

From: [Bertrand Hassani](#)
To: [Basel Committee, Service](#)
Subject: Operational Risk - Supervisory Guidelines for the Advanced Measurement Approach: Comments
Date: Friday 25, February, 2011 09:43:31

Madam, Sir;

I am finishing my PhD thesis in France. My topic is the quantification of operational risks, and I have a few comments on the quoted paper. Here, they are.

Internal loss data thresholds: In my opinion, people responsible for the data collection should not consider thresholds, but employees responsible for the quantification may have to.

1 - Governance: If you consider a threshold in the data collection, you may disregard losses belonging to a certain category, and therefore, which may have had a larger impact.

2 - Implementation: You should take into account these losses in your frequency distribution.

3 - Implementation: You consider a truncated distribution, therefore, you have to build the entire one. The methods used to achieve this purpose might lead to bias results. Nevertheless, goodness-of-fit tests might be better.

Modelling / Granularity: As shown in our second paper (An efficient peak-over-threshold (POT) implementation for operational risk capital computation, GUEGAN, HASSANI & NAUD, 2010 (submitted to the CSDA)), trying capturing extremal losses using a POT method considering the largest level of granularity may lead to unrealistic capital allocations. The largest level of granularity may lead to multimodal empirical distribution. This statement is constrained by the quantity of data available. We have a trade-off between quantity of data and robustness of the estimations. I think that the granularity of the data sets is the most complex part of the work because it depends on practitioners' understanding of operational risks, banks' activities and quantity of data available...

Dependences: Multiple dependences may be considered: dependence between event types, between business lines, on the whole Basel Matrix etc...

1 - Which structure of dependence should we use? In my opinion, we should use non-linear dependence structures such as those obtained from archimedean copulas and especially the most conservative one: the Gumbel copula. We should not consider the Gaussian one which may underestimate the amount of dependence between tail events (in this point I definitely agree with the report). But estimation problems arise as we are working n-dimensionally.

2 - Regarding the lowest level of granularity, do we have to model dependencies between events? If we had considered the largest level of granularity we would have fit theoretical distributions on the severities assuming independence...

3 - In the largest level of granularity, using vine structures, we can find a dependence structure for the whole Basel matrix. Nevertheless, the computation of a 56-dimensional multivariate VaR appears complicated...

In conclusion, the key words of the AMA modelling is "fine-tuning" and "conservatism", and one's approach has to be correctly balanced between these two concepts.

With my best regards,

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