

# Comments to EBA RTS proposals on FRTB and SA-CCR

EBA/DP/2017/04

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ESSENTIAL SERVICES FOR  
FINANCIAL INSTITUTIONS





15<sup>th</sup> March 2018

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**Re: EBA Discussion Paper (EBA/DP/2017/04) on the Implementation in the European Union of the revised Market Risk and Counterparty Credit Risk frameworks**

Dear Sir/Madam,

Iason appreciate the opportunity to comment on the EBA's discussion paper (EBA/DP/2017/04) on the Implementation in the European Union of the revised market risk and counterparty credit risk frameworks, issued for comments in December 2017.

Iason is a consulting company based in United Kingdom and Italy providing financial institutions with both methodological support and IT applications for pricing and risk measurement purposes. Based on our knowledge of the financial markets and on our experience with major European banks in building processes and solution to measure the risks related to the Market Risk and Counterparty Credit Risk, we hope to contribute to the discussion about the proposed review.

Respectfully Submitted,

Iason Consulting Ltd

*SA-CCR – Mapping of derivative transactions to risk categories (section 4.1, pp. 16-23)*

**W**OULD you include in the above list other derivative transactions for which there would be an unambiguous primary risk driver? In particular, do you consider that bond forwards on investment-grade bonds or cross-currency swaps should be included? Please provide some justification for your answer. (Question 3, p. 19)

As you have underlined, many derivative transactions have a single risk driver or several risk drivers referring unambiguously to the same risk category. Furthermore, some structured products are related to a single asset class. In your qualitative approach, you have proposed a list that matches the risk category, the primary risk driver and the transaction type (figure 2, p. 19).

Instead for the derivative transactions with risk factors belonging to different risk classes, we agree that they should not be included ex-ante in one risk category and that the materiality of each risk driver should be carefully assessed. Regarding this step, we propose an alternative methodology (Global Sensitivity Analysis) explained in answer 6: such methodology can be applied also to the case of cross currency swaps. Indeed, cross currency swaps can be assigned to FX or IR asset classes depending on the results of quantitative analysis.

If a CCS is associated to the interest rate asset class, the hedging set currency has to be defined. In particular, when both the legs of the CCS are denominated in currencies other than the domestic currency, the logic for the identification of the hedging set currency needs to be defined in such a way that the hedging purpose of the instrument is correctly taken into account.

In the case of interest rate derivatives, the Basel Committee requires to convert the notional amount in domestic currency (paragraph 157 of "The standardised approach for measuring counterparty credit risk exposures", bcbs279) while computing the trade level adjusted notional. For a cross currency swap, it would be more pertinent to use the currency of the receive leg as hedging set currency.

**W**HICH would be the most appropriate option for the quantitative approach? Would you recommend another option? (Question 6, p. 22)

We consider that the most appropriate option for quantitative approach, among the EBA proposals, is the multistep approach described in option 2 (paragraph 72): this option is a multistep approach whereby all the sensitivities of an instrument are first computed, then they are ranked in terms of relative relevance and finally only those that are the most relevant to the total are selected.

We appreciate that no binding definitions of sensitivities are prescribed here. Indeed, it is interesting to elaborate on the meaning of "sensitivities" in this context. The most natural interpretation is to consider market sensitivities, i.e. greeks. In this case, in order to assess the materiality of each risk driver, the bank must identify the primary risk driver each time the exposure is computed, with potential change from day to day and artificial impact on the EAD.

However, other types of sensitivities can be considered, which we deem more suitable for the purpose of assessing the materiality of risk drivers. In particular we propose to use "Global Sensitivity Analysis" (GSA, explained e.g. in I. M. Sobol', S. Kucherenko, "Global Sensitivity Indices for Nonlinear Mathematical Models. Review", *Wilmott Magazine*, Vol. 2, 2005, and in S. Kucherenko, S. Tarantola, P. Annoni "Estimation of global sensitivity indices for models with dependent variables", *Computer Physics Communications*, Vol. 183, April 2012): with this methodology the primary risk driver can be identified once and for all the duration of the transaction. By making use of the ANOVA decomposition of a given function of the risk factors (e.g. trade PV), Sobol' sensitivity indices to the variation of a subset of risk factors are quantified in terms of contribution to the total variance while all other risk factors are varied as well, thus exploring the whole domain of the function.

GSA is a general approach, which can be applied also to non-linear models and it takes into account possible interactions among risk factors. A heavier computational effort (i.e. the computation of relevant Sobol' indices) is balanced by the fact that it is needed only for a small subset of trades and it is performed only once per trade.

A similar procedure to the one described at paragraph 72 can be then applied to Sobol' indices instead of market sensitivities  $s_i$ . From our point of view, GSA is a very robust methodology when the assessment of risk factor materiality is necessary and the additional implementation effort needed to compute Sobol' indices is widely compensated by the above mentioned benefits,

especially for portfolios with large portions of complex instruments: for small banks, whose trading book is typically small and dominated by simple instruments, it would be sufficient to adopt the qualitative approach or to use market sensitivities. More sophisticated banks, with large trading books containing many complex instruments, could find preferable to adopt a GSA-based quantitative approach in order to obtain a more precise and stable estimation of the risk associated to these transactions.