January 31, 2025

Mr. Neil Esho
Secretary General
Basel Committee on Banking Supervision
Centralbahnplatz 2
4051 Basel, Switzerland


Submitted via online portal and via electronic mail

Re: **ISDA/IIF Public Comment on the Basel Committee's Technical Amendment - Hedging of counterparty credit risk exposures**


Dear Mr. Esho:

The International Swaps and Derivatives Association ("ISDA") and the Institute of International Finance ("IIF", and, together with ISDA, the "Associations") appreciate the opportunity to provide comments to the Basel Committee on Banking Supervision ("BCBS") on its proposed technical amendment concerning "Hedging of counterparty risk exposures" issued in December 2024 ("the technical amendment").

We would like to draw your attention to several issues with the technical amendment:

1. The Associations do not believe the proposed change in the treatment of counterparty credit risk hedges is warranted given that the current substitution method is already very conservative. In particular, the current methodology effectively assumes a 100% default correlation between the counterparty of the protected exposure and the protection seller. It presumes that there is always an exposure to the protection seller when, in reality, such exposure only arises in the event of a default by the counterparty of the protected exposure. Moreover, the technical amendment introduces a complex and potentially burdensome[1] calculation that does not address the main shortcomings of the currently applicable substitution method.

2. The Associations note that the calibration of the SA-CCR potential future exposure (PFE) multiplier calibration is too conservative based on available data (see Section II below).

3. The proposed narrowly focused alignment between the recognition of collateral and guarantees (or credit derivatives) fails to establish a consistent treatment. For example, while collateral effectively reduces exposure under SA-CCR, the treatment under the technical amendment would not reduce the exposure through counterparty credit risk hedges, but continue to only adjust the applicable risk weight, leading to inconsistencies. Also, the Associations believe that the calibration of the unprotected portion is too conservative due to the floor applied, which is the difference between the original exposure at default (EAD) and the maximum contingent claim.

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[1] The requirement to estimate both the protected and unprotected portions of the exposure effectively requires calculating, and possibly re-simulating under the Internal Models Method (IMM), exposures twice. For large derivatives portfolios, this could necessitate significant investments in the banks' current infrastructure. While such costs may be justified if they result in a model that accurately reflects the real economic risks it aims to capture, they can also disincentivize sound risk management (or credit risk mitigation in this case) if they do not.

The technical amendment may inadvertently discourage the prudent credit risk mitigation of counterparty credit risk exposures via fixed notional credit default swaps (CDSs)[2] or guarantees[3]. Apart from bespoke cases, fixed notional credit derivatives (or guarantees) are often the only viable credit risk mitigation instruments against derivatives, as hedge providers seek to limit their maximum exposures. Effective credit risk mitigation enables banks to manage their counterparty credit risk exposures, particularly when such exposures are not fully collateralized. In other words, credit risk mitigation enables banks to continue offering derivatives to end-users by hedging these exposures – either fully or partially – using credit derivatives (or guarantees).

The Associations would highlight that the Uncleared Margin Rules (UMR) do not cover all derivative types, such as physically settled forwards, and they generally exempt certain non-financial entities (i.e., commercial end-users), from these margining requirements. End-users often do not have the infrastructure to post collateral. Consequently, credit risk mitigation instruments are critical for creating additional bank capacity to provide end users with derivatives to manage or hedge their business-related risks, especially during periods of heightened volatility. The Associations are concerned that if the proposed technical amendments are finalized as currently drafted, credit risk mitigation will become a less viable option.

Given the concerns highlighted above, the Associations recommend:

1. Do not extend the application of the PFE multiplier to the recognition of credit derivatives or guarantees and, by extension, do not apply the corresponding methodology to exposures calculated under IMM. Any extension should only be considered after a review of the calibration of the PFE multiplier.
2. Review the potential alignment of credit risk mitigation between guarantees (or credit derivatives) and collateral as suggested in this letter to ensure that credit risk mitigation remains a viable tool for banks to manage counterparty credit risk exposures.[4]

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[2] In relation to hedging counterparty credit risk exposures, fourth-trigger CDS contracts that have a fixed notional similar to standard CDS contracts have been developed. They include, not only the standard three default triggers (i.e., bankruptcy, restructuring, and failure to pay), but also a fourth trigger which ensures protection coverage by including aspects of a derivative's exposure including failure to make periodic swap payments or failure to post margin. Although the market for fourth-trigger CDS is not currently large, many banks have been investigating their use, and this technical amendment will diminish any advantages of using them.

[3] Based on Case 3 and Case 4 as described in the technical amendment, and based on certain assumptions regarding risk weights, the capital benefit of a credit derivative or guarantee that covers the entire expected exposure under SA-CCR would be reduced by over 50% due to the technical amendment. The Appendix includes another example to illustrate the risk-incentive recognition of credit risk mitigation benefits.

[4] In the technical amendment, the BCBS proposes that the unprotected portion takes the greater of the exposure accounting for the unfunded credit protection as if it were cash collateral (the first constraint) and the difference between the EAD and the maximum contingent claim (the second constraint). If alignment is considered according to the first constraint after a review of the PFE multiplier, the second constraint should be removed.

# I. Current Framework for Unfunded Credit Risk Mitigation is Already Highly Conservative

The technical amendment reduces the recognition of risk mitigation achieved through the purchase of CDS protection compared to the current substitution method. It proposes that the "protected EAD" is risk weighted based on the protection provider and at the same time, the CDS is removed from the counterparty credit risk RWA facing the protection provider. However, it is important to note that the substitution method is already excessively conservative, as it assumes that the protected amount constitutes an exposure to the protection seller, applying the corresponding risk weight.

This means that if credit protection is purchased from a counterparty with a similar or higher risk weight than the counterparty of the original exposure, there will be no reduction in RWAs. The method effectively makes the unrealistic assumption that the protected exposure and the protection seller are 100% correlated and will always default simultaneously. In practice, protection is purchased specifically because banks anticipate it will protect them in the event of a default by the counterparty associated with the protected exposure, and the protection seller typically has a low correlation with the original counterparty. For example, a large financial institution versus a commercial end-user using derivatives to hedge commercial risks.

While this is often not a concern for non-derivative exposures where cleared CDS are available and the QCCP risk weight of 2% can be used, for derivatives, a fourth trigger is often necessary on the CDS to ensure payout upon failure to pay on the derivatives. These products are not centrally cleared, and the substitution approach therefore disincentivizes unfunded credit risk mitigation of derivatives.

Under the proposed technical amendment, the benefits from this type of credit risk mitigation are further reduced. The Associations want to point out that the credit risk mitigation provided by CDS protection is already inadequately recognized for the reasons outlined above and would receive even less favorable treatment under the proposed technical amendment.

Ideally, the exposure to the protection seller should reflect that it is contingent upon the default of the counterparty for the protected exposure. Under the IRB approach, there would be a relatively straightforward method to incorporate this effect,[5] although an overarching framework would need to be developed to extend this to non-IRB exposures. A simple alternative is proposed below in Section III.A.

> **Given the conservative treatment already in place, the Associations urge the BCBS not to impose an even more punitive treatment of counterparty credit risk mitigation through the use of guarantees or credit derivatives.**

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[5] The term $N\left[\frac{G(PD)}{\sqrt{(1-R)}} + \sqrt{\frac{R}{1-R}} \times G(0.999)\right]$ in the capital requirement formula of CRE31.5 includes default correlations and can be interpreted as a PD contingent on 99.9% systematic risk. This could potentially be used to mitigate exposure to the protection seller by using it as a multiplier, calculated using the PD of the protected exposure.

## II.    Issues Regarding the PFE

The technical amendment would reduce the mitigating benefit that a bank can recognize through guarantees and credit derivatives by replacing the current dollar-for-dollar methodology with the PFE multiplier. While the Associations believe it is appropriate to recognize unfunded credit protection by treating it as collateral in the derivatives EAD calculation, there are still issues with how SA-CCR responds to over-collateralization. As noted in a 2018 joint trade associations letter on SA-CCR,[6] the PFE multiplier is not calibrated appropriately:

"Under SA-CCR, IM is recognized through the PFE multiplier formula, which allows a bank to reduce the aggregate add-on. **This formula results in a far more conservative recognition of IM than CEM**, where a dollar-for-dollar offset of PFE after haircut adjustments was allowed… While we appreciate the theoretical foundations for the PFE multiplier as set forth in Basel working paper No 26 "Foundations of the standardised approach for measuring counterparty credit risk exposures"[7], we believe that a crucial assumption in this paper is not met when looking at real data… Based on the 20 largest netting sets that are subject to SIMM IM, industry data shows that the ratio of SIMM IM to SA-CCR Add-on is 0.81. For calculating the ratio, the industry recalculated the SA-CCR add-on to exclude legacy trades that are scoped out of UMR to allow for a like for like comparison."

Given that SIMM IM is calculated at a 99th percentile while SA-CCR is calibrated based on expected exposure, the IM to SA-CCR ratio should be around 5.84 under normal distribution assumptions.[8] This means that the SA-CCR add-on is too conservatively calibrated to be used unadjusted in the PFE multiplier as highlighted in another empirical analysis.[9]

The disincentive in the examples given in Section II and the Appendix of this paper arises from the PFE multiplier construct, which is excessively conservative and fails to adequately recognize the additional protection from overcollateralization. Consequently, the tail risk is still calculated as a material number in SA-CCR, even though the majority of the actual risk is likely to be well covered at a very high confidence level.

> **Therefore, the Associations recommend that the PFE multiplier be recalibrated as part of the technical amendment before expanding its application to other areas.**

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[6] Letter from ISDA, GFMA, IIF, *SA-CCR – Why a recalibration is necessary* (Dec. 7, 2018), *available at* https://www.isda.org/a/ohATE/SA-CCR-Why-a-re-calibration-is-necessary.pdf

[7] [Cited as per the 2018 joint trades letter] https://www.bis.org/publ/bcbs_wp26.pdf

[8] Letter from ISDA, SIFMA, the American Bankers Association, the Bank Policy Institute and the Futures Industry Association, *Standardized Approach for Counterparty Credit Risk*, pp. 32 (Mar. 18, 2019), *available at* https://www.isda.org/a/XFKME/US_SA-CCR_NPR_Response_Letter_03.18.19.pdf

[9] An empirical analysis of the SA-CCR multiplier conducted by Michael Roberson at the Commodity Futures Trading Commission (CFTC) also suggested that a recalibration might be warranted.
Michael Roberson, *An Empirical Analysis of Initial Margin and the SA-CCCR*, (2018), *available at* https://www.fdic.gov/system/files/2024-06/2023-regulatory-capital-rule-large-banking-organizations-3064-af29-c-227.pdf

## III. Recommended Improvements to the Technical Amendment

### A. Recommendation on Alternative Method to Capitalize Protection Instead of Risk Weighting the Protection Amount to the Protection Provider

The technical amendment draws a comparison between the recognition of collateral under SA-CCR and IMM (page 1):

"Under the standardised approach to CCR (SA-CCR), a bank with a derivative exposure may reduce the exposure at default (EAD) to its derivatives counterparty when it takes eligible collateral…The internal models method (IMM) for CCR is also designed to give a similar treatment to collateral."

Specifically, under SA-CCR, the recognition of collateral pertains to the replacement cost (RC) and the PFE via the multiplier. On the latter, there is a lack of a dollar-for-dollar offset between collateral and exposure. It is important to note that while collateral recognition reduces the risk-weighted exposure, the proposed amendment regarding the recognition of credit derivatives (or guarantees) would still lead to the entire exposure being risk weighted.

> **To achieve a more accurate alignment, banks should be allowed to reduce the EAD that would need to be risk weighted as a result of the recognition of a credit derivative, similar to how collateral is treated under SA-CCR or IMM (i.e., without risk-shifting the protection amount to the protection provider). At the same time, banks would need to include the credit risk mitigant in the counterparty credit risk charge against the protection provider.[10]**

We can demonstrate this treatment using Case 4 of the illustrative numerical example in Annex 2 of the technical amendment. The table below provides a comparison:

| Scenario | Unprotected EAD against derivative counterparty | Protected EAD against CDS counterparty | Counterparty credit risk to CDS Protection Provider |
|---|---|---|---|
| Technical Amendment (Case 4) | $7.1 | $6.9 | Exempt CRE51.16(1) |
| Industry Recommendation | $7.1 | $0 | Not exempt[11] |

As previously mentioned, $7.1 would be risk weighted against the derivative counterparty for the unprotected portion, while $6.9 would not be subject to risk weighting. Instead, the bank would net the CDS within its netting set against the protection provider, likely resulting in a figure lower than the RWA based on the protected amount. The Associations consider this inclusion in the counterparty credit risk charge against the protection provider to be akin to the collateral haircuts that would be applied, thereby reducing the recognizable collateral amounts in the SA-CCR PFE calculation.

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[10] Additionally, it is worth noting that this approach is conceptually consistent with the recognition of credit derivatives under the IMM in the US implementation of the Basel III framework (see 12 CFR 217.132(d)(2)(vi)).
[11] Although the transaction would in principle not be exempt from counterparty credit risk, it could be structured in a way that eliminates its counterparty credit risk exposure.

### B. Lack of Clarity Regarding the Application of Haircuts

There is uncertainty about the applicability of the haircuts specified in CRE22.10-22.14/22.82. Specifically, the terms "protected portion" or "maximum contingent claim" mentioned in the amended section CRE51.19 do not reference the haircut sections (i.e., CRE22.10-22.14/22.82), suggesting that haircuts do not apply. The Associations are concerned that applying the maturity haircut, along with the proposed changes in the technical amendment, would significantly reduce the credit risk mitigation benefits of credit derivatives (or guarantees). This reduction in credit risk mitigation benefits would not only be in comparison to the current methodology, but it could also result in a situation worse than what is achieved with collateral recognition. The following example, using Case 4 from the illustrative numerical example in Annex 2 of the technical amendment, illustrates this concern:

| Scenario | Value of unadjusted credit protection | Value of adjusted credit protection | Unprotected EAD against derivative counterparty | Protected EAD against CDS counterparty |
|---|---|---|---|---|
| Technical Amendment (Case 4) without application of haircuts | $14 | $14 | $7.1 | $6.9 |
| Technical Amendment (Case 4) with application of haircuts[12] | $14 | $5.16 = $14 *((2–0.25)/(5–0.25)) | $10.8 | $3.2 |

As the example illustrates, applying a maturity haircut on top of the proposed technical amendment would largely eliminate any benefit from purchasing protection on the derivative exposure. In this case, less than 25% of the exposure would be considered protected, even though the notional amount of the protection would be sufficient to cover the expected exposure at default under SA-CCR.

Additionally, the Associations recommend clarifying CRE22.82 that the currency mismatch as it relates to hedges against counterparty credit risk exposures occurs when the currency of the fixed notional protection differs from the settlement currency of the counterparty credit exposure.

> **The Associations recommend clarifying that: (1) in line with collateral recognition in the SA-CCR PFE calculation, the maturity mismatch haircuts typically applied to the protection amount of a credit derivative (or guarantee) as per CRE22.10 to CRE22.14 should not be imposed and (2) the currency mismatch per CRE22.82 as it relates to hedges against counterparty credit risk exposures occurs when the currency of the fixed notional protection differs from the settlement currency of the counterparty credit exposure.**

Besides the recommendation above, the Associations note that the maturity haircut currently applied in the framework, and which would continue to apply for unlimited guarantees or unlimited contingent credit default swaps, is very punitive for hedges of counterparty credit risk. According to CRE22.14, "the effective maturity of the underlying must be gauged as the longest possible remaining time before the counterparty is scheduled to fulfil its obligation…". In this context, an immaterial long-dated derivative in

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[12] The maturity haircut is calculated based on the assumption that the longest maturity in the netting set is five years, while the CDS has a two-year maturity.

a netting set could significantly reduce the protection amount based on CRE22.13, even if the credit protection arrangement provides protection throughout the time the material portion of the exposure is outstanding. Therefore, CRE.22.13 and 22.14 should be amended to allow the residual maturity of a counterparty credit risk exposure to be calculated as the notionally weighted average maturity.

### C. Issues Regarding the Proposed Unprotected Portion Calculation of CRE51.19

#### i. Issues Regarding the Floor on Maximum Contingent Claims

The technical amendment requires firms to calculate the unprotected portion facing the counterparty using two methods:

**Method 1:** Treating the amount of unfunded protection through SA-CCR (or IMM) as cash collateral

**Method 2:** Directly reducing the EAD facing the counterparty by the maximum contingent claim

The higher value from these two methods becomes the unprotected exposure. Therefore, the technical amendment establishes a floor for the unprotected portion of the counterparty credit risk exposure at the maximum contingent claim, which differs from how the risk-reducing effects of collateral are calculated.

The Associations would note that method 2 is conceptually flawed for two reasons. Firstly, its effect on counterparty credit risk EAD is not aligned with the effect that funded protection has on counterparty credit risk EAD. In particular, risk mitigants lower the effective expected positive exposure (EEPE) in IMM and the sum of RC and PFE in SA-CCR before applying the alpha multiplier. This multiplier is intended to magnify the exposure amount, as measured by EEPE (or the sum of RC and PFE), to account for general wrong-way risk (GWWR) during stressed market conditions or the lack of granularity in the counterparty credit risk portfolio. There is no justification for treating unfunded credit protection differently from collateral amounts in this context.

The Associations believe that the distinction between the reduction in exposure to the original counterparty achieved through a credit derivative or guarantee and the reduction achieved through collateral should be fully resolved, without any caps being imposed on unfunded credit protection.

Secondly, it does not provide adequate reduction when the RC of derivatives is relatively high due to the alpha factor applied in derivatives EAD calculations. In situations where counterparty credit risk exposures have high RCs relative to PFE – typically those protected by credit derivatives or guarantees – the capping could significantly undermine the risk reduction achieved. For example, if the RC is much higher than the PFE, a credit derivative or guarantee with a maximum claim equal to the RC would only reduce the exposure to the original counterparty by approximately $\frac{1}{\alpha} = \frac{1}{1.4} \approx 71\%$, while a pure credit exposure would see its unprotected portion reduced to zero.

> **The Associations recommend against flooring the unprotected portion to the original EAD net of the maximum contingent claim, which implies that the effect of the protection is on the EEPE (or the sum of RC and PFE in SA-CCR) rather than the EAD. This recommendation gives a similar risk reduction treatment for a CDS as that of cash collateral, further aligning the framework for funded and unfunded credit protection.**

### ii. Numerical Example Regarding the Flooring of the Unprotected Portion Calculation

This numerical illustration leverages Case 4 in the technical amendment, except that the market value is $20, and the exposure is hedged with a $34 CDS (i.e., the bank chooses to hedge the sum of RC and alpha times the PFE in SA-CCR).

**Scenario 1 (without accounting for the hedge):**

- The bank has a derivative exposure with a counterparty:
  - With a current market value of $20 (i.e., V = $20)
  - A SA-CCR addon of $10 (i.e., $AddOn_{aggregate}$ = $10)
  - No collateral is collected (i.e., C = $0)
- The original exposure is: $EAD_{original}$ = $42

**Scenario 2 (calculating the unprotected portion after accounting for the CDS hedge under the proposed technical amendment (i.e., CRE51.19)):**

- The CDS hedge maximum contingent claim is $N_{hedge}$ = $34
- Treating the CDS as cash collateral:
  - Replacement cost: RC = max{V – C; 0} = max{$20 – $34; $0} = $0
  - Application of the PFE multiplier: multiplier = min{1; 5% + 95%*exp[(20-34) / (2*95%*10)]} = 50.5%
  - Potential future exposure: PFE = multiplier * $AddOn_{aggregate}$ = $5.05
  - EAD before application of the floor: $EAD_{unprotected\ before\ floor}$ = 1.4 * ($0 + $5.05) = $7.07
- Floor to the unprotected portion: $EAD_{unprotected\ floor}$ := $EAD_{original}$ − $N_{hedge}$ = $42 - $34 = $8.00
- Exposure to the unprotected portion: $EAD_{unprotected}$ = max{$EAD_{unprotected\ before\ floor}$; $EAD_{unprotected\ floor}$} = max{$7.07; $8.00} = $8.00

In this example, applying the floor to the unprotected portion increases the unprotected amount by $0.93, which represents a 13% increase compared to if the floor were not applied.

Since the hedge is partial, the impact of the floor is more pronounced, as illustrated in the chart below. Specifically, if the hedge size is less than or equal to the RC, the RC risk reducing effect of the protection is less than that of cash collateral.

**EAD unprotected portion as a function of CDS hedge notional**
V=20, C=0, AddOn=10

Legend: - - - - EAD unprotected before floor  - - - - EAD unprotected floor  ——— EAD unprotected
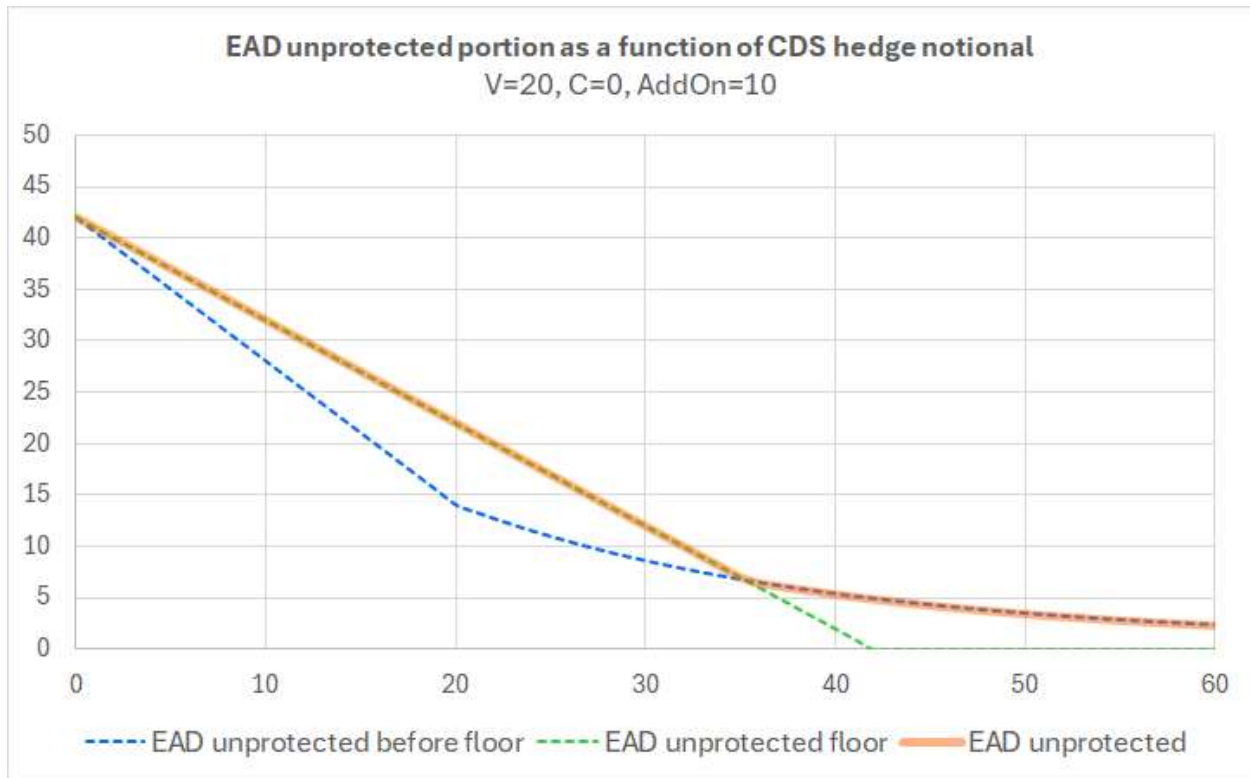
# IV.  Appendix - Numerical Examples to Demonstrate Issue Regarding the Recognition of Protection Benefit in the PFE

We would also like to demonstrate the issue that protection benefit is not sufficiently recognized due to the excessive conservativeness of the PFE multiplier formula:

**Scenario 1**:

- Assume a financial counterparty (e.g., a broker dealer) with 100% risk weight
- Assume a bank has a derivative exposure with a current market value of $0 (i.e., V = $0).
- Assume the bank hedges the derivative with a $7 cash collateral and applies the technical amendment as set out in CRE51.19
- Replacement cost: $RC = \max\{V - C; 0\} = \max\{\$0 - \$7; \$0\} = \$0$.
- Assume that when the SA-CCR is applied to the derivative it gives an AddOn of $10.
- Assume there is no protected portion
- The EAD of the counterparty credit risk exposure to the derivative counterparty = alpha * (RC + PFE) = 1.4 * ($0 + multiplier * $10).
- multiplier = $\min\{1; 5\% + 95\%*\exp[(0-7) / (2*95\%*10)]\} = 70.7\%$. Hence, the EAD = 1.4 * ($0 + 70.7% * $10) = $9.9
- RWA = EAD * 100% = $9.9

**Scenario 2**:

- Same scenario as 1 except assume there is a fixed amount of guarantee with a multilateral development bank (with a 0% risk weight) valued at $20. The protection is used as additional collateral for a total collateral amount of $27
- Application of CRE51.19(1) requires treating the CDS protection as additional cash collateral in the calculation of the EAD: multiplier = min{1; 5% + 95%*exp[(0-27) / (2*95%*10)]} = 27.9%. Hence, the EAD = 1.4 * ($0 + 27.9% * $10) = $3.9
- Applying CRE51.19 results in a protected amount of the EAD of the counterparty credit risk exposure to the derivative counterparty minus the unprotected amount, i.e., $9.9 – $3.9 = $6.0.
- The RWA of the counterparty credit risk exposure to the derivative counterparty = RWA of unprotected portion + RWA of protected portion = $3.9 * Risk weight of original dealer + $6.0 * Risk weight of guarantee provider = $3.9 * 100% + $6.0 * 0% = $3.9

Besides the CDS protection attracting counterparty credit risk separately, banks are required to hold 40% (= $3.9 / $9.9) of the capital in Scenario 2 as compared to Scenario 1 despite receiving an additional guarantee worth twice the add-on measure in SA-CCR. The capital relief gained from pursuing such protection is unlikely to justify the associated costs, thus providing banks with an incentive to not seek credit risk mitigation. The current SA-CCR PFE multiplier is not sensitive to the mitigation of tail risks.

## V.    Conclusion

The Associations would like to thank the BCBS for considering the recommendations on the technical amendments spelled out in this comment letter. On behalf of ISDA and IIF members, we hope that these suggestions will contribute constructively to your efforts. We would be pleased to discuss our comments further and invite you to reach out to Panayiotis Dionysopoulos (pdionysopoulos@isda.org) at ISDA and Richard Gray (rgray@iif.com) at the IIF.

Yours sincerely,

**Panayiotis Dionysopoulos**                    **Richard Gray**
Head of Capital                    Director, Regulatory Affairs
International Swaps and Derivatives Association                    Institute of International Finance

## VI.    About the Associations

**About the International Swaps and Derivatives Association:**

Since 1985, the International Swaps and Derivatives Association (ISDA) has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 1,000 member institutions from 76 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 X, LinkedIn, Facebook and YouTube.

**About the Institute of International Finance:**

The Institute of International Finance (IIF) is the global association of the financial industry, with about 400 members from more than 60 countries. The IIF provides its members with innovative research, unparalleled global advocacy, and access to leading industry events that leverage its influential network. 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, professional services firms, exchanges, sovereign wealth funds, hedge funds, central banks and development banks.