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Mr Oliver Page
Chair, Capital Group
Basel Committee on Banking Supervision
Financial Services Authority
25 North Colonnade
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3 October 2001

Copy to: Danièle Nouy, Chair, Models Task Force

Dear Mr Page,

Regulatory capital treatment of hedged exposures and joint default risk

ISDA's response to the first Basel consultation document in February 2000 included a proposal for a more risk sensitive treatment for contingent credit risk, where loss can only occur contingent on the default of both an underlying credit and a guarantor or credit derivative provider. ISDA proposed that banks' own estimates of joint default risk should be acceptable, subject to certain criteria.

It is widely recognised by banks and rating agencies that, except in certain well-defined circumstances where a close relationship exists between underlying issuer and protection provider, joint default risk is much less than the default risk of either underlying or guarantor alone. Nevertheless, ISDA's original proposals did not find favour with the Capital Group. The IRB approach of the New Accord makes no change to the current practice of substitution in such circumstances¹.

The regulatory treatment of joint default risk arising from guarantees and from credit derivatives is important to ISDA's membership. It would be advantageous from a policy perspective to implement a more risk sensitive approach which would both improve market efficiency and encourage sound risk management practices. We recognise the difficulty of implementing anything more than the simplest rules for establishing a positive benefit over and above substitution. Accordingly, we have considered a modified and simplified approach, which is set out below.

¹ Basel Committee on Banking Supervision, New Basel Capital Accord, Feb 2001. Paragraph 183.

Revised proposal

Internal assessment of joint PD

We continue to believe that reliance on internal assessment of joint default situation is the preferable solution.

Simplified approach

For banks not able or willing to assess joint default probabilities, we recognise that reliance on country and industry data, as in ISDA's original proposal, is a drawback and subject to interpretational risk, even within strict guidelines. Therefore, for banks not using an internal assessment of joint default risk, we propose the following rule for "qualifying" pairs of underlying and protection:

$$\text{Effective PD} = \text{Smaller of (Obligor PD, Protection PD)} \times (100\% - \text{Haircut})$$

where Haircut is a simple function of the default probabilities of the obligor and protection provider only – no other information is needed, provided the conditions below for a qualifying pair of transactions are met.

Haircuts

The ISDA working group derived suitable haircut levels by comparing two sources. Details are given in the Annex. In summary:

- haircuts can be obtained by considering the joint default probabilities inherent in the IRB approach (for this special application the working group used a very prudent recalibration of the New Accord's approach);
- these haircuts can be compared with joint default probability /joint rating estimates used by Moody's rating agency, which show a similar relationship to the individual default probabilities.

The results in the Annex indicate that it is natural to define two haircut levels, depending on the whether the default probabilities of the obligor and guarantor are similar. To determine similarity for this purpose, a convenient cut-off point is PD = 0.7%, chosen to correspond to the calibration point used for the IRB approach in the New Accord. The haircuts proposed by the working group are shown in the table below:

	Guarantor PD	
Obligor PD	< 0.7%	≥ 0.7%
< 0.7%	50%	30%
≥ 0.7%	30%	50%

For clarity, a haircut of 0% would be the same as the current approach². As an example, for an obligor with an assessed PD of 2% having a qualifying guarantee with guarantor assessed PD of 0.6%, the effective PD to use would be :

$$\text{Effective PD} = \min(0.6\%, 2.0\%) \times (1 - 30\%) = 0.42\%$$

The table should be contrasted with ISDA's original proposal. The revised simplified table presented above refers only to the default probability, not to the country or

² These haircuts appear to be the same as in ISDA's original proposal, but this resemblance is coincidental because in the above proposals the haircut is applied to the PD, not the capital amount.

industry of the obligor or guarantor, and so uses only data which must be assessed anyway within the foundation IRB approach. In effect, a high level of correlation is assumed throughout (see Annex for detail).

Qualifying pairs of transactions

A factor of less than 100% will only be available where there is genuine separation between the obligor and the protection provider. In ISDA's earlier proposal, we noted that 100% must apply where there is a legal connection. We recommend the following more comprehensive tests of separation for the less conservative capital treatment to apply:

- there should be no legal connection (material common ownership, or parent/subsidiary relationship)
- the protection provider should be investment grade³ or, otherwise should provide good collateral for the guarantee.

We sincerely believe that use of an internal assessment of two name risk is the most satisfactory solution for those banks able to provide such assessment, but also hope that you will reconsider our simplified proposal to give a modest benefit for genuine joint default risk. We would very much appreciate the opportunity to discuss the above with the Capital Group.

Yours sincerely,



Emmanuelle Sebtou
Head of Risk Management, ISDA
For the ISDA Double Default Working Group

³ Investment grade could reasonably be defined as PD < 0.7% for these purposes, to make the criteria consistent with the table, but this is not necessary.

ANNEX

Estimation of joint default probability

This annex sets out briefly the numerical results on which ISDA bases its recommendation above.

The ISDA working group calculated joint default probability using the mathematical framework already in place in the IRB approach. An especially prudent calibration was used. The working group compared this approach with the methodology used by Moody's, which gives similar results.

Joint probability of default in the IRB approach

In this method, joint default probabilities are inferred from the IRB calculations. The IRB approach is currently calibrated using a realistic asset correlation $r = 20\%$, and the assessed default probabilities are sensitive to this parameterisation.

Recognising that an average correlation is not suitable for assessing individual pairs of exposures, which might tend to be more highly correlated than the average due to market dynamics, the working group have chosen a far more prudent calibration of $r = 50\%$, which is expected to cover all "qualifying" pairs of exposures regardless of their relative industry and geographical constitutions. The results are shown below⁴.

Light shaded cells have *PD*'s above 50% but below 70% of the substitution approach. Dark shaded areas are those with a factor between 70% and 100%. The table has been divided into quadrants reflecting our division of the haircuts according to *PD*. The 0.7% *PD* level was chosen to correspond with the calibration point used for the IRB approach in the New Accord, but the exact location of this point is not critical, as can be seen from the table.

PD	0.03%	0.10%	0.50%	0.70%	1.00%	2.00%	5.00%	10.00%
0.03%	3%	8%	20%	24%	29%	40%	59%	74%
0.10%	8%	5%	15%	19%	23%	34%	52%	68%
0.50%	20%	15%	10%	12%	16%	24%	41%	57%
0.70%	24%	19%	12%	11%	14%	23%	39%	55%
1.00%	29%	23%	16%	14%	13%	21%	36%	52%
2.00%	40%	34%	24%	23%	21%	17%	31%	47%
5.00%	59%	52%	41%	39%	36%	31%	24%	39%
10.00%	74%	68%	57%	55%	52%	47%	39%	32%

IRB Approach with $\rho = 50\%$. Joint PD as % of smaller PD (I.e. of substitution method)

Light shading indicates H/C < 50% should apply

Conclusion

We conclude from the table that joint *PD* is prudently assessed by a haircut of 50% when both obligor and guarantor *PD* are either greater or less than the threshold 0.7%. That this is prudent should be clear from the shading in the table, indicating where various haircut levels apply. Apart from the extreme case where *PD*'s are 0.03% and 10.00%, the remainder of cases (off -diagonal cells) are covered by a haircut of 30%,

⁴ In comparing the detailed results to the haircut proposals, please bear in mind that the haircuts represent *one minus* the percentages shown in the table.

because the joint risk is between 50% and 70% of the minimum of the two individual PD's (indicated by light grey shading).

Comparison with Moody's model

The working group compared the results above with tables of joint default probabilities and ratings employed by Moody's. The methodology used by Moody's is different, referencing default rather than asset correlation. Moody's results are equivalent to a haircut of approximately 40%, or equivalently a joint default probability of approximately 60% of the better of the two individual default probabilities, for all pairs. This level is comparable to the average level of the haircuts proposed by the working group.