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Dear Mr Caruana,

The International Swaps and Derivatives Association (ISDA) and The Bond Market Association (TBMA, and together with ISDA, the Associations) appreciate the opportunity to comment on the Third Consultative Paper (CP3) issued by the Basel Committee on Banking Supervision on the New Capital Accord. Giving due consideration to the tight schedule that the Committee has set itself for finalising the Accord, the Associations concentrate solely on the key issues identified by their memberships in the following comment letter. The treatment of securitisation transactions is being reviewed in a separate letter.

ISDA refers the Committee to its QIS3 commentary[1] for an analysis of further but less significant concerns arising from the Capital Accord review. Our specific comments regarding the capital treatment of operational risk (Section 2.V of CP3) and the minimum requirements under the IRB approach (section 2.III.H of CP3) are attached for reference at Appendix 1 and Appendix 2 respectively.

The Associations believe that the following core issues would benefit from clarification and re-working in the final Accord :



[1] ISDA's commentary on the QIS3 Technical Guidance, dated December 20th, 2002, www.isda.org

We hope that the comments below will assist the Committee in shaping the final capital rules.

## 1. Capital treatment of credit derivatives

a- Restructuring :

The Associations applaud the proposed change brought to the treatment of restructuring risk arising from the use of certain credit default swaps (CDS). The new approach is better aligned with risks borne by protection buyers, who are exposed to restructuring risk only where they have no control over the occurrence of restructuring events. Importantly however, even where such control is not demonstrated to exist, having acquired credit protection in the form of a CDS excluding restructuring does offer some degree of protection. We welcome the Committee's attempt at measuring this quantum of protection via a discount applied to full capital relief.

The discount should be a function of the relative incidence of restructuring events vis-a-vis other forms of default events, as well as of any discrepancy between loss given restructuring and loss given default.

- The Associations do not possess independent information on the incidence of restructuring, but have collated the following data from relevant rating agencies' studies.

  As shown in a recent report published by Fitch Ratings[2], restructuring events are relatively rare. The Fitch Report analyses defaults called in the context of synthetic CDOs between 2000 and 2003, representing 112 credit events recorded on 28 reference entities, including Argentina, WorldCom and Enron.

  Fitch find that only 3.3% of these events were called under the "restructuring" clause of the ISDA 1999 Credit Derivative Definitions, noting however that a greater proportion of these events could, in principle, have qualified as restructuring events. This percentage could be as high as 15% based on further discussion with the authors.

  Additional information on the frequency of restructuring events is found in studies conducted by Standard and Poor's[3] and R&I Information, Inc, a Japanese rating agency.

  Standard and Poor's find that, over 2001-2002, 3 out of 16 credit events reported in static CDOs in Europe were restructurings, against 4 out of 30 in the US. The percentage of restructurings in Japan was assessed by R & I Information at around 28% of all credit events recorded between 1978 and 2001.

  In the light of the information above, the Associations would suggest that the Basel Committee retain a 20% ballpark figure for the frequency of restructuring. This percentage is broadly consistent with that used by firms to price restructuring basis risk[4], and stands above our members' assessment of the frequency of restructuring events in transactions hedged by credit default swaps.

[2] Credit Events in Global Synthetic CDOs : 2000-2003, Fitch Ratings, May 12, 2003
[3] Credit Event Data- What we observed on the front- US and Europe, presentation given by Standard and Poor's at the Second Annual CDO Conference
[4] For example, What is the value of the restructuring credit event, Goldman Sachs, May 13, 2003

- Information on the severity of restructuring events is extremely scarce. It can conceptually be argued that restructuring should result in improved recovery compared to straight bankruptcy. On these grounds, retaining a loss given restructuring percentage of 40% under Foundation IRB would appear reasonable, vis-à-vis the 45% LGD applied to senior unsecured facilities. A 60% recovery rate is furthermore consistent with the figures found by S&P in the study mentioned above. ISDA is pooling loss given default data jointly with the Risk Management Association, with a view to producing estimates of loss given default by asset category, type of security, and event type. This will enable us to produce loss given restructuring data in future. However, the database being relatively new, it is unlikely that any usable statistic will be available before several years.

Feeding the frequency and severity factors above into the IRB function, one obtains a discount factor of approximately 35% [the discount is defined as the percentage by which the full capital charge should be multiplied in order to produce a capital charge for restructuring risk only]. The Associations would recommend that the regulators retain this discount factor under Foundation IRB. Firms treated under Advanced IRB should have the ability to measure the discount themselves, subject to supervisory review.

b- Credit default swap add-ons :

The proposed add-ons are viewed by our membership as overly conservative and inconsistent with firms' internal assessment of counterparty exposure on CDS contracts.

*CDS add-ons for protection sellers :*
The Associations accept that it is appropriate to apply a capital charge to sold credit options (paragraph 675 of CP3) where all or part of the total option premium remains unpaid, for instance because the premium is payable in instalments. The option seller is in this instance exposed to a possible tightening of spreads resulting in positive exposure to the option buyer. The seller's exposure is however, and most importantly, capped at the net present value of future premia.

The Committee links the application of add-ons to the inclusion of the CDS contract within the scope of a netting agreement. We accept that a variation in the [generally negative] value of the CDS for the seller carries the risk of increasing the seller's net exposure to the buyer. However, this is true of all written options, and has not to date justified the application of add-ons on these transactions. The Associations recommend that netting be discussed and resolved for credit derivatives, as for other OTC derivatives, as part of our on-going dialogue with the Committee on the treatment of counterparty risk (see section 2 below).

*CDS add-ons for protection buyers :*
As per Annex 5 to ISDA's commentary on the QIS3 Technical Guidance, the Associations question the size of the add-on retained for protection buyers hedging qualifying underlyings. ISDA found that an add-on of 3% was more appropriate than 5%. We also advocated introducing a maturity dimension to the calculation of the add-ons in this proposal.

*CDS add-ons in first to default structures* :
Paragraph 676 of CP3 indicates that for first to default transactions add-ons should be determined by the lowest credit quality underlying in the basket. This treatment is inconsistent with that retained for specific risk purposes, whereby protection must be recorded against the least risky asset in the basket. We strongly recommend that the same asset be used for the purpose of setting specific and counterparty risk charges. Specific risk offsets should be recognised, and counterparty risk charges calculated, against one asset in the basket, at the discretion of the protection buyer. We would expect the riskiest asset to be elected in most cases.

c- Substitution :

The Associations continue to view the application of the substitution principle to measuring double default risk as unjustifiably onerous and hope that it will be possible to reconsider its appropriateness before the Accord is finalised. We note that in a recent research paper[5], the Federal Reserve Board acknowledges the conservativeness of substitution and suggests a more risk sensitive treatment of double default risk. The Associations will comment separately on this paper. The Associations' latest submission on double default related issues is attached at Appendix 3 for further background.

d- Specific risk offsets :

As already stated in ISDA's response to CP2, the Associations feel that, rather than approximating the benefit of hedging by applying an arbitrary 80% specific risk offset, credit risk positions should be represented as Floating Rate Notes (FRNs). Both the underlying and the CDS would be translated into FRN equivalents according to their sensitivity to credit spread variations. A change in credit spreads in the underlying would immediately lead to a readjustment in the default swap's and the underlying's MTM, creating a net specific risk position, which would then attract a capital charge. Details of this approach can be found in ISDA's response on CP2, Annex 5[6] and are appended at Appendix 4. It is disappointing that the Committee has not explained why the 80% offset limit is appropriate and our proposal, unacceptable. A response from the Committee on this point would be most appreciated.

e- Operational requirements applied to CDSs :

While we support the principle that the protection offered by a credit derivative to the protection purchaser should be unconditional, the Associations believe that it is important to preserve the integrity of the close-out netting effected by a Master Agreement by including all transactions under that Master Agreement within its scope. Practically, a protection buyer's performance under a Master Agreement will dictate the form in which credit risk mitigation is achieved. Two situations should be distinguished for this purpose:

(i) the protection buyer does not default under the Master Agreement, in which instance protection acquired in the form of a credit derivative instrument covered by the Master Agreement results in compensation by the protection seller, under the conditions set out in the confirmation agreed upon by the parties;

(ii) the protection buyer defaults under the Master Agreement, resulting in termination and close-out netting between all transactions covered by the Master Agreement, including any purchased credit derivative protection. The mechanics of termination under a Master Agreement entail the loss of credit risk protection, offset however by payment to the protection buyer of an amount equal to the cost of replacement of the credit derivative contract.

The Associations are concerned that some regulators may view the loss of protection mentioned at (ii) above as breaching the "unconditionality" principle, despite the possibility for the protection buyer to replace the contract at no cost. It would be paradoxical if, as a result of this interpretation, counterparty credit risk (that is, the protection buyer's credit risk on the protection seller) in relation to credit derivatives trades was increased because such trades could not be included within a close-out netting arrangement.

[5] Treatment of Double-Default and Double-Recovery Effects for Hedged Exposures under Pillar 1 of the Proposed New Basel Capital Accord, June 2003

[6] ISDA's response to the Basel Committee on Banking Supervision's consultation on the New Capital Accord, May 2001, www.isda.org

We therefore strongly advocate the amendment of paragraph 160 of CP3, to the effect that credit derivatives can explicitly be documented under Master Agreements while still being deemed to provide unconditional and irrevocable protection for regulatory purposes.

Similarly, the procedural requirements generally included in credit derivative documentation (e.g. requirement for any applicable grace period to have elapsed, requirement that non-payment be objectively verified etc) should not be deemed to contradict the "unconditionality" and "irrevocability" principles, since they do not render the protection conditional on the protection provider's willingness to pay.

## 2. Counterparty risk

a- Use of VaR for repo-style transactions :

The Associations welcome the adoption by the Committee of the sampling methodology recommended in their letter of November 8, 2002, in connection with the backtesting of VAR models. We would further like to emphasize the need for allowing flexibility around the sampling methodology used by each firm. Some firms might, for instance, wish to define the test sample on a quarterly basis, and not re-adjust it daily. We believe that quarterly re-adjustment can provide a sufficiently accurate picture of the firms' counterparty risk exposure, subject to supervisory review.

The Associations continue to question the size of the multipliers proposed in paragraph 151 of CP3. As previously expressed in a letter, dated March 19, 2003, from the Associations to the CRM Sub-group, these multipliers are technically unjustifiable and so penal as to deter firms from utilizing the VaR approach. We append our March 2003 letter to the present commentary for background at Appendix 5.

We further believe that requiring an enforceable netting agreement for the application of VaR-based models to repo-syle transactions prevents financial institutions from taking full account of portfolio diversification effects. Even in the absence of netting, portfolio diversification mitigates risk, since it is unlikely that all transactions will move concurrently against a financial institution. Given that portfolio effects occur separately from netting benefits, and that models are generally able to differentiate between these effects, the Associations find the distinction established between nettable and non-nettable transactions unjustified. It would furthermore be inefficient to have to run two separate systems to arrive at potential exposure (e.g. : having VaR for nettable transactions and a haircut methodology for the rest).

b- Treatment of potential exposures associated with OTC derivatives :

We welcome the Committee's decision to review the treatment of potential exposures arising from OTC derivative transactions once the Accord has been finalised. However, we would appreciate clarification of the Models Task Force (MTF)'s time schedule on this project, as the overview paper published by the Committee seems to indicate a start date of 2007. We had understood from previous contacts with the MTF that the project would be launched in 2004. It is critical that this area is considered as soon as possible to ensure that any modifications can be brought at the same time as the Accord is implemented. This will prevent the practical problems of firms needing to make a number of successive changes to their systems. In addition, it will mean that the first iteration of the New Accord will include considerable advances in risk sensitivity, not just in risk weightings used, but also in the measurement of exposure.

The Associations wish to emphasize once more that a review of the counterparty risk treatment of derivatives should entail a parallel review of the treatment of securities financing transactions (SFTs) to ensure uniform capital treatment of these transactions. Like many OTC derivative trades, repo and securities lending transactions involve the transfer of collateral, and are utilized by market

participants for many of the same purposes. As such, these transactions are increasingly managed together with OTC derivatives, including under cross product netting agreements, and should be subject to a consistent capital treatment by the Basel Committee. In addition to providing a conceptually consistent treatment for similar transactions, uniform capital treatment of these transactions will provide a further incentive for institutions to engage in cross product netting.

Considering the need for a parallel review of SFTs, it is vital that the timing of the review is considered with some urgency. The Associations are more than willing to resume the dialogue initiated by ISDA in 2001 with the MTF on this topic.

The Associations, jointly with LIBA, have prepared detailed recommendations regarding these issues, drawing upon recent research conducted by the Federal Reserve Board[7]. We hope that this document, published in June ("Counterparty Risk Treatment of OTC Derivatives and Securities Financing Transactions", available on the Associations' websites), will form a solid basis for the continuation of our dialogue with the MTF.

We are hopeful that a new approach can be identified soon, but would like to stress with the Committee the need for allowing firms time to adapt their systems in view of a change of approach. If a new measure of exposure was agreed upon close to implementation date for the New Accord, we would like firms to be able to benefit from a transitional adaptation period in order to bring their systems up to date. This may require delaying the implementation of the provisions of the New Accord concerning repo-style transactions, as it would be inefficient for firms to have to apply a set of rules for a few months to then move on to a new standard.

c- Miscellaneous comments :

The Associations believe that securities financing transactions entered into in connection with prime brokerage activities, such as margin loans, should be subject to the same capital requirements and rules as repo-style transactions. Prime brokerage securities financing activities are generally subject to the same risk management practices as repo activity, such as daily marking to market of exposures and are subject to daily re-margining. In particular, the Associations believe that the Committee should clarify that capital requirements for prime brokerage securities financing activities that have these characteristics can be calculated using a counterparty VaR-type measure, similar to that permitted for repo-style transactions.

Footnote 34 to Paragraph 116 (a): It is our understanding, based on informal discussions with members of the Basel CRM Group, that footnote 34 is intended only to apply to a limited set of non-repo style loan transactions. While footnote 34 may currently imply such limited scope given the existence of few, if any, repo transactions where instruments are held by a third –party bank in a non-custodial capacity, for the avoidance of doubt, we would propose that the first clause of footnote 34 be further clarified as follows: "When cash on deposit, certificates of deposit or comparable instruments issued by the lending bank are held as collateral at a third-party bank in a non-custodial capacity in connection with non-repo style loan transactions,"

Paragraphs 106, 138: Currently, it is contemplated that repo-style transactions with daily marking to market and daily remargining will be eligible to receive haircuts based on a 5-business day holding period. Under most repo and securities lending transactions, positions are marked to market daily, based on the prior day's values or closing prices. Re-margining occurs if there is a margin deficit or margin excess. Generally, satisfaction of margin calls in respect of margin deficits (or return of margin in the case of margin excess) may occur the same day (if the call is made by a certain cut-off time) or next day. We believe that this market practice is generally what is referred to as daily marking to market and daily re-margining. The Associations request that these

[7] Regulatory capital for counterparty risk : A response to ISDA's proposal, by Michael S. Gibson, Federal Reserve Board

paragraphs be clarified to reflect the same language formulation as used when referring to repo-style transactions in paragraph 141, that repo-style transactions are "subject to" daily remargining.

Para 320 : The Associations note that paragraph 320 allows banks to recognise guarantees, but not collateral obtained on equity positions treated under the market based approach. We fail to understand why collateral, where provided by a party not correlated with the equity issuer, would constitute an unsuitable form of mitigation. We would be grateful for clarification of the Committee's intentions in this respect.

Para 292: The Associations appreciate the Basel Committee's allowing firms to adjust their maturity for short-term exposures. However, it is unclear from the current drafting of this paragraph whether the capital treatment of "fails" is contemplated. This paragraph appears to imply that fails (defined as the failure to delivery securities on settlement date) should attract a capital charge. It could even, more broadly, be interpreted to mean that securities transactions would on *trade* date (instead of settlement date) incur additional capital requirements until they are settled.

The Associations would appreciate clarification on how settlement failures are to be treated under CP3. If settlement failures are to be addressed, we strongly believe that the Accord should address "fails", and not potential pre-settlement risk. Given that the majority of fails occur as a result of operational issues, the Associations believe that risks arising from such operational fails are largely addressed within the Accord through the capital treatment for operational risk. Such operational fails generally resolve themselves within a short period of time and do not result in credit loss. Fails should not be subject to additional capital requirements until after a reasonable grace period has elapsed. This treatment would be consistent with current regulatory approaches in the EU[8] and the US for broker-dealers under regulations set out by the Securities and Exchange Commission[9].

## 3. Maturity

The Associations believe that the treatment of maturity warrants further consideration in the Accord. We formulate detailed proposals below in the hope that CP3 can be amended to more accurately reflect finance theory and banks' practice.

a. Maturity adjustment below one year :

The Committee offers to remove the one year maturity floor for certain short term exposures (paragraph 291).

The Associations support the view that for some facilities, for which banks can demonstrate that they actively monitor the financial condition of the borrower and that they can cancel the facility upon deterioration of its quality, applying a maturity adjustment below one year is wholly justifiable. Importantly, the maturity adjustment should be available for **all** exposures of less than a year of maturity, and not just for those of a remaining maturity of less than three months.

We do not find however that using the maturity formula embedded in the IRB function is appropriate for this purpose.

Conceptually, for transactions with more than one year of remaining maturity, the maturity adjustment reflects the additional amount of capital required to offset **migration risk**, i.e. the probability that credit quality will decline before expiry.

[8] Annex II of Council Directive 93/6/EEC of 15 March 1993 on the capital adequacy of investment firms and credit institutions

[9] See,e.g. SEC Rule 15c3-1 ("Net Capital Rule"), which generally requires broker-dealers to hold capital for fails remaining outstanding beyond a certain grace period

By definition, migration risk is only relevant for assets of a maturity exceeding the modelling horizon of 1 year. Below 1 year, banks are exposed only to **default risk**. Employing the same maturity adjustment formula to address two conceptually distinct forms of risk is at best questionable.

Practically, the formula provides little recognition of short dated risk, as shown in the following table:

| PD | Current capital adjustment (1D*) |
|---|---|
| 0,03% | 0,399 |
| 0,05% | 0,508 |
| 0,10% | 0,622 |
| 0,20% | 0,709 |
| 0,40% | 0,776 |
| 0,50% | 0,795 |
| 0,70% | 0,820 |
| 1,00% | 0,844 |
| 2,00% | 0,884 |
| 3,00% | 0,903 |
| 5,00% | 0,924 |
| 10,00% | 0,948 |
| 15,00% | 0,959 |
| 20,00% | 0,966 |

[* Based on 220 business days]

The capital reduction offered by the IRB maturity adjustment does not exceed 60%, and for poor quality assets, 10%, where the maturity of the exposure shrinks down from a year to just 1 day. This amount of capital relief vastly underestimates that measured by banks internally.

The Associations, having reviewed the methodologies employed by member firms for charging capital on short dated exposures, recommend removing the maturity adjustment for exposures of less than a year of remaining life, and instead, adjusting the probability of default assigned to these exposures.

- The first step consists in deriving probabilities of default under one year based on the obligor's 1 year PD, using logarithmic interpolation:

$PD_n = 1 - (1 - PD_1)$ ^ n
where $PD_n$ is PD at horizon *n*, n is the fraction of 1 year corresponding to horizon *n*, and $PD_1$ is the one-year PD. By defining short dated PDs as proposed above, one implicitly assumes that the lender can terminate the facility at the relevant horizon [the shorter of term or credit quality review]. Specifically, no roll-over assumption is made concerning the facility being rated. It is however possible to show that risk weights determined assuming systematic roll-over, where default occurs purely as a "surprise event" [downgrades would not result in default due to the constant monitoring of exposures, a paradigm that best reflects default risk arising from traded exposures] are similar to those derived using the interpolation above[10].

[10] The Associations would be pleased to share this research with the Committee should this be of interest. The risk weights obtained are comparable to those derived using a one month maturity floor [table on page 9].

• Exposures receive an IRB capital charge based on the short term probability of default determined above. Worthy of note is the fact that the correlation factor in the IRB function is not modified to reflect the short term PD; this is because empirical correlation has not been shown to increase with a decrease in maturity.

This approach naturally results in immaterial capital charges for very short dated exposures. Because default risk does not reduce to zero for credit risky facilities, however short dated they may be, the Associations propose to add a degree of conservativeness to the methodology described above, and have identified two alternative means of achieving this purpose :

(i) The simplest approach would involve imposing a maturity floor of one month on all transactions. The resulting capital adjustment factors [the capital adjustment factor is the ratio between the proposed charge and the Foundation IRB (1 year) capital charge] would be as follows, for set maturities of 1 month, three months and six months.

| Capital adjustment factor | | | | | |
|---|---|---|---|---|---|
| | Maturity | 1M | 3M | 6M | 1Y |
| PD | | | | | |
| 0.03 | | 12.76% | 32.44% | 57.21% | 1 |
| 0.05 | | 13.20% | 33.00% | 57.87% | 1 |
| 0.1 | | 13.90% | 34.05% | 58.84% | 1 |
| 0.2 | | 14.69% | 35.21% | 59.90% | 1 |
| 0.4 | | 15.58% | 36.48% | 61.02% | 1 |
| 0.5 | | 15.86% | 36.89% | 61.39% | 1 |
| 0.7 | | 16.28% | 37.48% | 61.92% | 1 |
| 1 | | 16.70% | 38.07% | 62.44% | 1 |
| 2 | | 17.36% | 39.01% | 63.28% | 1 |
| 3 | | 17.69% | 39.49% | 63.73% | 1 |
| 5 | | 18.27% | 40.37% | 64.56% | 1 |
| 10 | | 19.99% | 42.91% | 66.88% | 1 |
| 15 | | 21.71% | 45.39% | 69.08% | 1 |
| 20 | | 23.34% | 47.70% | 71.09% | 1 |

The Associations are providing the table above purely for illustrative purposes, considering that the maturity adjustment can be derived on a continuous basis using the formula presented above.

(ii) One could alternatively correct the loss percentile embedded in the IRB function to ensure that it was consistent with a 99.9%, 1 year solvency standard. Practically, the n days percentile would be set as follows:
$C_n = C_1 \wedge n$
where $C_n$ is the confidence interval at horizon $n$, $n$ is the fraction of 1 year corresponding to horizon $n$, and $C_1$ is the one-year required confidence interval. For example, the confidence interval for a 3-month transaction would be 99,9% ^ (1/4) = 99,975%.

The capital adjustment factors produced by this methodology are more conservative than those proposed in the previous table :

| 1-year PD | Proposed capital adjustment (1D) | Proposed capital adjustment (3M) | Proposed capital adjustment (6M) |
|---|---|---|---|
| 0.03% | 13.60% | 60.15% | 77.36% |
| 0.05% | 13.51% | 59.36% | 76.99% |
| 0.10% | 13.07% | 58.63% | 76.50% |
| 0.20% | 12.39% | 57.85% | 75.97% |
| 0.40% | 11.72% | 56.98% | 75.39% |
| 0.50% | 11.26% | 56.64% | 75.16% |
| 0.70% | 10.77% | 56.03% | 74.78% |
| 1.00% | 10.24% | 55.27% | 74.29% |
| 2.00% | 8.79% | 53.44% | 73.12% |
| 3.00% | 7.98% | 52.37% | 72.44% |
| 5.00% | 7.29% | 51.60% | 72.03% |
| 10.00% | 7.30% | 52.63% | 73.02% |
| 15.00% | 7.76% | 54.41% | 74.50% |
| 20.00% | 8.25% | 56.22% | 75.97% |
| Confidence interval: | 99.999545% | 99.975% | 99.950% |

The Associations would welcome an opportunity to discuss the options above in detail with the Models Task Force.

b. Calculation of effective maturity adjustment for repo and derivatives :

The Committee proposes to determine the maturity of repo and OTC derivatives subject to netting agreements by using the notional weighted average maturity of the transactions (paragraphs 290 and 293 of CP3).

The Associations have studied the dependence of variations in OTC derivatives prices on maturity as part of their on-going work on counterparty risk, and found that dependence exists but is small. Maturity theoretically impacts on the value of OTC derivatives by influencing discount spreads. However, research has shown that a change in the credit quality of one of the parties in the contract has a negligible impact on the swap rate. The relative insensitivity of swap rates to credit ratings can be attributed to the nature of the swap, which can be alternatively an asset or a liability to either party. Systematic, market-wide spread changes have a small impact on swap prices because they affect both sides of the swap : both counterparties re-mark credit risk at new spreads and the net effect on the swap price is small. In this sense, maturity adjustments for derivatives should be an order of magnitude lower than maturity adjustments for loans. Repos present similar features and should be treated accordingly. The Federal Reserve Board's analysis of ISDA's original proposal on counterparty risk[11] wholly supports this view. Quoting from the FRB paper: "It would be incorrect to apply the Basel II maturity adjustment for corporate loans to counterparty credit exposures on OTC derivatives. Unlike loans, the value of OTC derivatives is typically insensitive to credit downgrades short of default" (page 10).

In the light of the above, the Associations would recommend postulating a standard maturity of one year for OTC derivatives trades, and 6 months for repo transactions (as per the proposed average

[11] As before, Regulatory capital for counterparty credit risk : A response to ISDA's proposal, Michael S. Gibson.

Foundation IRB maturity defined at paragraph 288). Short dated trades should benefit from the maturity adjustment below one year discussed at 3.a. above.

c. Treatment of maturity mismatches :

The Associations continue to question why, for firms using maturity adjustments, the Committee employs the standardised linear scaling factor approach to charge capital on maturity mismatches. Forward credit risk arising from a maturity mismatch should be capitalised using the IRB maturity adjustment.

It should also be clarified in paragraph 174 that the maturity mismatch adjustment factor Pa cumulates with the maturity of the underlying, whether standardised (2.5 years) or calculated using the effective maturity formula.

## 4. Pillar 2

The consistency and quality of the new capital regime will depend crucially on supervisory practice. The industry believes that convergence and transparency of supervisory practice are essential to the success of the new regime.

a. Convergence of supervisory practice

The Associations support the overall purpose of Pillar 2 and recognise the importance of supervisory review.

Lead supervision :

ISDA has commented, in a letter to Nicholas Le Pan[12], Chairman of the Accord Implementation Group (AIG), on the need to avoid duplication of supervisory reviews for firms active in more than one jurisdiction. We in particular advocated the designation of lead supervisors, in keeping with a practice already established in the EU. The Associations would strongly support the recognition of lead supervision in the Accord.

The lead supervisor should in principle be the home country regulator. The home country will in most cases be the main place of business, determined based on the share of total assets accounted for in each jurisdiction where the group is active. Where this is not the case, an agreement should be sought among the relevant regulators with a view to selecting the lead, taking into account, as appropriate, the views of the firm concerned, but also having regard to the location of "mind and management" of the group.

The lead supervisor should have responsibility for the global supervision of a consolidated group. In some instances, and particularly where resource constraints apply, it may be necessary to delegate parts of the supervisory process to host country regulators. This accentuates the need for adopting a consistent approach to Pillar 2 supervision across the G-10. Importantly, duplication of model (internal ratings, loss given default, operational risk losses or otherwise) reviews should be avoided, notably where modelling is a centralised function and where the pools of data used to calibrate the models span several jurisdictions. The Associations recognise that certain definitions in the proposed Pillar 1 framework are country sensitive, for example the definition of default. It would therefore make sense that regulatory validation of such factors should rely upon expert input from the host country regulator.

[12] Letter to Nicholas Le Pan, dated 24 May 2002, www.isda.org

We furthermore believe that the recognition of lead supervision would create a strong incentive for regulators to (i) ensure that a common answer is brought to similar implementation issues by the various G-10 participants; and (ii) harmonise their approach to supervision, including by encouraging joint training of their staff and exchanges of staff.

Purpose of supervision :

Of paramount importance is the need to achieve a common understanding of the purpose of Pillar 2. It seems to us that Pillar 2 is to be used for three distinct purposes :

(i) Assess firms' eligibility under the intermediate and/or advanced credit, market and operational risk approaches;

(ii) Assess the adequacy of Pillar 1 assumptions with respect to risks not directly capitalised under Pillar 1. Additional capital may be required as a result of this part of the review.

(iii) Evaluate the adequacy of firms' internal capital assessment.

We would like to offer the following comments in respect of each of the points above :

(i) Eligibility under intermediate/advanced approaches : a number of issues arise in relation to this part of the supervisory review, for instance the determination of materiality thresholds for applying partial use, the definition of IRB validation criteria, etc. It is essential that regulators identify these issues and discuss them within the relevant Basel Working Groups (the AIG and the RMG) with a view to adopting common definitions. Otherwise, there would be a significant risk of similar firms being subject to different hurdles by their respective supervisors. ISDA stands ready to assist the Basel Working Groups in this process. We have recently released an Internal Ratings Validation Survey, launched jointly with the Risk Management Association and the British Bankers' Association, with a view to informing the AIG on the diversity of approaches employed by member firms.

(ii) Evaluation of risks not directly capitalised under Pillar 1 : a distinction must be drawn between those risks approximated and those utterly disregarded under Pillar 1.

For instance, correlation risk is not ignored under Pillar 1, but approximated by postulating a set of "average" constant correlation factors under the IRB function. Similarly, legal risk arising from the use of credit risk mitigation techniques is not excluded from scope: firms are required to verify the legal soundness of transactional documentation before recognising risk mitigation. Legal risk is also covered explicitly in the operational risk charge.

By contrast, some forms of risk are excluded from the proposed framework ; interest rate risk in the banking book and concentration risk are prime examples.

ISDA believes that the emphasis of supervisory review should depend on the type of risk under review :

-for risks already capitalised under Pillar 1, supervisors should simply validate that the conditions required for application of the relevant Pillar 1 treatment are met. For instance, where a firm uses credit derivatives, the supervisor should verify that the operational requirements for recognition of mitigation are complied with. Lack of compliance should result in a warning being sent to the firm that capital relief might be confiscated unless corrective measures are adopted within a reasonable time frame.

-for concentration risk and interest rate risk in the banking book, there is a case for considering the application of additional capital requirements where the risk concerned

is material. In assessing the rationale for applying supplementary charges, due account should be taken of requirements already imposed under national or international regulations distinct from the Accord. Large exposures, for instance, give rise to additional capital requirements under the Large Exposures Directive in the EU. Pillar 2 charges for concentration risk should not duplicate existing requirements. A review of such existing rules should be performed, at the international level, to ensure that the most appropriate and consistent approach is adopted to treating the risk under consideration.

The Committee also requires that strategic risk be assessed and actively managed. The implication is that firms should endeavour to measure this risk more accurately and capitalise it. The Associations question this line of thinking. Strategic choices made by management entail costs and may result in unexpected losses [hence impacting on Pillar 1 capital], but are primarily expected to produce income and profits. Because the proposed regulatory framework mostly ignores earnings, it is impossible for it to incorporate strategic risk ex ante in any meaningful way. It would be highly inappropriate for regulators to interfere in the elaboration of banks' strategies by imposing Pillar 2 capital requirements for strategic risk.

(iii) Evaluation of the adequacy of firms' internal capital assessment : it is essential that supervisors, prior to evaluating firms' internal capital assessments, understand the differences between the firms' internal modelling and the regulatory capital model.

The magnitude of these differences depends on the type of risk under consideration : for market and operational risk, where significant reliance can be placed on the firms' own modelling to derive regulatory capital, the discrepancy between internal and regulatory capital can be minimal and will overwhelmingly depend on the horizon and confidence interval retained by the firm. For credit risk, a vast number of parameters have been standardised by the regulators, and a direct comparison between internal capital assessments and regulatory capital is much more arduous: internal capital excludes expected loss, where regulatory capital generally includes it; LGD and EAD estimates will typically differ between Foundation IRB and the firm's internal model; modelling of default correlation and maturity is standardised in the IRB function, but more refined in internal models; concentration risk is ignored in the New Accord but accounted for in internal models; some firms model changes in asset values linked to spread variations, whereas regulators ignore them, and so forth. Understanding the detail of calibration discrepancies between firms' own credit risk models and the New Accord is essential if supervisors are to reconcile regulatory and internal capital measures.

It seems unclear to the Associations what conclusions might be drawn from the comparison above in terms of regulatory capital adequacy. A firm might, for instance, use a lower default correlation assumption than is implied in the IRB function; this obviously should not imply that the internal assumption needs scaling upwards. Conversely, some firms will aim for a more stringent loss percentile than the Capital Accord's, and may hold internal capital in excess of their Pillar 1 regulatory capital. This should not result in additional capitalisation under Pillar 2. While the Associations hope that the supervisors' desire to achieve a better understanding of economic capital modelling indicates their willingness to move towards recognising these models in the future, we would be concerned if it constituted an attempt at systematically bumping up Pillar 1 capital. The Committee's intentions would merit clarification in the New Capital Accord.

Capital allocation across business lines and asset types is another area where marked differences are likely to arise between internal models and the regulatory model. Such discrepancies exist under the current Accord, and will continue to exist, although to a

lesser extent, under the New Accord. Only by placing more reliance on firms' own modelling of portfolio credit risk (and notably, excluding EL from the scope of regulatory capital), can the Basel Committee bring internal and regulatory capital estimates into closer agreement. Capital allocation is likely to be heavily influenced by the contribution of each facility to the overall loss profile at the confidence interval retained by the firm. This will crucially depend on the correlation of the asset loss profile with that of the rest of the portfolio. The Associations question how the supervisors intend to assess the adequacy of correlation estimates used by firms. We strongly oppose the principle of applying additional Pillar 2 requirements to cater for misallocation of capital (para 714 of CP3), where the regulatory model itself does not demonstrably result in a sensible allocation of capital.

Finally, stress tests feature prominently in CP3, at paragraphs 396 (general stress testing regime), 397 – 399 (specific testing for mild recession) and Pillar II, paragraphs 708 (general requirement to consider unforeseen events in assessing capital adequacy) and 724 (requirement to hold capital covering the stress tests in paragraphs 396 – 399).

The Associations agree that stress testing is an important technique in a risk manager's toolkit, and forms part of a robust capital planning and management regime at any large institution.

However, we have severe reservations about the detailed prescription contained in paragraph 398. Such prescription contradicts the purpose of supervisory review to achieve a tailored understanding of the individual position and risks assumed by each institution, working in conjunction with internal risk management. The prescription in paragraph 398 does not come close to a complete specification of the stress testing regime and therefore does not ensure consistency between institutions (an objective that is not attainable in this area, even if desirable), yet it imposes an artificial framework which banks and their supervisors are likely to find a distraction from the genuine considerations needed to successfully manage capital.

We do not believe it can be appropriate for supervisors to issue guidance about the construction and execution of stress tests as suggested at paragraph 399. As noted above, the Associations believe that the fundamental purpose of Pillar II is to enable oversight tailored to each institution. We believe that supervisors will find the expectation that they issue uniform guidance not only contradicts this purpose, but is also extremely burdensome.

We are fundamentally opposed at the conceptual level to the specific stress test set out at paragraphs 397 – 399 and the expectation, expressed in paragraph 724, that banks automatically hold capital covering the results of this test.

The central notion, expressed at paragraph 399, appears to be that of a rating system that would result in no change to capital during or after a mild recession, in other words, a rating system that produced the same PD for each obligor over time regardless of the external economic circumstances. If a bank has a rating system that is not of this supposed type, it will, in the structure set up by paragraphs 397 – 399 and 724, always and at all times be expected to hold more capital than the IRB minimum requirements.

The Associations find the rating system implicitly described here wholly unacceptable. It implies that a rating assigned to an obligor upon origination should not change as economic conditions change. This in turn implies that (i) either the quality of each obligor's rating will gradually deteriorate over time as it becomes stale and eventually completely useless; (ii) or the bank is expected to be able to foresee all the possible economic circumstances that will arise over the life of the exposure, and assign the initial rating accordingly. Clearly, such a system is not sensible at a basic level. All estimates associated with risk management activity, including ratings, are based only on information or judgment available up to the current time, and are therefore subject to update and change including potential deterioration as new information becomes available, quite regardless

of their structure or design. Therefore, all risk sensitive rating systems will be adversely affected by unexpected periods of zero growth or recessionary downturn.

The Associations believe that a key intention in developing this provision is to mitigate any potential procyclical variation of capital by introducing a buffer of capital that would be available to cover additional requirements arising during or after an economic stress. However, the stress test set out at paragraph 397 is in practice merely an additional minimum capital requirement.

The Associations believe that adequate protection against procyclicality can only be achieved with a flexible and proportionate approach to capital planning by each individual bank including, where appropriate and available, maintenance of a modest buffer of capital. The stress test at paragraph 397 will not indicate the size of any such buffer and, unless it is deliberately manipulated, will simply indicate a requirement to hold a buffer at all times. An essential ingredient of capital planning is the ability to materially reduce the buffer when needed, but, as the stress test will never be able to provide a justification for such reduction, it will in any case fall to supervisory judgement to ignore the results of the stress test when it is in the best interests of the bank or the banking system to do so. This process would clearly be simplified with no adverse effect by eliminating the stress test at paragraph 397 and associated capital requirement at paragraph 724.

b. Supervisory disclosure

The Associations strongly support the Committee's proposal that supervisors should disclose national standards. We however would also find useful the disclosure of aggregate statistics on the impact of national implementation. It would notably be helpful to know what proportion of firms have achieved the more sophisticated approaches (Credit Risk IRB, Model recognition for Market Risk and AMA for operational risk), the average capital required under the supervisory review process and recognised ECAIs in each jurisdiction.
This information could inform debate on any material divergences in implementation, to the extent that they may threaten the competitiveness of some financial institutions or require that policy be amended to foster greater convergence in supervisory practice.

# APPENDIX 1

# ISDA's comments on Section 2.V of CP3- Operational risk

**Scope of comments**

ISDA's main comments regarding the rules on operational risk focus on the Advanced Measurement Approach (AMA), which is a major focus of industry development effort.

We note, however, the following points with regards to the overall framework for operational risk.

**Operational risk framework**

First, the incentives to progress to the AMA are still not clear or proven, particularly if financial groups were to face the management burden of each legal entity having to qualify for the AMA. (We discuss this issue further below – see "AMA Issues", section "2".) Moreover, for some types of firm, there will also be a systematic *dis*-incentive to move to the Standardised Approach, given that the beta factors for some business lines are higher than the alpha factor agreed for the Basic Indicator Approach. Equally, this level of beta means that some firms will feel a greater pressure to move to the AMA than others. Fundamentally, in presuming that firms generally ought to be on the AMA, the Accord has gradually but inexorably moved away from an earlier consensus point that firms should be free to adopt the approach that provides the most cost-effective means of risk management and to move to a more advanced method only when this delivers clear risk-management benefits for the firm. We consider this nexus of structural issues to constitute a weakness in the Accord.

Also with regard to the role of the AMA, it is publicly acknowledged that, in spite of considerable joint work by industry and supervisors since the time of the first consultation in 1999, the advanced-level rules for operational risk remain much less prescriptive than those covering credit or market risks. To a significant extent, this is inevitable and, given the need to structure a framework that truly reflects the diversity of current and evolving risk management practice, welcome. The net result, however, is that, in the field of operational risk more than in any other area of the Accord, the impact of the rules will depend on issues of implementation, particularly as regards the AMA. To a significant extent, these issues will inevitably be a matter for discussion between individual firms and their supervisors, as a fuller understanding of AMA practice develops. In these circumstances, the effectiveness of the Accord will depend on a credible, explicit commitment to international co-ordination of supervisory application of the operational risk rules, combined with transparency standards regarding AMA approval. ISDA considers such a formal commitment to be a necessary integral part of the rules.

We believe it is essential more generally to provide a clear commitment to revise any elements of the operational-risk rules that may prove sub-optimal, as experience of the framework and techniques for operational risk management develop.

**AMA Issues**

Overall, ISDA welcomes the continued progress on important issues and believes that further dialogue will help ensure the effectiveness of the regime for operational risk. We attach our earlier letter to the RMG by way of background discussion on the issues within the AMA on which our members have focused, namely:

1. General
2. Consolidation/Allocation
3. Correlation
4. Risk Mitigation
5. Soundness Standard

**1. General**

ISDA fully expects further evolution of methods for managing and estimating operational risk (with the strong likelihood of more creativity on the part of firms as and when more immediate compliance deadlines linked to the introduction of the new rules have passed). ISDA believes that the Risk Management Group conference on 'Leading edge issues in measurement of operational risk' in May 2003 demonstrated not only common ground between the main categories of approach but also a significant degree of diversity as to how techniques within an individual firm's overall approach may be combined and how the relative emphasis of such techniques may legitimately vary, over time as well as from firm to firm.

The current draft rules focus on four key elements of an advanced approach to operational risk: internal data, external data, scenario analysis and environment/control factors. Firms "must" use each of these (or satisfy equivalently worded constraints). ISDA believes that this sort of formulation places too much emphasis on the means, rather than the end objective, when (i) further new techniques may yet evolve and (ii) where, as stated above, there should properly be flexibility about the ways in which firms "use" techniques, including their relative emphasis.

We stress that we do not oppose the naming of these techniques in the rules. We see potential value in all of them and believe that is quite right that firms be expected to demonstrate to their supervisors a thoroughly considered evaluation of each of them and the information they yield. We simply discount any suggestion that they can be the subject of a fixed standard.

Specifically on "business environment and internal control factors" (paragraph 636), we note that what are commonly referred to as "Key risk indicators" are not generally viewed as a purely quantitative tool, if at all, and that the rules should avoid associating them with a "risk *measurement* framework" [ISDA's emphasis].

More generally, ISDA believes that a key objective in implementing the AMA rules will be to avoid unwarranted volatility in individual firms' capital requirements and that the AMA must accordingly be policed in a manner consistent with this objective. Rules that may be interpreted in a rigid way could only increase the chance of such volatility.

Taking all these considerations into account, we strongly suggest that the Risk Management Group revise the language along the lines that, in order to demonstrate compliance with AMA, firms should undertake a considered evaluation of the applicability of these four elements, and any others the firm considers relevant.

**2. Consolidation/Allocation**

ISDA continues to advocate the principle of regulatory acceptance of firms' allocation by jurisdiction of capital amounts calculated at group level. As outlined in our letter of May 20th, ISDA believes that this will be essential if the AMA is to be practicable.

The Risk Management Group has asked for more specific suggestions as to how such allocations could be determined and ISDA believes that:

1) distinct solutions developed by individual firms are likely to be developed and should be eligible for consideration;
2) in the meantime, a feasible and, crucially, verifiable solution exists in the form of gross income.

As and when other potential means of allocating capital are developed, it should be possible for firms to have these considered by their supervisors. In the meantime, ISDA members believe that there is greater risk-management benefit in focusing resources on the fundamental issue of determining, on a group-wide basis, an appropriate aggregate capital requirement.

It should, however, be noted that using gross income as the basis of allocation would not, for example, preclude the simultaneous use of key risk indicators and management judgement in identifying relative strengths or weaknesses in control among group entities, and that these other techniques could for example be used as an overlay or complement to the use of gross income. With any mechanism[s] of allocation, the key issue in allowing their use would be that their effectiveness in apportioning risk capital was periodically reviewed by the individual firm.

ISDA recognises that there will need to be a dialogue involving host-country supervisors in the case of systemically significant institutions. Home-country lead supervision should, however, remain the norm. This point is addressed in more detail in our letter of 20th May.

**3. Correlation**

Regarding correlation, ISDA warmly welcomes the progress made in adapting the requirements to the realities of operational risk management. What seems inconsistent with this, however, is the reference to correlation in paragraph 635 of the draft rules, relating to scenario analysis.

As with the issue of "correlation" more generally, we continue to believe that the term "dependency" more appropriately reflects the range of issues at stake here. The underlying issues appear to be the potential for multiple events arising from a common cause or the co-incidence of multiple events from distinct causes. The application of a "variance-covariance" approach to this set of issues is unlikely to yield risk-management benefit.

We take this opportunity to stress our belief that, consistent with our points above on allocation, it is appropriate for supervisors to recognise "implicit" correlations captured in group-wide AMAs, subject to reasonable checks on the credibility of such estimations.

**4. Risk Mitigation**

The limited recognition of risk mitigation, both within the AMA and across the range of operational risk approaches, constitutes a shortcoming that ISDA believes will need to be rectified. ISDA fully supports the development of appropriate criteria to ensure that risk mitigation is effective, but believes that this combined with supervisory review should be sufficient to allow proper recognition of a potentially useful technique, of benefit to individual firms and to the system as a whole.

In particular, ISDA believes there is a policy advantage to be gained in keeping the door open to alternatives to insurance, which could include capital-market structures that provide funded protection to firms, thereby overcoming potential concerns about speed of payment. It questions the policy advantage in excluding such techniques.

**5. Soundness Standard**

It seems to us highly likely that, simply by dint of being specifically mentioned, the 99.9% confidence level will, at some stage, become a "hard" standard, at least in some jurisdictions. In an environment where various types of AMA are contemplated as potentially meeting regulatory standards, this would clearly be inappropriate.

As with the AMA overall (see "1" above), we therefore believe that it would better reflect the apparent intention with regards to the soundness standard to stress the end-objective (soundness) rather than the means (99.9%). We appreciate that the RMG has already made helpful changes in this regard and offer this suggestion as something we believe to be the logical extension of that development. Specifically, we recommend to the RMG greater reliance on the language in paragraph 622 of the draft Accord, that requires of firms a standard that is "credible and appropriate" in estimating capital for operational risk.

On a related point, while it is right that a firm should be expected to collect data on material losses it seems to ISDA more appropriate that the exact threshold be a matter for the firm to determine and, as necessary, justify.

**Conclusion**

In the above, ISDA has focused on those specific areas where it believes the latest draft of the Accord can be improved. Clearly, much progress has been made, particularly as compared with the first stages of the consultation, in 1999. ISDA believes that the single biggest advance has been to explicitly recognise the need for a significant degree of flexibility to be built into the rules. Our view is that much will still depend on two, inter-related factors that should be recognised explicitly in the Accord:

Implementation, as mentioned above, requiring a formal co-ordination policy among supervisors;
Revision of the Accord's operational risk framework, based on review of its overall effectiveness within 2 years of implementation.

As mentioned in the section on consolidation/allocation, the presumption that lead supervision will generally fall to the home country will be a pragmatic measure that we believe will aid implementation.

ISDA thanks the Basel Committee for the opportunity to comment on this important aspect of the capital framework.

# ISDA

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**by email** May 20th 2003

Roger Cole
Chairman, Risk Management Group
c/o BIS

Dear Roger,

Looking ahead to ISDA's planned meeting with the Risk Management Group in New York on May 28th, we thought it would be helpful to outline some of the key issues that member firms would prefer to discuss, and to briefly explain their position on these issues. In doing this, we have as much as possible framed issues with reference to the Basel Committee's third Consultative Paper, "CP3".

In meeting with the RMG, ISDA would welcome a focus of discussion on four main areas:

1) **Consolidation/Allocation**
2) **Correlation**
3) **Risk Mitigation**
4) **Soundness Standard**

We also include some additional points, on the credit-operational risk boundary, KRIs, and the Standardised Approach.

Overall, ISDA welcomes the continued progress on important issues and believes that further dialogue will help ensure the effectiveness of the regime for operational risk. Our comments below focus exclusively on issues where we believe further discussion is merited.

The RMG will note that a theme, apparent in our comments on both the soundness standard and the Standardised Approach betas, is the insufficient incentive to make the investments necessary to progress along the continuum of approaches outlined.

Looking ahead to implementation, and given the investments required, ISDA would appreciate assurance from RMG members that, subject to reasonable checks, firms should have a realistic prospect of moving promptly onto the AMA.

## 1. Consolidation/Allocation

ISDA is convinced that the AMA will simply not be practical without the ability to calculate capital requirements at group level and allocate (downwards), per jurisdiction.

Key factors restricting the ability to calculate individual AMA requirements for multiple entities within a group are as follows:

- Data insufficiency at the level of individual entities (or, for that matter, groups of entities) will be particularly acute, given that this will be an issue even at group level.
- To the extent that there is a failure to recognise the significant levels of risk-diversification that firms achieve, excessive capital will result, since the sum of the individual-entity capital requirements is likely to total considerably more than the group requirement. (In connection with this, please see our discussion below on correlation.)
- There would be a major and, in a group context, duplicative management burden, if each entity (or group of entities) was required to meet AMA standards in full.

ISDA believes that the practical solution to this dilemma is to accept that firms calculate capital at group level and allocate per jurisdiction. This provides an appropriate basis for discussion with national supervisors, given their responsibilities to ensure capital adequacy in relation to entities (or groupings of entities) incorporated in their jurisdictions. Yet it remains workable for firms.

Any insistence on full AMA calculations at subsidiary level may, especially for the reasons outlined above relating to lack of recognition of diversification, tend to increase the incentive for firms to move towards a branch structure. This would not necessarily be beneficial for the system overall.

Naturally, a firm's allocation methods must be systematic, transparent and accessible to all directly interested supervisors. As with other issues, in assessing the adequacy of allocation methods, the most practical arrangement will be for the firm's home-country supervisor to lead. This will minimise duplication of effort and maximise co-ordination of review.

## 2. Correlation

ISDA members welcome the amendments made in CP3 to the language on the treatment of correlation under the AMA. In order to help create an environment in which firms can develop a true representation of risk levels, we believe it essential that the Accord avoid any language that has the effect (whether intended or not) of prescribing a single, rigid mechanism for determining dependencies.

This is especially important because firms may not necessarily divide their business up so as to generate separate loss distributions requiring aggregation. It is entirely consistent with the management of operational risk to assess risk at a firm-wide level. ISDA opposes any requirement, explicit or implicit, to calculate risk numbers for many distinct entities (and/or risk types, and/or products) and sum them. It believes that such a procedure would systematically inflate a firm's capital requirement and inevitably, therefore, act as a *dis*-incentive to granularity in risk calculations.

Where separate loss distributions are generated, for statistical reasons a simple correlation co-efficient is unlikely to be available or appropriate. (Essentially, this is due to the non-normal nature of operational risk distributions.) Outside an LDA (for instance, in predominantly scorecard approaches), a strict statistical approach to correlation may be simply irrelevant.

For these reasons, ISDA prefers the broader term 'dependency'. In ISDA's view, the approach to correlation ought to be consistent with the AMA more broadly, that is, a variety of possible approaches should be accommodated.[13] It is preferable for the development of the discipline of

[13] *Any of a number of statistical or non-statistical techniques might potentially be of value in relation to AMA approaches in estimating the likelihood of certain events occurring a) simultaneously or b) as a result of each other; eg, Common Shock, Factor Analysis, Copulas and Correlation. The terms 'dependency' and 'dependency analysis' are offered as a generic term covering the range of such techniques.*

operational risk management within the AMA that firms justify a number that they themselves have estimated, rather relying on a crude and conservative assumption of '1'.

CP3 seems to reflect an understanding between the policy specialists amongst both regulators and firms about what is intended by 'correlation'. But, as the framework is implemented, there is a concern that 'correlation' may be limited to its mathematical interpretation. In ISDA's view, therefore, in addition to the introduction of the term 'dependency', further amendments are required to limit this risk, specifically with regards to the language referring to "validation" and to a "high degree of confidence". Both of these terms tend to suppose a particular, statistical approach.

## 3. Risk Mitigation

ISDA notes and appreciates the RMG's continued willingness to work on this issue in support of recognising insurance, including the development of clear and fair standards against which the acceptability of a given insurance policy may be tested. Recognition of risk mitigation helps the new capital Accord to be a) risk-sensitive and b) forward-looking, which must surely be significant advantages in ensuring that it has long lasting relevance.

In this context, ISDA believes the following points are crucial:

- Within the AMA, limiting recognition to 20% of gross exposure, on top of limiting recognition to AMA firms, reduces the incentive for insurance firms to develop products that meet particular requirements.
- A cap on aggregate recognition duplicates the effect of the haircuts proposed for individual contracts.
- CP 3 states that insurance is to be provided by a third party. We recommend a change in the wording, such that the capital held in insurance captives is also recognised.
- There appears to be no reason to rule out review and potential change, as applicable to other figures in the draft Accord.
- It is ISDA's understanding that, as and when capital market instruments emerge with risk-transfer features similar to insurance (and which could include funded protection), they can be discussed with national regulators.

We note that the limitations on recognition of insurance may well persuade a bank to 'self-insure' against certain risks, by treating the risk as an expected loss (which may, in principle, be excluded from the regulatory capital requirement). The apparently unintended consequence of this is to limit the protection in fact afforded in the rare instance of there being a larger-than-usual loss.

## 4. Soundness Standard

ISDA believes that the approach to the soundness standard is helpful to the extent that it accommodates practical considerations around estimating susceptibility to operational loss. However, members continue to have concerns about this issue, at a conceptual level.

A 99.9% event is, in the context of a one-year time horizon, a) extreme (as it may be thought of as "1-in-1000 years") and b) will inevitably entail a chronic lack of data. We stress that this is not purely a temporary problem. It is true that, for some types of operational risk event, this problem may be, or become, less acute. For such risks, for reasons of internal risk management, firms may well wish to model to this high standard. But the nature of other operational risk events – which can be of very low frequency and unrepresentative of future exposures – means that, overall, the

standard is not practical, since for these types of risk it may never be feasible or meaningful to model to this level.

We note that this appears to be implicitly acknowledged in the inclusion of techniques other than loss data modelling (especially scenario analysis) as required elements for an AMA. We should not forget, either, that a lack of data may be a positive sign, indicating an absence of loss events, rather than simply a lack of records.

ISDA acknowledges that the language associated with the soundness standard already appears to offer some flexibility. However, in order to give the right emphasis, ISDA suggests that the final Accord rules should invoke a "credible and appropriate" standard (as per paragraph 622 of CP3), making the reference to 99.9% and a one-year horizon at most a footnote.

Paragraph 64 of the 'Overview' paper attached to CP3 refers to "enhanced opportunities for the industry to assist in the development of proposals for aligning regulatory capital requirements with sound industry practice". ISDA believes that the soundness standard is an issue where continuing discussion on alignment will be fruitful.

**Further Points**

Credit-Operational Risk Boundary

ISDA would appreciate greater certainty regarding paragraph 633 of the draft Accord and particularly the limits on requirements to capture "operational risk" embedded in credit or market losses. ISDA accepts that tracking operational events in the credit area is indeed a good practice, but that a) mandating it as a regulatory requirement is excessive and b) even when it is presented as a good practice, it requires the enunciation of a clearer standard.

While the example quoted in paragraph 633 (collateral management failures) is instructive, the border line is not as clear as it should be. Consider, for example, a loan to a company that turns out to fail for reasons of fraud but where the loan itself is not fraudulent. Assuming this would not be required to be included in an operational loss database, it is not clear (from paragraph 633) by what criterion this is so.

We note, also, that it would be burdensome for firms to have to capture losses twice, through two, essentially duplicative processes (one for credit risk management and one for operational risk), when some losses may not necessarily merit inclusion in an operational loss database.

Key Risk Indicators

In addition to the above issues, the ISDA Operational Risk Working Group has been discussing a range of implementation issues. It considers it timely to note that there are a number of points in relation to the use of control factors/Key Risk Indicators that will be worth clarifying, in the light of the rules as they currently stand. It would welcome RMG comment on the value of such work (some but not all of which might admittedly be primarily of relevance in national discussions), whether within the time frame of the current consultation or over the longer term.

Standardised Approach

ISDA continues to believe that it introduces insufficient incentive to move to the SA to have any beta factors higher than the alpha factor that applies under the Basic Indicator Approach.

Conclusion

In conclusion, ISDA welcomes the continued progress towards a workable regulatory capital regime for operational risk within the context of a revised Accord. We especially appreciate the flexibility shown on partial use of AMA.

Overall, however, ISDA believes that, in order to be truly effective, the rules should also take into account the issues highlighted here; and welcomes the opportunity to discuss these more fully with the RMG, in New York and during the remainder of the consultation period.

Yours sincerely,

Richard Metcalfe
Co-Head, European Office

# APPENDIX 2

# ISDA

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30 July 2003

Mr Nicholas Le Pan,
Basel Committee on Banking Supervision
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Dear Mr Le Pan,

The International Swaps and Derivatives Association (ISDA) appreciates the opportunity to comment on the minimum requirements for the IRB approach as set out in Section H of the Consultative Document (CP 3), The New Basel Capital Accord (April 2003).

In our last formal submission on implementation and interpretation of the minimum requirements (letter to Nick Le Pan, dated 20 December, 2002) we highlighted two main concerns for the industry, (i) the lack of knowledge and understanding in the area of internal ratings validation and (ii) the confusion between time assessment horizons in ratings and assessment horizons used for estimating probabilities of default (PDs). We also outlined a number of suggested changes to the paragraphs in Section H on compliance, rating system design, rating system operations, and risk quantification. Finally we requested further guidance in areas where the industry felt international regulators would need to be consistent in their implementation of the rules. This guidance, by clarifying the intentions of the Accord and identifying the scope of interpretation, would go a long way to promoting an even playing field for international regulatory capital requirements. The key areas where we identified the need for guidance were:

- following the QIS 3 submissions, a report on the different definitions for immateriality used by firms and how they might differ from those identified by accounting standards;
- the extent to which immateriality is demonstrated in a "roll out" plan, distinguishing between those exposures that do not require IRB approval, and those requesting an extended transition period;
- the likely consequences of disclosing immateriality (should additional capital requirements be applied the overall charge for the exposures concerned should not be greater than the capital charge under the standardized approach);
- and guidance on international regulatory efforts in relation to firms' use of external data.

Since December 2002, work on implementation has gathered pace, and understanding of the issues improved; however the minimum requirements for the IRB approach, as set out in the latest version of the Accord by and large remain unchanged. The concerns of our membership therefore remain the same.

ISDA still believes that CP 3 is too prescriptive and leaves regulators little choice but to implement detailed and complex rules that often fail to capture how internal ratings systems work. This has led some commentators to suggest that large chunks of the Accord be removed (for instance the 30 pages

following paragraph 351!). In this letter we restate some of our key concerns in the light of a greater appreciation of the issues.
We include an extract on Pillar 2 from the main body of our overall response to CP 3 (Appendix); we consider the conclusions from the results of the Internal Ratings Validation Study, and share with you additional work that has been carried out on assessment horizons. We hope that by doing this within the formal consultation period for CP 3 we will be more successful in initiating changes with a view to improving the minimum requirements for the IRB approach. If successful this would allow for more flexibility in implementation, while helping to establish the IRB approach as a more effective and consistent international regulatory standard.

There are two key issues that ISDA would like to re-emphasise. The first relates to the contents of the Internal Ratings Validation Study. The Study concludes that firms employ a wide range of techniques and diversity of practice with respect to internal ratings validation. The Study shows that rating validation is not an exact science and is heavily dependent upon the availability of data, data integrity, and expert judgement. Even where banks are able to employ statistical techniques to assess model performance they do not employ absolute triggers or thresholds in the validation process. There was a strong feeling among participants that not enough time had been spent on discussing acceptable validation techniques for these types of systems. For some exposure classes – notably banks and sovereigns – it is likely that there will never be enough default data to allow robust statistical estimates of default rates with a granular rating scale. Techniques other than statistical analysis will therefore be necessary to assess the adequacy of banks' rating systems and PD estimates.

All of these points have been widely acknowledged by regulators, but have yet to be addressed in the actual words of the Accord. The minimum requirements for the IRB approach described in CP 3 do not recognise data scarcity, issues with data integrity, or expert judgement (example, paragraph 464). Consequently national regulators are left on their own to develop workable solutions on a country-by-country basis, and applications of the IRB approach may lack consistency and fail to represent a truly international risk-based standard.

The second issue relates to further work carried out by ISDA on assessment horizons. Assessment horizons are included in CP 3 in both the definition of default probabilities and also in the assignment of ratings to obligors (paragraphs 376-378 and 409). ISDA recognises that there is considerable scope for additional clarity on the requirements of the Basel Committee as it relates to assessment horizons. The references in CP 3 are open to interpretation by each national regulator and if taken literally could lead to excessive capital requirements that could impact on firm's decision-making in key areas of business. The focus of ISDA discussion on assessment horizons has been around regulatory confusion between their use in ratings and when used for estimating and calibrating probabilities of default. It is important when looking at internal ratings systems to distinguish between the estimation of a PD and the assigning of a rating (n.b. not all models in use today produce a rating, but rather estimate the PD directly).

Back in January 2000, the Basel Committee recognised in a discussion paper entitled "Range of Practices in Banks' Internal Rating Systems" that the time horizon and methods selected for analysis were sometimes opaque, surmising that banks assign ratings based on all available relevant information. Current market practice in relation to assessment horizons varies enormously, not just from firm to firm but within firms from model type to model type. However there seems to be general agreement that ratings should be forward looking and based on all relevant material. The sentiment regarding acceptable practice here is highly significant. However the approach outlined above is not reflected in the wording of the Accord.

ISDA strongly recommends that assessment horizons are not specified for assigning ratings. Assessment horizons and historical data pools vary across ratings, and appropriate controls, documentation, and senior management oversight ensure that firms take account of all the relevant inputs. For regulators this means putting in place a broad framework that does not specify the assessment horizons firms employ in their internal ratings systems (though of course, as we know, the final PD estimate should be a 1yr PD). Ratings systems are a product of their times and it is important that the final version of the Accord can be implemented in such a way as to ensure the continuing evolution of risk management practice.

N.b.The concept of time and assessment horizons also presents itself as a challenge when considering the likely requirements for conducting "stress tests" under the new regime. The application of specific appropriate stress scenarios will be a mechanism for banks seeking compliance. ISDA's concerns are outlined in the extract on Pillar 2 from the main body of our response to the Committee on CP 3.

ISDA would like to see the following outstanding issues with the minimum requirements addressed: -

- on the design of the rating system, it is still unclear why Foundation IRB banks would need to have in place a rating system for LGD or EL (paragraph 360), on top of one for PD (note the same issue arises in paragraph 394 and again in paragraph 468). ISDA strongly objects to these requirements for Foundation IRB banks and would want regulators to encourage any bank with access to this kind of data to move to an Advanced IRB approach.
- as stated in our December letter, in general ISDA believes that all data maintenance requirements should weigh costs against benefits and allow flexibility in this regard as long as the validation requirements are met. The industry appreciates that having more data is a good thing ("its nice to have"), but many firms consider the requirement that firms store data to allow for retroactive reassignment of ratings (paragraph 391), unreasonable. In our more recent discussions on data with the Accord Implementation Group (AIG, Washington, April 2003), the regulators felt that this was a key requirement, while ISDA doubted whether or not it was achievable. With increased sophistication in risk management techniques, new key drivers of risk emerge, this means that ratings systems of the future may be based on criteria that didn't exist in the past, making retroactive reassignment impossible. ISDA recommends that this minimum requirement be removed from the text of the Accord.
- further over-regulation is apparent in the requirement that the person assigning the rating should be recorded (paragraph 393). It is not clear what should be recorded if two people have had the joint-responsibility for the assigning of a rating, or as is often the case a whole credit committee (do we record all of the names who are present?).
- ISDA notes that indirect costs (paragraph 422), whether material or not, cannot by definition be allocated to individual facilities and should therefore be excluded from the Accord.
- ISDA agrees with the use of a default-weighted average for LGD, but does not see the relevance of the additional requirements that "the firm must use LGD estimates that are appropriate for an economic downturn" (paragraph 430). We believe this is both conceptually wrong and practically burdensome. As most defaults occur in periods of economic downturn, a firm's average recovery experience will automatically be weighted towards such periods and to require a yet more extreme "worst case" calculation makes the calculation unreasonably conservative.

Finally, ISDA would like to offer its continued support to the work of the Accord Implementation Group (AIG). The AIG was set up to discuss and debate issues surrounding the implementation of the new regulatory capital framework. If the New Accord is to become anything like an international standard, then co-operation and harmonisation on interpretation and implementation is essential. ISDA would like to see the AIG given a more prominent role, with a wider mandate, and clearer objectives. We would like to see the concept of a "level playing field" promoted and pursued more aggressively, with more transparency from a wider range of international regulators. We would also be interested to hear views from the AIG on each of the areas of national discretion and the responsibilities of the home and host regulator.

ISDA would be happy to discuss any of these issues in relation to CP 3 in more depth with the AIG at some point in the future.

Yours sincerely,

Ed Duncan
ISDA
Risk Management

# APPENDIX 3

**ISDA**

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Ms. Norah Barger
Chair, Credit Risk Mitigation Subgroup
Basel Committee on Banking Supervision
Bank for International Settlements
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Switzerland

April 4th, 2003

Dear Norah,

As the Basel Committee progresses towards issuing CP3, ISDA, the IACPM and LIBA (together, the Associations) would like to emphasize the importance that our membership places in obtaining a more realistic treatment of double default risk and to clarify with you the realistic timescale for achieving this.

We appreciate the Committee's objective of adopting risk sensitive capital rules, but strongly believe that applying substitution to credit risk protection buyers is inconsistent with this goal, as well as with risk management practices followed by leading market participants.

The impact of substitution on firms' regulatory capital depends on the extent to which credit derivatives and financial guarantees are used as credit risk mitigants. For the most advanced portfolio credit risk managers, who use credit default swaps extensively to diversify their loan portfolios by "laying-off" credit risk accumulated on core customers, substitution is extremely punitive. For other firms, it will become so very soon, as more dynamic use is made of credit risk mitigation techniques. The QIS3 results should be interpreted with these considerations in mind.

The Associations understand that the CRM Sub-group based its decision to uphold the substitution approach upon the following considerations : a) the possibility that recognition of double-default benefits could create opportunities to arbitrage between the banking book and trading accounts ; b) concerns that current double-default proposals do not address the possibility of large concentrations of guarantees among relatively few protection providers; c) the observation that double-default benefits should be very small when the obligor's PD is very large; and d) concern that previous ISDA comments regarding the discrimination introduced by the New Accord against unfunded credit risk protection were unproven.

We would like to comment on these items in turn below.

a- Arbitrage between banking and trading book :

We understand that the CRM Sub-group, having observed that protection sold in the form of credit derivatives is often held in banks' trading books, is concerned by the potential for regulatory arbitrage arising from the generalization of credit risk transfer to the trading book.

The Associations acknowledge that transfer of credit risk from the banking to the trading book can entail a reduction in regulatory capital, depending on the rating and the maturity of the instrument being transferred. The capital saving obtained reflects purely the basis upon which specific risk is assessed and charged in the trading book, and in particular the typical shorter holding period for traded instruments. Credit derivatives are just one of the means by which credit risk can be transferred from one book to another. A lower capital charge is justified in the trading book so long as the derivative is held with trading intent. Under current rules, a bank transferring a well-rated bond to the trading book with a view to negotiating it on the market would also, and quite logically, achieve a capital benefit.

By contrast, a bank, were it to sell protection for the longer term and hold the corresponding credit derivative in the banking book, will receive the same capital charge as that applied on the original holder of the asset being hedged. Where long term credit risk is transferred to a third party bank ceteris paribus [i.e. assuming that the holding horizon for the seller is the same as originally for the buyer], the global amount of regulatory capital held in the banking system increases, by an amount equal to the substitution charge applied on the protection buyer. This is hardly justifiable conceptually, and discriminates against the use of credit derivatives. The Associations would like to stress that the increase in global regulatory capital amounts mentioned above would continue to exist even if a haircut applied (as per ISDA's October 2001 proposals) on the substitution charge.

*b- Credit risk concentration :*

*The CRM Sub-group has questioned whether recognizing the effect of credit risk protection offsetting concentration risk was warranted, considering that concentration risk is not charged under Pillar 1 of the proposed capital rules.*

*The Associations acknowledge that for many firms the acquisition of credit risk protection is motivated by the desire to achieve greater levels of portfolio diversification. However, a credit default swap offsets not just concentration risk, but also the core credit risk embedded in any given underlying exposure. It should logically follow that credit risk capital charged on the underlying is offset by the CDS. The Associations recognise that some risk will remain of both the underlying issuer and the protection provider defaulting simultaneously, but we do not accept that substituting the protection seller's probability of default for the underlying issuer's is an appropriate means of measuring this risk.*

*We understand that regulators are furthermore concerned by the concentration of credit risk with a limited number of protection sellers. Where such concentration is shown to exist and creates a large exposure to a protection seller, this exposure will either be curtailed by the firm or will, in some jurisdictions at least, give rise to additional capital charges under Large Exposure rules. Supervisors can and should identify any such large exposures under Pillar 2 of the Basel framework and discuss the opportunity of adopting corrective measures or charging additional capital with the firms concerned. It is unreasonable to overcharge all regulated entities under Pillar 1, where large exposures are, if at all, found at only a few banks.*

c- Degree of mitigation:

The CRM Sub-group argues that the degree of mitigation achieved should be less when the underlying exposure's credit quality is low. ISDA has shown in its proposal dated October 2001 that the size of the haircut applied to the substitution charge, is in fact a function of the correlation between the two obligors' [underlying issuer and protection seller] probabilities of default, rather than the sole probability of default of the underlying issuer. We would be happy to discuss further the technical assumptions underpinning our proposal with the CRM Sub-group.

d- Unfunded credit risk protection discriminated against vis-à-vis collateral :

The CRM Sub-group has questioned why ISDA previously asserted that collateral was given more appropriate recognition in the proposed revision of the Accord than unfunded forms of credit risk mitigation.

Collateralised transactions are treated more realistically than credit derivatives in one important respect: the regulatory approach is not based on the assumption that the collateral issuer will default simultaneously with the collateral provider. Rather, the regulators are satisfied with the demonstration by firms of the existence of low default correlation between the two obligors. For credit derivatives, joint default is assumed to occur with the highest frequency possible.

Going forward :

A review of the capital treatment of double default risk is eminently achievable before the end of the comment period for CP3. This review can be based upon ISDA's long standing proposals, which have the merit of simplicity and conservativeness. Importantly, our proposals do not rely on firms' own assessment of pairwise default correlation, that the Committee has not yet felt ripe for recognition. Progress on the treatment of double default risk, in the setting that we have proposed, is achievable, considering that we are not soliciting a change in the substance of the Committee's approach.

We would welcome a clear indication by the Committee of their intention to review the issue urgently, and according to a defined timetable.

We hope that you will find the above of interest and look forward to establishing a productive dialogue going forward.

Kind regards,


| | | |
|---|---|---|
| Emmanuelle Sebton | Michael D. Robinson | Katharine Seal |
| *ISDA* | *IACPM* | *LIBA* |
| *Head of Risk Management* | *Executive Director* | *Director* |

# APPENDIX 4

## Regulatory Capital Treatment of Credit Derivatives in the Trading Book: A Risk Sensitive Proposal

### A. Introduction

This paper sets out new proposals for a regulatory capital treatment of credit default swaps and related instruments in a firm's trading book. This proposal has several desirable features:

- it is fully compliant with the current Basel Capital Accord and its implementation within the European Union's Capital Adequacy Directives, and is also fully compatible with the New Capital Adequacy Framework;
- it is risk sensitive, and is based on the techniques leading firms use for managing and monitoring risk in their credit derivatives books;
- it is flexible, intuitive, and not over-burdensome to implement.

### B. Current Practice

The current regulatory capital treatment for single name default swaps is typically based on the hedging of bond positions. That is, the guidance starts from the basis that the bond is central, and that credit derivatives are used as part of a bond portfolio. Although this was perhaps true in the early days of credit derivatives, market makers and leading traders in credit derivatives now very much hedge credit derivatives with credit derivatives. Bonds play only a relatively minor role. This is partly due to the increasing liquidity of the credit derivatives market, as evidenced by Figure One; it is also due to the changing nature of the reference obligation.

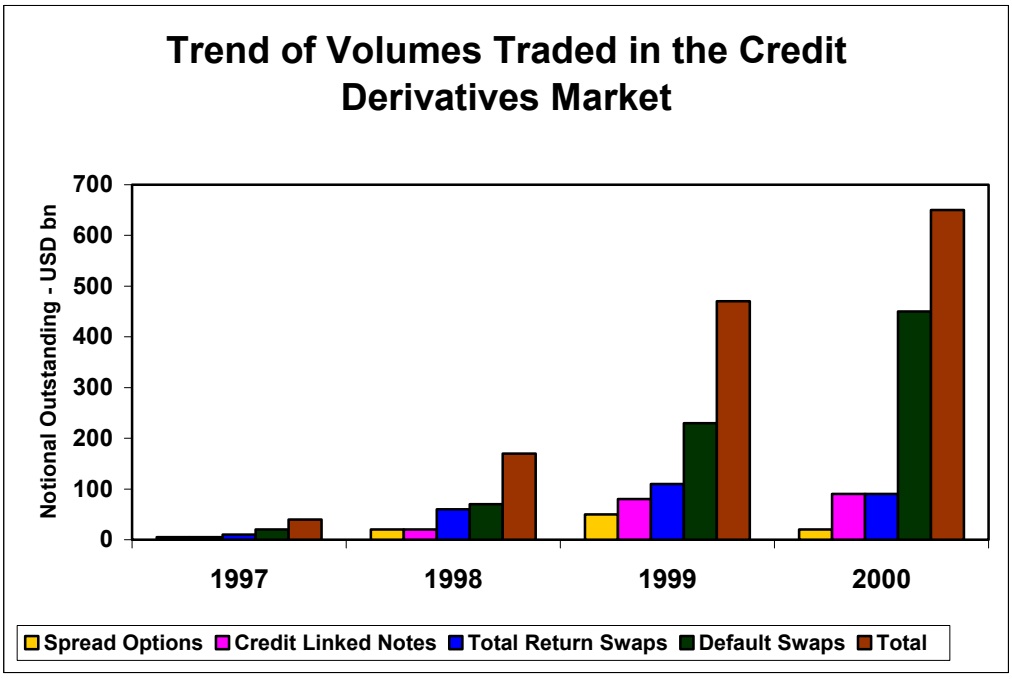



Figure One – The Volume Trend in Credit Derivatives
**(SOURCE: RISK MAGAZINE AND BBA CREDIT DERIVATIVES SURVEY 1999/2000)**

Initially, the reference obligation was used so that credit derivatives were tied to specific securities: protection was bought or sold on particular bonds rather than on particular obligors. However, this was both awkward and unsuitable: awkward because it limited the hedging instruments for a credit derivative to those based on the same reference instrument and the reference instrument itself; unsuitable because the ubiquity of cross default clauses meant that the default of one bond usually caused that of many others of the same obligor.

The market quickly realised that the purpose of the reference instrument was simply to define the obligor and the recovery rate (which defines the Loss Given Default); the latter reflecting simply the bond's place in the capital hierarchy of an issuer. There should be no difference in a default

swap referencing two different bonds of the same issuer providing they cross default, have the same seniority, and both are of the same or longer maturity than the swap. Once this realisation had become commonplace, and the standard credit derivatives contract amended to reflect it, greater liquidity came to the market.

The best evidence of increased liquidity created by uniform documentation is the explosive growth in the volume of single name default swaps traded in 1999 and 2000, that is since the 1999 ISDA Credit Derivatives Definitions came into currency. Indeed, the much higher liquidity in the vanilla default swap market has directly contributed to the growth in volumes of certain other types of credit derivative by virtue of default swaps' central role in engineering and hedging these other instruments.

Next we turn to basket instruments (including synthetic securitisations). Growth has been considerable in this area of the market, and liquidity has increased sharply. In particular, as liquidity has become common in many single names, basket default swaps are now hedged with single name default swaps rather than with bonds. This again means that any capital treatment must be successful not just in a mixed bonds and swaps environment, but also one of pure basket and single name default swaps. To quote the Basel Committee, we seek:

> *"A balance between an appropriate capital charge for imperfect hedging and a capital relief which gives sufficient recognition to sound risk mitigation techniques."*

The treatment should also be mindful of leading risk management and economic capital practice. This focuses on the underlying risk of a credit derivative—the seniority and maturity of the exposure to a given obligor, rather than on a bond underlying—so it provides a valuable lead. Finally, the treatment should be practical, in the sense of having reasonable data requirements. We contend that this is questionable for the current approach: if a firm is short a credit derivative into which the holder could deliver any senior instrument of a given obligor in the event of default, then potentially it would have to monitor every possible such instrument to calculate its regulatory capital despite the fact that all such instruments have identical PDs/LGDs. These requirements are onerous and add little value: a treatment based on the real risk of the short position would be more satisfactory.

## C. Features of the Market

Our proposals are based on several key observations of the market for default protection. To summarise:

- The credit derivatives market for single names is now sufficiently liquid that most leading dealers hedge credit derivatives with other credit derivatives. Bonds are often unattractive hedges for they must be held and funded on balance sheet, and shorting corporate bonds can be expensive or impossible.
- This liquidity is based on a generic contract construction, the 1999 ISDA standard. This contract has been tested in a number of defaults since its introduction.
- The 1999 Definitions are generic in the sense that they cite a specific reference obligation, yet may be discharged by the delivery of any other obligation (of the same obligor) that ranks pari passu.
- The risk of a contract depends only on maturity, the issuer of the reference obligation, and that obligation's ranking in liquidation: the other features are irrelevant to the derivative's suitability as a hedge.
- Basket default swaps are common products, and are often hedged with default swaps on the component names. These hedges are determined by the bond equivalent of the basket in a given name, a quantity that is straightforward to calculate and forms the basis of hedging.

## D. FRN Approach - Single Name Default Swaps

The fundamental building block of our proposed approach is a generic floating rate note ("FRN") which is characterised by:

- an obligor;
- maturity; and

- the ranking in liquidation of the stratum of capital defined in the contract.

We will therefore translate default swaps on single names into a generic FRN with the same obligor and seniority as the swap's reference obligation. The start date and end date of the FRN are defined by the corresponding default swap's start date and end date. Consider the following example: on 14th March 2001 a firm buys protection to last five years on Hasbro Inc., the contract being referenced to its 6.15% senior unsecured bond which matures on 15th July 2008. We would therefore create a short notional senior unsecured FRN in Hasbro Inc. beginning on 15th March 2001 and maturing on 15th March 2006. Exactly the same notional position would be created if the firm were instead to buy protection referenced to Hasbro's 8.5% senior unsecured bond which matures on 15th March 2006.

The bond equivalent of a default swap is defined as the notional amount of (the same) default swap required to hedge the existing position at new market spreads. Stated mathematically, the bond equivalent is:

Original Default Swap Notional × D(Original Default Swap)/D(Par Default Swap)

where D(S) is the sensitivity of a default swap, S, to a one basis point change in the credit spread of the underlying. The bond equivalent therefore reflects all the information in the market about the credit spread of the issuer, and hence is more sensitive to risk than, for instance, the notional of the default swap. Details of the sensitivities for three real default swaps and the bond equivalents they imply are given in the Appendix. The value assigned to each FRN is the bond equivalent of the default swap. To see how this depends on credit spreads, consider a real example:

**Example – Bond Equivalent**

- Suppose we buy protection on USD 10m notional of Hasbro Inc.'s senior unsecured obligations for five years. The bond equivalent changes with the price of protection as follows:

| Change in Market Spread* | Bond Equivalent – USD |
|---|---|
| -100 | 10,418,063 |
| -75 | 10,313,275 |
| -50 | 10,209,343 |
| -25 | 10,106,268 |
| 0 | 10,000,000 |
| +25 | 9,902,676 |
| +50 | 9,802,156 |
| +75 | 9,702,483 |
| +100 | 9,603,656 |

*The change in market spread is the change in the spread of a default swap with zero NPV in the current market, i.e. a par default swap.

By definition, the bond equivalent is exactly USD10M if the prevailing market spread is the same as the spread at a par swap trades. Note, though, that as the bond becomes riskier and protection becomes more expensive, the bond equivalent declines. Thus in this setting a fixed bond hedged with a credit derivative becomes more unhedged as credit spreads widen.

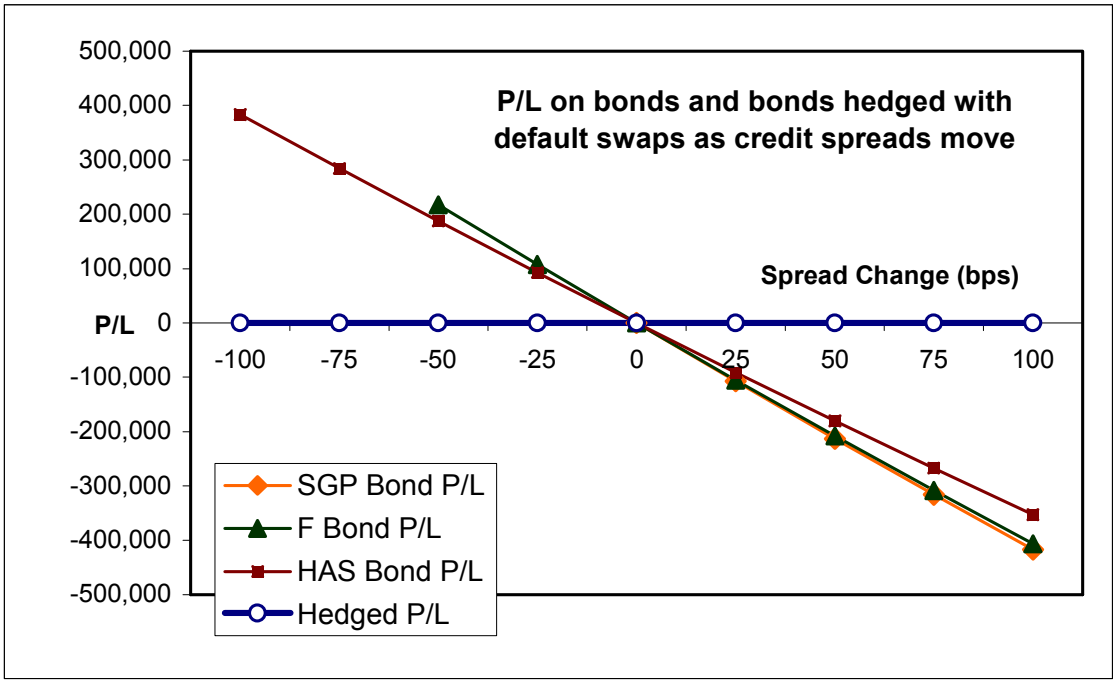
**Hedging Characteristics of Default Swaps**

In order to understand this phenomenon better, it might be helpful to consider the behaviour of default swaps in more detail.

First, to illustrate the efficacy of the credit derivative hedge, we show the P/L on a naked bond position and on that bond hedged by a matching default swap. Specifically, for each of the bonds shown, we suppose that a credit derivative of matching maturity has been purchased at the market spread and that credit spreads subsequently move by the amount shown. As can be seen from

Figure 2, the mark to market on the credit derivative is highly correlated with that of the bond, and the combined position is much better hedged than the naked bond. This, combined with the relative liquidity of the default swap gives us comfort that default swaps can offer very good hedges to specific risk.

**Figure Two: P/L for a various naked 5 year bond positions, and the same bonds hedged with 5 year par default swaps**




*Bonds used: Schering Plough (SGP, Rated AA2, 5y spread = 32bps), Ford Motor Co. (F, Rated A2, 5y spread = 100bps), Hasbro Inc. (HAS, Rated BB1, 5y spread = 445bps)*

We shall now look at the effect of movements in credit spreads on capital charges. As credit spreads move, the bond equivalent will move as we described above. The market risk charge is calculated under two methods: a) the FSA's current guidance; and b) the new method. Under the FSA's current guidance the market risk charge for the hedged position is simply the charge for General Market Risk ("GMR"); no charge for Specific Risk ("SR") arises because the notional of the swap matches the notional of the bond at all nodes. Note that the charge for the hedged position declines at exactly the same rate as the charge for the unhedged position.

Under the new method we observe different behaviour. A charge for SR arises at all nodes where the bond notional does not match the default swap's delta – that is at all nodes except that corresponding to the original market. As before, GMR will apply to the entire bond notional. Remember that each bond is a Qualifying Debt Security which means that each will attract a SR charge at 1.6 per cent under the 1988 Capital Accord. It is possible, however, that Hasbro's rating (Baa3) might fall as spreads increase which would increase its SR charge to 8 per cent.

| Spread Shift Bp | Charge for SGP Position | | Charge for F Position | | Charge for HAS Position | |
|---|---|---|---|---|---|---|
| | Guidance | New Method | Guidance | New Method | Guidance | New Method |
| **-100** | - | - | - | - | $336,799 | $343,488 |
| **-75** | - | - | - | - | $333,629 | $338,641 |
| **-50** | - | - | $331,903 | $335,377 | $330,522 | $333,872 |
| **-25** | - | - | $328,375 | $330,105 | $327,478 | $329,179 |
| **0** | **$325,017** | **$325,017** | **$324,922** | **$324,922** | **$324,496** | **$324,496** |
| **25** | $321,548 | $323,261 | $321,542 | $323,240 | $321,573 | $323,114 |
| **50** | $318,154 | $323,034 | $318,235 | $321,582 | $318,710 | $321,814 |
| **75** | $314,833 | $321,296 | $314,998 | $319,948 | $315,904 | $320,531 |
| **100** | $311,583 | $318,141 | $311,830 | $318,336 | $313,154 | $319,265 |

**Figure Three – Comparison of Market Risk Charges Under FSA's Guidance and The New Method**

We have seen that if the credit spread falls below the original market level the default swap's delta will be greater than the bond notional. In the new method, this implies that the firm has an 'excess' of default swap which will attract an SR charge linked to the excess notional. If, however, the spread rises above the original market level, the default swap's delta is less than the bond notional which implies that the firm has an 'excess' of bonds which also attracts an SR charge. The charge in this instance is, however, linked to the bond's market value rather than its notional value.

The key observation is that the market risk charge for a bond and its corresponding default swap is higher at all nodes under the new method than under the FSA's current guidance, the exception being the central node where the charges under both methods are equal. Indeed, the difference in charge is greatest the further we move from the central node. This result is pleasing because we know that the position is fully hedged only at this central node (the original market) and that the hedge becomes less efficient as spreads diverge from their original level. The new method is therefore more sensitive to risk.

**Netting**
The netting of credit derivatives whose maturities do not match — but which otherwise can be netted — is a complex issue and does not easily lend itself to treatment by simple rules. The current Basel proposals on specific risk in the trading book remain grossly at variance with firms' risk management practice, and this area deserves further study.

**Specific Risk Charge**
The charge for Specific Risk is simply the product of the Specific Risk weight and the net value of the FRN after netting.

## E. The FRN Approach for Basket Default Swaps

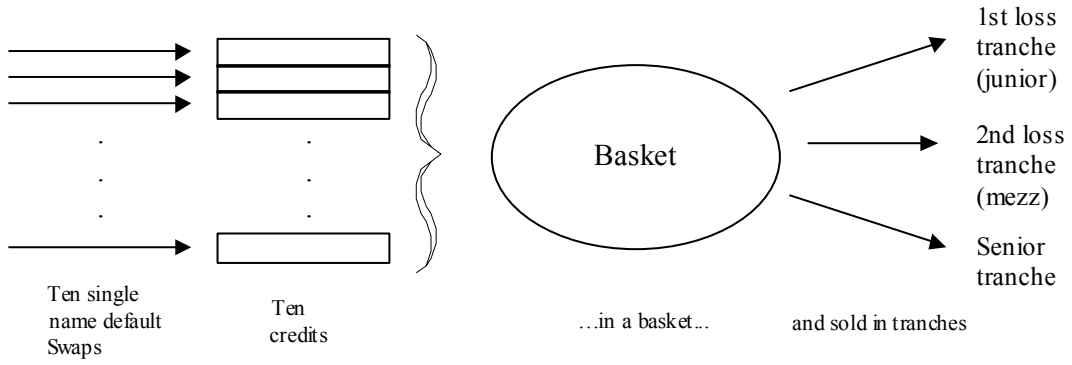
The real advantage of the FRN approach becomes clear when we consider basket default swaps. In an N-asset basket, there are N obligors, and we create FRNs for each one, with the appropriate seniority, start and end dates. The value assigned to each FRN is simply the Bond Equivalent.

**Example – Basket Structures and Bond Equivalents**
Consider a First to Default Basket Swap referenced to 5 issuers, each protected to USD100m. Using an industry standard model, we calculate the bond equivalent as follows:

| Issuer | Notional USDm | Bond Equivalent USDm | Capital Stratum |
|---|---|---|---|
| ABC1 | 100 | 72.65 | Subordinated |
| ABC2 | 100 | 52.87 | Senior unsecured |
| ABC3 | 100 | 50.04 | Senior unsecured |
| ABC4 | 100 | 50.03 | Senior unsecured |
| ABC5 | 100 | 48.76 | Senior unsecured |

This treatment has a number of advantages:

- First, the bond equivalent is the best hedge given current market conditions. Any capital treatment which does not incorporate widening credit spreads risks being imprudent.
- Secondly, it automatically guarantees the correct treatment of risk free structures.




To see this in more detail, consider a basket of ten credits where a firm has bought the exposure using ten single name default swaps and sold it again using first loss swap (equity tranche), a second loss swap (mezzanine tranche) and a remaining loss swap (senior tranche). If the three tranches precisely cover the basket, the firm has no risk. In our proposal, for each credit, the sum of the values of the FRNs for a given obligor for the equity, mezzanine and senior tranches will equal that of the single name default swap on the other side. No other treatment we are aware of has this desirable property of assigning a zero capital charge to this zero market risk structure.

## Appendix

**Data for Schering Plough**

| SGP | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Spread Bump** | **Value of Bonds** | **Value of DS** | **Bond's SDV01** | **DS's SDV01** | **PL Change from Base Case** | **ATM DS's SDV01** | **Notional ATM DS to Hedge Original DS** |
| **-100** | - | - | - | - | | - | - |
| **-75** | - | - | - | - | | - | - |
| **-50** | - | - | - | - | | - | - |
| **-25** | - | - | - | - | | - | - |
| **0** | 10,000,514 | 0 | 4,318 | -4,360 | 0 | -4,360 | 10,000,000 |
| **25** | 9,893,785 | 107,786 | 4,225 | -4,267 | 1,057 | -4,313 | 9,891,811 |
| **50** | 9,789,349 | 213,257 | 4,134 | -4,134 | 2,093 | -4,267 | 9,688,434 |
| **75** | 9,687,156 | 316,464 | 4,045 | -4,045 | 3,106 | -4,221 | 9,582,986 |
| **100** | 9,587,156 | 417,456 | 3,959 | -3,998 | 4,098 | -4,176 | 9,572,433 |

**Data for Ford**

| F | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Spread Bump** | **Value of Bonds** | **Value of DS** | **Bond's SDV01** | **DS's SDV01** | **PL Change from Base Case** | **ATM DS's SDV01** | **Notional ATM DS to Hedge Original DS** |
| **-100** | - | - | - | - | | - | - |
| **-75** | - | - | - | - | | - | - |
| **-50** | 10,212,412 | -217,021 | 4,391 | -4,437 | -2,209 | -4,342 | 10,217,113 |
| **-25** | 10,103,848 | -107,341 | 4,298 | -4,342 | -1,093 | -4,296 | 10,108,123 |
| **0** | 9,997,599 | 0 | 4,206 | -4,249 | 0 | -4,249 | 10,000,000 |
| **25** | 9,893,615 | 105,055 | 4,117 | -4,159 | 1,070 | -4,204 | 9,892,743 |
| **50** | 9,791,846 | 207,872 | 4,029 | -4,070 | 2,118 | -4,159 | 9,786,351 |
| **75** | 9,692,243 | 308,501 | 3,943 | -3,984 | 3,144 | -4,115 | 9,680,823 |
| **100** | 9,594,759 | 406,989 | 3,859 | -3,899 | 4,149 | -4,072 | 9,576,158 |

**Data for Hasbro**

| HAS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Spread Bump** | **Value of Bonds** | **Value of DS** | **Bond's SDV01** | **DS's SDV01** | **PL Change from Base Case** | **ATM DS's SDV01** | **Notional ATM DS to Hedge Original DS** |
| **-100** | 10,363,057 | -383,099 | 3,944 | -3,991 | -4,525 | -3,831 | 10,418,063 |
| **-75** | 10,265,497 | -284,374 | 3,864 | -3,910 | -3,360 | -3,792 | 10,313,275 |
| **-50** | 10,169,910 | -187,644 | 3,786 | -3,831 | -2,218 | -3,753 | 10,209,343 |
| **-25** | 10,076,253 | -92,868 | 3,710 | -3,754 | -1,098 | -3,715 | 10,106,268 |
| **0** | 9,984,486 | 0 | 3,635 | -3,678 | 0 | -3,678 | 10,000,000 |
| **25** | 9,894,568 | 90,991 | 3,562 | -3,604 | 1,076 | -3,640 | 9,902,676 |
| **50** | 9,806,460 | 180,154 | 3,490 | -3,532 | 2,131 | -3,603 | 9,802,156 |
| **75** | 9,720,123 | 267,525 | 3,420 | -3,461 | 3,165 | -3,567 | 9,702,483 |
| **100** | 9,635,519 | 353,143 | 3,351 | -3,392 | 4,179 | -3,531 | 9,603,656 |

# APPENDIX 5

**ISDA**
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Ms. Norah Barger
Chair, Credit Risk Mitigation Sub-group
Basel Committee on Banking Supervision
Bank for International Settlements
CH-4002 Basel
Switzerland

19 March 2003

Dear Norah,

The International Swaps and Derivatives Association (ISDA), the London Investment Banking Association (LIBA), The Bond Market Association (TBMA) and the Risk Management Association (RMA, and collectively with ISDA, LIBA and TBMA, the "Associations") welcome the interest expressed by the Credit Risk Mitigation Sub-group in our latest proposals concerning backtesting of VaR models used to measure counterparty exposure. We understand in particular that the sampling process described in our November 2002 letter is likely to inspire the approach retained by the Committee in CP3. We strongly welcome the CRM Sub-group's support in this matter.

*Multipliers in QIS3*

We are, however, disappointed with the indication that the multipliers mentioned in the QIS 3 Technical Guidance paragraph 144 are likely to remain unchanged in CP3. As stated in our November 2002 letter, we believe multipliers above the levels suggested therein are technically unjustifiable. The multipliers proposed by the Associations were based on the methodology used to determine those in the 1996 Market Risk Amendment. It is important to understand that the multipliers introduced by the Market Risk Amendment do not, contrary to those in paragraph 144, embed the "cliff effect" of doubling – at a minimum - the output of the VaR model. Crossing the backtest threshold under the Market Risk Amendment only results in a capital charge increase of 13 % (= 3.4/3). The current proposals on multipliers, in our opinion, unpick the parallelism which the Committee is trying to achieve between the Market Risk Amendment and the proposed repo VaR multipliers.

*Furthermore, the Associations believe that the multipliers in QIS 3 are so penal as to deter firms from developing the models necessary to calculate portfolio VaR measures of repo counterparty*

*exposure. Some of our member firms have tested the proposed multipliers against the more basic approaches offered by the Committee for calculating counterparty exposure. Such tests have demonstrated that applying a multiplier of 2 – the lowest multiplier set out in QIS 3 - on portfolio VaR estimates can produce higher capital requirements than using the own-estimates or standardized collateral haircut approaches. We believe that the QIS3 data will confirm this finding on a broader scale and we ask the CRM Sub-group and Committee to re-consider its recommended multipliers in the light of this information.*

Although we understand that the Committee may have intended there to be a significant "cliff effect" of the QIS 3 multipliers, we are concerned that this regulatory approach may also increase systemic risk. Such potential systemic risk would result from the generation of a high level of exceptions as a result of unusual market activity or volatility experienced during times of market stress. An increase in the number of exceptions beyond the acceptable threshold amount would, at a minimum, result in doubling the VaR counterparty risk value used to calculate counterparty exposure. Given the size of the repo markets,[14] the amount of capital that would need to be set aside would probably be substantial. Such sudden and substantial increase in risk-based capital may preclude financial institutions from being able to ensure continued liquidity in times of market stress. The potential for systemic risk is increased further by the fact that repo activity is concentrated among a relatively limited number of financial institutions[15] – most likely the same financial institutions that would be likely to utilise VaR models to determine counterparty risk for their repo portfolio.

In the light of the above, the Associations believe that the multipliers suggested in QIS 3 would not serve the goal of the Basel Accord to "develop a more flexible and forward-looking capital adequacy framework – one that better reflects the risks facing banks and encourages them to make ongoing improvements in their risk assessment capabilities."[16] We therefore again urge the Basel Committee to adopt a more reasonable set of multipliers, of a size comparable to that suggested in our November 2002 letter.

*Conforming Risk-Measures Cross-Product*

We also would like to express our hope that the counterparty risk treatment of repos will be revised alongside that of OTC derivatives as soon as possible after the Accord has been finalised. It is essential for these economically close products to be treated in a consistent manner, allowing cross product netting of future exposure. We would welcome a clear indication in the New Capital Accord of the Committee's intention to conduct such review. Absent such mention, a risk exists of the issue not being appropriately addressed in the new Capital Adequacy Directive in the EU. This would result in EU regulators not being able to implement the necessary changes within the same timeframe as their non European peers.

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[14] Average volume of total outstanding repo agreements for the first three quarters of 2002 totalled $3.64 trillion. This figure represents financing activities of U.S. primary dealers reporting to the Federal Reserve Bank of New York, and includes repo and reverse repo agreements utilizing U.S. government, federal agency, mortgage-backed agency, and corporate securities. Research Quarterly, The Bond Market Association, November 2002, p. 8, available at: http://www.bondmarkets.com/research/RQ1102.pdf. The total value of repo contracts outstanding on the books of the 76 financial institutions surveyed by the International Securities Markets Association (ISMA) in December 2002 was EUR 3.38 trillion.

[15] According to a recent white paper jointly issued by the Federal Reserve Board and the Securities and Exchange Commission, out of approximately 1700 dealers, the trading of U.S government securities –both on an outright basis and through repo transactions – is concentrated largely among 22 primary dealers. Interagency White Paper on Structural Change in the Settlement of Government Securities : Issues and Options, May 2002, Appendix I, available at : http://www.federalreserve.gov/BoardDocs/Press/other/2002/20020509/.

[16] Remarks by William J. McDonough, President and Chief Executive Officer, the Federal Reserve Bank of New York, Chair, Basel Committee, at the Bond Market Association's 2003 Legal and Compliance Conference, February 4, 2003.

As always, the Associations appreciate the willingness of the Basel CRM Sub-group to engage in open dialogue on these issues. Please feel free to contact Emmanuelle Sebton (+44-20-7330-3571 or esebton@isda-eur.org), Katharine Seal (+44-20-7796-3606 or Katharine.seal@liba.org.uk), Omer Oztan (+1-646-637-9224 or ooztan@bondmarkets.com) or Tracy Coleman (+1-617-664-2546 or TAColeman@StateStreet.com) if you have any further questions.

Kind regards,

| | | | |
|---|---|---|---|
| Emmanuelle Sebton<br>*ISDA*<br>*Head of Risk Management* | Katharine Seal<br>*LIBA*<br>*Director* | Omer Oztan<br>*TBMA*<br>*Vice-President*<br>*Assistant General Counsel* | Tracy Coleman<br>*RMA*<br>*Chair, Basel II Sub-Committee* |