

February 25, 2011

**Secretariat of the Basel Committee on Banking Supervision
Bank for International Settlements, CH-4002
Basel, Switzerland**

Re: Basel Committee on Banking Supervision's Consultative Document,
*Operational Risk – Supervisory Guidelines for the Advanced Measurement
Approaches*

Dear Sirs,

BBVA appreciates the opportunity to comment on the Basel Committee on
Banking Supervision's Consultative Document entitled *Operational Risk –
Supervisory Guidelines for the Advanced Measurement Approaches*

We offer the following comments:

BIS CONSULTATIVE DOCUMENT DECEMBER 2010

*Operational Risk – Supervisory Guidelines for the Advanced Measurement
Approaches*

Gross versus net internal loss amounts

Supervisory guidelines

100. A bank should be conservative in its selection of loss amount and clearly document the option to be used in the measurement of its operational risk capital charge. The bank should have a clear recovery estimate, regularly identifying the main recovery drivers and the aspects that may alter its recovery profile.

BBVA Comment:

No indication is given as to the fact that banks can estimate the recovery of losses for consideration in the amount of events or in capital calculation. On the contrary, the document specifies that the banks must collect information separately as to gross losses and recoveries. Thereby we are confused by the fact that in this paragraph emphasis is placed on having a “clear recovery estimate, regularly identifying the main recovery drivers and the aspects that may alter its recovery profile” and we would like clarification as to what is requested and its purpose.

Modelling

General comments

The guidelines outlined in BIS consultative document recollect best practices that have been developed in the past years by firms adopting AMA models, together with supervisors' recommendations on these practices. Overall, BBVA's approach satisfies most of these guidelines.

In the past years banks have carried out substantial developments in AMA modelling. However, as recognised by BIS in this document, further developments are still needed, especially regarding correlations and combination of data elements. BBVA believes AMA modelling to be the optimal measure of operational risk and has dedicated effort and resources to the evolution of such modelling techniques. However, if supervisors want to encourage continuous development of AMA models greater incentives are needed besides improvement in risk management.

The document refers to 4 major aspects regarding AMA modelling, namely Granularity, Distributional assumptions, Correlation and dependence, Use of the four data elements. Specific comments for each aspect follow.

Granularity

171. A bank should use its choice of granularity as a gauge for capital allocation. When using a very high or very low number of ORCs, the allocated capital charges may not have the desired impact on the management of operational risk. When using an allocation method that is very different in nature from the choice of ORCs, the bank must ensure that its choice of ORCs or allocation method was reasonable in the first place.

BBVA Comment:

Although it is desirable that the definition of ORC within capital calculations be consistent with the way capital is allocated for management purposes, some differences are likely to exist.

A desirable characteristic in capital estimates is stability and comparability of results through time. Definition of ORCs should take this into consideration. Of course, changes in operational risk data as well as the bank's risk profile should be considered when defining ORCs. However, generally banks take continuous management actions that lead to changes in their business units that may not lead to major changes in their risk profile and processes. These changes do not justify changing the ORCs definition but make it necessary to incorporate them in the capital allocation process.

A possible approach to overcome this issue is finding a common framework for ORCs and capital allocation, e.g. major business lines as per Basel II definition. Consistency will be ensured at this level with differences in ORCs and capital allocation units under this level.

In this process it is important to consider the global implications on diversified capital, as any changes in capital due to changes in ORC's without allowing for diversification effects will be artificial.

Distributional Assumptions

185. The discovery date or accounting date are the most prudent choices for developing a bank's dataset for the quantification of operational risk capital related to that event. However, a bank may use the occurrence date for building the calculation dataset if the bank has not constrained or limited the observation period (ie five years).

BBVA Comment:

In situations where the operational risk losses are obtained from the accounting records, the discovery date is a subjective date that is difficult to obtain consistently, unless it is defined as the date of entry in the operational loss data base. In our opinion the discovery date should not be a mandatory request when the accounting date is usedt.

201. In such cases the use of so-called sub-exponential distributions is highly recommended. The class of Sub-exponential distributions includes the Lognormal, Lognormal-Gamma, Log-Gamma, Generalised Pareto, Burr, Weibull (with shape parameter < 1). The Weibull (with shape parameter > 1) and Gamma distributions do not belong to the class of Sub-exponential distributions.

BBVA Comment:

In general terms, BBVA agrees that operational risk is better described by sub-exponential distributions. However, of these, in our experience the Generalised Pareto and Burr tend to lead to meaningless results (infinite or enormous values), unless used for modelling tail above significant thresholds (e.g. €1MM). In such cases, unless there is sufficient data available, the estimates tend to be unstable, with significant changes in results from small changes in data.¹

202. When separate distributions for the body and the tail are used, a bank should carefully consider the choice of the body-tail modelling threshold that distinguishes the two regions. The bank should provide documented statistical support for the selected threshold, as the threshold may significantly impact the capital requirements. Ideally the estimate of the body-tail modelling threshold should be made conjunctly with the parameters of the distribution; however for practical reasons banks tend to first identify the threshold and then estimate the parameters. EDA instruments like the hill plot and the mean excess function plot can be useful in the determination of the threshold. A bank should employ sound methods to connect the body and tail distributions. In particular, jumps in

¹ See paper by S. Carrillo and A. Suarez. "Effective Measurement of Operational Risk" in Revista Estabilidad Financiera 2006

the probability mass function when attaching the body and tail of the distributions should be avoided, in order to guarantee that the LFHI and HFLI regions are mutually exclusive and are properly reflected in the aggregated distribution.

BBVA Comment:

BBVA agrees that the choice of modelling threshold should bear statistical support, however, for most distributions the EDA instruments described are not easily interpreted (e.g. hill plot is specific of Generalised Pareto distribution). Hence, the threshold selection process requires additional qualitative criteria. This should not be an inconvenient as long as the selection process is well- documented and verifiable

209. A bank should have a regular cycle to verify assumptions underlying the probability distributions they have selected. These verifications may follow the criteria and tests a bank's use in the selection of the probability distribution. If assumptions are invalidated, alternative methods should be tested and implemented. However, any change should be properly justified. In particular, after suffering one or more significant losses in an ORC, a bank should not decide to replace the probability distributions used in that ORC with lighter-tailed curves.

BBVA Comment:

Given the nature of operational risk events, with many of the highest losses involving long legal processes, a regular cycle can be of significant length, and not easily definable. However, generally, as more relevant data is input in the calculations the calculations reliability should increase.

BBVA agrees that changes in past experience should be considered in the estimate process, with greater emphasis given to the most significant events. Significant losses tend to have biggest impact on the tail distribution model and, generally, introducing significant losses implies shifting to greater-tailed distributions. However, the model includes additional elements (scenarios, external data) to anticipate the impact of such events. Changes in the tail distribution will depend on changes in these elements as well as changes in internal data. Even within internal data, changes in event data of lower amounts may also significantly impact the tail distribution, leading to lighter-tailed curves being appropriate. It is important that all effects are analysed, considered and justified when modelling the tail distribution but the final outcome should not be pre-established on account of a few events.

220. The risk measure is a single statistic extracted from the aggregated loss distribution at the desired confidence level. The most common and, so far, most adopted measure in risk management, including operational risk, is the Value at Risk (VaR). However, in certain applications and fields, including risk management, Shortfall measures (eg. Expected Shortfall, Median Shortfall) have also gained notoriety and consensus due to their superior ability in

representing the whole tail region and in providing a coherent risk estimate (under a sub-additivity perspective).

BBVA Comment:

BBVA recognises that analysis of Expected Shortfall and/or other alternative risk measures add further insight into operational risk measurement (e.g. definition of marginal capital contributions), however it considers VaR as the optimal measure for capital calculation. Expected Shortfall has disadvantages as it tends to be unrealistic from a managerial and economical perspective.

VaR is consistent with the objective of capital measurement, i.e. estimation of losses that will not be breached at the 99,9% confidence level. With alternative measures such as Expected shortfall the confidence level would need to be adjusted to the equivalent level of losses.

Correlation and dependence

231. Dependence assumptions should be supported by empirical analysis of internal and external loss data where appropriate. It is important to recognise that data limitations observed in the univariate context (modelling loss distributions for single ORCs) are likely to be more significant in the multivariate context (modelling multiple ORCs).

232. Dependence assumptions should also reflect the judgment of business line experts. Using judgment for dependence may present its own challenges, as eliciting accurate but subjective estimates may be more difficult in the multivariate context than in the univariate context.

BBVA Comment:

Dependence assumptions must be supported by empirical analysis and reflect the judgement of business line experts. It seems unlikely that an expert in a business line can estimate the correlation between his business line and those of other business lines in which he is not an expert, thereby creating a request that does not create any value in the case of complex banks over a certain size: in the case of a high number of ORC's it is unlikely that experts will be available to judge the correlation between his ORC and others, especially considering the disparities that might exist (for instance between Corporate Banking- Processes and Retail Banking- External Fraud).

Expert judgement is an important input in operational risk measurement. However, expert judgment is of relevant use for modelling specific/micro risks where a manager has insight of all related matters. It is arguable whether it is possible to exercise relevant judgement regarding correlations between ORCs where a great number of processes, risks, businesses are involved.

In BBVA's view this is a complex issue and therefore use of expert judgment should be used with care when estimating correlations.

233. Assumptions regarding dependence should be conservative given the uncertainties surrounding dependence modelling for operational risk. Consequently, dependence structures should not be limited to those based on Normal or Normal-like (eg T-Student distributions with many degrees of freedom) distributions, as normality may underestimate the amount of dependence between tail events.

BBVA Comment:

In BBVA's experience, modelling dependence structure is a complex issue where the correlation model and correlation parameters should be considered together. Although Gaussian distributions may underestimate dependence in tail events the input parameters can be reasonably calculated from empirical data as well as being interpretable and subject to analysis/stress sensitivity.

Alternative models may not underestimate dependence in tails but add complexity in terms of calibration and interpretation of parameters. For example, in Clayton dependence models there is no consensus within the industry in the calibration of the input parameter, which has no direct relation to empirical data. This is a significant drawback of alternative models and although there is room for further development BBVA believes that, at present, Gaussian distributions, combined with correlation sensitivity/stress testing, represents the best alternative for modelling dependence in operational risk.

256. The scenario process is subjective by nature and therefore the outputs from a scenario process necessarily contain significant uncertainties. This uncertainty, together with the uncertainty from the other elements, should be reflected in the output of the model producing a range for the capital requirements estimate. Thus, scenario uncertainties provide a mechanism for estimating an appropriate level of conservatism in the choice of the final regulatory capital charge. Because quantifying the uncertainty arising from scenario biases continues to pose significant challenges, a bank should closely observe the integrity of the modelling process and engage closely with the relevant supervisor.

BBVA Comment:

BBVA believes that, given the subjectivity inherent in the scenario definition process, it is appropriate to produce sensitivity and stress testing of scenario values in the capital estimates. However these should be regarded as an alternative calculation for capital planning and management decision taking but without altering capital charges in order to avoid excessive conservatism of calculations

264. The combination of data elements within the capital model can provide the opportunity for the development of an integrated and self-consistent modelling framework. However, there are significant challenges that banks will need to address when combining data elements (eg combining scenario data or ED directly with ILD). The combination of data elements should be based on a

sound statistical methodology. The Committee will continue to monitor progress in the development of robust techniques to combine data elements.

BBVA Comment:

BBVA incorporates ILD, ED and scenarios directly in its statistical model. However, although the fundamentals are statistically robust, a certain degree of judgement is needed when determining the weights to apply to the various elements. Even if future developments allow for more robust techniques it is unlikely that judgement be removed completely.