ISDA Safe, Efficient Markets

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BY E-MAIL

General Manager, Policy Development
Policy and Advice Division
Australian Prudential Regulation Authority

Email: ADIpolicy@apra.gov.au

Dear Sirs

Discussion Paper on counterparty credit risk for ADIs

Introduction

The International Swaps and Derivatives Association, Inc. ("**ISDA**")[1] is grateful for the opportunity to respond to the Discussion Paper on counterparty credit risk for ADIs ("**Consultation**") published by the Australian Prudential Regulation Authority ("**APRA**") on 3 August, 2017.

While ISDA welcomes the replacement of the Current Exposure Method ("**CEM**") and Standardised Method ("**SM**") with a more risk-sensitive measure of exposure at default ("**EAD**"), many elements of the final Standardised Approach for Counterparty Credit Risk ("**SA-CCR**") framework remain overly conservative, are based on outdated parameters, extend beyond what was originally intended, and have never been tested holistically. ISDA understands that the Basel Committee on Banking Supervision ("**BCBS**") has committed to recalibrate SA-CCR, and believes that any transposition before this recalibration has occurred is premature and will penalize important banks' activities.

SA-CCR will be used much more broadly within the Basel III capital framework than was originally contemplated, and ISDA is particularly concerned with the disproportionate impact SA-CCR will, in its current design and calibration, have on:

- Calculation of risk-based capital requirements as a replacement for the CEM and SM;
- Central Counterparty ("**CCP**") hypothetical capital calculation, as already included in the final Basel standards for capital requirements for CCP default fund contributions;
- Large exposures framework;
- Leverage ratio framework;
- Calculation of exposures in the context of regulatory capital requirements for CVA risk ("**FRTB-CVA**") capital requirements; and
- Potential application of SA-CCR to the net stable funding ratio ("**NSFR**") treatment of derivatives exposures.

[1] Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 850 member institutions from 68 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.

International Swaps and Derivatives Association, Inc.
Marina Bay Financial Centre Tower 1, Level 11,
8 Marina Boulevard Singapore 018981
P 65 6653 4170
www.isda.org

NEW YORK WASHINGTON
LONDON BRUSSELS
HONG KONG SINGAPORE
TOKYO

We are therefore supportive of APRA deferring commencement of SA-CCR requirements until the BCBS has completed the recalibration of SA-CCR and we believe that APRA should reflect any future SA-CCR modification enacted by the BCBS, as well as allow authorized deposit-taking institutions ("**ADIs**") sufficient time to implement the new requirements.

In this response, we have not responded to the specific proposals outlined in the Consultation, but have focused on concerns specific to the treatment of derivatives keeping in mind APRA's objective to appropriately balance financial safety and efficiency, competition, contestability and competitive neutrality, whilst promoting financial safety. We also highlight these concerns to ensure alignment with global jurisdictions and BCBS guidelines, and to draw special attention to recent industry efforts in this space. These concerns are discussed in the *General Comments* section below, and the suggestions to address these concerns are outlined in the *Industry Suggestions* section. A detailed explanation is provided in *Appendix 1 - Specific Comments*

General Comments

We believe that SA-CCR addresses to a great extent the industry concerns over CEM and SM's shortcomings in relation to issues on diversification, netting and differentiating between margined and un-margined netting sets. As a result, SA-CCR is a more risk-sensitive measure than CEM and SM, and will perform better as a measure of exposure.

However, we note that SA-CCR was finalized in 2014, and significant progress has been made at Basel level on other related regulations, such as the Fundamental Review of the Trading Book ("**FRTB**"). We believe that the SA-CCR framework, as agreed upon at the international level, can benefit from enhanced calibration and that improvements made in the development of the FRTB should be leveraged to refine and improve the SA-CCR framework. In the *Appendix 1 - Specific Comments* section to this response, we set out suggestions for improved calibration of the framework and also highlight parts of the final BCBS text that require further consideration. We would also recommend that the SA-CCR supervisory parameters be subject to recalibration so as to reflect changing market conditions. To avoid market disruption and to allow for planning at the firm level, the industry believes it will be necessary that this process is well-defined and transparent and allows for a phase-in period for transitioning to the new parameters.

These concerns have been shared with BCBS[2] on 21 June 2016, as well as regulators in other jurisdictions[3] on 24 June, 2016. The industry also conducted a SA-CCR Quantitative Impact Study ("**QIS**"), the results of which were submitted to BCBS[4] on 20 March, 2017. We urge APRA to discuss these concerns with other BCBS members with a view to addressing these concerns on a global basis. We also believe it would be beneficial for APRA to ensure that the ability to review the use of SA-CCR in the prudential framework be included in the final framework, should changes be forthcoming at the global level.

It is also important to note that we believe that the introduction of SA-CCR should be tailored dependent on its use within the capital framework. For example, if the leverage ratio ("**LR**") framework should be implemented so that it recognises the exposure-reducing effect of initial margin ("**IM**") received from counterparties for client-cleared transactions, particularly as that margin is not used to increase the bank's

[2] http://www2.isda.org/attachment/ODQ3MQ==/Joint%20Trades_%20(GFMA_ISDA_IACPM_JFMC)%20Reponse%20to%20BCBC%20IRB%20Constraints.pdf , ISDA/GFMA/IAPCM/JFMC, Response to the consultation on Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches

[3] http://www2.isda.org/attachment/ODQ3OA==/ISDA%20AFME%20EC%20Market%20Risk%20CP%20Response%20240616.pdf, ISDA/AFME, Response to the DG FISMA consultation document on the proportionality in the future market risk capital requirements and the review of the original exposure method.

[4] http://www2.isda.org/attachment/OTI0MQ==/ISDA%20Letter%20to%20the%20BCBS%20on%20SA-CCR%20-%20March%202017.pdf, ISDA, ISDA Letter to the BCBS on the Standardized Approach for Measuring Counterparty Credit Risk Exposures.

leverage. Treating IM for client clearing as additional exposure, as under the current LR framework, unnecessarily acts against client clearing businesses and contradicts the G20 mandate by creating an economic disincentive for clearing brokers to offer clearing services. Furthermore, potential SA-CCR consideration in the NSFR framework would require further assessment of SA-CCR in terms of calibration and design.

This response does not address SA-CCR implementation in detail in the context of the credit risk rules for standardised approach and internal models, which have not yet been finalized at the BCBS level. However, we would caution against any suggestion that SA-CCR be introduced as a floor in the future to the internal models framework, as we believe the floor would undermine the use of internal models in the capital framework. We also reiterate that we continue to support the ability of firms to use validated internal models for calculating exposures. Internal models provide market participants the potential to alleviate the unavoidable deficiencies of standardised methods due to the need to better capture risks, properly account for diversification and hedging, and adapt more swiftly to the changing market environment. In particular, a floor which is based on SA-CCR - which is still a notional based measure of risk - will encourage banks to reduce notionals but not necessarily reduce risk. There could be less transparency on where risks are being built up as the use of standardised approach floors could mask risk taking. We believe it is imperative to once again reiterate the importance of risk-sensitivity to the capital framework and the internal risk monitoring and management performed by credit risk departments.

Industry Suggestions

To address these concerns, we suggest the following measures based on the most recent industry QIS[5] that would greatly benefit SA-CCR from simple modifications improving its risk sensitivity and calibration. .

1. Alpha factor usage and calibration

The alpha factor was set in 2005 to apply to internal models methodology ("**IMM**") CCR, using industry estimates, and furthermore no longer reflects current market and regulatory environments. The 1.4x alpha factor overstates exposure at defaults ("**EADs**") by 40%. This is overly conservative, particularly in the case of RC, which typically reflects actual mark-to-market ("**MTM**") levels of unmargined end user trades.

Alpha was intended to apply to internal models, not to the conservative standardized SA-CCR, and should therefore be removed since it has not been designed for a standardized application. Furthermore, based on the industry QIS, the alpha value is 1.01x when assuming 1,500 counterparties and 10 orthogonal risk factors.

2. IM recognition

The degree of exposure reduction resulting from the exchange of IM is too low and not sufficiently aligned with the actual level of risk mitigation provided by IM. For netting sets (**"NS**") with large Independent Amounts, SA-CCR EADs are 10x-11x IMM EADs, CEM EADs, when IMM and CEM EADs are not actually fully extinguished. As a result, SA-CCR's PFE multiplier should be made more sensitive to over collateralization and negative MTM.

[5] http://www2.isda.org/attachment/OTI0MQ==/ISDA%20Letter%20to%20the%20BCBS%20on%20SA-CCR%20-%20March%202017.pdf, ISDA, ISDA Letter to the BCBS on the Standardized Approach for Measuring Counterparty Credit Risk Exposures.

3. Multiple CSAs in a single netting set, and vice versa

SA-CCR requires banks to divide an NS into sub-netting sets in these instances, in order to align with the margin agreements, thereby reducing the benefits of netting. For example, the QIS found that when splitting unmargined NS into two groups (odd/even numbered trades), SA-CCR EAD increases by 42%. Simple modifications would address this modelling issue while still respecting legal agreements.

4. Diversification across IR hedging sets and FX hedging sets & FX netting issues

SA-CCR does not allow for the recognition of diversification across IR hedging sets and FX hedging sets, and is overly conservative and risk insensitive which overstates counterparty credit risk. The QIS found that SA-CCR EAD is 23% higher than IMM EAD and 2x the CEM EAD for all IR NS, and SA-CCR EAD is 2.5x IMM EAD, and 3x CEM EAD for all FX NS. To address this concern, SA-CCR should allow for diversification across IR hedging sets and FX hedging sets.

SA-CCR does not allow for the netting of cash flows in each currency to a single net amount, e.g. for FX crosses and FX triangulation. The QIS found that for NS with strong negative MTM, SA-CCR EAD can be a large multiple of IMM EAD. To address this concern, SA-CCR should allow the netting of cash flows in each currency to a single net amount.

5. SA-CCR's collateral haircut approach

SA-CCR's simplistic haircut approach ignores other collateral, trade populations, and diversification. This approach lacks risk sensitivity, and hence disconnects capital from actual level of risk. To address this concern, SA-CCR should incorporate the impact of the future volatility of collateral into PFE.

Further details on the concerns and suggestions outlined above are available in *Appendix 1 - Specific Comments*.

We thank APRA for considering our comments and the comments of other industry stakeholders in this process. We look forward to continued dialogue on these issues going forward, and we remain at your disposal in the development of the SA-CCR framework. Should you have any questions, please do not hesitate to contact Mark Gheerbrant (mgheerbrant@isda.org) or Keith Noyes (knoyes@isda.org).

Yours sincerely,

For the **International Swaps and Derivatives Association, Inc.**

Mark Gheerbrant
Head of Risk and Capital

Keith Noyes
Regional Director, Asia-Pacific

Appendix 1 - Specific comments

1. Calibration suggestions on the SA-CCR Framework

The industry is broadly supportive of the introduction of SA-CCR in the prudential framework, which we believe is a more appropriate measure of counterparty credit risk than the CEM. However, in order to ensure the sound functioning of SA-CCR in the framework, the industry has identified several areas where SA-CCR appears to suffer from deficiencies resulting from its standardised nature. We highlight below a number of additional issues relating to SA-CCR and its application as a floor to the IMM, and make suggestions aimed at improving SA-CCR's risk sensitivity:

The existing formulation in SA-CCR will allow some reduction of PFE resulting from the posting of IM, however the level of reduction will not be in line with the level of risk mitigation provided by the IM. In the formulation, the PFE will not fall accordingly as it is dependent on the exponential multiplier which is significantly more conservative than the model-based multiplier (BCBS WP26). We understand the choice of the exponential multiplier is based on MTM value of real netting sets being likely to exhibit heavier tail behavior than the one of the normal distribution. While fatter tails than those implied by a normal distribution do exist, the conservative calibration of the $AddOn^{aggregate}$ calculation already compensates this. This means that the introduction of the exponential multiplier constitutes a double count of fat tails. This is even more problematic as the 5% floor and the application of collateral haircuts to the collateral values (please see comment below) introduce additional factors in reducing the risk mitigating benefits of overcollateralization. This undermines the stated regulatory efforts to increase the level of collateralization of exposures as a means to decrease counterparty credit risk. This has become even more important for the industry given the margin requirements for uncleared derivatives, and the associated considerable funding costs. The same calibration issue also applies when derivative transactions are not in a netting set, where the non-netting set transactions will receive relatively high add-ons but the multiplier will provide little relief. As such, even transactions with significantly negative MTM will have large add-ons even when there is little chance of them to go in-the-money. The industry therefore thinks that the PFE multiplier is overly conservatively calibrated and results in a punitive treatment of IM, leaving in all instances the multiplier meaningfully higher than it should be. We therefore believe that SA-CCR should be made more sensitive to over collateralization and negative MTM.

Under SA-CCR, the collateral haircut approach is used to reflect the volatility of collateral where market price volatility and foreign exchange haircuts are applied to incoming and outgoing collateral as appropriate. Generally, such a simplistic approach seems problematic as on the one hand it models the volatility of collateral in isolation of other collateral or the overall trade population and does not recognize any diversification benefits while on the other hand it fails to reflect the uniqueness of certain types of collateral. Given the goal to align SA-CCR with IMM as much as possible, it seems prudent to incorporate the impact of the future volatility of collateral into the SA-CCR PFE calculation. A more comprehensive discussion of the approach is provided below. While we understand that SA-CCR is final, such an amendment should not be considered a change to SA-CCR as the reflection of collateral volatility is not part of the methodology on how to calculate exposures for derivatives and the suggested approach in fact aligns with the SA-CCR methodology.

Industry participants would strongly prefer to be given the option of using their own internal model delta adjustments since these calculations are approved by national regulators as part of the market risk framework and better aligned with their internal risk management engines and reporting systems. We understand that reluctance to move ahead with such an approach has led the BCBS into an intermediate solution of introducing a Black-Scholes delta with supervisory volatility in SA-CCR. Although the formula in the final standard is better aligned with options theory, it has the drawback that it is operationally complex to implement at the trade level for certain products such as caps and floors. Deriving the P in the formula

for a cap typically requires that a bank determines a new at-the-money cap level for each trade individually and determines forward levels for each leg in the cap in a very deal-specific way.

In relation to the add-on rules for foreign exchange derivatives covered in paragraphs 170-171 of the SA-CCR framework[6], it is not clear whether netting is allowed for triangular FX trades in which the exposures are flat. We provide an illustrative example of the following triangular FX exposure situation where this issue arises below: EUR/USD-USD/GBP-GBP/EUR. The industry suggest that the BCBS allows for netting of cash flows in each currency to a single amount and then use the net buy amount converted to the domestic currency as the effective notional.

2. Add-on formula for foreign exchange derivatives

In relation to the add-on rules for foreign exchange derivatives covered in paragraphs 170-171, it is not clear if netting is allowed for triangular FX trades in which the exposure are flat. For example a bank enters into three FX forwards with the same counterparty all with the same maturity:

	BUY	SELL
TRADE 1	EUR 7	USD 10
TRADE 2	USD 10	GBP 5
TRADE 3	GBP 5	EUR 7
Net	0	0

The cash flows at maturity net down to 0, so there is no risk. However, if netting is not allowed the capital will be held against the portfolio. The same is also true where the cash flows do not net down to zero, the trades can still be collapsed to net cash flows in each currency:

	BUY	SELL
TRADE 1	EUR 8	USD 10
TRADE 2	USD 10	GBP 5
TRADE 3	GBP 4	EUR 7
Net	EUR 1	GBP 1

The industry suggests to allow netting of cash flows in each currency to a single amount and then use the net buy amount converted to the domestic currency as the effective notional. For the above case the three trades would net to a single trade in the EUR/GBP hedging set with an effective notional of EUR 1 converted to the domestic currency.

3. Incorporation of collateral modelling into SA-CCR

Instead of using the collateral haircut approach, the impact of future collateral volatility can be integrated into the SA-CCR PFE calculation by including collateral into the various asset classes based on the underlying risk factor(s) that drive(s) the value. For example, collateral in the form of a corporate bond can be modeled as a total return swap on that corporate bond. Equally, equity collateral can be included as an equity derivative and gold as a commodity derivative. Any foreign exchange mismatches can be reflected in the add-on for foreign exchange derivatives.

[6] http://www.bis.org/publ/bcbs279.pdf , BCBS, The standardized approach for measuring counterparty credit risk exposures, page 15, paragraph 170-171.

By reflecting the future volatility of collateral in the add-on calculation, no haircut needs to be taken into account for the calculation of NICA in the context of determining RC and the PFE multiplier. This ensures a consistent treatment between derivatives collateral by including both with their unadjusted actual market value in the calculation. Generally, it should not be expected that there is more uncertainty associated with the market value of collateral compared to the market value of a derivative that would justify a different approach. In fact, given the requirements of financial collateral and the generally much simpler pay-off structures, the collateral market value should be considered more rather than less stable compared to the derivative market value.

Therefore, the risk mitigating benefits of collateral and a negative market value of a derivative should be treated consistently with respect to NICA and the impact on PFE and RC. Under SA-CCR, such a treatment can be viewed as the closest equivalent to joint modelling of collateral and derivative exposures under the IMM. This means that this alternative approach can ensure a closer alignment with IMM in modeling future collateral changes. Conceptually, this represents the accurate way of taking into account uncertainty around the future value of the collateral as RC should be purely a reflection of the current value while only the PFE component should consider market shocks that affect the value of collateral and the derivative population.

In addition, the multiplier models already the impact of future MTM changes of the netting set on the degree of overcollateralization and therefore, a haircut on the collateral would represent a double count. Below we show sample calculations comparing collateral haircut and the alternative.

The netting set consists of a single name equity derivative. The netting set is daily margined with no threshold, MTA amounts. The IA collected from the counterparty is 10% of equity notional and is posted by the counterparty in the form of a main index equity security.

Trade #	Nature	Underlying	Direction	Notional	Market Value
1	Equity swap	SN Equity	Long	100,000,000	0

EAD = alpha * (RC + multiplier * $AddOn^{aggregate}$)

a. Collateral haircut approach:

RC = max(V – C; TH + MTA – NICA; 0) = max(0 – (10,000,000 * (1 – 0.15)); 0 + 0 – (10,000,000 – (1 - 0.15))) = 0
The collateral received is reduced by the haircut of 15% for main index equity positions based on a margin period of risk of 10 days.

The $AddOn^{Aggregate}$ calculation is as follows:

$$EffectiveNotional_k^{(Equity)} = \sum_{i \in Entity_k} \delta_i * d_i^{(Equity)} * MF_i^{(type)}$$

$$EffectiveNotional_k^{(Equity)} = 100{,}000{,}000 * 1 * 1.5\sqrt{\frac{10}{250}} = 30{,}000{,}000$$

$$AddOn(Entity_K) = SF_k^{(Equity)} * EffectiveNotional_k^{(Equity)} = 9{,}600{,}000$$

$$AddOn^{(Equity)} = \left[\left(\sum_k \rho_k^{(Equity)} * AddOn(Equity_k)\right)^2 + \sum_k \left(1 - \left(\rho_k^{(Equity)}\right)^2\right) * (AddOn(Entity_k))^2\right]^{\frac{1}{2}}$$
$$= 9{,}600{,}000$$

Given the fact that there is only one equity trade in the portfolio:
$AddOn^{Aggregate} = AddOn^{Equity} = 9{,}600{,}000$

$$multiplier = min\left\{1; Floor + (1 - Floor) * exp\left(\frac{V - C}{2 * (1 - Floor) * AddOn^{aggregate}}\right)\right\}$$
$$= min\left\{1; 0.05 + (1 - 0.05) * exp\left(\frac{0 - (10{,}000{,}000 * (1 - 0.15))}{2 * (1 - 0.05) * 9{,}600{,}000}\right)\right\}$$
$$= 0.65$$

EAD = alpha * (RC + multiplier * $AddOn^{aggregate}$) = 1.4 * (0+0.65*9,600,000) = 8,683,943

b. Alternative approach

RC = max(V – C; TH + MTA – NICA; 0) = max(0 – 10MM; 0 + 0 – 10) = 0

In contrast to the collateral haircut approach, no haircut is applied to the collateral in the RC formula under the alternative approach.

The basic formula for calculating the effective notional is:

$$EffectiveNotional_k^{(Equity)} = \sum_{i \in Entity_k} \delta_i * d_i^{(Equity)} * MF_i^{(type)}$$

The equity derivative has the following effective notional and individual AddOn:

$$EffectiveNotional_k^{(Equity)} = 100{,}000{,}000 * 1 * 1.5\sqrt{\frac{10}{250}} = 30{,}000{,}000$$
$$AddOn(Entity_K) = SF_k^{(Equity)} * EffectiveNotional_k^{(Equity)} = 9{,}600{,}000$$

The equity collateral has the following effective notional and individual AddOn:

$$EffectiveNotional_k^{(Equity)} = 10{,}000{,}000 * 1 * 1.5\sqrt{\frac{10}{250}} = 3{,}000{,}000$$
$$AddOn(Entity_K) = SF_k^{(Equity)} * EffectiveNotional_k^{(Equity)} = 960{,}000$$

$$AddOn^{(Equity)} = \left[\left(\sum_k \rho_k^{(Equity)} * AddOn(Equity_k)\right)^2 + \sum_k \left(1 - \left(\rho_k^{(Equity)}\right)^2\right) * (AddOn(Entity_k))^2\right]^{\frac{1}{2}}$$
$$= 9{,}883{,}805$$

Given that there is an additional long equity position in the form of collateral in the portfolio the AddOn increases compared to the collateral haircut approach. The collateral has the same directionality as the long equity derivative position.

Given the fact that there are only equity positions in the netting set:
$AddOn^{Aggregate} = AddOn^{Equity} = 9{,}883{,}805$

As the volatility of the collateral is modeled as part of the AddOn, no haircut is applied.

$$multiplier = min\left\{1; Floor + (1 - Floor) * exp\left(\frac{V - C}{2 * (1 - Floor) * AddOn^{aggregate}}\right)\right\}$$
$$= min\left\{1; 0.05 + (1 - 0.05) * exp\left(\frac{0 - 10{,}000{,}000}{2 * (1 - 0.05) * 9{,}883{,}805}\right)\right\}$$
$$= 0.61$$

EAD = alpha * (RC + multiplier * $AddOn^{aggregate}$) = 1.4 * (0+0.61*9,883,805) = 8,410,005

4. Alpha Parameter

EAD = α (RC + PFE)
-where the multiplier alpha is set to the default IMM value α = 1.4. …Equation (1)

While the Current Exposure Method (CEM) also represents exposure as the sum of the RC and the PFE terms, Equation (1) differs from EAD using CEM in two important respects:

- The SA-CCR incorporates the multiplier alpha that (conceptually) converts EEPE into a loan equivalent exposure; and
- The CEM specifies RC and PFE only for the unmargined case, while the SA-CCR includes formulations of RC and PFE that differ for margined and unmargined cases.

In BCBS Working Paper No. 26[7], BCBS details the foundations for the standardized approach for measuring counterparty credit risk exposures. The SA-CCR makes use of the alpha factor that is presently used when calculating the modelled exposure for counterparty credit risk. The alpha factor is used to account for the correlation between exposures, the correlations of exposures and credit events (wrong-way risk), and portfolio granularity. BCBS has set the alpha to 1.4 referencing the ISDA documents written on the subject in 2003.

The industry believes that the results of the study are no longer representative and a recalibration of alpha should be performed for the following reasons:

- The study found only 33% of total exposure was collateralized; as a result the study was focused around uncollateralized exposures. As markets have evolved the number of collateral agreements has increased. Additionally, new regulation which will be active when SA-CCR is applied will require collateral agreements to be in place for the majority of counterparties. As such an alpha based primarily on uncollateralized exposures is not relevant.

- When calculating the impact on alpha of mixed collateralized and uncollateralized portfolios the study assumed only counterparties on the “same side of the book” would be collateralized. As the

[7] http://www.bis.org/publ/bcbs_wp26.pdf, BCBS, Foundations of the standardised approach for measuring counterparty credit risk exposures.

use of collateral agreements has increased is it likely that both exposures to market counterparties and customers will be collateralized.

- The base case was based on a hypothetical portfolio of 200 counterparties and 3 risk factors for which the alpha was 1.08. Given the growth in the derivative market both the number of counterparties and risk factors have increased. The recomputed analytical value with 1500 counterparties and 10 risk factors is 1.01.

- The ISDA study was not based on real portfolios and assumed no correlation between exposure and credit events. A more recent study on a real portfolio shows alpha remains below 1.2 even when the correlation between exposure and credit events is stressed to 75%.