14 March 2018

EBA Discussion Paper: Implementation in the European Union of the revised market risk and counterparty credit risk frameworks
EBA/DP/2017/04 18/12/2017

Key Comments

- The EBF position is to put the Commission's FRTB package on hold until technical discussions are finalised at Basel level and an updated text is available. Nevertheless, we would like to contribute to the technical debate on FRTB via this discussion paper, noting that EBA stated at the public hearing that its work feeds into the discussion at the Basel committee.

- As published on 7th December 2017, the Basel Committee for Banking Supervision (BCBS) is currently engaged in the revision of some technical aspects of the FRTB standard published in January 2016 (i.e. BCBS n°352[1]). The EBA should not launch transposition works on technical aspects that are still discussed at the international level. The EBA should advise the European Commission, the Parliament and the Council of the EU to adapt the European regulatory framework as well as possible in order to deliver a sustainable framework for all stakeholders (i.e. banking industry and supervisors);

- We appreciate this early consultation providing visibility on the transposition process that will take place in the next few years in order to implement in Europe the revised framework for market & counterparty credit risks;

- We consider that an orderly calendar is key to better implement new requirements and ensure a high level of confidence in the European regulatory framework and in the European banking industry.

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[1] https://www.bis.org/bcbs/publ/d352.htm

- Considering the sensitivity of the revision of the regulatory framework, we ask for a clear division of labour between competent authorities in charge of regulation topics (i.e. European Commission, EBA, etc.) and competent authorities in charge of supervision topics (i.e. ECB and national supervisors).

- We would appreciate an EBA mandate by the European Commission to review the calibration and design of SA-CCR before it goes live. We encourage EBA to use this discussion paper as a basis.

Question 1. Do you have views on the proposed prioritisation of work?

We appreciate the visibility given by the prioritisation of regulatory products that will be delivered by EBA.

As regards to SA-CCR requirements, we appreciate the prioritisation in phase 1 of the two regulatory products:
SA-CCR – mapping of derivative transactions to risk categories
SA-CCR – corrections to supervisory delta

As regards to FRTB requirements, we propose the following revised prioritisation:

Phase 1:
FRTB – residual risk add-on
FRTB – risk weights for positions in collective investment undertakings (CIUs)
FRTB – extraordinary circumstances allowing disregarding of backtesting and P&L attribution
FRTB – trading book boundary
FRTB – revisions to RTS on assessment methodology and model changes, including PDs and LGDs under default risk charge
FRTB – backtesting and P&L attribution requirements
FRTB – NMRF stress scenario risk measure

Phase 2:
FRTB – report on certain aspects of own funds requirements for market risks
FRTB – IMA liquidity horizons
FRTB – treatment of non-TB positions subject to FX or commodity risk
FRTB – emerging markets and advanced economies
FRTB – report on appropriateness of the level of own funds requirements for market risks

Phase 3
FRTB – gross jump to default amounts

SA-CCR – Mapping of derivative transactions to risk categories

Question 2. Would the proposed allocation for the products in the list be appropriate in all cases? If not, please provide an explanation.

If there are to be any lists these should only be presumptive lists covering common unambiguous products. These lists should be produced at the Basel level for global harmonisation. Concerning the mapping to multiple items we think that most of the portfolio will be aligned to a single risk, this adds extra complexity for only a limited number of products. We recommend to avoid double-counting wherever possible.

The approach to be followed for complex financial instruments, derivative strategies (combinations of puts and calls), hybrids (for example FX + equity), caps etc. should be clarified. In particular whether a dynamic determination of the primary risk driver and hence the assorted long/short position has to be carried out where the primary risk driver may be path-dependent. We support the proposal of the EBA to assign products to risk categories. Most vanilla products will be assigned based on step 1. If this approach is followed, banks should map their internal product classifications based on description provided. As banks already assign products to asset class in Uncleared Derivatives IM calculation using ISDA-SIMM, this should not be an issue. There also should not be any material deviation in assignment between banks, based on daily reconciliations. We therefore agree with the product list based approach in step 1, followed by a qualitative + quantitative approach in step 2 (when needed).

In the Equity & Commodities sections, the condition "*If underlyings are in the same currency as the settlement currency*" should be removed.

Contrary to market risk, where the secondary risks should be taken into account (as they are not directly hedged) on the counterparty credit risk, focus should be done on primary risk factors. The FX risk, in such cases, is clearly a secondary risk factor (product performance may be affected by the FX risk, but the direction and the magnitude of this performance is only driven by the primary risk factor, (i.e. equity or commodities).

Question 3. Would 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.

Credit institutions should be allowed to develop own tables for derivative transactions for which there would be an unambiguous primary risk driver, depending on the internal policy. Anyway, a mapping of basic instruments could represent a helpful tool, especially for medium-sized banks. We therefore suggest that EBA clarified that the table should be intended as a tool for reference but is non-binding and non-exhaustive.

Nevertheless, we suggest complementing, at minima, the proposed list as follows:

Trade	Instrument Description	Risk Allocation	Class	Rationale for the allocation
Bond Derivative	Credit Linked Note	Credit		
Derivative on Bond /	Forward, Swap or Options based on the	Interest Rate		Primary risk driver is interest rates, this is consistent with current CEM treatment, as well as

Investment Grade	bond performance		with other industry standards (such as SIMM categorization, Initial Margin Model)
Derivative on Bond / Non-Investment Grade	Forward, Swap or Options based on the bond performance	Credit	Primary risk river is Credit
Cross Currency Swap with nominal exchange		Foreign Exchange	Primary risk driver is FX due to the forward exchange of the nominal
Cross Currency Swap without nominal exchange		Interest Rate	IR risk becomes preponderant to FX risk
Callable product	Swap autocall	Underlying asset class	Even if there is a correlation between the underlying and interest rates, the primary risk driver is limited to the underlying (underling on which the payoff formula is based)
Corridor		Underlying asset class	Pay off formula mainly based on the underlying

Question 4. If a list of criteria is to be developed instead of (or combined with) a list of derivatives, what could such criteria be? Please use the table below in order to give examples of allocation based on simplicity-related criteria.

We do not support a list of strict criteria and banks should be allowed to identify vanilla products based on internal product types and classify them to risk categories. Banks currently already classify products under CEM (Current Exposure Method) and UM (uncleared margins) calculations and the UM reconciliations have proven that banks are consistent in categorizing products to risk categories.

Question 5. What are your views about the qualitative approach used as a starting point under step 2?

The qualitative assessment is required to avoid too many unwarranted sensitivities under this approach and will determine the risk category, or on rare occasion the risk categories, to which a product should be mapped.

Cases where a qualitative assessment would not suffice, and uncertainty remains as to which categories an instrument should belong to, should be the exception rather than the rule.

Question 6. Which would be the most appropriate option for the quantitative approach? Would you recommend another option?

We propose option 3, which uses volatility x sensitivity is the most appropriate approach. For volatility, banks could use their internal volatilities, FRTB Risk Weights, or SA CCR supervisory factors / volatilities. We expect this analysis will be done once/annually for several trades of a product type (including multiple risk factors), and we will get the primary asset class for every trade, and if >Z% belong to a particular asset class, then that product type is assigned to that risk class(es).

It is our understanding that the quantitative analysis should be done for a product type to classify it once and review it annually. It will be a significant overhead to do such a analysis at trade level, and classify different trades of the same product type to different risk categories (leading to issues with netting, etc). Also, doing this analysis more frequently may lead to a product type switching risk categories back and forth, and would need investigation and justifications and instability in calculation.

Question 7. What values would be reasonable for the threshold(s) (X, Y, and their equivalents for Options 3 and 4) that determine the number of material risk drivers? Please provide rationales for proposed levels.

For option 3, Z% could be 40%. Anything below 40% would entail that the asset class is not a primary driver. Normally this would lead to a single asset class being above 40% and being the primary driver. If there are two primary drivers (both driving >40% trades), then those capture most of the risk of product type.

When a transaction is allocated to more than one risk category, it is our view that the notional amount assigned to the second order risk should be adjusted to avoid overstating the exposure amount of such a transaction.

This could be achieved for instance in the following way (example based on option 2):

➢ For the first risk category, the effective notional 'N' of the transaction is used to calculate the SA-CCR add-on;
➢ For the second risk category, the add-on shall be calculated using an adjusted notional amount $N^*=N \cdot a_2/a_1$.

In some cases, it is possible no asset class is above 40%, and in that case the product is better in other category, which already has a punitive supervisory factor.

Question 8. Do you have any views on the appropriateness of devising a fallback approach? Can you identify any cases where reverting to the fallback approach is necessary?

Banking book instruments not categorised in step 1 may end up directly in step 3, leading to an unjustified high exposure amount.

This highlight that the framework should be such that step 1 captures the vast majority of instruments.

As stated above, anything with no primary driver, should go under "other" category, which already has a punitive supervisory factor. A few products may have two primary risk drivers.

Question 9. Do you have any views on the appropriateness of a cap on the number of risk categories to which a single derivative transaction can be allocated? If yes, what value would you recommend for that cap (three or four)?

As detailed in our response to question 7 the proposed option for step 3 would be to assign trades to the "other category", i.e. capped at 1.

According to our proposed approach in step 2 the highest possible number of risk categories a single transaction can be allocated to is 2.

Question 10. Do you have any further comment or consideration on the mandate under discussion?

See response to question 6

SA-CCR – Corrections to supervisory delta

Question 11. Do you have any views on the most appropriate approach to compute supervisory delta in a negative interest rates environment? Please elaborate.

The suggested approach should work for a negative interest rate environment. However there are other products like binary options, digital options, target profit forward, etc where such a modified Black Scholes formula will not generate an appropriate delta. Moreover, a λ shift would come with further problems (see our answer to question 12). Hence banks should be allowed to continue to use internal models for delta calculation. Such models are already approved and used in EOD market risk VAR calculations, and recently in ISDA-SIMM uncleared derivatives IM calculation. The daily IM (Initial Margin) reconciliations show that even though models may be different between banks, the overall effect on IM (or, in case of SACCR, on PFE) is not material. For those banks not using internal models are not allowed, the suggested approach seems most appropriate from available options.

In case our proposal to use internal models should not be supported, we ask for a normal distribution approach to compute the supervisory delta in a negative interest rates environment. The metric should remain simple and easy to implement for credit institutions.

If, despite the numerous problems, a λ shift was still considered , please note that the proposed formula should be slightly amended as follows:

> *When assuming that $(R+\lambda)$ is log-normal (instead of R in the initial formula) we should introduce σ' defined as follows:*

> *We consider that $(dR/R+\lambda) = \sigma'\, dW$ instead of $(dR/R) = \sigma\, dW$, we can then deduce that $\sigma * R * dW = \sigma' * (R+\lambda) * dW$, which means that σ in the formula should be replaced with $\sigma' = \sigma * \frac{R}{R+\lambda}$*

Furthermore, we would like to take the opportunity of this consultation to remind that in our view the fall-back approach for option supervisory delta should be +/-0.5 rather than +/-1 as in the European Commission draft Regulation amending Regulation 575/2013 (cf. article 279a(1)(c). A supervisory delta of +/-0.5 was the approach taken in the draft Basel standard (BCBS 254, paragraph 48] and justified as follow (cf. BCBS 254, footnote 10): *"The Basel Committee chose to set delta to 0.5 for non-linear instruments because (i) this is the mid-point of the spectrum of all possible deltas from 0 to 1 that strikes a good balance between trades being "free" (delta is 0) and overly effective hedges (delta is 1); (ii) this is the only choice of delta that respects the put-call parity (a combination of a bought call and a sold put of the same strike is equivalent to a forward). In this context,*

sold call (put) options are treated as bought put (call) options. Although sold options do not present counterparty credit risk on their own, supervisory delta adjustments are included in a hedging set because they affect the mark-to-market value of the entire hedging set."

Question 12. Which one of the two options do you think is more appropriate from an EU perspective (i.e. maximum harmonisation)? Are you aware of any issue these two options could raise?

The more appropriate of the two proposed options is the second option presented in paragraph 91 (i.e. "*Banks could be required via EBA RTS to reflect the market convention for the λ parameter […] for the relevant jurisdiction.*").

If the λ parameter could apply at the portfolio level, we ask for a definition on how portfolios interacts with netting sets.

In general however, we strongly suggest to define a more flexible option.

For the sake of simplicity and stability, the use of the proposed formula should be limited to transactions for which the current formula can't be applied, so applied only to trades where (P+λ/K+λ) is equal or lower to 0.

Based on the proposal described in paragraph 88, a λ must be determined such as the ln() function embedded can be computed:
  ➤ P+λ is positive so λ must be greater than absolute value of any negative Forward;
  ➤ K+λ is positive so λ must be greater than absolute value of any negative Strike.

So λ depends both on currency and portfolio.
  ➤ A single λ per currency would make the whole portfolio of the bank depends on the lowest option strike;
  ➤ Any new option with a strike smaller than previous ones in currency "i" would trigger a recalibration of the λ value for this currency, changing the risk measure of the whole portfolio.

Such behavior would create both instability and the unpredictability of the SA-CCR measure, which is not desirable.

A single λ per currency, or worse a single λ per currency shared by the whole industry, would lead to huge instability and the unpredictability of the SACCR measure, as a new trade by any industry participant with a low negative strike could either impact all EU institutions (if λ is shifted to a lower value), or banks won't be able to process it (if λ is not shifter to a low enough value).

To avoid such undesirable feature, the proposed formula should be set at sub-portfolio or even trade level by each bank, such as P+λ and K+λ are positive, and only for trades where it is required.

Question 13. Do you agree that the definition of a long position in the primary risk driver and a short position in the primary risk driver in Article 279a(2) of the CRR2 proposal is sufficiently clear for banks to determine whether they hold a long or a short position?

Yes we agree

FRTB – Trading book boundary

Question 14. Do you agree that changes in instruments' circumstances that imply a shift between the presumptive lists should be accepted as 'exceptional circumstances'? Please provide examples.

We ask for a more flexible framework removing any presumptive lists.

The EBA shall consider that sometime securities are listed or de-listed from indices. A flexible framework is necessary not to be obliged to reallocate instruments form the banking book to the trading book (and vice versa).

The option to move from the banking book to the trading book should be preserved, controlled by an implicit approval process without requiring the full reclassification approval from the supervisory authority and associated capital surcharge. For example: Could we advise the supervisory authority of the move related to a change in instruments' circumstance and provide associated documentation. In the absence of further requests we should assume the change approved.

> Examples in addition to those noted in Paragraph 102 include:
>   o Changes in GAAP requires instruments that was booked under amortized cost to be fair valued or vice versa ;
>   o Changes in the intent and ability to trade (due to liquidity and other market condition).
> We also propose that regular buy and sell activity between a trading desk and another distinct banking book unit of the bank which acts as a client should be exempted from the rule on movement between regulatory books, provided transactions are conducted on an arm's length basis.

Question 15. Do you agree that CTP positions that become illiquid must remain in the TB?

We support that correlation trading portfolio (CTP) positions that become illiquid remain in the trading book. Liquidity should not be a discriminating factor since trading intent of CTP products remain. In fact, the Basel standard does not seem to allow that it could be otherwise. More generally, and as mentioned in paragraph 27 of the Basel standard (BCBS d3521), illiquidity should not alone be a reason for re-classification, for any instrument.

Question 16. Please provide examples of cases where exceptional circumstances might warrant the approval of reclassification.

Exceptional circumstances might be:

* break down of an entire market segment (market disruption, severe restrictions on tradability)
* restructuring of a bank's business model, e.g. close down of certain trading activities (or all trading activities)

The following circumstances may warrant the approval of reclassification:

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[1] https://www.bis.org/bcbs/publ/d352.pdf

> ➤ <u>Dramatic shift in the liquidity conditions</u> of a large portion of financial instruments that may lead to re-consider the management intent on such instruments;
> ➤ <u>A modification in the accounting standards</u> that implies the need to change the accounting valuation for certain instruments (implementation of IFRS 9 being a recent illustration);
> ➤ <u>A change in the business model</u> of some activity affecting financial assets.

We propose that regulators allow banks discretion to re-assign instruments between regulatory books due to exceptional circumstances beyond banks' control rather than having to seek approval from regulators for each re-assignment.

FRTB – Treatment of non-TB positions subject to FX or commodity risk

Question 17. Do institutions have any particular issue in identifying non-trading book FX and commodity positions subject to market risk? What kinds of transactions do those positions correspond to and how material are they with respect to current RWAs for market risks?

Non-trading book positions subject to FX risk have been partly covered by the EBA discussion paper (EBA/DP/2017/012) on the treatment of structural FX under Article 352(2) of the Regulation (EU) 575/2017.
We are looking for the conclusions of the EBA discussion paper on the treatment of structural FX positions.

Question 18. What issues would institutions face to value those positions in order to calculate the own funds requirement for market risks using the FRTB standards? Currently, do you revalue all components for the purposes of computing the own funds requirement for market risks? If not, which ones? Currently, how frequently are those positions valued?

The valuation of non-trading book FX positions under FRTB standards is not different from trading book positions and will be carried out in front office systems. Currently, only the FX component of these positions is revalued. At the moment there is no common industry practise. At some banks the valuation is performed on a daily basis. At other banks, the computation is based on the accounting positions which are known/validated on a monthly (operational position) or quarterly (structural position) basis.

Question 19. For the non-trading book positions subject to the market risk charge that are not accounted for at fair value (or in the case of FX, are non-monetary), do stakeholders have the capacity to mark these positions to market and how frequently can this be done? Do stakeholders have the capacity to "mark to market" the FX component of the non-monetary item subject to FX risk on a frequent basis (for example daily)?

At the moment there is no common industry practise. At some banks the FX component of the non-trading book items is in accounts, even if these items are not properly "*fair valued*", on a monthly or quarterly basis. At other banks we see daily revaluation.

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[2] https://www.eba.europa.eu/documents/10180/1888124/Discussion+Paper+on+the+treatment+of+structural+FX+%28EBA-DP-2017-01%29.pdf

Question 20. Does IFRS 13, i.e. Fair Value Measurement, have an impact on the frequency of nontrading book revaluations? If yes, please explain how.

No - IFRS 13 does not prescribe frequency of accounting valuation.

Question 21. Are there other factors (for example impairments or write-downs) that can affect the valuation of non-trading book FX positions?

Yes - Anything adjusting the carrying value, e.g. loan loss provisions.

Question 22. Do stakeholders have a view on what minimum number of notional trading desks should be allowed? What would be the negative consequences of applying some restrictions to the number of notional trading desks allowed (for example only one notional desk for FX positions and only one for commodities)?

The number of notional trading desks needed might be dependent on the institution's business model. Typically notional desks for treasury units will be clustered according to maturity of affected positions. Additionally, each branch might require a notional desk on its own, if management of positions is carried out individually. Restricting the number of notional desks allowed to just one would obstruct an integrated interest and liquidity management by forcing institutions to separate FX positions from multiple banking book units to one combined FX notional desk. This would reduce governance on affected positions. However, if institutions have only one notional desk for FX, they should not be forced to have more desks. It really depends on the institution's business model and size.

Moreover, the Basel standard (BCBS d352, article 46) requires that banking book FX and commodity positions are capitalised in the market risk framework as part of notional trading desks (plural). There is no condition on the number of such notional trading desks.

There may be a single or multiple such notional trading desk for each of FX and commodity positions.

Question 23. Do you consider that trading book positions should not be included in notional trading desks? Would you agree that, for trading desks that include trading and non-trading book instruments, all the trading desk requirements should apply? Do you consider that for notional trading desks all the trading desk requirements should apply? If this is not the case, which qualitative requirements of Article 104b(2) of the CRR2 proposal could not practically apply to notional trading desks?

A notional trading desk is by nature notional (i.e. theoretical). It is just there to group some exposures together for own funds requirements calculation. Hence the strict requirements of the draft Regulation amending Regulation 575/2013 (Article 104b(2)) cannot apply.

It is our view that the banking book notional trading desks shall generally be kept separate from trading book desks, if only because an actual trading desk business strategy and risk management structure (cf. BCBS d352, Appendix A) is unlikely to apply to the banking book exposures.

As a consequence, we don't understand that FRTB requires the operational creation of these 'notional' trading desks. It is specified that the positions should be treated **as if** they were held in such a desk. As a consequence these notional trading desks should include only non-trading book positions and the trading desk qualitative requirements shouldn't apply to these desks.

In particular it seems inappropriate to consider that non-trading book activities should have the same constraint as trading book activities relating to profitability, business plan, etc.

Risks transfers from notional trading desks to trading desks should be taken into account so that hedging benefits could be recognized.

Notional Trading desks should not be required to meet <u>any</u> of the qualitative requirements.

Consider if a single notional desk for Banking Book FX is used, it would either not be possible or not meaningful to meet the requirements.
- o The business strategy and risk management structure would be for the entire bank – there is no meaning to having to meet this at the bank level
- o Many "dealers" would be involved in this notional trading desk
- o Limits would not be set at this level as it is an artificial construct with no business owner below the bank
- o Reporting in isolation makes no sense for the notional desk
- o The notional desk would not have a defined business plan

As such, to prevent regulatory arbitrage, notional desks should be limited to BB positions. TB positions should not be allowed to sit on notional desks.

Question 24. Do you see a reason why backtesting requirements should not apply to notional trading desks?

Backtesting & P&L Attribution of positions which are not Fair Value is of very limited value.
Forcing separate "artificial" accounting for the purposes of own funds calculation increases overheads and lacks any use test to control its accuracy (links to question 18).
We suggest removing backtesting requirements for IMA for the notional desks.

Question 25. Do you see a reason why P&L attribution requirements should not apply to notional trading desks?

According to known issues regarding the P&L attribution for well-hedged desks, P&L attribution requirements should not apply to notional trading desks. Since FX risk in the non-trading book is extremely well-hedged (nearly zero exposure) for many banks, P&L attribution is not applicable in a meaningful way.

FRTB – Residual risk add-on

Question 26. Do you agree with the proposed general definitions of instruments referencing an exotic underlying and instruments bearing other residual risks? Do you think that these definitions are clear? If not, how would you specify what is an 'exotic underlying' and what are 'instruments that reference exotic underlyings'? Please provide your views, including rationale and examples.

Question 27. Do you agree with complementing, for the sake of clarity, those definitions with a non-exhaustive list of instruments bearing other residual risk? Similarly, do you agree with retaining the possibility of excluding some instruments from the RRAO?

Question 28. More specifically, do you consider that there are particular instruments (or underlyings) which, while meeting the definitions above (in line with point (d) of paragraph 58 of the FRTB), should be excluded from the RRAO? Alternatively, on the contrary, do you consider that there are instruments (or underlyings) that are not captured by the definitions above and that should be subject to the RRAO? Please provide your views, including rationale and examples.

Response to questions 26-28:

In general, we ask for a principle based approach and not for a fixed list of instruments.

The proposed definitions of exotic underlying is clear when complemented with both the Basel standard (cf. BCBS n°d352) examples listed in paragraph 58 and with the exceptions listed in paragraph 58(h).

For instruments for which an inclusion in the SBM is possible it should not be necessary to calculate a residual risk add-on:

Volatility and variance swaps should not be subject to an exotic risk add on (cf. BCBS d352 footnote 14) since it is possible to capture their volatility risk within the SBM capital charge.

Indeed, though not an optional product and hence theoretically not subject to a Vega risk charge, volatility and variance swaps are risk managed with sensitivities to implied volatility.

Hence it would make sense to have a caveat for those non-optional products and capitalise them within the SBM Vega risk charge rather than in the risk insensitive RRAO framework.

It would be a similar treatment to the one of CMS (cf. BCBS FAQ d395). The definition of Instrument bearing residual risk is purely based on pay-offs and does not consider how instruments are priced and risk managed. For example, Bermudan or corridor options managed without correlation or Digital options managed as call spread.

We suggest in addition that certain products such as CMS spread option should be excluded from the RRAO if included in the SBM calculation. At least Asian options and Bermudian options should be exempted due to their low volatility. The banking industry would appreciate a principle-based approach delivering to the internal risk teams and to supervisory teams this evaluation. The principle-based approach should also consider the initial maturity of instruments.

The assessment whether an instrument shall be liable to a residual or exotic risk add-on depends not only on the instrument meeting the definition of exotic or residual risk (cf. BCBS d352, article 58(e)&(g)) ,but as well on the significance of this residual or exotic risk. The latter is apparent by the exclusion of some products from an exotic risk add-on charge (cf. BCBS d352, article 58(h)) and the EBA discussion on which instruments bearing behavioural risk shall be subject to a residual risk add-on (cf. Discussion paper EBA/DP/2017/04, article 142(k)). In this context we would suggest the following:

- **Asian options**: Asian options should not be considered as bearing "gap risk", or any other residual risk. Indeed they have a very smooth behavior (smoother than plain vanilla options), and do not present additional risk compared to those caught by the SBM. In this respect, even if they cannot be perfectly replicated as a finite linear combination of vanilla options, they should not be subject to the RRAO. This is particularly penalizing for the commodity business.

- **Vanilla options on commodities differential**: Another case to consider are vanilla options on commodities differential (for example: options on the spread between two oil qualities), it must be clear that they can be seen as options on one underlying, and that they are excluded from the RRAO.

- **CMS options**: the RRAO measure is over penalizing, and if no appropriate weight is defined they should be excluded. This consideration may be generalized to all leveraged products.

- **Binary / digital options**: there is a problem with the RRAO computation, and if it is not solved that would appeal for exclusion. The problem is that with respect to the RRAO, the appropriate notional of a (vanilla) barrier option is the "size" of the digit, not the full notional of the option. This would make homogeneous capital charges for a pure digit, and for the digit embedded in a barrier option. Hence, for "vanilla digits" (meaning: payoffs having no other exotic features that the digit), we propose to retain the size of the digits and not the notional of the options:
  o Pure digit paying €100 if Stock A > Strike: notional = €100.
  o Up and in call, strike K, barrier K'>K, for N stocks A: notional = Nx(K'-K).

In a more general manner the notional should be capped by the maximum loss if this last quantity is bounded.

- **Contractual features**: In some instances contractual features other than the product type may be considered to determine a product eligibility to the residual risk add-on since those contractual feature may have a strong influence on the level of residual risk. For instance, the remaining maturity may be considered for some products to decide on their eligibility to the residual risk add-on. It is the case of spread options (options on curve slope) which may be liable for a residual risk add-on only if of long maturity.
- **Hedging strategy**: The determination of the notional to be used might be unclear for certain instruments. Other residual risks may also depend on factors such as the hedging strategy (a pure back-to-back would not bear market risk), or the residual maturity of the instrument (where risk might be significantly different for short on long term positions), which is not taken into account in the RRAO add-on for other.

Example: spread options (options on curve slope) are not fully replicable by a portfolio of simple options as they are sensitive to the correlation between both handles of the slope c (Cega). They therefore are subject to additional capital (RRAO) in SA. Two issues can be identified for those derivatives:
  o It is unclear how to measure the notional of the trade. (Is it the "*face amount of the trade*" or "*the sum of all its leveraged legs*"?). The later choice is subject to the way the deal is structured for an equivalent amount of Cega and unfortunately sensitive to the number of instruments used to replicate the transactions.
  More precisely: according to the hedging strategy the RRAO capital charge would be very different:
  0 for perfect B2B,
  Par x 0,1% if unhedged,
  2 x Par x 0,1% for a hedge with the same deal shifted by a couple of days,
  (n+1) x Par x 0,1% if the hedge is structured by n trades with different maturities.

- o For short to medium dated option, the 0,1% RRAO capital charge for Cega is far too high.
  Example: a spread option 2Y/10Y de 500M€ maturity 4 months and a half, one can compute 500k€ of RRAO as of 31/12/2017, with a Cega sensitivity almost zero (<10€…). The same spread option with a 10Y maturity would have a 79K€ Cega making the 500k€ of RRAO more in line (a 10% Cega shock super conservative, 0.1% implies a 39% shock for a 3Y option…). Result: for a CIB with a classical FI product mix, under 5Y RRAO for spread option can represent up to 3/4th of the total which looks abnormal.

Recommendations and proposal for Spread Options:

- o Leverage should not be the base of the notional computation, only the par face value of the option should be taken into account;
- o RRAO notional multiplicator should linearly increases from 0,0% to a 0,1% cap as expires increases from 0Y to 10Y.

Question 29. Although the proposed list of options does not aim at being exhaustive, since there is a general definition, do you find that any important option type meeting the criteria in point (i) of point (e) of paragraph 58 of the FRTB is missing? Conversely, do you think that any of the options in the list does not meet general criteria?

No response provided.

Question 30. Do you think there are any instruments, not meeting the general definitions above, whose risk would however be poorly captured within the standardised approach and should therefore be included in the list of instruments subject to the RRAO?

No response provided.

Question 31. What are your views on the proposed treatment for behavioural risks? Do you have any proposal for a more objective/prescriptive approach to identifying instruments with behavioural risks?

The proposed treatment is quite clear. RRAO should only apply where uneconomic exercise of the option can increase duration / results in a loss. For Securitized products would prefer clarity by application on current FTRB classifications - Prepayment risk is generally present in many securitized products (excepting CMBS) so we would suggest RRAO for even non-retail as positions do not have vega/curvature but do exhibit convexity from prepayment behaviour. Therefore, where positions have prepayment risk (i.e. durations factor in a non-zero prepayment rate / expected call date) we would use a behavioural add-on in addition to standardized DRC and CSR.

Question 32. What are your views on the role that the list in point (h) of paragraph 58 of the FRTB should play?

We are of the opinion that the list is sensible. Point (h) is particularly crucial to avoid any ambiguities and clarifies the need of an assessment of an exotic factor materiality to decide on the instrument subjection to an exotic risk add-on (see answer to question 28). It should be complemented by the fact that if an instrument qualifies for two residual risks (for example correlation and digital risk), it must be counted only once in the computation.

Question 33. Are there any cases in which instruments could meet the definitions of both 'instrument referencing an exotic underlying' and 'instrument bearing other residual risks'?

At current stage we are of the opinion that Variance swap may fall in this category, tagged as exotic risk while rather bearing residual risk, this is an issue that should be fixed by moving Future realized volatility outside the category of exotic risks. Moreover, we cannot exclude that some may exist in the future. With the "no double counting" clarification mentioned in the answer to the previous question, they will be weighted by the greater weight.

FRTB – IMA liquidity horizons

Question 34. What is your view on the outlined approach? Please provide background and reasoning for your position.

We are of the opinion that the LH (liquidity horizons) framework doesn't need further granularity although the same discretion would be required by banks in mapping more complex product to liquidity horizon buckets. For example, in the case of multi underlying trades, the approach listed at point 148 seems sensible, but there are other situations where some discretion should be applied based on expert judgment for more complex exposures e.g. when dealing with VIX indices. For such corner cases the bank should be allowed to apply internal methodologies that would identify the most relevant liquidity horizon once approved by regulators.

Question 35. Do you have in mind risk factors for which additional guidance is needed? If yes, which ones?

Additional guidance would be helpful but should be outside the RTS space and better placed in the Q&A space so that flexibility is left to institutions.

Question 36. Do you have in mind any risk factor categories or subcategories to add to those listed in Table 2 of Article 325be of the CRR2 proposal?

At this stage we do not anticipate the need to define new categories or sub-categories, though we may leave this possibility opened. This said, often, to avoid broken hedges, there is a trend toward choosing the larger, or one of the largest, liquidity horizon within an asset class which may render the definition of sub-categories pointless.

Also, we would like to take the opportunity of this consultation to reiterate our view on the draft Regulation amending Regulation 575/2013, article 325be(4): We consider that credit institutions should have the flexibility not to account for the maturity of the position when computing the effective liquidity horizon (LH) of risk factors of that position, provided that such option is applied consistently across all risk factors of all positions. Indeed applying the draft Regulation amending Regulation 575/2013, article 325be(4) as is (i.e. capping the liquidity horizon of each instrument to the instrument maturity) will be operationally extremely challenging, bring inconsistency with the constant risk assumption prevailing in the expected shortfall (ES) formula and result in broken hedges.

Question 37. Would you think that Q&As could be sufficient to provide additional guidance (instead of RTS)?

Although, as per point above we think that Q&A would be sufficient to clarify open uncertainties without compromising flexibility, we are also of the opinion that RTSes should focus on:

- Liquidity horizon recalibration, especially in order to account for de-risking profile and mean reversion effect for liquidity horizon above 40days. The topic was already discussed and presented to regulators via ISDA in the page 25 -27 of the "industry Response to the BCBS Consultative Paper on the Outstanding Issues with regards to the FRTB capital standards" (Document attached)
- Reducing the cliff effect between LH buckets as per point raised on question 45 (equity small cap context)

Question 38. What is your view on the definition and level of the threshold used for assigning currencies to the most liquid category?

Although it is challenging to quantify the concept of liquidity via a single attribute, in doing so the use of a broad market definition is key. Setting a liquidity level only on OTC market data e.g. by using the BIS OTC derivative statistics would be a limitation and misleading. We are of the opinion that both cash and derivative products should be consider as well as OTC and exchanged traded markets. Further we highlight how the use of different liquidity horizon, for specified currencies and non-specified, can lead to un-intended impact on liquidity penalizing emerging market jurisdictions and introducing an uneven level playing field. We wold therefore suggest the use of a unique liquidity horizon set to 10 days.

Question 39. If you agree with the threshold outlined, would you agree that the list of selected currencies should be updated on a triennial basis following the publication of the BIS OTC derivative statistics?

As remarked above we do not think that the BCBS calculation captures enough of the market to be considered a true measure of liquidity, and a 3-year revision seems not satisfactory given the dynamic nature of the market.

Question 40. If you do not agree with the threshold outlined, please provide reasoning for establishing another selection criterion.

It is worth noting that in relation to FRTB NMRF, many data provider such as MarkIT or Bloomberg, are currently setting up initiative so that a liquidity by product overview can be studied. Ideally the regulators could leverage on such information for a better calibration of the FRTB liquidity horizons.

Question 41. What is your view on the definition and level of the threshold used for currency pairs to be considered most liquid?

Although we support the idea of using the triennial central bank survey on FX as a good source for volumes, we are of the opinion that also other sources such as Bloomberg and Reuters should be utilised to have a more holistic view around the FX market liquidity. Further, if the bank was to estimate the required liquidity horizon, it would take into consideration also element such as the bank's market share, the risk sensitivity to each FX risk factors and the internal limit which reflect the bank's risk appetite.
The list should be extended by application of suggested triangulation logic in para 161, which we find very useful.

Due to the nature of the global FX markets, we don't think it's appropriate to measure the liquidity of currency pairs. A more suitable measure is to use the total turnover per currency. We also note that the proposed threshold of USD 45 billion in daily turnover is remarkably conservative, particularly in the context of a 10 day liquidity horizon (where it corresponds to USD 450 billion!). We highlight that the proposed definition and threshold leads to the omission of several highly liquid currency pairs between the Euro and other European currencies from the most liquid pairs, e.g. EUR/CHF, EUR/SEK and EUR/NOK.

Question 42. If you agree with the threshold outlined, would you agree that the list of selected currencies should be updated on a triennial basis following the publication of the BIS OTC derivative statistics?

A 3-year revision seems not satisfactory given the dynamic nature of the market. Updating too frequently the list of currency pairs may lead to some increased own funds requirements volatility. On the other hand not updating the list may result in a regulation out of sync with the prevailing market conditions. What matters to the banking industry most is consistency across various regulations. We therefore suggest that the list of liquid currency pairs and liquid interest rate currencies should be maintained by an international authority, e.g. at Basel level or FSB.

Question 43. If you do not agree with the threshold outlined, please provide reasoning for establishing other selection criteria.

As mentioned above the approach that the bank would adopt to define liquidity horizon is more involved than just looking into a defined turnover level from the BIS report. From internal analysis, our view is that for the FX spot market there should be no distinction between currencies since all of them (currently classified in FRTB text as liquid and illiquid) would qualify for a liquidity horizon well below the 10 days. Recent analysis on material banks' risk, shows that a 2 day is a sensible indication for liquidity horizon. Although a 2-day LH might not be always applicable, an FRTB 10-day LH would be a well conservative assumption to be used.

On a similar note, it is our view on the FX volatility market which evidence a liquidity which in a very conservative and for very concentrated exposures shows a 5 days liquidity horizon, hence even for FX volatility we would suggest using a 10 day across all the FX currency pairs.

Question 44. Do you consider that triangulation of currency pairs should be allowed? Is triangulation used in practice to hedge less liquid FX positions?

As mentioned above our view is that only one LH should be used across all the currency pairs. Nevertheless, we also support the concept of triangulation which it is effectively adopted in the regular risk management practice. If triangulation is not allowed it leads to an uneven playing field and unwarranted RWA variability for identical risks dependent on the bank's reporting currency.

Question 45. What is your view on the definition and level of the threshold for defining small and large capitalisations for equity price and volatility?

In principle we support the regulator's suggestion on how to assign small and large capitalization liquidity horizon to equity prices and vols, nevertheless we are of the opinion that the bank should have discretion in the methodology on how to assign liquidity horizons, subject to internal validation, such methodologies may consider the relative size of the exposure and should aim to avoid cliff effects and fluctuation of capital requirement.

In support to these two points we would like to stress that:
- where there are trades on names smaller than 2bn it is small in size and it is manageable relative to the liquidity of that market. The consideration refers to the size of the bank's position relative to the markets, which is slightly different to the point 166-2 which refers to choosing instruments which are liquid relative to the markets it is operating in.
- Further if the market cap for a particular stock keeps fluctuating around the 2bn mark, the capitalization process might get lots of noise since digitally move between 120 day returns and 20 day returns on a frequent basis.

Question 46. Do you see any problems in using the ITS published by ESMA to specify the equities that can be considered as large capitalisations?

It is sensible to make use of the work conducted by ESMA to identify large cap equities based on equity indices as a complement to, but not instead of, the USD 2 billion absolute threshold. The implementation is straightforward and removes the risk of having an equity switching between the large cap and small cap designation. However, we think the methodology must include all classes of shares for a specific issuer (e.g. Class A and Class B shares) even if only one class is included in a specified index. If not all share classes of a certain issuer are treated consistently for the liquidity horizons, we see the potential risk of broken hedges. Banks should be able to apply the USD 2 billion threshold as a fallback, e.g. to capture newly issued equities.

FRTB – Backtesting and P&L attribution requirements

Question 47. Do you agree with the list of criteria for systematic exclusions from hypothetical P&L?

The criteria for systematic exclusion from hypothetical are clearly defined and can be summed up as such:

This list of exclusions is generally fit for purpose. However, there may be specific daily value adjustments that are not market risk related: They should not be included in the Hypothetical P&L (cf. EBA Discussion paper EBA/DP/2017/04, article 177) and neither the Risk Theoretical P&L since RTPL should be in line with Hypothetical P&L (HPL) (cf. EBA Discussion paper EBA/DP/2017/04, article 226).

For instance some risk factors may be subject to a daily IPV (independent price verification) value adjustment. IPV is not a market risk adjustment and it cannot be captured in the risk model hence it should be excluded to both HPL and RTPL.

Hence we support the EBA view expressed in the Discussion paper EBA/DP/2017/04, article 186 stating that, on a case by case basis, daily adjustments may be excluded from HPL, and hence RTPL, conditional to a supervisory authorisation.

- Valuation adjustments for which a separate regulatory capital treatment has been specified as part of the rule (e.g. CVA);
- Valuation which are deducted from CET1 (e.g PVAs);
- Valuation adjustments that are updated at a less than daily frequency in the measure of P&L.

Question 48. Do you have numerous valuation adjustments not computed at desk levels? For those VAs, would it be possible to calculate them at desk level? If not, explain why.

A majority of value adjustments (VA) are made at entity level only to reflect diversification and netting benefits.

VA's like Funding value adjustment (FVA), margin value adjustment (MVA) and other value adjustments based on a portfolio (netting-set, funding-set etc) can only meaningfully be calculated 'top of the house'. And in this context only if the trades defining the relevant VA-portfolio are all belonging to IMA desks, since trades belonging to SA desks are not part of the hypothetical backtesting top-of-the-house.

Alternatively, the VA's can be calculated on desk level on a stand-alone basis (based on a set of assumptions), but these "pseudo-VA's" do not necessarily make any economic sense and might also be computational burdensome to calculate for the banks.

Question 49. Do you agree with the criteria defined for the inclusion of a valuation adjustment in the hypothetical P&L? If not, please give arguments. Do you agree with the proposal to provide only criteria for inclusion in or exclusion from the hypothetical P&L, in order to allow some flexibility, or do you think that we should have non-exhaustive lists supplemented by criteria?

Yes, we do agree. This because the inclusion criteria evolve around the following two arguments:
- Only VA which are updated daily, and which are not in the exclusion list should be included in HPL
- If an adjustment is considered in the daily VaR the same should be also included in the HPL

Our view is that if an adjustment can be performed on a daily basis, it is likely that such adjustment it is part of the correct marking practice and contribute to the daily volatility which the VaR is meant to capture. Only valuation adjustment included in ES/VaR makes sense to include. Otherwise RTPL and HPL are not comparable. Nevertheless, we propose a small amendment to paragraph 186 as such:

> "186.Finally, only the valuation adjustments **related to market risk** that are updated daily and are not in the above list of systematic exclusions would be included in the hypothetical P&L (at the 'top of the house' only or also at desk level, depending on the level at which these VAs are computed) […].".

Hence, most daily valuations that should not be included in the Hypothetical P&L (see example in our response to question 47) will be clearly identified and excluded.

We remain attached to the flexibility of a case by case exclusion on condition of supervisory authorities' approval as expressed later on in the Discussion paper EBA/DP/2017/04, article 186.

Question 50. Do you agree with developing additional guidance on specific valuation adjustments: related to market risk versus not related to market list, possible daily frequency update in the P&L versus not daily, 'top of the house' versus desk-level computation?

As the criteria proposed for exclusion and inclusion in the Hypothetical P&L are sufficient, we don't think that additional guidance is necessary. To elaborate more on our position, we are of the opinion that the definition of specific valuation adjustments related to market risk, would be restrictive and difficult considering that each institution has a different way to name and define valuation adjustment. In principle all valuation adjustment can be somehow linked to the market risk concept, nevertheless only if they are updated on a daily basis can be effectively captured by the bank risk model, since such daily adjustments will contribute to the daily volatility captured in the risk model. So, the key criteria which we propose to follow for inclusion is the daily frequency update.

Question 51. Did you have overshootings that are mainly caused by valuation adjustments included in the hypothetical P&L? If yes, which valuation adjustments were mainly causing overshootings? Did you identify types of desks which were more frequently affected by such overshootings? Are these desks likely to breach the backtesting thresholds because of these overshootings (how frequently do the overshootings occur)?

It is our observation that for some banks valuation adjustments are not consistently perceived to be a large driver of over-shootings to the extent that the they do not impact desk eligibility in our preliminary analysis. Inclusion of IPV (independent price valuation) to the HPL (hypothetical P&L) is the biggest contributor adding 1.5% to the total number of desk-level over-shootings.

Question 52. Do you agree with the list of criteria for systematic exclusions from the actual P&L?

The inclusion/exclusion of VA should be aligned for hypo and actual P & L. This inclusion of non-daily VAs in APL will only result in additional noise which may cause periodic failures that are not related to the risk model performance. This may mask the test's purpose of additionally considering intra-day trading.

Question 53. Do you agree with the criteria defined for the inclusion of a valuation adjustment in the actual P&L? If not, please provide arguments.

See response to question 52

Question 54. Did you have overshootings that are mainly caused by valuation adjustments included in the actual P&L? If yes, which valuation adjustments were mainly causing overshootings? Did you identify types of desks which were more frequently impacted by such overshootings? Are these desks likely to breach the backtesting thresholds because of these overshootings (how frequently do the overshootings occur)?

It is our observation that for some banks valuation adjustments are not consistently perceived to be a large driver of over-shootings to the extent that the they do not impact desk eligibility in our preliminary analysis.

Question 55. According to you, is the net interest income part of the time effect?

Yes, it is part of the time effect.

Question 56. Do you agree with the proposed definition for net interest income? If not, what would be your proposal?

We don't see the need to define NII and to mention it in the regulation as per EBA proposal we support the more generic definition of P&L due to passage of time.

Question 57. Would you like further indications of the elements to take into account in the time effect? Which elements would you include in the time effect?

We don't see the need to define "time effect" and to mention it in the regulation as per EBA proposal we support the more generic definition of P&L due to passage of time.

Question 58. Regarding the different proposals, do you agree with EBA that Proposal 2 would achieve the best outcome? If not, what would be your suggestion?

Yes, we do agree. As a matter of fact, the current approach is to exclude Theta which can be considered as the P&L due to passage of time in both HPL and VaR, nevertheless such approach may change in the future hence adopting proposal 2 which mandate mainly consistency between HPL and risk model in the context of P&L due to passage of time seems a flexible and correct proposal.

Question 59. Do you agree with the principle of including in or excluding from the risk-theoretical P&L the same valuation adjustments as for the hypothetical P&L?

We agree that consistency shall be preserved between HPL and RTPL and this is true as well of value adjustments.

Only the proxies on the current period should generate discrepancies in the PLA: Indeed when the risk factor is proxied on the stressed period only, but not on the current period, the ratio ES(current,full)/ES(current,reduced) covers already the basis risk generated by the proxy.

Paragraph 223 of the Discussion paper EBA/DP/2017/04, also raised the question of the modelling choice for NMRF calculation. As explained in the next section, we would have no alternative choice but to use sensitivity approach to calculate NMRF charge for a vast majority of NMRF. Given the conservative nature of the NMRF, we believe that in the specific case of NMRF, PLAT objective should be to test only the risk factor coverage and not the pricing function accuracy.

FRTB – Non-modellable risk factor stress scenario risk measure

Question 60. What are your preferred options for points 1-8 above? How would you justify these preferences?

1) Definition of the observation period

This question has a very significant impact. Option (c) where the observation is the stress period (we voluntarily exclude the word "include") is preferable: it has the merit of simplicity and also the one of defining the length of the stress period, which is a driver of the output. It is operationally efficient and should be sufficiently conservative. In case no data from stress period is available current period could be scaled up based on factors used for ES. 1b) could possibly be done if stresses are calibrated on risk factor level 1b) and 1d) are computationally complex especially when done on P&L level. Option (d) is the worst of all proposed options and would lead to extreme difficulties and operational complexities.

2) Types of data acceptable for the observations

2b should be the default case, 2c where necessary, 2a would contradict the BCBS principle "best data"

3) Additional conditions on the data observed for the NMRF

It is sensible to only allow one risk factor level per day. Genuinely stale risk factor observations should not be filtered out. This is an additional requirement beyond the IMA requirement that would lead to significant operational hurdles. Rather than fall back to the fall-back shocks, "gauge data" mentioned in 2) could provide sufficient information to derive shocks

4) Definition of the liquidity horizon LH(j) for an NMRF

Effective liquidity horizons would be a significant operational burden and complexity, e.g. due to monitoring of broken hedges. The current BCBS and CRR2 rules should not be changed for NMRF here. As regards to the proposal and for the sake of simplicity, Option (b) is preferable.

5) Calibration of parameter CL_{sigma}

We expect a large number of non-modellable risk factors. Since NMRF are calculated separately and added in absolute terms, the correction will lead to a overly conservative estimate on portfolio level as the majority of the estimation uncertainty would diversify away. A high confidence level such as 90% seems appropriate.

6) Calibration of parameter CES_{equiv}

Though more studies based on real data distributions are necessary to answer this point, Option (c) seems to be the best one. 262b) is a reasonable approach. A floor of 3 seems rather big given the large number of NMRF and the conservative aggregation. A regular calibration (e.g. monthly) of a single value should be sufficient.

7) Calibration of κ_j

Option E: The main driver of conservativeness for NMRF is the conservative aggregation scheme given the large number of risk factors. Setting a single value of K for all risk factors would be too simplistic and defining an individual k for every risk factor is too complex. If, however, the EBA was to insist to have κ calculated, the best alternative would be Option (d) complemented with Option (a) for those risk factors that would require a κ calculation.

8) Calibration of $\kappa_{tj,L}$sigma and C_{ES} equiv to achieve the target calibration 'at least as high as an expected shortfall'

The solution should no lead to a significant increase in model complexity without clear benefits. We expect a large number of NMRF. As long as the calculation is unbiased, no major capital underestimation is expected.

Question 61. Do you have any observations or concerns about the overall methodology proposed for point (a) of the mandate?

Regrettably, the EBA strictly sticks to the draft mandate which was established before some discussions have taken place between the Basel Market Risk Group (MRG) and the industry (i.e. ISDA working group).

Those discussions could result in significant evolutions of the SES framework, in particular calculating the SES charge at a curve or surface level (as opposed to the elemental level represented by each specific point of the curve or surface).

Consequently the presented methodology applies only to elemental / scalar risk factors, which may be not the target framework.

Various levels of conservativeness are layered upon each other (volatility calculation, C_ES factor, kappa, correction factor to not underestimate small samples) which will lead to overly conservative stand-alone numbers.
The conservativeness of the NMRF charge is largely driven by the conservative aggregation scheme. Ensuring that every NMRF is at least as conservative as a stand-alone ES calculation and adding these will lead to even more conservative NMRF impacts.

Kappa calculation:
Properly calculating kappa is computationally expensive (every NMRF will have a bespoke kappa) and the correct value for kappa would constantly change over time. Selecting an unbiased value would be necessary to avoid overly conservative calculations due to the large number of NMRFs and the conservative aggregation scheme.

Return calculation:
- Non-equidistant returns are scaled to large liquidity horizons. This will lead to significant complexity as every return could come from a different time period. A more pragmatic approach would be to calculate returns over 10d in line with ES and scale them to larger liquidity horizons.
- Scaling short returns to very long holding periods using the sqrt-of-time rule will easily lead to excessive shocks in particular if the shock is calibrated for a basis risk factor (in cases where we decompose NMRFs into modellable proxy and non-modellable basis, footnote 40 of the BCBS text).

para 247:
For all non-linear risk factors an optimization over the range of possible risk factor values is necessary. While this is easily achievable for sensitivity-based calculations, a grid-based approach is required for solutions based on full revaluation. This will significantly increase the overall model complexity and likely lead to RWA variability.

Additionally, being at the elemental risk factor level has the following drawbacks:

➢ There are several thousands of elemental risk factors:
  ○ **Operational burden to calibrate for each risk factor** (in this respect, we intended to make homogeneous groups of risk factors and to calibrate a

shock applicable for the whole group). The concept of "gauge data" in paragraph 254 (Discussion paper EBA/DP/2017/04) requires further description.

- o **CPU burden to compute SES for each elemental RF** (seems unfeasible). This is aggravated by the idea to compute the NMRF impact on the range of extreme shocks (cf. paragraphs 238 & 247 of the Discussion paper EBA/DP/2017/04), and not only at the extreme shocks.

➢ And above that, **shocking one elemental risk factor and letting the other unchanged generally makes no sense** and besides creates numerical issues / arbitrage situations (term structures, volatility surfaces…).

Note that another topic in discussion with the Basel Market Risk Group (MRG) is the aggregation across risk factors using a formula that takes into account the low correlation between risk factors (i.e. as opposed to a simple sum). This point is quite independent of the calculation itself, but should also require a RTS in the future.

Also, the EBA has taken the approach to directly calculate the P&L impact of an instantaneous extreme shock observed over the risk factor liquidity horizon (ranging from 10 to 120 business days). Those shocks may be so extremes (while other risk factors are kept unchanged) that they will often fail pricers. Besides, we believe that the intention was to capitalise non-modellable risk factors at least as conservatively as modellable risk factors would be (leaving aside the fact that netting and diversification benefits are forfeited). Hence, we consider that the same approach should be taken for NMRF as in the stressed expected shortfall (cf. draft Regulation amending Regulation 575/2013, article 325bd), i.e. use 10 day stressed returns and scale the P&L impacts with a quadratic formula.

Question 62. Do you have an alternative proposal for the calculation of an extreme scenario of future shock or stress scenario risk measure?

- Allow using stale data to calculate standard deviation. It is very complex to cleanly differentiate between genuine stale data and non-stale data. Every shock will have a bespoke liquidity-horizon making the overall calculation significantly more complex.
- Allow return calculation over longer time horizons to mitigate impact from sqrt scaling of long horizons in particular for basis risk factors. Using sqrt-of-time will be an issue for basis risk factors scaled to long horizons.
- Rather than selecting parameters for kappa, C_ES and sample size corrections factors to ensure that every NMRF is at least as high as a stand-alone calculation, focus on the overall level of capital that will mostly be driven by conservative aggregation approach.

Question 63. Do you have any comment on the 'risk factor based approach' versus the 'direct loss based approach'? Is computational effort a concern?

In case the goal is to ensure that the stress scenarios lead to an ES equivalent number in all cases, a direct loss-based approach seems to be more logical than the risk factor based stressed approach described here. The P&L approach is very similar to traditional risk metrics like ES and VaR, which naturally leads to the question why those risk factors should not be included in the ES model in the first place.
Computational efforts and operational complexity are a significant concern in particular for banks planning to use full revaluation due to the large number of NMRFs (possibly many 1000s). The formula in 271a) does not consider additional revaluations necessary to solve the optimization problem in 247 and the overall efforts will therefore be significantly

higher. This will especially lead to problem for banks that plan to calculate the NMRF charge based on full revaluation.

Question 64. Is there a case for allowing institutions to calculate a standalone expected shortfall directly?

For solutions based on Full Revaluation this approach will quickly become computationally expensive due to the multitude of NRMFs that would require a stand-alone ES calculation.

Question 65. Do you have any views on points (a)-(g) above?

a) Frequency of review of the extreme scenarios of future shocks. A full monthly review seems not necessary. We propose to undertake a light but formal process for that. On a monthly frequency, checking that, based on some relevant market data, during the quarter the market has not been more stressed than in the reference stressed period. In the opposite case, a full review of the shocks is done.b) No suitable data or proxy data available to estimate stress scenarios.
f) By construction, there is very little chance that the NMRF framework is less severe than the ES. Non-linear cross-effects between risk factors are by design not captured in NMRF charge. Some risk factors might therefore be more conservative in ES when looking at them in isolation. The overall conservativeness is mostly driven by the aggregation scheme and therefore the overall capital impact will be significant.

Question 66. What are the most relevant NMRFs for your institution in broad terms?

For some banks relevant factors may include:

- Equity correlations;
- Equity volatility smile;
- Interest rates correlations (IR vols other than EUR and USD, IR OTM vol for all currencies);
- Non-G10 rates risk factors;
- , G10 FX Vol > 3y;
- Non G10 FX vols;
- Single name equity risk factors other than spot;
- Non-US credit risk factors.

Question 67. What are the most relevant statistical distributions for NMRFs?

Provide a precise answer to this question is difficult given the current uncertainty as per the final eligibility criteria at Basel level and given the large variety of risk factors that may become non-modellable (i.e. what is fit for certain factors may be quite approximate for others).

Also, the answer would ultimately depend on each firm's choice to proxy or not the NMRF as per footnote 40 of the Basel standard BCBS d352 (i.e. residual basis has least likely the same distribution than the outright factor itself).

In the framework proposed by the EBA, we identify mainly two areas where a statistical assumption on the NMRF distribution would be helpful:

- Calibration of CS, when a direct estimation on empirical data is not possible or deemed not sufficiently robust;

- Computation of the kappa adjustment, when the loss profile is locally convex around CS.

Regarding the first area, the EBA provides in annex 3 several values for theoretical SGT distributions. Such distributions requires the calibration of five parameters, one of which (lambda) drives the distribution asymmetry. Figure 6 in the Annex gives evidence that the asymmetry has a direct impact on the estimation of the CES parameter (scaling factor from standard deviation to ES) with up to 33% increases between positive asymmetry (lambda=0.30) and no asymmetry (lambda=0).

Indeed, an asymmetrical distribution usually implies that one tail is fatter than the other. For illustration purpose, we have plotted in the following graph a skewed normal distribution function ('Snorm' in red). Whereas the kurtosis is equal to 3 for the whole distribution, the kurtosis restricted to the left tail only and right tail only equal 3.8 and 2.2 respectively. Similarly, the ratio ES>97.5 / σ is above 5 while ES<2.5 / (-σ) is below 1. In other words, the fatter one tail the thinner the other.

Tail asymmetry on skewed normal distribution
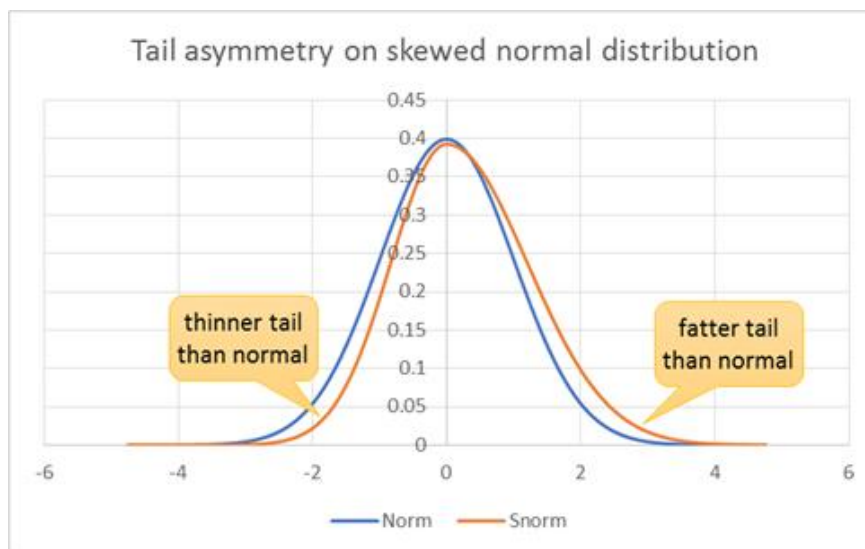
Although we recognize asymmetry exists at the RF level, it would be quite a punitive and unrealistic assumption that, for each NMRF, the ES of the loss function would systematically coincide with the fatter tail. Most likely, the SES framework will cover a large number of risk factors and a sound base scenario should remain agnostic to which tail realizes the ES.

Owing to the above considerations, **we strongly recommend the EBA to dismiss any statistical asymmetry at the RF level and just consider symmetrical distributions in its effort to capture potential "fat-tailedness".**

Question 68. What are the most relevant non-linear tail loss profiles that need to be considered?

This question relates to the computation of the kappa adjustment, which is only necessary when the argmax FS of the loss profile is an endpoint of the search interval CSSRFR. Indeed, when FS equals CS, the loss profile likely keeps increasing beyond CS, hence the EBA's proposal to compute a positive adjustment if this increase is "*super-linear*".

Among the super-linear profiles, the most simple and relevant approximation is surely <u>the second order Taylor-Young development around CS</u>. The great merit of this approximation is that it provides a closed-form formula for the kappa adjustment:

Denoting $f(x)$ the loss corresponding to the return x, Δ and Γ the first and second order derivatives on CS, let us consider the following loss profile on the tail distribution D:

$$\forall x \epsilon D \ \ f(x) = f(CS) + \Delta(x - CS) + \frac{\Gamma}{2}(x - CS)^2$$

Most likely, the tail of losses corresponds to $f(D)$ and it follows that:

$$ES(f) = E_D(f) = f(CS) + \Delta . E_D(x) - \Delta . CS + \frac{\Gamma}{2} E_D(x^2) - \Gamma . CS . E_D(x) + \frac{\Gamma}{2} CS^2$$

Since by definition $E_D(x) = CS$, we get after simplification:

$$SES = f(CS) + \frac{\Gamma}{2} CS^2(\phi - 1) \ \ with \ \ \phi = \frac{ES(x^2)}{ES(x)^2}$$

This expression provides a very simple, robust and transparent way to adjust for non-linearity (with no explicit mention of kappa adjustment). The adjustment is the multiplication of two separate terms:

- $\Gamma . CS^2$ that just depends on the convexity of the loss profile around CS (it is x-scale invariant)
- $\phi - 1$ that just depends on the risk return distribution (typic 2% for normal distributions)

We strongly encourage the EBA to consider the merits of such closed form adjustments, both in terms of simplicity and transparency, and to that extent, give banks permission for quadratic approximation of the tail loss profiles.

Of course, this adjustment could be accounted for only in case $\Gamma > 0$, in order to mirror the floor at 1 currently proposed by the EBA on the kappa.

Question 69. What is the materiality of non-linear tail losses in practice?

Further analysis to be done. Generally, more exotic options (barriers etc) are traded in the more liquid markets limiting the impact of kappa to some extent.

Question 70. Do you deem Option 1 (the 'maximum possible loss') or Option 2 (the prescribed risk weights) more suitable as a fallback approach? What is the reason for your preference?

Option 2 (the prescribed risk weights) is more relevant but note that SBM shocks are only available for:

- ➢ A limited number of RFs;
- ➢ Outrights RFs but not for basis issued from footnote 40.

Even if, Option 2 is the preferred method, the current size of prescribed weights seems overly penalizing.

Elsewhere, Option 1 is generally not viable as max loss is not viable for the vast majority of risk factors.

Question 71. Do you deem the risk factor categories and respective shocks presented in the tables in Annex 2 appropriate for the (types of) NMRFs you expect? If not, what is your proposal to remedy the issues you see?

See response to question 70

Other implementation issues

Question 72. Do you agree that, to the extent possible, new FRTB models in the EU should be approved according to updated, harmonised RTS on assessment methodology? Do you agree that, in the absence of such revised standards, relevant parts of the published RTS on assessment methodology, provided they are in line with the new requirements, should apply?

In the event that the RTS on assessment methodology is adopted, we agree that it makes sense for the EBA to propose a revised set of the rules for application to the FRTB.
Many of the articles, however, will not be applicable under the new FRTB regulations. As such a new version should both remove, amend and add requirements to the current version in order to be applicable to FRTB.
Given the non-final status of both the RTS on assessment methodology and CRR2, it is difficult to agree that some of the articles from one should apply to the other. In principle, however, it is useful to establish that they can be used as guidance for banks and competent authorities, however, we would not recommend that any formal requirement or standard be established ahead of a revised version.
With respect of the RTS on Model Changes, this should only become relevant post go-live of the FRTB framework. As such, we believe that there is sufficient time for a revised version to be published.
There are also a number of elements of the current RTS, which will need to be explicitly addressed ahead of the implementation of FRTB, such as:
  o definition of extensions, in particular to new desks.
  o Changes in market risk factors are appropriately considered by quantitative tests at the desk level

Question 73. Do you agree that a recalibrated version of the current standardised approach – for banks below the EUR 300 million threshold (as currently proposed in the CRR2 proposal) – is preferable in the EU to the implementation of the BCBS reduced SBM? Do you agree that the recalibration should be carried out simply at the risk class level by applying a scalar, such that the recalibrated approach is generally more conservative – but not systematically more conservative – than the FRTB SA?

In our consultation response to the Basel consultation on the draft standard d408 (EBF_028791) we appreciate the ambition of having methodological consistency between the SbM, IMA and a simplified approach for less advanced banks (R-SbM). But we are concerned that the proposed R-SbM does not offer appropriate simplification to make it a valuable alternative to a methodology based on the current standardised approach. We also share the Committee's concern of high implementation costs due to IT changes. As a result, we think that maintaining a recalibrated version of the current standardised approach (as defined in regulation 575/2013) would be a better solution. This is particularly important for banks with small trading books, which would be disproportionately affected by the implementation costs.

We also support the view that recalibration should be carried out by applying a scalar and that it should be appropriately benchmarked with the full sensitivities-based standardised approach (SbM), that is; calibrated to reflect the lesser degree of risk sensitivity of the approach. The use of the recalibrated current standardised approach should implement a consistent market risk framework (current standardised approach, SbM and IMA) and not penalise banks with small trading books.

The recalibrated version of the current standardised approach should apply both to banks with small trading books and to subsidiaries of larger banks, including subsidiaries of G-SIB and D-SIB, as long as they meet the criteria on a standalone basis for the calculation of market risk own funds requirements. It should be clarified that RWAs calculated with the simplified standardised approach at the entity level may be considered at the consolidated level of a group.

We believe that the threshold of EUR 300 million in the Commission's CRR2-proposal - below which the current SA may be used - is too strict. A threshold of EUR 500 million, as currently considered in the CRR2 negotiations, would be more appropriate considering the complexity of the full sensitivities-based standardised approach (SbM). The threshold considered should be the higher of the absolute and the relative threshold.

Question 74. Do you have any comment on the items mentioned in this section or wish to raise additional implementation issues?

Technical standard on Default Risk Charge: We would like to express our deepest concern regarding the scope of application of the EBA RTS on DRC, as defined in the draft Regulation amending Regulation 575/2013, article 325bq(12). EBA shall develop draft regulatory technical standards to specify the requirements that have to be fulfilled by an institution's internal methodology or external sources for estimating default probabilities and loss given default in accordance articles 325bq(5)(e) and 325bq(6)(d) of the draft Regulation amending Regulation 575/2013.

As currently drafted, such RTS only applies to institutions with no IRBA approval to estimate internal PD/LGD. We consider such RTS should also be applicable to IRBA-validated institutions for those issuers in DRC scope which are not covered by internal credit methodologies.

Technical standards on assessment methodology & Default Risk Charge: In paragraph 289 of the Discussion Paper, the EBA recommends that DRC guidelines (cf. draft Regulation amending Regulation 575/2013, article 325bn(2)) are directly addressed in the revised RTS on assessment methodology. We would like to go one step further and suggest that the above-mentioned DRC RTS is tackled together with the guidelines in the revised RTS on assessment methodology.

Indeed, the revised RTS on assessment methodology should then clarify that flexibility offered to non-IRBA institutions to use alternative approaches (external ratings simplified approaches) should also apply to IRBA-validated institutions for issuers with no internal PD/LGD. In case such flexibility is not granted, IRBA-validated institutions will potentially have to rate internally thousands of issuers, for which we do not have commercial relationship and hence do not rate internally (ex. equity indices constituents), meaning in most cases collecting comprehensive information (e.g. various balance sheet ratios) on each and single issuer which is unmanageable.