

Dear Sir/Madam,

I am working as a market risk manager. I would like to thank the Basel Committee for the opportunity to comment on the BCBS consultation on "Fundamental review of the trading book: A revised market risk framework".

Kindly find my detailed comments in the Annexure.

Thank you for considering my comments.

Sincerely yours,

Karan Ahluwalia

1. Section 1.3, point (i), Page 15: The guidelines are not clear with respect to how expected shortfall numbers computed for risk factors with different liquidity horizons need to be combined to arrive at the overall Expected Shortfall (ES). For example, consider the following hypothetical portfolio:

- a. Equity (large cap): USD 100 million - liquidity horizon 10 days
- b. Forex position: USD 50 million - liquidity horizon 20 days
- c. CDS sell position: USD 150 million - liquidity horizon 250 days

The guidelines do not clarify how the expected shortfall for the above products which would need to be computed separately for each (given the separate liquidity horizon period) needs to be aggregated i.e. how would IMCC(C) be computed. A clarification with a worked example may hence please be provided.

2. Consider a Bank which has say six trading desks and is impacted by four risk factors (i.e. interest rate, credit spread, equity price and forex rate). Under the Internal Models Approach (IMA) following would be required:

- a. ES for all risk factors (current period) - Bank level
- b. ES for four risk factors (current period) - Bank level
- c. ES for all risk factors (stressed period with reduced variables) - Bank level
- d. ES for four risk factors (stressed period with reduced variables) - Bank level
- e. ES for all risk factors (current period) - desk-wise
- f. ES for four risk factors (current period) - desk-wise
- g. ES for all risk factors (stressed period with reduced variables) - desk-wise
- h. ES for four risk factors (stressed period with reduced variables) - desk-wise
- i. Value at Risk (VaR)@99th percentile - for overall Bank and each desk for IMA equivalent portfolio i.e. excluding desks outside IMA framework
- j. VaR@97.5th percentile - for overall Bank and each desk for IMA equivalent portfolio i.e. excluding desks outside IMA framework
- k. VaR @99th percentile - for overall Bank and each desk including desks which are outside IMA framework but VaR for which is computed for internal control purposes

The total number of ES and VaR computations involved based on the above comes to 91. Additionally, the following would further be required:

- a. Backtesting with actual P&L for each of the above
- b. Backtesting with hypothetical P&L for each of the above
- c. Capital for non-modellable risk factors
- d. P&L attribution for each desk

With so many computations involved the oversight on the numbers from within the Bank as well as externally would become a challenge. The shortcomings of the existing IMA

framework, as given in the first consultative document issued in May 2012 (section 2.3, page 11) then become equally applicable to this framework as reproduced below:

The framework lacks coherence: The current framework does not have a single, overarching view of how trading risks should be categorised and capitalised, leading to the concern that some capital charges appear overlapping, for example, the additive approach taken for VaR and stressed VaR. Moreover, the diverse array of capital charges within the amended framework requires the development and validation of several distinct sets of models. These not only require a substantial amount of bank resources to maintain but have also put a severe strain on supervisory oversight.

Hence it is recommendable that the requirements are rationalised so that adequate internal and external attention can be provided to each of the numbers. Thus the following may be considered:

- a. Since capital is based on ES, backtesting may be based on the same with appropriate calibration of the number of outliers allowed
 - b. Alternatively, desk level capital computation may be omitted
 - c. Further, since the multiplier m_c would be based only on backtesting of 99th percentile VaR number using hypothetical P&L hence backtesting based on 97th percentile VaR and using actual P&L may be made non-compulsory and left to local supervisory judgment.
3. It may be clarified whether the Basel Committee expects the internal market risk limit monitoring to be based on VaR, ES or both.
 4. Section 1.1, Table 1, Page 9: The guidelines mention that *equity investment in a fund (including a hedge fund) where the bank cannot look through the fund daily or where the bank cannot obtain daily real prices for its equity investment in the fund should be excluded from the trading book.*

An example may be provided as to what constitutes equity investment in a fund. For example, in case the Bank invests in units of a debt oriented mutual fund which publishes its NAV and average duration of the portfolio on a fortnightly basis then would this investment be excluded from the trading book based on the above criteria?

5. Section 2.2, point (iii), Page 27: The guidelines mention that *for a risk factor to be classified as "modellable" there must be a sufficient set of representative transactions in relevant products to allow for an appropriate historical data series for the factor.* A particular product may be impacted by more than one risk factors. In such a scenario the entire product should become non-modellable in case sufficient set of representative transactions are not there. For example, if the Bank has illiquid corporate bonds in its portfolio it might not be correct to say that the credit spread risk within that corporate bond is not modellable but interest rate risk is modellable.

Should not then the entire product in such a case be considered as unmodellable and excluded from the modelling framework?

6. Section 3, point g, page 87: The guidelines mention that *no particular type of expected shortfall model is prescribed. So long as each model used captures all the material risks run by the bank, as confirmed through P&L attribution and backtesting, and conforms to each of the requirements set out above and below, supervisors may permit banks to use models based on either historical or Monte Carlo simulations.*

The Committee may consider use of analytical models as well which do not require full simulation in case all other requirements are met. If not for the full portfolio, atleast the same can be approved for any residual products that are outside the full revaluation models. Alternately, the local supervisor may be authorised to approve analytical models for any residual products subject to other requirements being met.

7. Section I, point 168, Page 81: The tables showing the shifts upwards and downwards to the volatility of the underlying give the movements to be applied on volatility in percentages. Since volatility is quoted in percentage it's not clear whether these movements are in percentage terms or absolute terms. For example, if the volatility of a forex option is say 4% and the volatility shift to be applied is +40%, then would this mean that the new volatility is 4% + 40% i.e. 44% or $4\% \times (1+40\%)$ i.e. 5.6%? The same may be clarified in the guidelines.
8. Section F, point 140, Page 77: As per the consultative document, the present values of the cash flows are, in each currency, separately allocated to one of the term buckets for computing foreign exchange risk. There would thus be a capital charge in case there are two cash flows in the same currency in different buckets whose present value is in equal and opposite direction. This would lead to a double counting since this would already be getting captured under the general interest rate risk based capital charge. Further, Section 1.5, Page 20, point 3 mentions that *the Committee has decided to not incorporate rollover assumptions in market risk modelling to reflect the risk of hedge slippage in the context of maturity mismatches within hedging strategies.* Thus it's not clear what risk is getting captured using separate buckets for foreign exchange risk since interest rate risk is getting captured elsewhere and rollover risk is not intended to be captured. The Committee may thus consider reverting to the existing methodology for foreign exchange risk i.e. no separate term buckets.
9. Section 2, point 85, Page 62: The document outlines the derivation of notional positions for a foreign exchange forward/future as follows:
 - a. *A notional position equal to the notional value of the forward/future, with a maturity equal to the maturity of the forward/future, which should be placed into the appropriate foreign exchange risk term bucket.*

- b. A cash flow which should be placed into the cash flow vertex method for general interest rate risk, with a value equal to the forward price and a maturity equal to that of the forward/future.*

It's not clear from the above what does forward price refers to. Further, a foreign exchange forward would be carrying interest rate risk in two currencies and that is not covered in the above. The following alternate derivation of notional positions for a foreign exchange forward may instead be considered which is shown below with an example.

Consider a USD/CAD foreign exchange forward (the base currency for the bank is assumed as USD). This forward would have three notional positions as follows:

- a. A notional position equal to the notional value of the CAD currency, with a maturity equal to the maturity of the forward, which should be placed into the appropriate foreign exchange risk term bucket.
- b. A cash flow in USD which should be placed into the cash flow vertex method for general interest rate risk, with a value equal to the notional value of the USD currency and a maturity equal to that of the forward.
- c. A cash flow in CAD which should be placed into the cash flow vertex method for general interest rate risk, with a value equal to the notional value of the CAD currency and a maturity equal to that of the forward.