non-qualifying CCP: an outcome which would be inconsistent with the Committee's objectives by potentially creating an undesired incentive to avoid becoming a QCCP. The Committee will consider, in the light of responses to the consultation and evidence from the QIS on how $K_{CCP}(NIMM)$ compares with Cover*, whether the proposed approaches would need to be modified to limit this unintended effect.

B. Ratio approach

26. In the ratio approach, the capital charge on bank contributions to prepaid QCCP default resources would be based on the size of member contributions relative to the minimum level of default resources that the CCP must maintain to satisfy the CPSS-IOSCO PFMI requirement or, if higher, the hypothetical level of default resources calculated using NIMM.

27. The capital charge on bank clearing member contributions to default funds would be determined by the following formula (see box A for terminology).

$$K_{CM_i} = 8\% \cdot 1250\% \cdot \left[\left\{ \frac{RLDF}{DF_{CCP} + DF_{CM}^{pref}} \right\} \cdot \left(\frac{DF^{cover*}}{DF^{cover*} + DF_{CCP,junior}} \right) \cdot (DF_i^{pref}) \right]$$

28. The revised framework is intended to establish capital charges that are adequate to ensure a resilient financial system without being so large relative to the capital charges on non-cleared trades that they disincentivise central clearing. A 100% capital charge on at least some part of default fund contributions ensures that this part can be lost without material negative impact on the capital ratios of bank clearing members, thus ensuring that at least this part of the default fund can absorb losses without undermining the financial strength of the contributing members. Thus, a risk weight of 1250% is proposed for this calculation. This risk weight is also consistent with the fact that, if the CCP were a bank calculating its total capital requirement on the same set of derivative exposures using the NIMM, the bank's minimum capital requirement for those exposures would be equal to the hypothetical level of default resources for the CCP calculated using NIMM. The 1250% risk weight therefore helps to ensure that a similar minimum level of capital is held in the system as a whole when a QCCP is used (assuming that NIMM is not materially lower than Cover* for the CCP), albeit that the capital is distributed across the clearing members and the QCCP itself in the line with the way the CCP mutualises risk. This is the same logic that underpinned the interim rules which also apply, in Method 1, a capital charge of 100% to member contributions to a default fund up to the hypothetical level. Method 2 of the interim rules also

⁶ QCCPs are required to hold prepaid default resources at least equal to the Cover* requirement.

applies a capital charge of 100% to member contributions to a default fund, but subject to a cap that the total capital charge should not exceed 1.6% of trade exposures.

29. The intended impact of the formula is that if members contribute sufficient default funds to achieve exactly the Cover* requirement, or, if higher, a default fund exactly equal to the hypothetical level of default resources calculated using NIMM, and there is no junior contribution to the default fund from the CCP itself, then a 100% capital charge would apply to those contributions. If members contribute default resources above this level, the per unit capital charge decreases in a broadly proportional way so that total capital charges are not materially increased.

30. In summary, the effects of this formula are as follows.

- There is a 100% capital charge on member contributions to a default fund that is exactly equal to the minimum Cover* level of default resources that the CCP must maintain to satisfy the CPSS-IOSCO PFMI requirement or, if higher, the hypothetical level of default resources calculated using NIMM (or the capital treatment for SFTs as appropriate), and where there is no junior contribution to the default fund by the CCP itself.
- As prefunded default resources are increased above the minimum Cover* level required by the CPSS-IOSCO PFMI or, if higher, the hypothetical level of default resources calculated using NIMM, the total capital charge is held relatively constant.⁷ This would reflect that there is no aggregate increase in risk as the default fund increases, and helps to avoid material disincentives to increasing default funds above the minimum levels required by CPSS-IOSCO.
- As the QCCP's own contributions to the default fund increase, this reduces the total capital charge on members, reflecting the decrease in risk borne by members. This effect is stronger where the CCP's contribution to the default fund is junior to that provided by members.

31. The advantages of this approach include ensuring the loss absorbency of the minimum default fund, avoiding material disincentives towards increasing the default fund, relative simplicity, and risk sensitivity: for example capital charges fall as higher levels of initial margin reduce the minimum default fund required to meet the Cover* requirement (because a smaller amount of stressed loss needs to be borne by the default fund) or the hypothetical level of default resources calculated using NIMM, and capital also falls as the QCCP itself contributes more to the default fund.

32. In setting the risk weight in the equation above, it is important to achieve, and where appropriate, balance, the objectives set forth in Section II.C.

33. The proposed 100% capital charge on at least a minimum part of default fund contributions would ensure that consumption of that portion of the default fund would not materially affect the capital ratios of bank clearing members, thus ensuring that at least this part of the default fund can absorb losses without undermining the financial strength of the contributing members. Arguably, a risk weight lower than 1250% would risk threatening clearing members' ability to absorb losses on their default fund contributions in times of stress.

34. On the other hand, a 100% capital charge for default fund contributions, applied without the type of cap included in the interim approach Method 2, might result in capital charges that are sufficiently high to create incentives that are inconsistent with encouraging central counterparty clearing, or inconsistent with encouraging CCPs to achieve QCCP status. Moreover, if the capital charge on default fund contributions is very large compared with the capital charge for trade exposures, this might be in tension with the principle that the existence of default funds does not increase risk, but only reallocates

⁷ If there is no QCCP contribution to the default fund (ie DF_{CCP} is equal to zero), the total capital charge will not change at all as the default fund increases.

it. Also, arguably, a 1250% risk weight would be disproportionate to the risk involved in default fund contributions relative to the risk weights assigned in other contexts.

C. Tranches approach

35. The tranches approach retains the main structural features of Method 1 in the interim rules. For the purposes of capital treatment of member contributions, it compares the prepaid member contribution to a QCCP default fund with a reference level. For the purposes of calculating capital charges, member contributions to the default fund are split into two tranches, that part (if any) which is below the hypothetical level, and that part (if any) which is above the hypothetical level. A capital charge is calculated on each tranche. There is potentially a further capital tranche to reflect any 'shortfall' in prepaid default resources beneath the hypothetical level. In contrast to the interim approach, however, the Committee proposes that the reference level is not calculated using CEM, but is the higher of the Cover* requirement calculated under the CPSS-IOSCO PFMI or the hypothetical level of default resources calculated using NIMM. In effect this means using the two different ways of calculating default resources to provide a floor value, as in the ratio approach above.

36. The hypothetical level of default resources – or K_{CCP} – would be calculated using the same formula as in Method 1 of the interim rules, but replacing CEM with NIMM. This looks at the QCCP's exposure to each clearing member counterparty, calculating an exposure before risk mitigation term ($EBRM_i$) and then adjusting for initial margin and default fund contributions made by that member (as described in Box A).

37. The aggregate capital requirements for all clearing members of a QCCP is calculated by comparing the prefunded default fund contribution of the clearing members (DF_{CM}), minus any junior contribution to the default fund by the QCCP itself (DF_{CCP}), with the greater of the Cover* requirement calculated under the CPSS-IOSCO PFMI or the hypothetical level of default resources K_{CCP} calculated using NIMM. The capital requirement for an individual clearing member 'i' is proportionate to the individual clearing member's share of the total prefunded default fund contributions.

$$K_{CM_i} = \frac{DF_i^{pref}}{DF_{CM}^{pref}} \cdot \begin{cases} c_2 \cdot \{(RLDF - DF^{pref}) + DF_{CM}^{pref}\} & \text{if } DF^{pref} < RLDF \quad (i) \\ c_2 \cdot (RLDF - DF_{CCP}) + c_1 \cdot (DF^{pref} - RLDF) & \text{if } DF_{CCP} < RLDF \leq DF^{pref} \quad (ii) \\ c_1 \cdot DF_{CM}^{pref} & \text{if } RLDF \leq DF_{CCP} \quad (iii) \end{cases}$$

Where:

$$c_1 = 16\% \cdot \frac{RLDF}{DF^{pref}}$$

$$c_2 = 100\%$$

38. This approach entails the following modifications compared with Method 1 in the interim rules:

- K_{CCP} (CEM) is replaced by the greater of the Cover* requirement calculated under the CPSS-IOSCO PFMI or the hypothetical level of default resources calculated under the NIMM;
- the scalar μ in equation (i) in the three-tiered set of equations in the interim rules is removed;
- the decay function in the c_1 parameter in equation (iii) in the interim rules is replaced by a simpler alternative that multiplies a risk weight of 16% by the ratio of the greater of hypothetical default resources or the Cover* requirement to actual prepaid default resources;
- the concentration factor β , and step 3 of Method 1 in the interim rules is removed.

39. As noted above, Step 3 in Method 1 of the interim rules, which scaled up the capital charge based upon a measure of the degree of concentration of clearing member positions at the CCP, would no longer be applied. This would reflect the fact that there is already a measure of concentration in the calculation of a Cover* requirement, as concentration of business in the one or two biggest members increases Cover* relative to the situation where there is an equal distribution of business across all clearing members. Removing a concentration adjustment would also serve to simplify the overall framework (and, for similar reasons, is not proposed for the Ratio Approach).

40. This tranches approach attempts to refine the risk sensitivity that the interim rules Method 1 sought to introduce. If the Non-Internal Model Method (NIMM) or Cover* calculation indicates that a QCCP needs a high level of default resources, and the QCCP itself makes little contribution to these resources, there will be a correspondingly high capital charge. If NIMM and Cover* calculations indicate that smaller default resources are required (because the QCCP's exposures to its members after allowing for margin are small), or the QCCP itself contributes most of the default resources as a junior tranche, capital charges on members will be correspondingly smaller.

41. The amendments proposed reduce the complexity of the approach set out in Method 1 of the interim rules, while the removal of the scalar μ reduces, to some extent, the possibility of very high capital charges.

Q1: Which of these two proposed methodological approaches best satisfies the objectives which the capital treatment seeks to achieve and why?

Q2: What are the pros and cons of using the greater of the minimum Cover* level required by the CPSS-IOSCO PFMLs or the hypothetical level of default resources calculated using NIMM as a model for calculating the relative risk of clearing members contribution to QCCP default funds? Should the Committee consider any adjustments to NIMM to improve its measurement of derivative exposures in the context of CCPs? Would it be better to use only one of these measures, or are there other suitable alternatives?

Q3: What risk weights / capital charges would best achieve, or appropriately balance, the objectives set out in Section II.C? In particular, how would possibly lower values ensure that clearing members are capable of absorbing losses in times of stress without the drawing down of the default funds threatening the viability of the non-defaulting members who have contributed to them? How would the proposed 1250% risk weight affect incentives to use central counterparty clearing?

IV. Capital treatment of banks' trade exposures to QCCPs: options for change

A. A risk-sensitive approach

42. A bank's trade exposures to a CCP consist of three components:

- the mark-to-market current exposure to the CCP on the banks' cleared portfolio;
- the potential future exposure to the CCP on that portfolio; and

- initial margin posted to the CCP, where not posted in a manner that makes it remote from the insolvency of the CCP.

43. Under the interim rules, banks' trade exposures to QCCPs are assigned a nominal 2% risk weight, reflecting that the risk of a QCCP defaulting is assumed to be very low. Thus, in the interim approach, risk-sensitivity is incorporated only into the capital treatment of default fund exposures, and not into the capital treatment of trade exposures. The interim approach therefore ignores the fact that as default resources increase relative to the risk on a set of trades cleared by a CCP, the probability of a loss falling on trade exposures also decreases (because the default fund is more likely to absorb all the losses incurred).

44. The Committee considers that there may be merit in recognising the economic link between the size of default resources and the risk falling on trade exposures. This would suggest an approach in which capital charges on trade exposures fall as, all else held equal, default funds increase in size. This could also help to provide incentives to maintain default funds at generous levels, and provide a more holistic view of banks' exposures to QCCPs.

45. The Committee is therefore considering taking a more risk sensitive approach to the capital treatment of trade exposures to a QCCP. This would reflect that the more prefunded default resources the QCCP holds in its default waterfall, the lower is the default probability and loss given default of the CCP with the consequence that fewer losses will fall on banks' trade exposures claims on the CCP. The risk weight applied to trade exposures would depend on the level of prefunded default resources available to the QCCP relative to a benchmark level of prefunded resources.

46. Using the notation set out previously for default fund exposures, the risk weight on trade exposures RW_{TE} would be:

$$RW_{TE} = \min \left[\max \left\{ 5\% \cdot \frac{DF^{cover*}}{DF_{CCP} + DF_{CM}^{pref}}; 2\% \right\}; 20\% \right],$$

47. The practical effect of this formula would be that as actual prefunded default resources increased relative to the amount required to achieve Cover*, the risk weight on trade exposures would fall. This risk weight would be bounded at a minimum of 2% and a maximum of 20%, though for a QCCP meeting or exceeding its Cover* requirement, it would not in practice be higher than 5%. The Committee is mindful, however, that identical QCCPs in different jurisdictions may potentially be subject to different Cover* requirements, with some held to a "Cover 1" requirement and some to a "Cover 2" requirement. The Committee will seek to achieve a capital treatment that establishes an appropriately level playing field between QCCPs in different jurisdictions.

48. Alternatively, the hypothetical level of capital resources calculated using the NIMM could be used as the reference point, or as a floor for the Cover* value. If hypothetical capital using NIMM is used as a floor, RW_{TE} would become:

$$RW_{TE} = \min \left[\max \left\{ 5\% \cdot \frac{RLDF}{DF_{CCP} + DF_{CM}^{pref}}; 2\% \right\}; 20\% \right],$$

49. The maximum risk weight that would apply to a bank's trade exposures to a QCCP would be set at 20%, with the aim of ensuring that the aggregate capital charge does not create a disincentive to central clearing relative to a non-cleared trade, for which the risk weight applied to trade exposures to a highly-rated counterparty would not normally be less than 20%. The Committee notes, however, that the combination of a 20% risk weight on trade exposures with a 100% capital charge on contributions to a default fund sized at the reference level could be at odds with incentivising central counterparty clearing of OTC derivatives.

50. A minimum risk weight of 2% will apply where the QCCP holds prefunded default resources significantly in excess of the benchmark requirement. This floor is motivated by the recognition that there is a non-zero risk that the QCCP may default for reasons other than member defaults.

51. This treatment of trade exposures would mean that as a QCCP increased its resilience to the default of its members through additional default fund resources, the capital required against trade exposures would correspondingly decrease, at least until it hit a defined floor value based on a minimum 2% risk weight. It thus provides an incentive to increase the size of default funds above the minimum levels required by the PFMI.

Q4: The Committee invites comments on this potential risk sensitive approach to capitalising trade exposures to CCPs.

B. Treatment of posted initial margin

52. If initial margin collateral is posted in a way that is bankruptcy remote, such that if the CCP defaults the clearing member does not lose its initial margin, a 0% risk weight is applied to the initial margin under the interim approach (ie there is no additional capital charge to that which is applied to the asset type posted as initial margin). The Committee does not propose to change the approach to capital charges on insolvency-remote initial margin.

53. Under the interim rules, if initial margin is not posted in a way that is bankruptcy remote, a charge of 2% is applied.

54. The prospective change to the capital treatment of trade exposures proposed above would result in the capital charge rising above 2% if prepaid default resources are less than 2.5 times larger than the Cover* minimum, and perhaps to as high as 20% if prepaid default resources do not exceed a hypothetical minimum default resource level calculated using NIMM.

55. There are, however, some arguments for applying a lower risk weight to initial margin contributions than to the mark-to-market current exposure and potential future exposure of a portfolio. One reason why a lower risk weight might be desirable is that initial margin plays an important role in risk mitigation at CCPs, and there is a risk that a material capital charge on initial margin could incentivise a QCCP to reduce the level of initial margin it requires from members, or disincentivise QCCP members from providing margin in a way that is bankruptcy remote, possibly disincentivising cash margin in some jurisdictions. A further justification may be found in the argument that, taking the scenario of a member default on variation margin obligations to the CCP that exceed the default resources available to the CCP, and this being the only loss suffered by the CCP, the overall loss to be shared across surviving CCP participants must logically be less or equal to the total variation margin owing to these surviving members. It follows that variation margin haircutting alone should be enough to cover the loss without the need to touch the initial margin. Whether or not initial margin is held insolvency remote does not increase the total loss that will need to be allocated across creditors of the CCP, or, indeed, the probability of any loss occurring. It would primarily affect the distribution of that loss, rather than the probability of the loss occurring or its aggregate size.⁸ Furthermore, some CCPs

⁸ For example, losses that would otherwise have been borne largely by those with in-the-money positions on their cleared trades, would be shared more widely across both participants with in-the-money positions and participants who had posted initial margin. While participants could face a haircut on their claims to return of initial margin, they would stand to face a lower haircut on their in-the-money positions.

have variation margin haircutting rules that have the effect of making initial margin a senior claim to other elements of trade exposure such as initial margin. In this circumstance, a lower risk weight may be justified. This risk weight would still be positive, in part because it would need to account for possible losses due to the CCP's own re-investment of the margin or other business risk faced by the CCP.

56. The Committee is therefore proposing to maintain a 2% risk weight on non-insolvency remote posted initial margin if a QCCP has legally enforceable rules establishing that losses beyond its prefunded default resources will fall first on surviving clearing members' mark-to-market exposures – for example through variation margin haircutting – and only thereafter on surviving members' initial margin.

Q5: Do you consider it appropriate to treat initial margin, where a QCCP has legally enforceable rules that make initial margin a senior claim to variation margin in the event of losses in excess of default resources, differently from other trade exposures by retaining a fixed 2% risk weight on initial margin posted in a non-insolvency remote manner?

V. Capital treatment of commitments to top up default funds

57. Committed contributions to top-up default funds if prepaid default resources are exhausted can play an important role in protecting CCPs and their participants from insolvency and disorderly failure of the CCP, or the resort to other loss allocation tools such as variation margin haircutting in recovery and resolution. They are senior to prefunded default fund contributions in the loss waterfall, but represent a potential exposure of clearing members to the CCP. Accordingly, there is a case for measuring and monitoring the exposures, and for including them in the capital framework – both as a risk against which capital should be held, and as a risk mitigant which, where present, might merit for some relief in the capital that must otherwise be held against trade exposures to a QCCP.

58. In some jurisdictions there are contractually unlimited commitments to top up default funds. It is not possible to hold unlimited capital against such commitments, and the likelihood of such commitments being called in full clearly decreases as the commitments increase in size. In the capital treatment set out below, the Committee therefore proposes to set a cap on the level of committed funds that will be included in the capital treatment, both from a risk exposure and a risk-mitigating perspective. The Committee proposes that commitments up to three times the prefunded default fund would be taken into account. In the equations below this is expressed as DF_{CM}^{comm*} .

$$DF_{CM}^{comm*} = \min[DF_{CM}^{committed}; 3 \cdot DF_{CM}^{pref}]$$

where $DF_{CM}^{committed}$ is defined as the sum of members' commitments to top-up the default fund. The total default fund contribution of member i including committed contributions is, analogously, defined as

$$DF_i^{comm*} = \min[DF_i^{committed}; 3 \cdot DF_i^{pref}]$$

where $DF_i^{committed}$ is clearing member i 's committed contribution.

59. There are a number of ways in which the commitments could be included. Some possible approaches are set out below for the ratio and tranches approach, and in the capital treatment of trade exposures.

A. Possible treatment of commitments in the ratio approach

60. Commitments to top up the default fund capital charge can be included in the capital treatment proposed in the ratio approach by including them alongside prepaid contributions in the measurement of individual member exposure.

$$K_{CM_i} = 8\% \cdot RW \cdot RLDF \cdot \left[\left(\frac{DF_i^{pref} + DF_i^{comm^*}}{DF_{CCP} + DF_{CM}^{pref} + DF_{CM}^{comm^*}} \right) \cdot \left(\frac{DF^{cover^*}}{DF^{cover^*} + DF_{CCP, junior}} \right) \right]$$

61. This approach results in additional capital being held against default fund exposures when committed contributions are included, relative to the case in which they are not (except in the unusual case that DF_{CCP} is zero, in which case the charge will remain unchanged). The Committee anticipates, however, that the increase in total capital charge will be modest. Subject to appropriate calibration of α in the capital treatment of trade exposures, the increased charge is intended to be approximately offset by a decrease in capital held against trade exposure (described in Section V.C below). This approach is taken to ensure that the overall capital framework does not materially disincentivise the use of committed default fund contributions at OCCPs given that they are a useful tool in recovery and do not increase the aggregate risk to which CCP participants collectively are exposed.

B. Possible treatment of commitments in the tranches approach

62. The tranches approach, through its construction, effectively imposes a capital charge on any shortfall between the hypothetical level of default resources using NIMM and actual prepaid default resources (case (i) in Section III.C above).⁹ This capital charge applies whether or not commitments in addition to prepaid contributions have been entered into. Arguably, it is therefore not necessary to impose an additional capital charge in respect of commitments that do not result in total default resources exceeding the hypothetical level. In principle, commitments that would result in total default resources *in excess* of the hypothetical level or Cover* requirement can, however, be incorporated in the tranches approach by a two-step calculation that first calculates the capital charge for the prepaid contribution as in Section III.C above and then, in a second step, applies a lower risk weight to any commitments that result in total default resources exceeding the hypothetical level. This lower risk weight would reflect the greater seniority of the committed contributions. It could potentially be calibrated to achieve the same aggregate effect as intended in the ratio approach (such that the increase in the total capital charge on default fund exposures would be modest, and approximately offset by a decrease in total capital held against trade exposure).

C. Commitments in the capital treatment of trade exposures to OCCPs

63. Committed contributions to top up default funds reduce the risk on CCP trade exposures, but are less reliable than prefunded contributions. Defaulters, for example, will not be contributing to default fund top-ups. The Committee therefore proposes to include committed contributions in the trade exposure capital charge as a risk mitigant (ie the presence of such commitments would reduce the capital charge on trade exposures, unless the risk weight was already at the 2% floor described above),

⁹ The Cover* requirement must be met by prepaid resources. If Cover* is higher than the hypothetical level of default resources, case (i) would not apply.

but with loss absorbance discounted relative to prefunded contributions by the inclusion of the factor α , as in the equation below:

$$RW_{TE} = \min \left[\max \left\{ RW \cdot \frac{RLDF}{DF_{CCP} + DF_{CM}^{prefunded} + \alpha \cdot DF_{CM}^{comm*}} ; 2\% \right\} ; 20\% \right],$$

64. The Committee will review the calibration of α following the QIS, but initially proposes a value of 0.5. The α factor establishes an incentive, in terms of capital treatment, to favour prefunded over committed contributions. It reduces the recognition of the risk mitigating effect of committed contributions relative to prepaid contributions.

65. Subsections A, B and C above include possible means of recognising committed contributions in the proposed capital treatment, as potential alternatives to the lack of any explicit treatment in the interim approach.

Q6: Do the proposed approaches to capture commitments to top up default funds in the capital treatment of exposures to QCCPs satisfy the objectives which the capital treatment seeks to achieve? Are there ways in which the proposed capital treatment of commitments could be improved? Is the proposed α value of 0.5 appropriate?

VI. QIS

66. The Committee is conducting a quantitative impact study to assess the impact of the proposals and will use the underlying data to assess the impact and suitability of the proposed approaches. It expects a wide range of central counterparties to participate in the study because of the material effects of the revisions on the capital treatment that will apply to their participants' CCP exposures.