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Ms. Norah Barger  
Chair, Credit Risk Mitigation Sub-group  
Basel Committee on Banking Supervision  
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8 November 2002

Dear Norah,

Thank you very much for your letter of 9 July 2002 to ISDA, LIBA and TBMA ("The Associations"), following up on our meetings in London and New York this past summer. As an initial matter, The Associations and the Risk Management Association (RMA) again applaud the Credit Risk Mitigation (CRM) Sub-group's continued willingness to engage in a dialogue with the financial community regarding the impact of the Basel Accord on collateralized transactions. The purpose of the following letter is to continue our dialogue on counterparty risk issues, in the light of the Sub-group's 9 July 2002 letter. The Associations and RMA hope that the information contained below will assist the Basel Committee in finalising its approach to portfolio VaR backtesting.

Two issues were raised in your letter, which we address in turn below.

1. Resolution of differences between The Associations and RMA

The first issue relates to differences of views between The Associations and RMA in each of their responses to the CRM Sub-group's 17 April letter regarding the technical modalities of backtesting. Reviewing the submissions prepared by both groups, we find more similarities than differences between the two sets of comments.

Before addressing the few differences in detail below, and while we agree with the need for appropriate model validation to apply to VaR-based measures of counterparty exposure, both The Associations and RMA wish to reiterate that we do

not support the principle of including in the Accord a backtesting regime, whether conducted on a group of sample counterparties or (as described in Section 2 below) whether conducted on a hypothetical portfolio. The creation of a backtesting regime will cause financial institutions to incur significant costs, and (as noted by the CRM Sub-group in its 17 April letter) is not necessarily appropriate in the context of measuring counterparty risk in collateralized transactions.

The Associations furthermore agree that, should backtesting apply, the approach adopted by the Committee should be subject to flexibility based on individual institutions' business situations and subject to ongoing dialogue with their respective supervisors.

Where the submissions differ is on the following items, which RMA and The Associations have reviewed and where we would like to put forward a constructive proposal to the CRM Sub-group :

- The proposed horizon for performing the backtest was one day in the Associations' letter versus 5 days in RMA's. The Associations and RMA have agreed that applying a one day test is preferable, considering the difficulties involved in producing "clean" 5 days P/L data, i.e. P/L excluding any further change in the exposure profile occurring within the 5 day test period. We would emphasize that supervisors currently rely on one day backtests for the purpose of implementing the Market Risk Amendment.
- The only other difference between the two submissions was in the selection of the sample of counterparties to which backtesting would apply. Following further consultation, The Associations and RMA would like to suggest the following sampling process :
  - o 20 counterparties are identified on an annual basis, of which 10 are the largest counterparties in the portfolio, and the remaining 10 are randomly selected. Financial institutions should be allowed to use their own measure of counterparty size in order to determine the identity of the 10 largest counterparties. Such measures might encompass Potential Exposure, VaR, or simply the average absolute value of the current mark to market of each portfolio over a given time period.
  - o For each day, and for each of the 20 counterparties, the financial institution compares the daily change in the counterparty's exposure (cleaned P/L) with the VaR calculated as of the previous close of business. The backtesting results would be reported on a quarterly basis. The Associations had noted in their letter that testing several counterparties on the same day, or indeed the same counterparty over several consecutive days, could invalidate the binomial significance test underpinning the multiplier. The binomial test assumes independence between the events tested (exception or no exception), and would hence be too harsh if correlation existed in the sample, resulting in unjustifiably high multipliers. Having reviewed this issue further in co-operation with RMA, The Associations have come to the view that for the purpose of attaining consistency of approach in the industry, our earlier objection could be dropped, although this would create a harsher test for financial institutions.

- An exception occurs where the P/L exceeds VaR.
- Because of the increased number of tests, the multiplier table proposed in The Associations' letter would have to be amended as follows:

<b>Number of Exceptions</b>	<b>Significance</b>	<b>Multiplier</b>
0	91.80	No action necessary
20	71.30	No action necessary
40	45.60	No action necessary
60	24.60	No action necessary
80	10.90	No action necessary
100	4.20	1.13
120	1.40	1.17
140	0.40	1.22
160	0.10	1.25
180	0.03	1.28
200	0.01	1.33

Setting multipliers above the levels indicated in this table is hard to justify technically if the assumptions underpinning Market Risk backtesting also apply for repo backtesting, as implied in the recently issued QIS 3 Technical Guidance. We would hence question how the multipliers mentioned in paragraph 144 of the Guidance were derived and would welcome further dialogue with the CRM Sub-group on this specific point. In particular, multiplying the counterparty risk charge by a factor of two where the green light threshold has been crossed as suggested in the Guidance creates an artificial cliff effect, which may well discourage firms from building the portfolio VaR models that they might otherwise have used. Such disincentive would run counter to the objective of the Accord to encourage and allow firms to align their risk based capital requirements more closely with the actual level of risk present in their portfolios. A more gradual scale of multipliers should therefore be contemplated (as per the table above).

## 2. Hypothetical portfolio testing

The second issue mentioned in your 9 July letter focused on the potential for use of hypothetical portfolio testing in the framework being prepared by the Basel Committee. Hypothetical portfolio testing represents a possible alternative to backtesting based on firms' actual portfolios. We would not favour including in the revised Accord provisions that would require both actual and hypothetical backtesting, though we recognize that some national regulators may wish to review the results of hypothetical backtests in the context of assessing model performance. The choice between real time backtesting and hypothetical portfolio testing should be the responsibility of regulated firms, and reflect the structure of their repo portfolio and existing risk management framework.

We provide as an appendix to this letter a description of how such backtesting could be carried out. Generally, we believe that the backtesting of hypothetical portfolios set out in the attached appendix could be performed by financial institutions once or twice a year for such institutions to periodically revalidate their model. In practice, each firm would work with their local supervisors, taking due account of the structure of such firm's repo portfolio and the main risk parameters relevant to it, to determine a suitable methodology to follow.

The Associations and RMA hope that the CRM Sub-group will find the above helpful and stand ready to continue to assist the CRM Sub-group in any way possible. In this regard, we would request a follow up meeting or call between the CRM Sub-group, The Associations and RMA to discuss in more detail the views conveyed in this letter. We will contact you in the near future to determine whether you are available for such meeting; in the meanwhile, please feel free to contact Emmanuelle Sebton (+44-20-7330-3571 or [esebton@isda-eur.org](mailto:esebton@isda-eur.org)), Katharine Seal (+44-20-7796-3606 or [Katharine.seal@liba.org.uk](mailto:Katharine.seal@liba.org.uk)), Omer Oztan (+1-212-440-9474 or [ooztan@bondmarkets.com](mailto:ooztan@bondmarkets.com)), or Tracy Coleman (+1-617-664-2546 or [TAColeman@StateStreet.com](mailto:TAColeman@StateStreet.com)).

Kind regards,

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

## ANNEX

### **DEFINITION OF TEST PORTFOLIOS**

- A **base case test portfolio** is defined and created:
  - The base case test portfolio should have features that are representative of the typical desk portfolio with regard to the distribution of counterparty features and the features of the transactions of each counterparty.
  - Counterparty features include the risk rating and industry of each counterparty.
  - Each counterparty will have a portfolio of transactions with different characteristics:
    - a) One way or two way trading
      - Some counterparties have multiple two-way transactions, such as large interbank market makers.
      - Some counterparties have large one-way positions, such as a hedge funds.
    - b) Each counterparty's portfolio of transactions will have a distribution with respect to the industry, credit risk rating and time to maturity of the securities put up as collateral (repos/reverse repos) or borrowed/lent.
- Empirical evidence should be provided that the base case portfolio corresponds to a typical portfolio.
- **Other test portfolios** should be defined with respect to the base case test portfolio. The other test portfolios should have different types and degrees of risk concentration. The risk concentrations should include:
  - Concentration of counterparty risk, by risk rating or industry.
  - Concentration of risk features of underlying transactions, such as risk rating, industry or tenor of underlying securities.
  - Correlation concentration risk between features of counterparties and features of underlying collateral, such as a risk concentration in both the industry of the counterparty and the industry of collateral.
- Empirical evidence should be provided that risk concentrations in the “other test portfolios” represent extreme concentrations of risk, equal or greater than the concentration of risk the desk might occasionally have.

### **DATA REQUIREMENTS**

The following data are needed:

- Times series of daily market prices for all the securities used as collateral in repo transactions or securities borrowed/lent in security borrowing/lending transactions.
- Time series of daily repo rates for each security.

### **TEST**

- For each test portfolio compare the ex-ante VAR-like measurement to the ex-post hypothetical P/L. The hypothetical P/L is the daily change in the market value of the test portfolio due only to changes in market rates.

- Keep track of the number of exceptions over the year and, depending on the number of test portfolios created, ensure that the number of exceptions is consistent with a VAR-like measurement at the specified confidence level.