



**Response to the EBA Discussion Paper
on the implementation in the European
Union of the market risk and counterparty
credit risk frameworks
(EBA/DP/2017/04)**

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Introduction

[Intesa Sanpaolo](#) is one of the largest European banking groups with a strategic presence in Eastern Europe and in the Mediterranean basin. It provides companies with a full range of services and products to households and businesses, especially to SMEs. The Group is active in capital markets through Banca IMI, its investment bank, in the asset management business through Eurizon, in the venture capital through IMI Fondi Chiusi, in the third sector through Banca Prossima and Mediocredito for long term credit.

The Intesa Sanpaolo Group supports the European Commission and all the other EU Institutions involved in the process of shaping a more resilient regulatory framework for banks and welcomes the opportunity to respond to this EBA's public discussion paper.

Intesa Sanpaolo shares the industry's concerns on the current European initiatives on FRTB, which may lead to the adoption of diverging regulatory measures, both at international and EU level, considering the current work of the Basel Committee on Banking Supervision (BCBS) on FRTB and the open legislative procedure on the revision of the Capital Requirements Regulation (CRR II), which itself already raise issues on the implementation of the FRTB and validation of the models by the ECB, because of the BCBS's work still ongoing. Hence, we highlight that the feedback provided below may change following further BCBS publications on the implementation framework.

In the light of the above, Intesa Sanpaolo Group has actively contributed to the responses to the EBA consultation elaborated by ISDA-AFME and EBF and supports the view of the industry on the need to assess specific methodological aspects through the quantitative impact study across the industry. Please find below further observations on certain specific questions.

4.1 SA-CCR – Mapping of derivative transactions to risk categories

2. [Would the proposed allocation for the products in the list be appropriate in all cases? If not, please provide an explanation.](#)

We agree with the list proposed in the Discussion Paper.

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.](#)

The list must be completed with the following products:

- commodity swaps assigned to commodity asset class
- dividend swaps assigned to equity asset class
- FX target redemption forward and FX fader options assigned to FX asset class

Bond forwards on investment-grade bonds should be assigned to both Interest Rate and Credit asset classes because their sensitivities are driven by the above mentioned risk factors.

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.

A product list with a priori assignments to Asset Classes is the most efficient way to perform the mapping.

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

We agree that identifying in advance the risk factors is a necessary step in order to make a correct mapping.

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

The most appropriate alternative is the N.3 along with option 2 since they are the most risk sensitive choices, allowing the aggregation of different sensitivities using the FRTB SBA Risk weights.

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.

We believe that an ad-hoc exercise should be performed in order to calibrate the thresholds.

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?

A fallback approach should be defined when the sensitivity approach cannot be applied by banks that are not able to compute sensitivities.

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)?

We believe that the cap to the number of the risk category is not necessary if the notional assigned to a certain risk category is weighted by its sensitivity (as highlighted by ISDA). The cap could be useful in case of less sophisticated approaches (i.e. the fallback approach).

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

Any double counting in the assignment should be avoided.

4.2 SA-CCR – Corrections to supervisory delta

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

The most appropriate approach is a shifted model in order to manage option delta in a negative interest rate scenario.

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?

We believe that the most appropriate option is to apply the lambda quoted by the market but it is necessary that institutions can be allowed to recalibrate the sigma parameter in order to keep into account the shift applied.

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.

4.3 FRTB – Trading book boundary

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.

Yes, we believe they should be considered as exceptional circumstances, for example a change in the business model.

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

We do not agree. We believe it is necessary condition that liquidity for such positions should persist over time. Indeed, in our opinion, in absence of liquidity, the concept of 'trading purpose' itself could be questioned

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

Nothing to declare.

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

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 FX positions may be correctly identified e.g. lending, interbank deposits, funding in currency, non-trading related SFTs transactions.

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?

In the application of FRTB standards two different issues would arise: on one side, the consideration that several of the non-trading book positions are valued at amortised cost (e.g. deposits, repurchase agreements, loans) whilst the FRTB standards seem to imply that all the positions should be revaluated at Fair Value. On the other side, the same requirements imply that the frequency of the revaluation should be daily. We revalue all components in coherence with the accounting standards and at a frequency suitable for the nature of the positions.

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)?

We believe the topic should focus on the ‘adequacy’ rather than ‘capacity’ of such process. In our opinion, there should be coherence in both valuation method and frequency applied to non-trading book positions; therefore, a revaluation at Fair Value and on a daily basis does not seem appropriate and in line with accounting view.

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

Yes, for reasons of coherence mentioned above.

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

Write-downs on loans affect their evaluation in order to consider all the possible effects on the reimbursement value deriving from an event of counterparty default.

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)?

In our opinion, there should be separate desks for each risk type. Whilst commodity risk does not pose a particular issue, regarding FX risk we consider appropriate a further separation of desks, namely, for different legal entities and for trading/banking book positions.

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?

In our view, notional trading desks should include either trading or banking book positions (with an exception for trading book hedging positions which should be included in order to benefit of diversification effects); banking book positions should therefore be kept separated and managed using internal transfer deals. Regarding Art.104, due to the specific nature of ‘notional’ trading desks, requirements should NOT apply to specifically P&L attribution and backtesting activities.

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

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

In our view, the quantitative requirements should NOT apply to ‘notional’ trading desks but only to ‘operative’ trading desks negotiating with the markets.

4.5 FRTB – Residual risk add-on

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.

Yes, we agree. The definitions are clear.

4.6 FRTB – IMA Liquidity Horizon

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

We agree with the principle that RTS should specify how to map certain type of risk factors. However, we have some concerns with the relaxation of mapping rules at the risk factor level as per point 148.

In particular, these different settings of LH mapping, if permitted, may generate non homogeneous impacts on the capital for the banks using different approaches (instrument vs single risk factors).

The Liquidity Adjusted Expected Shortfall introduced by FRTB can be tough as measure that breakdown the PL of any instruments within portfolio in two spaces: the asset classes and the liquidity horizon.

$$IMCC = \alpha \sqrt{(ES_T(P))^2 + \sum_{j \geq 2} (ES_T(P, j))^2 \sqrt{\frac{LH_j - LH_{j-1}}{T}}^2} + (1 - \alpha) \sqrt{(ES_T(P|ac))^2 + \sum_{j \geq 2} (ES_T(P|ac, j))^2 \sqrt{\frac{LH_j - LH_{j-1}}{T}}^2}$$

Let’s focus only on liquidity horizon space. Defining

$$ES_{lh} = \sqrt{ES^2(P) + \sum_{j \geq 2} (ES_T(P, j))^2 k_j^2}$$

$$\text{With } k_j = \sqrt{\frac{LH_j - LH_{j-1}}{T}}$$

Now considering a Portfolio made by instruments that lays on three liquidity horizons buckets

$$L_1 < L_2 < L_3$$

$$\text{With } k_3 > k_2 > k_1$$

For each liquidity horizon ≥ 2 we compute the PL conditioned to risk factors that lays in the same liquidity horizon bucket such that the ES will be function of the sum of all PL in the same bucket

$$ES_{l_2} (X_{l_2} + Y_{l_2} \dots)$$

$$ES_{l_3} (X_{l_3} + Y_{l_3} \dots)$$

Our ES_{lh} will be

$$ES_{lh} = \sqrt{ES^2(P) + (ES_{l_2} * k_2 + ES_{l_3} * k_3)^2}$$

With mapping rules defined at instrument level (considering the highest possible lh we would have

$$ES_{lh} = \sqrt{ES^2(P) + (ES_{l_{max}}(X_{l_2} + Y_{l_2} + X_{l_3} + Y_{l_3}) * k_3)^2}$$

Allowing for a mapping rules at instrument level, despite the application of the highest k (in this case k₃) multiplier improve the diversification benefits.

Furthermore, the risk factor contribution to the portfolio riskiness depends also on realized correlation between the P&L conditioned to risk factor that belong to different instruments but lays on same liquidity horizon (e.g. vola equity and credit spread). This kind of correlation disappears with mapping rule at instrument level.

Whereas it is not possible to define ex ante which of two methods is more punitive is quite clear that the two methods will not results in the same capitalization level.

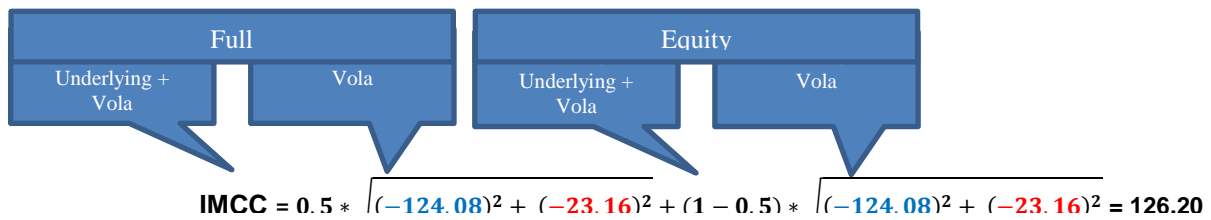
The proposed approach based on the main sensitivity could also be less conservative than the actual framework. In this case the reason is that for the instruments that have the main sensitivity on the lowest liquidity horizon the capital charge, by definition is lower with respect to the Basel proposal

A simple example on an Equity Call Option shows how, attributing the whole instrument to only one liquidity horizon (the most relevant in terms of sensitivity) rather than capture all the risk factors and respective LHs leads will cause an impact on the overall Capital Charge. These different settings of LH mapping, if permitted, may generate non homogeneous impacts on the capital for the banks using different approaches (instrument vs single risk factors). A quantitative impact study may be needed in order to understand the impacts of the approaches among different practices.

For example, consider an ATM Call Option on a Large Cap Equity. The relevant Risk factors will be the underlying, the volatility of the underlying (the Discount Curve has a negligible effect). Under FRTB, The underlying Risk Factor would have a LH=10, while the Volatility a LH=20. The FRTB Requirement of a portfolio composed of the following Instrument would be:

$$IMCC = \alpha \sqrt{(ES_T(P))^2 + \sum_{j \geq 2} \left(ES_T(P, j)^2 \sqrt{\frac{LH_j - LH_{j-1}}{T}} \right)^2} + (1 - \alpha) \sum \sqrt{(ES_T(P|ac))^2 + \sum_{j \geq 2} \left(ES_T(P|ac, j)^2 \sqrt{\frac{LH_j - LH_{j-1}}{T}} \right)^2}$$

If we eliminate the negligible risk factor IR, then we would obtain:



Now assume that a Bank can't attribute a Liquidity Horizon at a Risk factor level, but only at an instrument level. In this case, they would attribute the LH of the most relevant Risk Factor. In the example considered, the most important risk factor would be the Underlying rather than the volatility, which would mean that all the Risk Factors would be given an LH=10. It is easy to show how this would lower the overall CC requirement, as the computation would now become (without considering the LH=20 "bucket"):

$$\text{IMCC} = 0.5 * \sqrt{(-124.08)^2} + (1 - 0.5) * \sqrt{(-124.08)^2} = 124.06$$

which means a 1.73% Capital Charge benefit.

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.

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?

Except for the amendment needed to include the additional risk factor categories and Liquidity Horizons listed in the FAQ published January 2017 at paragraph 2.2 we would not suggest any other risk factor. However, we would suggest allowing the bank to define specific risk factor and, whereas all the modellability criteria are met, they can be mapped to specific LH, having the whole process into validation packages.

In a model which assess the specific risk at issuer level so for each bond pricing function f(..) the risk factors are Spread (s) of the legal entitles and Interest Rate (rf), such that you have in your time series **s** and **rf** and in your ES model the **f(s, rf)**. The spread at issuer level guarantees that the migration risk is well covered by your risk model however there could be some specific issue related information that could be not. Let's say that the mark to model that perfectly aligned with mark to market will take this form:

F(s, rf, c) where **c** is a calibration spread that makes the risk and the front office price equal.

As of CRR II the calibration spread is not recognized as risk factors. However, if the institution is able to model also **c**, retrieving a time series and computing the conditioned P&L it could be capitalized under IMA.

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

Although Q&A might be sufficient to clarify open uncertainties without compromising flexibility, we are also of the opinion that RTSs would be better suited to explain all the additional guidance needed for this topic.

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 crucial. Setting a liquidity level only on OTC market data (e.g. by using the BIS OTC derivative statistics) would be a limitation and sometimes misleading. Considering also **both cash and derivative products**, as well as OTC and exchanged traded markets, would lead to a more complete concept of liquidity. Moreover, more detail around the threshold calibration level would be appreciated.

Furthermore, using distinct Liquidity Horizons might lead to unintended penalization of emerging markets, therefore introducing an uneven playing field.

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?

A 3-year revision period would not be problematic; however it might be more appropriate to raise the question of whether this review should be more frequent, in order to better reflect the changes in liquidity.

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 providers, such as MarkIT or Bloomberg, are currently setting up initiatives 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.

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

We strongly support the use of triangulation, the threshold should therefore be assessed per **currency** and not currency pair, which is a more suitable measure of liquidity.

Setting the threshold to daily turnover above **USD 25 billion** would then include the 24 explicitly listed currencies, except for HUF, in Table 5 of the [BIS Triennial survey](#) – this corresponds to a turnover above **USD 250 billion** for the **10-day liquidity horizon**. All currency pair combinations consisting of currencies above the threshold are then defined to be liquid.

Examples

If **EUR**, **NOK** and **SEK** are all liquid currencies, then **EUR/NOK**, **EUR/SEK** and **NOK/SEK** will all be classified as liquid currency pairs.

If **EUR** and **USD** are liquid, but **CZK** is not, then **EUR/CZK** and **USD/CZK** will not be classified as liquid currency pairs

- Although we support the idea of using the triennial central bank survey on FX as a good source for volumes assessment, we are of the opinion that also other sources such as Bloomberg and Reuters should be used 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.

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?

As mentioned before, a 3-year revision period would not be problematic; however, it might raise the question of whether this review should be more frequent, in order to better reflect the changes in liquidity.

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

As mentioned above the approach that a bank would adopt to define liquidity horizon is more complex than just looking into a defined turnover level from the BIS report. From internal analysis, there should be no distinction for the FX spot market 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 shows that a 2-day period 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. It could be a conservative approach for all FX currency pairs.

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

We strongly **support the concept of triangulation** for preserving the consistency of capital charge. With triangulation allowed, it is no longer necessary to define the turnover threshold by currency pair. Therefore, we suggest defining the threshold **by currency**, not currency pair, which also better reflects the flows in a currency.

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 for equity prices and volatility and the possibility of taking into account the national dimension of a given equity. We recognize that the proposed approach is certainly harder to implement, even though might be better suited to represent the effective liquidity horizon for specific risk factors. Furthermore, as the approach is already in use, some scale economies might be exploited.

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

The main issue would be due to general difficulties in the implementation caused by the more complex approach. However, considering the possibility of using scale economies and considering that this list would better reflect the true liquidity horizon of the risk factor, we support this approach.

4.7 FRTB – Backtesting and P&L attribution requirements

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

The List of exclusion criteria should be clear. There should be coherence between the exclusion from the hypothetical and theoretical P&L, in order to keep consistent and coherent perimeter between Risk and Finance functions.

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.

All the adjustments are computed at desk level. We never compute adjustments at "top of the house" level.

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?

No further indications or clarifications on specific valuation adjustments as "top of the house adjustments" are needed, as long as adjustments are calculated at more granular level. The adjustments related to market risk are clearly identified.

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)?

The overshootings generally are not caused by valuations adjustments, which are actually excluded from actual & hypothetical P&L.

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

Yes, we agree.

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)?

We have not detected the overshootings caused by the valuation adjustments.

4.8 FRTB – Non-modellable risk factor stress scenario risk measure

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

1. Definition of the observation period.

We believe considering the 1 year stressed period to reflect stress conditions for the NMRF to be the best available proposal (option c). This approach is operationally efficient (only 250 dates would be needed) and should be sufficiently conservative (considering it is already defined as the stressed period, i.e. the worst period for the risk factors). In case no data from stressed period is available, proxies would be used.

2. Types of data acceptable for the observations

Types of data acceptable for the observations should be the same as the one allowed in the computation of the Expected Shortfall for the Modellable Risk Factor (option b). However, if historical time series are not complete (i.e. some dates are unavailable) and proxies are necessary, then NMRF 'gauge' risk factor data could be used (option c) provided that this does not lead to a risk underestimation compared with using the *real* risk factor data.

3. Additional conditions on the data observed for the NMRF

We agree with the statement that if a minimum number of acceptable observation is not found in the observation period (i.e. at least 40 observations of real data, where proxy data does not count as real data), then the fallback solution must be used.

4. Definition of the liquidity horizon LH (i) 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 rules should not be changed for NMRF.

5. Calibration of parameter CL_{σ}

We agree that a 90% confidence level is acceptable, as the main driver of the equation is going to be the number of observation available.

6. Calibration of parameters $C_{ES\ equiv}$

We believe that parameter should be easily computable for each single risk factor. For this reason, no floor is needed (also considering that for some risk factors, a base value of 3 could be excessively conservative i.e. some IR risk factor have a value of $C_{ES\ equiv}$ lower than 3).

7. Calibration of K_j

The main issue with the k parameter is the computational effort required to compute it. 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.

$$k_t^j \stackrel{\text{def}}{=} \max\left(1, \frac{ES(\text{loss}(r_j))}{\text{loss}(FS_t[r_j])}\right)$$

In fact, in order to compute $ES(\text{loss}(r_j))$, if 250 observations and therefore returns are available, 250 full revaluations are required for that single risk factor. If, for example, a bank has 1.000 NMRF, then $1.000 \cdot 250 = 250.000$ full repricing on the whole portfolio are required. This obviously raises the problem of an overall excessively burdensome computational effort.

Moreover, this would lead to two possible solutions:

1. Setting k_t^j equal to 1, and considering only the grid of the CSSRFR range (we would then have the upper and lower value of the shock, and a specific number of intermediate scenarios defined using pricing grid and/or historical scenarios).
2. If k_t^j is necessary, then it would be easier to calculate directly an ES risk measure, even though the computational effort issue still remains.

8. Calibration of k_t^j , CL_{σ} and $C_{ES \text{ equiv}}$ to achieve the target calibration' at least as high as an expected shortfall'

The solution should not lead to a significant increase in model complexity without clear benefits. As long as the calculation is unbiased, no major capital underestimation is expected.

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

The observations and concerns regarding the overall methodology were outlined in the previous question. A brief recap can be found below.

General

- The proposed SSRM calculation method is overly burdensome in terms of computational effort;
- The various levels of conservativeness required (i.e. kappa computation, correction factor needed to not underestimate small samples) lead to an extremely conservative stand-alone number, also considering that this conservativeness is principally driven by the fact that bucketing or diversification are not allowed.

Kappa calculation:

Calculating kappa in a suitable way is computationally expensive and, in addition, it should be recalibrated 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 computation:

- 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 10 days (in line with Expected Shortfall computation) and then scale them to larger liquidity horizons;
- Scaling short returns to long holding periods using the *square root of time* rule will easily lead to excessive shocks.

§247:

For all non-linear risk factors, an optimization over the range of possible risk factor values is needed and 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.

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

An alternative approach could be a simplification of the EBA proposed methodology, that is after computing the Calibrated Shock measure, define a fixed number of shocks in the interval [-CS, +CS] in order to calculate the maximum loss with full revaluation, without the k adjustment (impose k=1). In addition, consistently with the FRTB regulation, bucketing is permitted, allowing intra-bucket diversification.

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

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). Furthermore, the direct loss based approach methodology is not clearly defined and should be better specified.

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 NMRFs that would require a stand-alone ES calculation. Bucketing could partially mitigate this problem; however, it would still not solve it.

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

- a) The extreme scenario of future shock to be applied should be reviewed on monthly basis and clearly every time a new risk factor is introduced
- b) Supervisors may argue the calculation of the extreme scenario of future shock to be applied when no sufficient data are available or no suitable proxies are used for the estimation.
- c) A full documentation explaining all the steps of the applied methodology should be provided.
- d) Reporting on various topics (i.e. nature of NMRF, liquidity horizon, estimate for standard deviation) should be periodically provided.
- e) There is a strict relation between these RTS and those provided for GL on backtesting.
- f) 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.

- g) Scaling short returns to very long holding periods using the square root 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)

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

- Interest rate curves (minor currencies)
- Credit spread curves (Corporate both cash and CDS)
- Equity surface volatility (out-of-the-money)

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

As a general matter of fact, we agree that a NMRF, with no sufficient available data, could be well represented by a Skewed Generalised t-distributions (SGT), since most of the financial instruments are characterized by fat-tailed and negative skewness. However, our internal model is based on historical returns to compute risk measures. This implies our commitment to maintain full time series with no stale price as longer as possible. Thus, we do not assume any probability distribution of the risk factor except for its empirical one, which indeed represents the risk factor true historical behaviour.

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

When losses grow faster than linearity, the Expected Shortfall of losses is higher than the loss of the Expected Shortfall and therefore a non-linearity adjustment is needed.

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

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

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?

We believe that Option 2 (the prescribed risk weights) is the most suitable as a fallback approach, because for certain type of instruments (i.e. short call options) a maximum possible loss is not well defined.

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?

Risk factor categories and respective shocks defined for the fallback approach are sufficiently appropriate. However, we suggest to consider a more granular table, for example using the SBM FRTB bucketing.