MODIFICATIONS TO THE MARKET RISK AMENDMENT
Textual changes to the Amendment to the Basle Capital Accord of January 1996

Table of Contents page of the January 1996 Market Risk Amendment: Add a section under part B (Use of internal models to measure market risk) entitled B.8 Treatment of Specific Risk.

Section b, paragraph 11 of Introduction: Substitute the following for the final sentence: The capital charge for banks which are modelling specific risk is set out in section B.8.

Delete wording under Section k of B.4 Quantitative standards (p. 45) and add the following language:

(k) Banks using models will also be subject to a capital charge to cover specific risk (as defined under the standardised approach) of interest rate related instruments and equity securities. The manner in which the specific risk capital charge is to be calculated is set out in Section B.8 below.

Add a new Section to the Market Risk Package:

B.8 Treatment of Specific Risk

1. Banks using models will be permitted to base their specific risk capital charge on modelled estimates if they meet all of the qualitative and quantitative requirements for general risk models as well as additional criteria set out below. Banks which are unable to meet these additional criteria will be required to base their specific risk capital charge on the full amount of the standardised-based specific risk charge.

2. The criteria for applying modelled estimates of specific risk require that a bank's model:

- explain the historical price variation in the portfolio;[1]

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1 The key ex ante measures of model quality are "goodness-of-fit" measures which address the question of how much of the historical variation in price value is explained by the model. One measure of this type which can often be used is an R-squared measure from regression methodology. If this measure is to be used, the bank's model would be expected to be able to explain a high percentage, such as 90%, of the historical price variation or to explicitly include estimates of the residual variability not captured in the factors included in this regression. For some types of models, it may not be feasible to calculate a goodness-of-fit measure. In such an instance, a bank is expected to work with its national supervisor to define an acceptable alternative measure which would meet this regulatory objective.

- demonstrably capture concentration (magnitude and changes in composition);[2]
- be robust to an adverse environment;[3] and
- be validated through backtesting aimed at assessing whether specific risk is being accurately captured.

In addition, the bank must be able to demonstrate that it has methodologies in place which allow it to adequately capture event and default risk for its traded-debt and equity positions.

3. Banks which meet the criteria set out above for models but do not have methodologies in place to adequately capture event and default risk will be required to calculate their specific risk capital charge based on the internal-model measurements plus an additional prudential surcharge as defined in the following paragraph. The surcharge is designed to treat the modelling of specific risk on the same basis as a general market risk model that has proven deficient during backtesting. That is, the equivalent of a scaling factor of four would apply to the estimate of specific risk until such time as a bank can demonstrate that the methodologies it uses adequately capture event and default risk. Once a bank is able to demonstrate this, the minimum multiplication factor of three can be applied. However, a higher multiplication factor of four on the modelling of specific risk would remain possible if future backtesting results were to indicate a serious deficiency with the model.

4. For banks applying the surcharge, the total market risk capital requirement will equal a minimum of three times the internal model's general and specific risk measure plus a surcharge in the amount of either:

a) the specific risk portion of the value-at-risk measure which should be isolated according to supervisory guidelines;[4] or, at the bank's option,

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2 The bank would be expected to demonstrate that the model is sensitive to changes in portfolio construction and that higher capital charges are attracted for portfolios that have increasing concentrations.

3 The bank should be able to demonstrate that the model will signal rising risk in an adverse environment. This could be achieved by incorporating in the historical estimation period of the model at least one full credit cycle and ensuring that the model would not have been inaccurate in the downward portion of the cycle. Another approach for demonstrating this is through simulation of historical or plausible worst-case environments.

4 Techniques for separating general market risk and specific risk would include the following:

Equities

- The market should be identified with a single factor that is representative of the market as a whole, for example, a widely accepted broadly based stock index for the country concerned.
- Banks that use factor models may assign one factor of their model, or a single linear combination of factors, as their general market risk factor.

b) the value-at-risk measures of sub-portfolios of debt and equity positions that contain specific risk.[5]

Banks using option b are required to identify their sub-portfolio structure ahead of time and should not change it without supervisory consent.

5. Banks which apply modelled estimates of specific risk are required to conduct backtesting aimed at assessing whether specific risk is being accurately captured. The methodology a bank should use for validating its specific risk estimates is to perform separate backtests on sub-portfolios using daily data on sub-portfolios subject to specific risk. The key sub-portfolios for this purpose are traded-debt and equity positions. However, if a bank itself decomposes its trading portfolio into finer categories (e.g., emerging markets, traded corporate debt, etc.), it is appropriate to keep these distinctions for sub-portfolio backtesting purposes. Banks are required to commit to a sub-portfolio structure and stick to it unless it can be demonstrated to the supervisor that it would make sense to change the structure.

6. Banks are required to have in place a process to analyse exceptions identified through the backtesting of specific risk. This process is intended to serve as the fundamental way in which banks correct their models of specific risk in the event they become inaccurate. There will be a presumption that models that incorporate specific risk are "unacceptable" if the results at the sub-portfolio level produce a number of exceptions commensurate with the *Red Zone* as defined in this Amendment. Banks with "unacceptable" specific risk models are expected to take immediate action to correct the problem in the model and to ensure that there is a sufficient capital buffer to absorb the risk that the backtest showed had not been adequately captured.

Bonds

- The market should be identified with a reference curve for the currency concerned. For example, the curve might be a government bond yield curve or a swap curve; in any case, the curve should be based on a well-established and liquid underlying market and should be accepted by the market as a reference curve for the currency concerned.

Banks may select their own technique for identifying the specific risk component of the value-at-risk measure for purposes of applying the multiplier of 4. Techniques would include:

- using the incremental increase in value at risk arising from the modelling of specific risk factors;
- using the difference between the value-at-risk measure and a measure calculated by substituting each individual equity position by a representative index; or
- using an analytic separation between general market risk and specific risk implied by a particular model.

5 This would apply to sub-portfolios containing positions that would be subject to specific risk under the standardised-based approach.