20th February, 2015

Norah Barger and Philippe Durand, Co-Chairs of the BCBS Trading Book Group
Ju Quan Tan, Member of the Secretariat, Basel Committee on Banking Supervision (BCBS)
Basel Committee on Banking Supervision - Bank of International Settlements (BIS)
Centralbahnplatz 2, CH-4002 Basel, SWITZERLAND

Sent by email to: Norah.Barger@frb.gov, Philippe.Durand@acpr.banque-france.fr, Juquan.Tan@bis.org, baselcommittee@bis.org

Re: Industry Response to the BCBS Consultative Paper on the Outstanding Issues with regards to the Fundamental Review of the Trading Book (FRTB) capital standards – BCBS 305, published on December 2014

Dear Ms. Barger and Mr. Durand,

The undersigned Associations appreciate the opportunity to comment on the third Consultative Paper ("CP3") on the Fundamental Review of the Trading Book ("FRTB") and value the constructive dialogue with the Trading Book Group ("TBG") to date. The feedback and suggestions submitted herewith are geared towards strengthening the trading book capital framework whilst aiming to retain an appropriate representation of risks with a view to minimizing unnecessary complexity, where possible.

The current CP3 incorporates a number of methodological changes and new approaches which industry supports. These are reflective of the active technical engagement and fruitful discussions of the TBG with industry since CP2 was released. In our view, a frequent exchange of views between industry and regulators is the most efficient and effective way of developing solutions and proposals in line with the stated regulatory policy objectives. We also understand and acknowledge that the FRTB objectives do not include raising the capital requirements in the trading book.

In addition to the framework concerns and considerations presented in the following sections, the industry would like to reiterate its reservations regarding the FRTB timeline and implementation process. An aggressive implementation timeline that does not provide adequate time to iteratively incorporate testing outcomes may limit the success of this review. We strongly advocate on the need to incorporate the next firm-wide QIS (June 2015) in the policy finalization process given that new concepts and methodologies that have been recently introduced require adequate testing. In our view, the QIS outcomes may be incorporated into the framework build phase without affecting the 'go-live' date for implementation and will help assure that the framework design is right the first time.

This letter contains industry's current thinking on a number of different areas and although feedback is provided on the requested aspects of the framework as per the CP3, a broader range of issues are

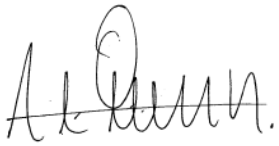
presented for completeness, including topics covered in previous consultations that have not been yet addressed. Since the industry is still working through the BCBS CP3 text and the QIS instructions, we may wish to follow-up with supplementary materials that we would very much hope that the TBG can take into account in its deliberations.

Moreover, during the meetings between the TBG and industry, certain issues (such as backtesting and non-modellable risk factors) were flagged as being part of the calibration phase that is to follow after the end of this year. Industry will respond to these changes in detail once detailed analysis can be performed on the new requirements. We would also encourage the TBG to adopt flexible wording where the framework components have not been fully assessed so that amendments can be accommodated at a later stage.

In terms of structure of this document, the first section is an executive summary of the key outstanding issues in the FRTB which are described in detail in the following sections in line with the three main pillars of the CP3: i) Trading book/ Banking Book boundary and the Internal Risk Transfers, ii) the Sensitivity Based Approach and iii) the Internal Models approach.

As a final note, we wish to reiterate that we are in broad agreement with the objectives of the FRTB framework and the points we raise in the industry response are intended as constructive feedback with the objective of supporting the TBG's objectives and to complete the consultation process within an adequate timeline. We and the industry remain available to discuss the issues raised herein in more detail, together with any other topics deemed important by the TBG.

Yours sincerely,



Mark Gheerbrant
Head of Risk and Capital
ISDA

David Strongin
Executive Director
GFMA

Andres Portilla
Managing Director, Regulatory Affairs
IIF

Executive Summary

Industry would like to emphasize and elevate within this response letter a number of issues that go beyond the remit of the CP3, but are important and should be addressed appropriately prior to the FRTB framework finalization. For several of these, the industry has already provided the TBG with proposals and for others it is in the process of investigating alternatives. Below we summarize our key issues and concerns without delving into the technical details.

Timeline Challenges for the Framework Policy Finalization

According to CP3, the current QIS will be used to inform the deliberations of the final FRTB calibration. The TBG has further communicated to industry that the current regulatory timeline aims to finalize the policy framework by the end-of 2015 and provide for a period of 2-3 years for additional calibration-type amendments.

The industry views the suggested project phasing structure as critical for the refinement of the framework elements. Despite a certain degree of ambiguity on what constitutes a structural policy issue versus a calibration-type amendment, we would welcome additional time at the current stage for testing and making any necessary changes to the framework before we move on to the calibration phase. Within the calibration period we look forward to the continuation of our constructive collaboration with the TBG.

At the same time, new concepts and methodologies have been recently introduced/are being considered in the FRTB that require adequate testing before being introduced in the policy framework. If any issues with the proposed methodologies are identified, we recommend that the remedial solutions be reviewed and tested so as to make sure that the anticipated outcome is realized. Consequently, industry recommends that the next firm-wide Basel III QIS exercise results should also inform the final policy framework decisions.

The incorporation of the next QIS in the policy finalization process may require pushing back the envisioned target date before moving on to the calibration phase. However, the QIS outcomes may be incorporated into the framework without affecting the final 'go-live' date for implementation and will help assure that the framework design is right the first time.

Additionally, due to the rising importance of standardized approaches and floors in the wider prudential capital context[1] the initial conclusions from the FRTB and the corresponding market signaling have the potential to affect institutions' strategies and views of different product segments. Therefore, even if certain aspects can be changed subsequently if found to be flawed, the effects may have already impacted the real economy.

Current QIS Challenges

The industry would like to reiterate the importance of receiving the QIS instructions ahead of the reporting date of the QIS in order to enable the participating banks to set up their risk systems and capture all the data required. Furthermore, given that the current QIS instructions included additional framework changes requiring analysis, a timely FAQ process is important to resolve any technical implementation issues and ensure consistency and quality in the bank's QIS submissions.

[1] BCBS 306, "Capital Floors: the design of a framework based on standardized approaches", consultative document, December 2014 http://www.bis.org/bcbs/publ/d306.pdf

All the above elements heighten the risk of operational issues, meaning that the conclusions drawn from the results may be inconclusive for the policy development process. We would therefore kindly ask that QISs, instructions and the FAQ process at future dates are sequenced in a way that allows banks to review the data request before the data point. This would lead to improved consistency and quality of the results.

Revised Trading Book Boundary and Internal Risk Transfers

We would like to emphasize our support for the goal of clear standards for classifying positions into the trading book or banking book and enhancements to governance process for internal risk transfers (IRTs). However, we seek further clarity regarding the prudential justification for the proposed rules on IRTs to enable the industry to respond more specifically on the issues that need to be addressed.

We do not see a strong prudential need for the proposed restrictions on IRTs. In particular, we propose that banks retain the ability to transfer banking book risk to the trading book in a way that allows the risks to be managed on a portfolio basis, taking into account diversification effects, subject to the trading book regulatory capital requirements, the limits of the trading book and governance standards that meet supervisory approval (see proposal in section 1.2). This approach enables more effective management of banking book hedging given that sufficient market liquidity and depth may not be available to apply exactly matched external hedges. Enhanced transparency on risk transfers will also help mitigate the risk of capital arbitrage. Separately, in relation to the trading book / banking book boundary, we recommend specific text to clarify the boundary requirements and to specifically address underwriting activity.

Standardized Approach: Sensitivity Based Approach ("SBA")

The rising importance of the standardized approaches in the prudential capital context[1] indicates that the initial conclusions from the FRTB have the potential to result in market signaling effects even before implementation, with corresponding impacts on institutions' strategies and views of different product segments. These potential market impacts highlight the importance of addressing key issues prior to finalizing the framework such that unintended market consequences can be avoided. Below, we outline the key issues in the SBA, with more detailed description and recommendations presented in the main body of this response.

1) Asymmetric Correlations

In SBA, two correlation values (referred here as *asymmetric correlations*) are specified for each pair of risk positions in order to capture the lack of stability in correlation parameters: a higher value for the risk pairs with the same sign and a lower value for the risk pairs with the different signs. This design feature can lead to unrealistically large capital charges for well-hedged basis positions when used in conjunction with the correlation scaling method for basis risk. The industry has been actively discussing alternatives (refer to section 2.2) to address this methodological flaw but more analysis is required before a final proposal can be communicated to the TBG.

2) Securitizations

The treatment of securitizations remains one of the top issues in the SBA agenda due to the importance of this sector for industry and government support for reviving this market. Currently,

- the standardized approach specifies that the capital charge for securitization positions is calculated as the simple sum of a credit spread risk charge and a default risk charge which is based on the risk weights in the corresponding treatment for the banking book. As discussed previously, there is clearly a high degree of overlap between the two and industry would welcome TBG's steps in addressing this issue.
- the proposed risk weights for securitization products are very large, ranging from 800bp to 5000bp; the residual bucket bears a risk weight of 5000bp as well.
- the lack of granularity of the risk weight buckets leads to many positions being classified into the residual bucket.

The combination of the above framework design parameters may lead to unjustifiably high capital charges that overestimate empirical losses (see industry suggested alternatives in section 2.3). Industry welcomes the launch of a separate QIS exercise focusing on securitizations that will demonstrate these issues and hope that the TBG will concurrently offer a proposed solution for further examination by market participants.

3) Basis Risk

On basis risk, the industry welcomes the introduction of alternative approaches to the disallowance factor. The proposed correlation scaling approach constitutes a significant improvement over the disallowance factor, especially when applied in conjunction with refined risk factors. We recommend detailed testing of the combined impacts of these two components to ensure that any flaws are identified and corrected (for more details see section 2.4). If the BCBS is still contemplating the use of the disallowance factor approach under certain circumstances, we would recommend that its application is at the risk factor level, with methods in place to avoid capital charge jumps due to small variations in the risk composition.

4) Treatment of Optionality (Vega and Curvature)

In the instructions for the firm-wide QIS that was performed in the second half of 2014, the TBG introduced for the first time vega and curvature as additional risk components, aiming to capture the non-linear dimensions of products with embedded optionality. We recommend to the TBG to re-consider these specifications as vega has become considerably complex to calculate and the current definitions of vega (sticky-delta), the vega smile moneyness and curvature, will require the implementation and calculation of new sensitivities for SBA purposes (for more details see sections 2.5 & 2.6) .

5) Risk Factor Definitions

Industry has identified modifications (as discussed in more detail in section 2.7) that can simplify the correlation scaling approach for basis risk by removing or re-defining certain factors and re-adjusting the dimensionality of others. At the same time, enhanced clarity is requested for specific terms whose interpretation can significantly affect the capital charge level.

Internal Model Approach (IMA)

Industry appreciates the refinements introduced in CP3 and specifically the introduction of a scaling approach for the incorporation of liquidity horizons in the expected shortfall calculation. Furthermore we recognize the TBG's efforts to address one of the main methodological drawbacks identified by industry

participants during the last QIS (H2 2014), namely the problem of the "broken hedges" arising from different liquidity horizons between an underlying exposure and its hedge. In addition the reduction of length of liquidity horizons for key interest rates and FX currency pairs is a step to the right direction and we support efforts to calibrate all liquidity horizons in line with market liquidity to avoid any distortion to the smooth operation of markets and capital flows.

1) Non-Modellable Risk Factors (NMRF)

We are supportive of the TBG's stated objective to have complete and high quality data supporting banks' internal models. The introduction of eligibility criteria to support the data quality is in the right direction, nonetheless we highlight several issues that may hinder this objective. There are specific areas where the proposed language might be too strict if interpreted at face value. We provide more details in the main body of the paper in that regard (refer to section 3.2) and we aim to continue the constructive dialogue with the TBG in order to satisfy adequately the regulatory intent without jeopardizing the scope and relevance of internal models.

2) P&L Attribution & Model Independent Risk Assessment Tool (MIRAT)

The industry supports the TBG's objective of testing model performance and delving into the drivers of model's shortcoming, but has reservations regarding the introduction of P&L attribution as a stringent model P&L performance metric, due its design and lack of clarity in the current instructions (for more detailed discussion see section 3.4). In particular it is noted that capital models are not designed to track daily P&L but to provide sufficient coverage at the tail of the P&L distribution. Furthermore, the industry is wary that MIRAT is complex and will not add significant value to the process given that the different desk structures across banks (i.e. product mix and portfolio composition) would require customized calibration. Industry is working towards a more detailed set of recommendations in addressing the issues raised in the letter and hopes to be able to share this with the TBG in the not too distant future.

3) Liquidity Horizons

We would like to reiterate that the incremental capital charge stemming from the proposed set of liquidity horizons buckets is still excessive for certain product categories and does not reflect industry's experience from severe market disruptions. In addition we elaborate further on elements that we recommend should be considered as part of the expected shortfall calculation to i) avoid cliff effects, ii) take into account the effects of mean reversion and iii) incorporate the gradual de-risking of the position, once a liquidation strategy is implemented (see proposal in section 3.1).

4) Computational Intensity

The current calculation specification for the expected shortfall requires numerous runs so that risks across risk factors can be captured. At the same time the output is required on a daily basis for regulatory and management purposes, meaning that significant infrastructure needs to be developed and tested by banks to cope with the number of permutations. We recommend that the TBG considers simplifying the calculation by reducing the number of runs and be mindful of this issue when both amending the framework and reaching a policy decision on this aspect. To this end, we appreciate that the exact methodology is subject to testing through the QIS exercises (see detailed discussion in section 3.1).

5) Incremental Default Risk (IDR)

We believe there are conceptual challenges around the mandatory inclusion of equity products in the calculation of IDR as well as technical difficulties in modelling the impact of simultaneous defaults of a large number of issuers on multi-name equity products. In addition, while credit risk exists in sovereign and government-backed bonds, we believe that applying the same PD floor (3bps) on sovereigns as for corporates is not appropriate, given the exceptional characteristics of governments to raise revenue and monetize debt (for more details refer to section 3.3).

Risk Sensitivity vs. Complexity and Comparability

We agree that efforts to increase risk sensitivity over time have led to a more complex regime. However, in our view, complexity itself is not inherently undesirable - unnecessary complexity is. Considerations of how to balance simplicity and complexity should be centered on how to capture risk in a cost-effective and well-understood way. We believe that the objectives of the current SBA approach, to increase risk sensitivity and to provide a real and credible fallback to internal models, are the right ones. Too simplistic a view to risks in the SBA approach would not achieve these goals and certainly not produce a framework which can evolve over time to reflect changes in the markets and bank businesses throughout the different stages of the economic cycle.

In terms of the IMA, while we understand the importance of comparability, we caution against imposing too many regulatory restrictions on banks' modelling choices. While adhering to some common standards and methodologies is welcome, imposing excessive regulatory restrictions (a type of a "one size fits all" approach) is bound to increase systemic risk as firms' risk assessments and appetites are forced to converge. Therefore, we believe that emphasis should instead be placed on formulating model performance tests and developing safeguards that increase capital levels gradually when model performance proves to be poor. This would allow more diversity in risk tolerance across the financial system participants than what would be achievable under a prescriptive modelling regime, and would avoid the built-up of risk concentrations that could trigger an unexpected crisis.

FRTB in the Context of the Wider Regulatory Agenda

Reflecting on the various changes to the capital framework, it is important to ensure that the efforts to maintain risk sensitivity in the FRTB are not hampered by additional floors elsewhere in the wider regulatory framework. In our view, it is important to fully review the interplay of different measures impacting bank business lines and limit duplication of competing regulatory measures/backstops. The wide range of capital floors (such as TLAC, leverage ratio, model-independent risk assessment tool and standardized floors) makes it difficult for banks to manage and monitor regulatory compliance and pricing of products at the individual business lines. In addition, centralized capital planning, risk and funding functions will find monitoring, allocating and pricing capital and funding much more cumbersome.

We encourage the TBG to interact with other Basel working groups, the Policy Development Group and the Basel Committee to ensure that these issues are taken into account when the BCBS assesses the interaction, coherence and overall calibration of the framework, as mandated in its work programme. We encourage the Basel Committee to ensure that these issues are taken into account when it assesses the interaction, coherence and overall calibration of the framework, as mandated in its work programme for 2015 and 2016.

1. Internal Risk Transfers between the Banking Book and the Trading Book

1.1. General Comments

We welcome the BCBS acknowledgement on the merits of allowing banks to efficiently hedge risks in their banking books, without compromising the banking book/trading book boundary, and support the goal of clear standards for classifying positions into the trading book or banking book. We appreciate the opportunity to provide our views on remaining issues that we believe need to be addressed and/or clarified. Below, we offer our views on the proposed rules on internal risk transfers ("IRT").

1.2. Internal Risk Transfers of Interest Rate Risk

Although regulatory arbitrage is referred to in CP3, it is not made explicitly clear what arbitrage the proposed rules intend to protect against. In formulating this part of our response the issue we have considered is the arbitrary treatment of credit risk as price risk (market risk). If the TBG have wider issues or concerns in this respect we would welcome the opportunity to discuss further. We understand there may be legacy treatments for IRTs in certain jurisdictions, but we would consider these are no longer required given the strongly tightened boundary requirements, coupled with our suggested increased governance requirements set out below.

Specifically relating to the proposals on IRT as outlined in the CP, we agree that arbitrarily taking a credit risk and treating it as a price risk is inappropriate. For this reason we also agree that risk should not be arbitrarily transferred from the regulatory banking book into the regulatory trading book for regulatory capital calculation purposes. However, given the specific nature of interest rate risk ("IRR"), and the way in which it is typically managed by banks, we believe there are arguments for permitting transfer of risk without restricting the offset of the resulting market risk capital charges across the trading portfolio of the bank.

In particular, it would be helpful for there to be clearer explanation of the interaction between the TBG and the Task Force on Interest Rate Risk ("TFIR") on the issue of IRT. We understand from recent communication with the TBG that IRT proposals only impacts risk transferred into the trading book as opposed to where it is left in the banking book. Given that the TFIR is doing a review of the prudential rules for Interest Rate in the Banking Book ("IRRBB"), we would assume that it would have a view as regards the hedging activities that would be appropriate for banking book positions, and how these should be captured for regulatory capital purposes. This closer interaction would ensure that policies coming out of the FRTB and the IRRBB workstreams are coherent and mitigate the risk of any arbitrage under the future regime.

As drafted, Option 1 in the consultation document would potentially oblige a bank's Asset and Liability Management ("ALM") Treasury function to mitigate all their IRRBB with external counterparts, which would decrease the bank's ability to benefit from diversification effects and would increase its counterparty risk and the related liquidity requirement. Option 2 could have the same detrimental impact as Option 1 since, with a portfolio limited to ALM Treasury's transactions the ability to diversify on portfolio level is significantly constrained. We consider that due to the increased costs of centralizing and managing risks, there is the possibility of a perverse incentive created to leave risk unhedged in the banking book.

Hence, both options would likely impact how banks are managing IRR with no clear benefits in sight, both from a prudential and a risk management perspective. We would expect capital regulations to

provide the right incentives for hedging the risks in the banking book and not discourage any such behavior. The impact of various structural reform initiatives should also be considered in this context whereby hedging of ring fenced banking activities would also be more challenging.

Where a bank offers trading services on derivatives to its customers, the bank's function in charge of mitigating IRRBB often executes all or some of its risk mitigating derivative instruments with the market trading desk of its own bank. Such IRT process is efficient for the bank since it minimizes the number of desks facing the market, thus minimizing counterparty credit risks, reducing the overall costs of risk management, and benefits from the diversification effects between customers' transactions and ALM Treasury's transactions. IRTs enable the bank to manage its risk more effectively as a portfolio, which is particularly relevant where a bank's particular portfolio and funding profile means that it is not always feasible to achieve exactly matched external hedging because of limitations in market liquidity and depth; for example, where most products are on variable rate pricing or where the bank executes large volume transactions with specific characteristics.

The trading desks are subject to a risk management framework, notably limits to their market risk exposures that de facto bind them to almost fully offset the risks they are loading through their customers' transactions (including ALM Treasury's transactions) with external transactions. Any residual risk is subject to the market risk capital charge applicable under current Basel 3 standards. In this sense, IRR is a risk that is viewed and managed centrally as a price risk by many firms. For this reason it can be argued that IRR that has been properly transferred to the trading book should also be capitalized as a price risk without being kept separate from any other interest rate risk generated by activities in the trading book We would welcome further clarifications or illustrations of these issues.

In summary, the currently proposed options 1 and 2 will have a significant impact on bank's risk management practice and capital requirements:

1. Capital requirements are likely to increase as any risk mismatch of TB and BB transactions will trigger capital charges under the TB environment.
2. Banks may be forced to centrally manage BB risk positions in a BB environment and only transfer risks to the eligible TB which already has an external hedge available, leading to less effective risk management. Furthermore the BB could be forced to maintain risks that are not part of the BB's core mandate.
3. Not allowing for portfolio-based risk management may synthetically increase market flows as all BB related hedge transactions would need to flow through the market. This effect increases costs for banks and is thus likely to have an impact on pricing and product offerings that banks are able to make to their clients who are covered in the BB (e.g. retail clients and corporate financing).

Therefore, we suggest that banks should be permitted to retain the ability to transfer banking book risk to the trading book, with resultant diversification effects, subject to the mandates and limits of the trading book and governance standards that meet supervisory approval. Concern about capital arbitrage will be mitigated by full transparency in the transferred risk. Hence, we suggest that such IRTs be accompanied by reporting requirements that describe the details of the transferred risks.

Industry Recommendations

- IRT-transaction should be executed with an IRT-eligible TB-desk
  - The IRT should be documented as eligible for mitigating risk in the banking book interest rate risk. This information should be made available to supervisors.
  - The IRT-transaction seen from the TB view is recognized in the TB market risk framework together with the other TB transactions.

- The IRT-transaction seen from the BB view is recognized in the BB prudential framework.

- Each IRT-eligible TB-desk ('the desk') should:
  - List the financial instruments ('the instruments') the desk can use to service its customers (including internal customers).
  - Document the hedging strategy applied to the IRT in a transparent and comprehensive way.
  - Meet specific requirements on an ongoing basis to ensure risks are appropriately offset. Examples of such requirements include:
    - The desk routinely stands ready to trade the instruments, in both directions, and is willing and available to quote or enter into long and short positions in the instruments, in commercially reasonable amounts and throughout market cycles on a basis appropriate for the liquidity, maturity, and depth of the market for the instruments.
    - The bank applies written policies procedures, internal controls, analyses and, as appropriate, independent reviews identifying and addressing:
      - The financial instruments the desk stands ready to enter into;
      - The techniques and strategies the desk may use to manage the risks of its activity and the personnel responsible for ensuring that the actions are taken by the desk to mitigate the risks;
      - The actions the desk takes to mitigate the risks of its financial exposure consistent with the limits; the products, instruments, and exposures the desk may use for risk management purposes.
      - Limits applicable to the desk should be based and consistent with the nature and amount of the activity offered by the desk:
        - the amount, types, and risks of its activities;
        - the amount and types of the products, instruments, and exposures the desk may use for risk management purposes;
        - the level of exposures to relevant risk factors from its financial exposure.

Technical feedback

Aside from the arguments above we have the following comments on the proposed framework as drafted in CP3:

- The IRR and equity risk transfer methods refer to use of instruments that are "recognised as a hedge of the banking book exposure". The only existing regulatory definition of recognized hedges in this respect is eligible CDS. It is unclear from CP3 what is intended to be included as a recognized hedge for equity and IRR risk transfer.
- If it is intended that firms should use their own internal risk assessment to identify recognized hedges, this should be made clear in the final framework.
- We understand that under GIRR Option 2 the separate portfolio may sit on a trading desk that also trades other portfolios. This should be made explicitly clear.

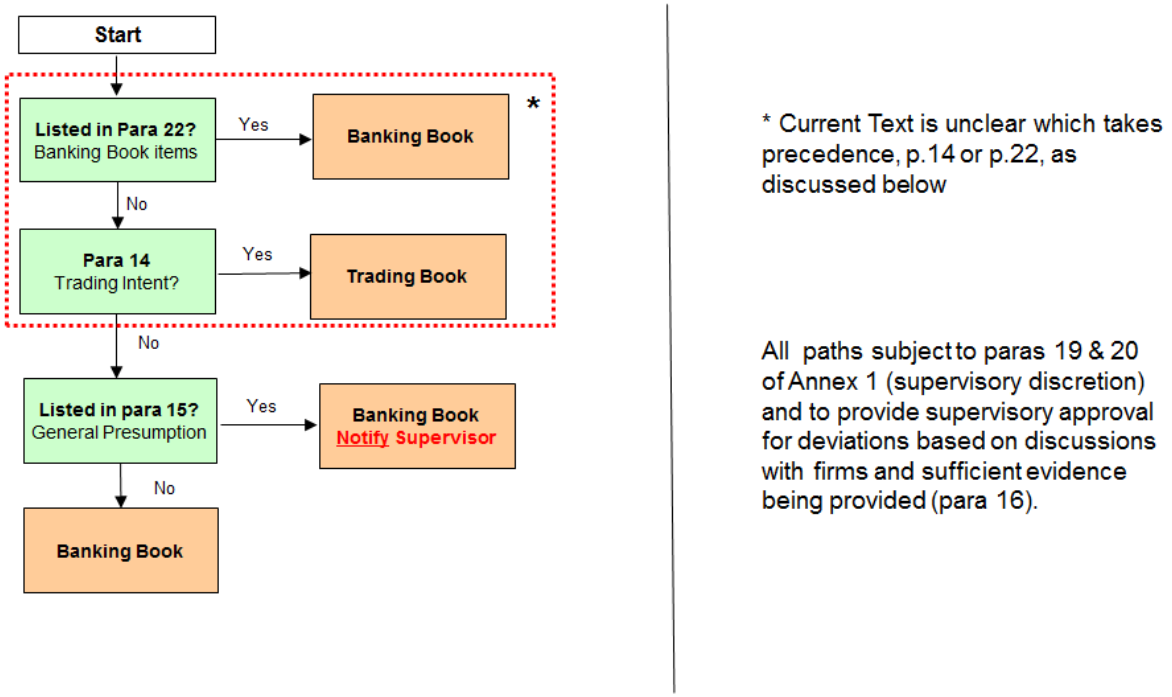
1.3. Trading Book / Banking Book Classification Rules

The draft FRTB rules text used for the QIS defines the following key determining factors for the scope of the new market risk rule and for classifying positions between the trading book and banking book:

Paragraph 1: FX and Commodity Risk in the banking book

Paragraph 14(a-d): Trading intent determination (e.g. short-term resale, price movements, etc.)
Paragraph 14(e-f): Net short risk positions should be in trading book
Paragraph 15 and footnote 9: Trading book presumptive list
Paragraph 19 and 20: Supervisor may change bank determination
Paragraph 21: Any instrument managed on trading desk is trading book
Paragraph 22: Banking book list

We believe it is important that the final text provides clarity as to the hierarchy of these factors to easily resolve potential conflicts among them. Below, we include a decision tree based on recent discussions with the TBG:



Further commentary on TB/ BB boundary is included below, more detailed comments on the presumptive list are included in Appendix 1.

We would like to confirm that paragraph 14 should be considered the "primary set of considerations" that would take precedence in a conflict. As such, we suggest below the following language for paragraph 15:

"15. The general presumption is that any of the following is a covered instrument, unless it does not meet the requirements mentioned in paragraph 14.

(a)…

~~*is being held for at least one of the purposes listed in paragraph 14 and therefore is a covered instrument.*~~*"*

We further suggest that items in the presumptive list that do not meet the requirements of paragraph 14 should only be subject to post-trade supervisory notification followed by periodic supervisory review, rather than pre-trade supervisory approval. This would avoid automatic classification (e.g. de-listing of public equity), or over-burdening new product activity.

Moreover, we would envision that the presumptive list is not fixed, but act as guidance that would need to evolve over time e.g. updates for new products. We also recommend that there should be a feedback mechanism across jurisdictions to consider if those permitted exemptions or deviations should be formally adopted by BCBS (e.g. through FAQs) to ensure consistency.

Given the above, we believe paragraph 21 could be incorporated into paragraph 14 as "covered instruments must be booked and managed by a specified trading desk".

With regard to paragraph 22, there is still some uncertainty with the priority of this paragraph in relation to paragraph 14. We understood from discussions that this list was mandatory rather than presumptive; however, the revised text in Annex 4 of the QIS instructions states that the prescribed instruments "…*should be assigned to the banking book, unless otherwise specified in this text*." Since the banking book instruments would specifically be assigned to the trading book if they meet the requirements in paragraph 14, it would seem that paragraph 14 takes precedence in this instance. We request clarification that this interpretation is correct.

We also reiterate our request that the banking book list should also be considered as "general guidance", with deviations from the list subject to supervisory notification followed by periodic supervisory review. Rigid application of these requirements could lead to situations where fully hedged positions in the trading book may be considered unhedged for regulatory capital purposes because the other side is deemed to be in the banking book by regulatory prescription.

It is also our understanding that all instruments used as hedges of banking book exposures should be classified in the banking book. However, the presumption stated in paragraph 15 (a) that all fair-valued instruments are held for trading intent may lead derivatives that are used for hedging banking book exposures to be classified in the trading book, unless they receive hedge accounting treatment. Paragraph 22 (g) states that all hedges of instruments that are in the banking book list should also be classified in the banking book, but falls short of saying that all hedges of banking book exposures should be classified in the banking book. Since in interest rate risk management it is quite difficult to assign hedges to instruments being hedged, the current language is not sufficient to reflect the intention of the TBG as we understood from recent discussions. Therefore, we suggest that paragraph 22 (g) be amended as follows:

"22. (g) Instrument held for the purpose of hedging ~~*a particular risk of a position in the above instrument types*~~ *banking book exposures."*

While paragraph 14 gives flexibility to banks in determining their trading book, there are still concerns about the potential impact of other international regulations (e.g. US Volcker, EU Banking structure, UK Banking reform, etc.) on the boundary structure as well as banks' trading activities and desk structures. Although the proposals state that trading desk structures are to be defined by banks, "supervisors may

determine, based on the size of the bank's overall trading operations, whether the proposed desk definitions are sufficiently *granular*[2]." We propose that a granular desk structure is not a pre-requisite for a well-defined business strategy or a clear risk management structure. On the contrary, an overly granular trading desk structure will often be less efficient. We recommend removing this reference to granularity to increase flexibility and reduce the potential for conflict with structural reform measures. Furthermore, we recommend that the BCBS should monitor relevant international regulatory developments and, if necessary, adjust the trading book rules to avoid any potential inconsistencies.

Finally, the implications of paragraph 1, regarding the inclusion of FX and Commodity risk in the banking book, should be carefully delineated and understood in the context of the new rule. In the past, different jurisdictions and supervising agencies have provided different interpretations of this under the current rule, most notably for the treatment of CVA. Based on paragraph 1, the FX and Commodity risks of CVA are in scope of the current FRTB, notwithstanding that CVA Capital more generally has a proposed separate treatment under FRTB. There is presently no clarity how these risks are to be capitalized under the new regime, and there has been no study of the capital impact, complexity, and computational challenges under SBA, for example, if FX and Commodity risk curvature and vega calculations are required. Further study is warranted before this aspect of the rule is finalized. The specific requirements for FX and Commodity risks in the banking book, for SBA, IMA, backtesting and P&L attribution, should be clearly delineated in the rule to avoid ambiguity and confusion in the implementation.

[2] Page 226, Appendix A, Annex 4 of the *Instructions for Basel III monitoring* (February 2015)

2. The Revised Standardized Approach for Market Risk

2.1. General Comments

The release of the BCBS consultation paper on capital floors[1] has confirmed regulators' intent to strategically change the prudential capital landscape and shift the focus away from internally modelled capital requirements in favor of newly developed standardized approaches. Industry fears that the use of standardized floors may lead to the elimination of the inherent incentives that firms have to continuously improve their risk models. As a result, firms' views and appetite for certain risks may become distorted and lead to management and business decisions that affect products and markets in unintended ways.

Increasing the relevance and importance of the standardized approaches for all firms highlights the importance of ensuring this approach is sufficiently risk sensitive without excessive complexity impeding its implementation by less sophisticated institutions. In terms of the FRTB, the industry believes that the SBA model specification has the potential to achieve this fine balance, although i) a number of critical framework elements are still under review and ii) a shift towards conservatism in calibration may change this dynamic. On point ii above, it is important to stress that compounding the structural framework conservatism (such as not allowing diversification across asset classes) with further buffers at the calibration phase may create a disconnect between the capital requirement level and the portfolio/product risk assumed.

Overall, industry welcomes the adoption of the SBA as the selected option for the FRTB standardized approach, instead of the Adjusted Cash Flow Approach ("ACFA"). As provided in the trade associations' letter sent to the TBG on April 16th 2014, the SBA leverages on existing models and risk metrics, poses less operational complexity and preserves offsetting, aggregation and diversification. Nevertheless, there are certain areas where the SBA warrants further refinement and calibration and, as such, industry remains committed to providing feedback and proposals to the TBG through open and effective communication channels.

The issues within the current consultation paper are indeed crucial to the framework and require public input. However, through the testing of the revised methodologies, industry has identified additional areas of concern that would require the attention of the BCBS. These are highlighted within this letter and any solutions that industry has developed to date are also provided. That being said, it is important to emphasize that the efforts of market participants are ongoing in terms of identifying appropriate and workable solutions and alternatives.

2.2. Asymmetric Correlation

Summary of Issues

The industry recognizes that the purpose of the asymmetric correlation approach is to prudentially capture the risk to hedging and diversification benefits that arises due to the unstable and time-varying nature of correlation parameters, particularly in time of stress. As learned from the crisis, a firm needs to hold extra capital to guard against situations where diversification and hedging benefits can be less than expected.

The proposed approach carries intuitive appeal – for same sign exposures a higher correlation is used to reduce diversification benefits; for different sign exposures a lower correlation is used to reduce hedging benefits. However, in practice, the working of diversification and hedging can be much more complicated than pairwise correlations. Diversification is a portfolio concept and hedging can involve multiple instruments and risk factors. The focus on pairwise correlation based on the sign of the exposures can lead

to incoherent correlations being applied to different components of the same portfolio, leading to unintuitive results.

For instance, if a firm is hedging positions along a curve using a few benchmarks, it is not uncommon that there can be some positive and some negative exposures on these benchmarks, some of the points on the curve would then have same or different signs with these benchmarks – picking up different correlations under the asymmetric correlation approach. The correlations among the benchmarks would also be dependent on the sign of exposures on these benchmarks. The result can be that two points on the curve further apart in the maturity space can have a higher correlation than points on the curve with adjacent maturities. The issue of incoherent correlations being applied along the curve gets even more complicated in a much bigger portfolio with positions on different curves with the ultimate capital requirement being very hard to predict.

This can have significant implications on portfolio management. In the course of day-to-day market making, it is possible that the sign of the exposure changes along the curve, leading to a big effect on the required capital of the portfolio and its decomposition as different correlations are being used as the sign of the exposure changes. Keeping track of the effects (intended or unintended) can be challenging and it is bound to add volatility and uncertainty to the portfolio capital requirement.

Industry Recommendations

A potential solution to the above-mentioned issue may be to apply coherent correlation assumptions when calculating the capital of the portfolio. For example, to recognize time variation and uncertainty around the correlation matrix and the resulting risk of having less than expected diversification and hedging benefits, one could consider different correlation scenarios (e.g. a high correlation scenario and a low correlation scenario). Within each scenario, the same matrix is applied across the entire portfolio to ensure consistency. The capital estimates for each of these scenarios can then be combined to arrive at the final capital number.

The final capital number could be the sum of two terms:

1) a term which is the simple average of capital from the different scenarios. This term represents the expectation component;
2) a term which represents uncertainty to the capital outcome due to the possibility of a different correlation scenario being realized. This second term penalizes diversification and hedging benefits from a portfolio perspective and could be further scaled by a scaling factor to reflect tolerance on the uncertainty. This scaling factor can be determined via calibration.

An alternative to this approach is to calculate the capital charge based on an "average" correlation matrix which would have to be applied across the entire portfolio to ensure consistency – i.e. avoid having the incoherent correlation issue discussed in the previous section. In particular:

1) the "average" correlation matrix could be used to define an expected capital charge;
2) an "uncertainty" component is introduced to complement the expected component that would represent the volatility of the correlation matrix values. The calculation of the uncertainty component could be based on estimating ranges of correlations (e.g. difference between high and low correlations) or a form of disallowance that captures this uncertainty.

The industry has been actively discussing these alternatives. At this point, it is still performing additional analysis to assess the pros and cons of the different specifications before making its final proposal to the TBG.

2.3. Securitizations

Summary of Issues

Under the standardized approach, the capital charge for securitization positions is calculated as the sum of a credit spread risk ("CSR") charge, which captures the mark-to-market ("MTM") risk due to tranche credit spread changes, and a default risk charge which is based on the risk weights in the corresponding treatment for the banking book, which have been made significantly more conservative in the final rulemaking from the Basel Committee.

- We agree that securitization positions are exposed to both MTM risk and default risk and it makes sense for the standardized capital measure to capture both types of risk. However, we have serious concerns with the proposed calculation of the CSR charge and its simple summation with the default risk charge to produce the total capital charge for non-CTP securitization positions, as there is clearly a high degree of overlap between the two. We welcome indications from TBG and CP3 that the overlap will be addressed in a manner that either eliminates it altogether or mitigates it as much as possible.
- For non-CTP securitization positions, the CSR charge is based on a linear calculation multiplying the CS01 of the position to a risk weight which is a spread move. The size of the spread move depends on a combination of sector and credit quality. There are only 3 sectors and 2 credit quality categories giving rise to a total of only 6 buckets plus a 7th residual bucket.
- The proposed risk weights are significantly large – ranging from 800bp to 5000bp. The residual bucket also has a risk weight of 5000bp.

We believe these significant risk weights and linear MTM loss calculation exaggerate the MTM loss (due to unrealistic risk weights and missing convexity) and overlap significantly with the default loss charge. This together with a default charge based on the original market value can lead to a total capital charge which is significantly larger than the maximum possible loss for many securitization positions.

This is further exacerbated by the lack of granularity of the risk weight buckets which has caused positions to fall into the residual bucket – and thus attracting the maximum 5000bp risk weight – a shock much higher than empirical experience.

Excessive capital charges for securitization positions make the goal of reviving the securitizations markets, as stated by a number of policy makers, even more difficult since market-making in securitization products will become uneconomical. Increased bank capital requirements will impact the available liquidity in the securitization secondary markets and decrease the attractiveness to potential securitization investors. The liquidity premium impact from reduced secondary market liquidity could significantly increase average spreads from where they are today. Those higher spreads may ultimately be borne by borrowers.

Furthermore, the current proposal creates significant difference in the capital requirements for securitizations between the trading book and banking book, which was removed with much effort as part of Basel 2.5. We believe that it is important to maintain a consistent approach between the banking book and trading book to avoid incentives for capital arbitrage.

Issues with Risk Weight and Linear Calculation

During the crisis, there were large spread moves in securitization tranches that priced-in the default of a significant portion of the underlying pool over a much shorter horizon than the maturity of the position. Applying such large spreads moves on bonds based on their duration under the current state will lead to much bigger price moves than observed during the crisis. For example, if a 3000bp spread move is priced in the assumption that default will happen within 1 year despite the fact that the maturity of the bond is 10 years, this same spread move, when applied to a CS01 based on the original maturity and a less extreme view on the default horizon will lead to a much larger price move. The failure of linear calculation to capture convexity can further exacerbate the problem when a large shock is applied.

The use of CS01 based on the original cashflow is another issue. It is inconsistent with the default risk charge as there will be a loss of cashflow if default occurs, as implied from the default risk charge. With a smaller cashflow, as part of the pool defaults, the CS01 will be smaller. The use of the original CS01 with the large spread will exaggerate the MTM charge and overlap with the default risk charge – leading to double counting.

Industry Suggested Alternatives

In order to have a more accurate charge that is comparable to losses during the crisis, the risk weights need to be recalibrated and the sensitivities and calculations need to be adjusted to avoid double counting. Granularity in terms of product types and credit grades also need to be improved.

The industry has proposed two approaches:

1. A price sensitivity approach which applies price based shocks to an adjusted market value which is first reduced by the default loss charge to avoid double counting. The price shocks can be calibrated to reflect the effects of convexity and loss experience during the crisis. This is a relatively simple and direct approach. It does not require adjustments on multiple components and complicated calculations.
2. An adjusted spread sensitivity approach with CS01 adjusted to reflect smaller cashflow given default implied from the default charge, and spread shocks recalibrated (given adjusted CS01) to produce more realistic losses. Convexity will still be missing if a linear calculation is used. Full repricing can be used to capture convexity but it is more complex and computationally intensive.

Whatever approach is chosen, the ultimate calibration of the sensitivity based component will need to be adjusted to account for the fact that the default risk component already captures some element of the mark-to-market risk, as designed by the banking book framework[3].

Granularity

As mentioned earlier, in addition to the issues regarding the risk weights and the calculation, granularity is also an important refinement that needs to be made. The sector bucketing with only three categories (RMBS/CMBS, Credit Card ABS, and Auto ABS) is too coarse. For example, it would be useful to have RMBS and CMBS as separate categories as well as adding more classes of ABS, SME loans, student

[3] From footnote 9 of http://www.bis.org/publ/bcbs236.pdf: "While the KIRB input to the SFA depends on the maturity of the underlying assets for wholesale exposures, and therefore, maturity is indirectly taken into account in capital requirements, mark-to-market losses of securitized exposures depend to a large degree on the maturity of the tranche. However, neither the SFA nor the RBA acknowledge through capital charges the risk of changes in the market value of long tenor securitization exposures resulting from credit deteriorations in the underlying portfolio." This prudential concern ultimately resulted in a tranche-maturity adjusted capital charge.

loans and non-CTP CLOs rather than the default option of falling into the residual bucket which attract a 5000bp risk weight.

Furthermore, depending on whether the risk weight is represented as price shock, percentage spread shock or absolute spread shock, the degree of granularity in the credit grade dimension would be different. In particular, absolute spread shocks would require more credit grade granularity to have the right degree of risk sensitivity. The current bucketing of having only two categories: IG and an HY/NR would penalize the higher grade products relative to the lower grade products in the same category. E.g. both AAA RMBS and BBB RMBS will be subjected to the same 800bp risk weight.

2.4. Treatment of Basis Risk

The industry appreciates the effort of the Committee in considering alternative methods to account for basis risk and in particular welcomes the departure from the trade-level disallowance method presented in CP2. Drawbacks of the proposed method have been highlighted during the Q3 QIS 2014 impact study, in particular:

- The disallowance factor applied at trade level is too conservative for the capitalization of basis risk and does not sufficiently capture significant differences across asset classes;
- The disallowance factor of 95% can result in much larger capital charges than IMA and is the main driver of delta capital charges;
- In addition, it can potentially lead to unstable 'jumpy' results and cliff effects as nearly identical exposures can lead to opposite results.

Given the considerations above, industry would like to suggest that BCBS acts prudently if it is still contemplating allowing the disallowance factor approach i) as a fallback measure or ii) supplementary to other approaches, such as correlation scaling, if the risk factor refinement requirements are not met. Industry would like to remark that the simplicity of the disallowance method will be satisfactory only if i) its application is at the risk factor level rather than trade level and ii) the resulting capital charges are stable and not subject to jumps due to small variation in the risk composition.

The industry considers the correlation scaling as a positive improvement when capturing basis risk, especially in conjunction with refined risk factors. A fundamental improvement is given by the concept of accounting for basis risk between the net risk, across instruments, at risk factor level rather than by charging the gross positive and negative risk across instruments, unless identical contractual terms are identified. Furthermore the nature of correlation scaling should overcome the cliff effect / jumpy results issues observed with the disallowance approach.

Despite the positive attributes highlighted above, it is important to remark that the correlation scaling approach is yet to be tested. Specifically, as discussed in Section 2.2, industry has identified a methodological flaw, i.e. the correlation scaling method can potentially lead to an unrealistically large capital charge for well-hedged basis positions in the presence of an asymmetric correlation structure.

2.5. Treatment of Vega Risk

Whilst we understand the desire to treat all indices based on a “look through” approach, we reiterate our concern regarding the application of such a rule for capturing vega and curvature risks. For further discussion, see section 2.9.

More clarity is required in the "vega risk" definition for VR_i at each instrument "i" level since an instrument may require a volatility surface, not a single volatility σ_i, in valuation, unless volatility σ_i is interpreted as a vector (for volatility curves) or a matrix (for volatility surfaces), and the multiplication between vega and volatility is the "dot product" between vectors.

A significant new addition is the volatility smile component. The rule defines moneyness as the ratio of spot against strike. We would like to point that this definition is not widely used across all asset classes, where for example for the Rates and FX space, the most common definition of moneyness is the ratio of the forward price against the strike. We believe the rules would benefit from allowing each bank to use the moneyness definition according to their own volatility models. In this way, banks can re-use the models and sensitivities already produced for risk management and limit monitoring.

We would also like to draw the Committee's attention to the increased SBA complexity stemming from the incorporation of non-linear components. In particular, the current definitions of vega (sticky-delta), the vega smile moneyness and curvature, will require the implementation and calculation of dedicated sensitivities for the SBA model.

2.6. Treatment of Curvature Risk

The industry appreciates the improvements introduced in the CP3 on the curvature metric. Nevertheless we would like to highlight the following areas for the Committee's consideration. First, the current regulation does not recognize any capital benefit for banks who hedge their portfolio with a long gamma strategy (and thus paying a gamma premium). This can potentially create the wrong incentives in terms of risk management of the gamma risk factor.

Second, the independent determination of the delta and curvature charges can result in inconsistent outcomes, where capital charges can be based on shocks of the same risk factor in opposite directions (i.e. down for Delta and up for Curvature).

Third, the current formulae designed to capture curvature risk is not fit for purpose for bounded payoffs (e.g. barriers, call spreads, digitals). In these cases, the Delta and Curvature capital charges can potentially exceed the maximum loss of the instrument by several times, the reason being that sensitivities are not constant through moneyness, therefore on large shocks; a local sensitivity is not able to correctly capture movements in the P&L.

To overcome these caveats, the industry is discussing potential approaches where interactions between delta and curvature are incorporated in the capital metric.

Additionally, the industry would like to highlight several other issues with the curvature calculation:

- The granularity of the calculation for equities poses significant operational issues, particularly if this treatment is extended to equity indices.
- The curvature charge for credit spreads requires a big downward movement that can potentially lead to negative credit spreads that are unfeasible or unresolvable for bootstrapping. In this regards, the industry would like to propose to floor the Credit Spreads at zero[4].
- The curvature risk charge is proposed to be calculated for options, but not for other non-linear instruments (e.g., bonds). We consider this a weakness that may impact the accuracy of risk charge estimate, especially when they are hedging instruments.

[4] *This is in line with the QIS 3 suggestion (page 181, Preamble II. first bullet point) for GIRR.*

2.7. Risk Factor Definitions

The industry welcomes the risk factor refinement approach and the departure from the treatment of basis risk through a disallowance factor on positive and negative gross sensitivities from trade level. The new approach is a step towards a more coherent and "market practice aligned" risk representation based on netted sensitivities at risk factor level. Such improvements are nevertheless overshadowed by concerns around comparability and simplicity where the computation of vega risk calculation can pose operational challenges and can lead to variable results given the uncertainty in the rule interpretation.

In the treatment of FX risk the Committee reintroduces the tenor dimension, a concept already presented in CP2 but then removed for simplicity during the QIS Q3 2014, where the FX spot risk has to be assigned to three maturity buckets, following the maturity of the underlying instrument.

The mentioned change seems to be motivated for the need to cope with the capitalization of cross currency products. The industry interpretation though is that cross currency risk is already captured under GIRR refined risk factor approach; hence following both the GIRR refinement and the FX refinement the final capital charge for cross currency products will be double counted.

Following the above mentioned concerns the industry suggests to consider the capitalization of cross currency basis only via GIRR risk factor refinement and keep the FX risk factor without maturity dimension, in order to avoid double counting and to align the risk representation to market practice, where FX risk is generally intended only in relation to FX spot sensitivity.

For the Commodity asset class the CP3 defines risk factors under three dimensions:

- commodity type
- grade
- delivery location

in addition in the paragraph 77 of the Annex 1 other two dimensions are mentioned:

- "maturity difference over six months"
- index constituents/single name

In the CP3 proposal all the above dimensions need to be considered under correlation scaling in order to capture basis risk. With respect to the "maturity difference" refinement, further clarification should be provided on whether it refers to "contractual maturity" leading to a disproportionally large increase in the computational requirements of the correlation scaling approach. In addition the refinement required to capture index basis will also bring operational challenges and will introduce a charge to positions that by construction are immaterial. As a matter of fact for investible index/ETF products in Commodities or Equities, banks that are authorized participants trade with ETF issuers at NAV (net asset value) and in addition the value of the Index is replicable by its future components.

Given these concerns, industry proposes that:

- the commodity risk factor should be defined under two dimension
    - commodity forward curve type
    - tenor vertex (like in the GIRR and CSR case) potentially split across 3 tenor buckets (<1Y, >1Y and <5Y, >5Y).
- basis risk should be recognized between:
    - same commodity type but different grade and delivery location
    - index constituents/single name refinement should be dropped.

For the Equity asset class the committee proposes to define the equity risk factor under one dimension while recognizing basis risk across Equity spot, Dividend forecast and Repo risk. The industry suggests that further clarity to be provided around how dividend forecast and repo risk sensitivities are defined, as different banks may model dividend and repo sensitivities in a different way (dividend yield sensitivity rather than cash dividend sensitivity).

For Repo risk factor, we propose to define "Equity Repo Risk" as P&L for 1basis point remark of stock borrow sensitivity, similar to the convention used for GIRR. This will replace current definition of the 1% relative move also used for spot and dividend delta sensitivity. It will also require new RW in basis points to be prescribed instead of using the current RW for spot and dividend risk factor.

In addition the industry would like to suggest that further investigation is performed via impact study while considering repo rate and dividend as a separate risk factors rather than basis risks. An immediate drawback in the proposed framework is that the same risk weights will be used across all the risk factors while in practice equity spot volatility can be quite different from repo rate volatility.

In relation to the SBA for CTP, the base correlation risk factors for CTP tranche positions are not explicitly treated and defined. Although "correlation risk" is mentioned briefly in paragraph 95 and seems to be captured by using [100] basis points correlation scaling, it may not be appropriate to treat base correlation risk as part of credit spread risk (CSR), especially given the large risk weights for CSR (see the table in paragraph 93). More clarity is required in the rule on whether base correlation in CTP should be treated as a separate class of risk factors and be capitalized through linear risk capital charge and curvature risk charge.

2.8. Calibration of the Approach

The industry commends changes that result in more consistency between the internal models-based and standardized approaches. We understand that the calibration process will continue beyond the final rule-making including potential further changes to risk weights and correlation parameters to further the goals of achieving consistency across approaches and capital measures that are risk sensitive. Our general understanding is that the calibration will result in capital not too different from current capital framework and request early indications in cases calibration might result to materially higher capital requirements.

While we understand that bucketing will not change from CP2, we refer to concerns about the granularity and specification for securitizations (non-CTPs). The industry would like to encourage the Committee to finalize the definition of buckets following the FRTB's calibration phase during which we would look to provide additional proposals on the refinement of the bucket definitions.

Correlations are prescribed for different risk factors and asset classes for risk aggregation. There are several occasions where the same risk weightings and correlations are used for different types of risk factors or simplified formulas are used to generate new correlation structures for other risk factors. Although we appreciate the balance of simplification against increased granularity in SBA, the appropriateness of these assumptions on capital requirements should be assessed.

2.9. Treatment of Indices

The industry needs further clarification on the requirement to decompose index products. Given the methodology and operational complexity of index decomposition, the industry needs a reasonable fall back approach for any non decomposed index products. Based on broader industry feedback, index delta,

vega and curvature risk may not be risk managed on a decomposed basis. Instead of compulsory decomposition, the industry welcomes the option to decompose where appropriate and when consistent with how index risk is managed.

Delta

The industry welcomes the look-through approach for index products. By decomposing an index into constituents, it recognizes almost fully[5] the hedging and diversification benefits between the long position in the index position and short positions in its constituents, resulting in more risk-sensitive charge figures for *linear* products.

Issues with Curvatures and Vegas

In the case of *non-linear* products, for which curvature and vega are required, the look-through approach is not necessarily fit for purpose. The general market practice is to model the prices/risks directly on the indices rather than their sub-components. Applying curvature shifts to the constituent parts would require changes to long established market standard pricing models, resulting in complex modelling and operational issues. Also, given the curvature risk is computed based on only spot shocks (without change in vol surface), the delta approximation should be sufficiently capturing much of the decomposed risk sensitivities (for the purpose of monitoring single name exposure) given the large size shocks/RWs.

There is also a conceptual issue in applying the approach to vega calculations: it is difficult to express the index implied volatility in terms of the constituents' volatilities without making complex modelling assumptions.[6] Although the delta-weighted vega decomposition described in the QIS 3 instructions is a reasonable and pragmatic solution to address the conceptual issue, the method is nonetheless based on simplified assumptions and its validity and effectiveness are yet to be tested.

Industry Recommendation

Given these operational and conceptual issues, the industry suggests that the look-through approach is regarded as a preferred method but not a mandatory requirement for curvature and vega. In many cases, it is entirely appropriate for banks to model the risks on the indices rather than the sub-components. Where appropriate, a fall-back approach should be allowed, as in the last QIS, where the index is considered as a risk factor on its own. Indeed, "a conservative fall-back" is mentioned in CP3, but without any specific instructions.[7]

Index Basis

In order to reflect the basis risk between an index and its constituents, the basis risk correlation is specified in CP3. However, most basis risks, other than credit, tend to be immaterial in practice. Therefore, the industry suggests that the TBG takes into account this observation when calibrating the index basis correlation factors.

[5] Except the basis risk between the index and its constituents through correlation scaling.
[6] e.g. correlation assumptions among constituents.
[7] CP3, Section 2.8: A conservative fall-back, which can be applied when the "look-through" is not feasible, is also specified in the draft Accord text.

2.10. Treatment of the Correlation Trading Portfolio (CTP)

The industry recognizes the concerns of the BCBS in terms of the longer liquidation timeframe, wider bid-ask spreads, and basis between tranches and their single name hedges.

The changes made in CP3, while not increasing the implementation challenges, may exasperate issues that existed in CP2 which have yet been fully understood. The industry will provide additional comments and feedback of concerns after additional analysis has been performed on the credit spread risk for CTPs.

A couple of these general concerns that may be more relevant to the SBA treatment of CTPs are:

1. the disconnect between curvature and delta capital components. This may be more material for derivatives will multiple risk factors (such as derivatives on baskets of underlyings or indices including all CTPs) and
2. asymmetric Correlation (especially combined with increased conservatism on the both sides of the correlations) may decrease risk sensitivity.

While the default treatment of CTP takes on the general approach used for non-securitizations, the lack of netting across capital structure deviates from the non-securitizations approach which does provide benefit for hedges across capital structure. The industry will revert back with comments when further analysis has been done on the CTP default risk component.

Industry Recommendation

Given tranching involved in CTP, industry supports using default-only banking book securitization capital framework to estimate default risk weight. For n-th to default products, some modifications to the banking book framework should be developed in order to reflect the unique transaction characteristics.

It is too conservative to deduct MtM loss from notional (as per JTD calculation where LGD is set at 100%) and then apply RW%. When MtM value is below par, the below-par-amount serves as a direct offset of the loss incurred to the tranche notional.

3. Internal Models Approach (IMA)

3.1. Incorporating the Risk of Market Illiquidity in the Internal Models Approach

Refinements introduced in CP3

Scaling Approach

We appreciate that the Committee has addressed the drawbacks of applying long-horizons shocks of differing duration to compute portfolio P&L. Leaving aside the data challenge, e.g. sample size becoming very small for illiquid risk factors, the proposal put forward in CP2 would have had the combined effect of:

1. "washing away" empirically observed correlations between risk factors;
2. having a more volatile capital depending on the chosen time-window used to calibrate SVaR;
3. introducing potential arbitrage opportunities while re-pricing trades under market shocks which may have been very far from the current market conditions.

The proposed alternative in CP3, the so called "cascade approach", essentially preserves short horizons correlations across risk factors, captures cross terms and carries the interpretation of horizons P&L since they are just scaled from consistent short horizons P&L.

Although there are still certain concerns with the revised proposal, which will be highlighted within the following sections of this document, the industry consensus is that it represents a step into the right direction and strikes a good balance between comparability and risk sensitivity.

"Broken hedges"

Furthermore we appreciate that the Committee has attempted to address one of the main methodological drawbacks identified by industry members while performing the QIS in Q3 2014, e.g. the so-called "broken hedges" issue. A capital charge that would have increased more for fully hedged strategies than for directional positions using the same set of underlying liquidity horizons would have appeared inconsistent and arbitrary.

The proposed "fix", e.g. enabling institutions to use LHs as floor, is a simple and pragmatic solution but it does not yet strike the target of achieving a risk sensitive measure since the same risk factor could be allocated to different Liquidity horizon buckets depending on whether it is meant to model a directional position or a hedge. The allocation mechanism could become in fact quite cumbersome for an institution to be able to maintain it on a relative frequent basis and become less transparent to supervisors.

In order to avoid this redundant complexity, the industry would like to recommend to the Committee to complete the introduction of liquidity floors with a change in the ES regulatory formula, as proposed in Appendix 2.

Reduction of length of Liquidity Horizons for key interest rates and FX Currency pairs

Industry recognizes that the Committee has reduced the length of the liquidity horizons for certain exchange rate and interest rate risk factors. These changes support industry views that, while liquidity horizons are meant to reflect stressed market conditions and that broad categories need to be created for pragmatic reasons, the previously specified liquidity horizons were excessive, as observed in a number of interest rates and FX markets in crisis situations.

The industry shares a common view that an appropriate calibration of the Liquidity horizon framework is essential to the overall credibility of the framework. Members recognize that the refinements introduced within CP3 represent a step in the right direction but at the same time they would expect the Committee to address certain material open concerns, highlighted within the following sections, that once resolved could support the Committee achieving its overall objectives.

Open Concerns

"Cliff effects"

We would like to express a very similar concern to the one already highlighted within the industry response to the second Consultative Paper: the proposed series of Liquidity Horizon could in fact cause very large capital instability following minor market events due to large gap between liquidity horizons buckets. For example:

- If a BBB rated corporate bond is downgraded to BB, then its liquidity horizon will jump from 60 days to 120 days (a 40% increase in capital);
- If an IG sovereign bond is downgraded to HY, its liquidity horizon will go from 20 days to 60 days which is a 73% increase in capital.

Industry Recommendation

We suggest that the Committee reduces the current gap between LH buckets and the number of LH categories.

Liquidity Horizons

We have noted both the Committee's intention to address this concern during the "calibration phase" as well as the action taken within CP3 in reducing the length of the liquidity horizons from 20 days to 10 days for key interest rates and foreign exchange currencies.

Although we welcome those changes we would like to reiterate the concept that, compared to current levels, the incremental capital charge stemming from the proposed set of liquidity horizon buckets remains excessive for certain product categories and it appears to be disconnected with their market liquidity profile even during "stressed" market conditions. For example, a large cap, high yield corporate name has the liquidity horizon for credit spread set to 120 days and for volatility set to 250 days, while the same name will have 10 days for equity price and 20 days for equity volatility. Although the credit market is less deep than the equity market, these liquidity horizon differences may be overstated and, as such, disadvantage the credit markets, and they may also have ramifications for debt/equity products such as convertible bonds. Moreover, the current proposal still does not handle scenarios with risk positions having a residual maturity shorter than their liquidity horizons, and (or) positions with path dependency, and (or) positions with clauses that will cause them to knock-out far before the end of the liquidity horizons. For example, credit index options trade primarily at 3 month and 6 month maturities but all would be assigned a 250 day liquidity horizon.

Industry Recommendation

We recommend that the Committee consider re-evaluating the extensively long liquidity horizons for a number of risk factor categories in order to better reflect market experience. We would also appreciate if the Committee could share with the industry the approach followed thus far to calibrate the different

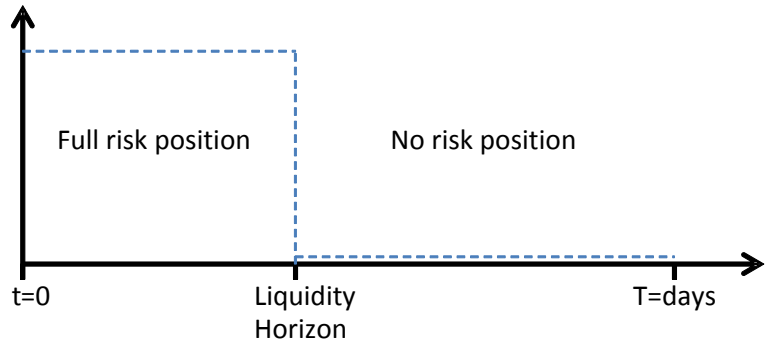
liquidity horizons, and we recommend targeted studies to ensure that the capital impact due to the introduction of liquidity horizons are well understood before implementation.

De-Risking Profile

We appreciate that it is practically impossible to define a single liquidation strategy that will be appropriate and applied regardless of the specifics of the different market and stress conditions. In other words, we welcome the fact that the Committee has maintained, within the definition of Liquidity Horizon, the assumption that banks are able to shed their risk only at the end of the liquidity horizons. Although this is not the perfect solution it has several advantages such as ease of implementation and increased transparency.

Nevertheless, we would appreciate if the Committee would bear in mind, during the "calibration phase", that the current assumption embedded within the model does not reflect the dynamic nature of the current risk management frameworks in place across the industry. Assuming that no management action like hedging or unwinding is accounted for until the end of the liquidity horizon bring some layer of unnecessary conservatism in the framework not justified when considering the strong lines of defense in risk management approaches.

Figure 1: BCBS proposed approach to model the risk profile during severe market disruption: full risk position until liquidity horizon, followed by complete risk roll-off (a "Risk-on/risk-off" profile)



In practice, the progress of a derisking strategy would rarely show such a simple profile. Instead, risk roll-off profiles may deviate for various reasons, for example some derisking might be effective well within the liquidity horizon.

We acknowledge that a model assumption of a risk on/risk off profile like in Figure 1 is simplified. Potential variations to modelling the shape of risk profiles are likely to merely increase the complexity of the framework:

- Introducing further model parameters to mimic more complex profiles would require the justification and calibration of those. In certain cases due to lack of empirical evidence, practical experience, further model parameters regarding the shape of potential risk roll-off profiles could not be robustly calibrated.
- The effect of introducing further model parameters is equivalent to varying the liquidity horizon within the simple "risk on/risk off" model approach.

In essence we support the view that proposed method provides the most pragmatic way to recognize the dynamic nature of the banks' trading portfolio while keeping the transparency of the calculations and risk

assessment capability but the Committee should bear in mind the extra layer of conservatism embedded into it.

Industry Recommendation

We suggest that the Committee reduces the steepness of the proposed LH to incorporate the effects of bank's day-to-day risk management operations into the LH framework

Effects of Mean Reversion

We welcome the scaling approach that compute P&L over a single time horizon, preserving empirically observed correlations between risk types, and then adjust this for liquidity by applying the square root of time rule; we believe it strikes the right balance between the objectives the Committee is targeting to achieve.

At the same time we would appreciate if the Committee would consider, during the "calibration phase", taking into account the effects of mean reversion empirically observed in historical returns time series; in other words when using SQRT (T) especially while calibrating large LH (T) the Committee should recognize that the larger the T is the more excessive the shock propagation will materialize, leading to a material overstatement of the capital charge.

The industry has significant experience in modelling the effects of mean-reversion within Pillar II models; although estimating and calibrating the exact impact for every single risk factor is a challenging task, the examination of historical shocks across asset classes could show that mean reversion effects as early as after one month.

Figure 2: Assessing the effects of mean reversion – A case example using CDX HY

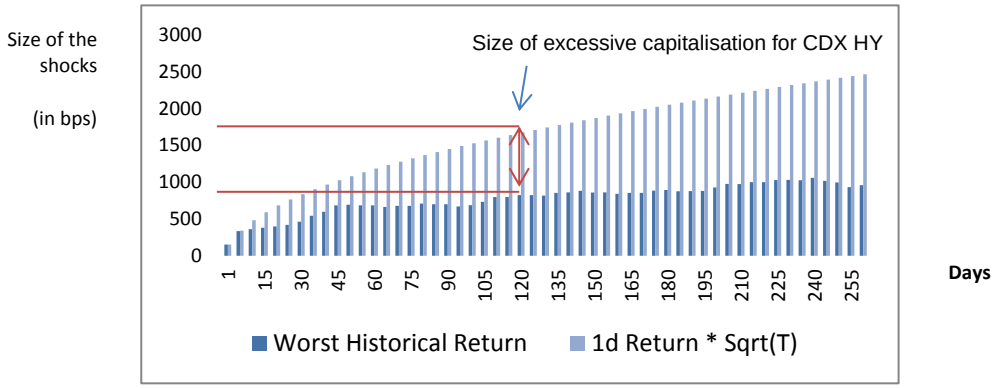


Figure 2 above provides a graphical representation of the effects of mean reversion for a CDX HY risk factor time-series that under the current proposal would fall into the 120 days Liquidity horizon bucket. The size of conservativeness could be roughly assessed by means of comparing the "root time" propagation rule and the worst historical instantaneous shocks for different time horizons.

Industry Recommendation

Particularly for buckets associated with large LH we would recommend to reduce or cap the liquidity horizon of those buckets based on empirical analysis of the degree of over charge due to SQRT (T).

Clarification on New Liquidity Horizons applied to Yield Curves

Although we welcome CP3 introduction of a shorter liquidity horizon for certain interest rate yield curves, we seek further clarification on which yield curves can benefit from this shorter liquidity horizon. Indeed, taken literally, the wording used in the LH table enclosed in CP3 §181 seems to suggest only the domestic currency yield curve – if EUR, USD, GBP, AUD, JPY, SEK, or CAD – can be mapped to the 10D-liquidity horizon: "Interest rate – domestic currency of a bank: EUR, USD, GBP, AUD, JPY, SEK, and CAD".

We believe this is not the TBG intent to grant a shorter liquidity horizon only to the domestic currency yield curve provided it is one of the above-mentioned currencies.

Indeed we consider that above-mentioned currency yield curves are very liquid ones and any banks should be permitted to map them to the shorter 10D-LH irrespective of their domestic currency. We acknowledge that other currency yield curves may be less liquid, in particular for non-domestic banks and therefore only domestic banks should be entitled to map them to the 10D-LH.

Industry Recommendation

In conclusion, we advocate CP3 wording should be slightly modified as follows: "Interest rate – domestic currency of a bank, EUR, USD, GBP, AUD, JPY, SEK, and CAD" to reflect that the shorter 10D-liquidity horizon applies to yield curves in both the domestic currency of the bank and the 7 listed currencies.

Full Revaluation

The proposal (§171(c)) states that "ES should be calculated at a base liquidity horizon of 10 days with full revaluation". It is explained parenthetically that full revaluation can be achieved by approaches that capture curvature "such as grid-based methods". We are seeking confirmation that Taylor expansions could as well be considered as appropriate approaches for ES as long as it can be demonstrated that curvature risk is appropriately captured. In particular, we consider that Taylor expansions are generally capable of suitably capturing curvature risk at a 10-day liquidity horizon provided that second order greeks are accounted for. Also, as noted below, a pure full revaluation approach (rather than a hybrid approach using grids and/or greeks) is computationally burdensome and costly. Therefore, if the chosen valuation method satisfies the P&L attribution requirements, requiring full revaluations adds little value at a high cost. Accordingly, the industry asks that the wording in the final rule should not specify the valuation approach, as follows:

"ES should be calculated at a base liquidity horizon of 10 days. Any valuation approach, including full revaluation, grid based, and sensitivity based, may be used subject to satisfying the P&L attribution requirements of §173."

Computational Issues of Expected Shortfall

Within the proposed "cascade" approach[8] running a capital charge based on full revaluation implies that the number of operational "runs" to be supported by banks' infrastructures increases significantly. This is in addition to the new requirements in FRTB to run calculations by asset class and calibrated to the current period (both full and reduced set of risk factors) and to the stressed period. The multiplicative effect of these requirements (5 liquidity horizons, 5 asset classes, current/stressed, full/reduced) taken together is likely to lead to a very large increase in the number of model runs required to support the regulatory capital calculation. The industry is concerned that as well as presenting a major infrastructural challenge, the volume of results produced could be hard to manage and monitor for both firms and supervisors.

Although we appreciate the underlying rationale that the Committee is targeting to achieve (e.g. capture the cross risks across different set of nested risk factors for longer time horizons) we believe that this requirement is unnecessarily prescriptive, especially when considering the (conservative) implied assumptions, both within the cascade approach, i.e. that the ES calculated for nested risk factors are assumed to be zero correlated with each other, and with the straight aggregation of the partial expected shortfall charges by asset class, also with zero correlation.

Industry Recommendation

As recommended above, the Industry suggests that the Committee allows for use in the various runs required for ES any combination of valuation approaches, including full revaluation, grid based, and sensitivity based, so long as the primary 10-day ES satisfies the P&L attribution and Backtesting requirements of paragraph 173.

Recap of Industry Recommendations

1. Consider further refinement of the implementation of "liquidity floors", as proposed in Appendix 2, in order to reduce operational complexity.
2. Re-evaluate large liquidity horizon gaps and the very long liquidity horizons for a number of buckets
   - It would be useful for the industry to understand how the different liquidity horizons are calibrated so that the industry can provide feedback;
   - Perform targeted studies to assess the capital impact of liquidity horizons across asset classes.
3. Take into account the effect of mean reversion on long horizon volatility
   - A possibility is to reduce or cap the liquidity horizon of the buckets with horizons longer than 60 days based on empirical analysis on the degree of over charge due to sqrt(T) scaling.
4. Assume a de-risking profile that reflects more closely the effects of bank's day-to-day risk management activities as opposed to a full risk-on/risk off profile.

Proposal 1: Complete the introduction of liquidity floors with a minor change in the ES regulatory formula, as proposed in Appendix 2.

Proposal 2: Reduce the steepness of the Liquidity Horizon curve, e.g. following 2,3,4 above or combination of it.

[8] For more details see Appendix 3.

3.2. Non-Modellable Risk Factors ("NMRFs")

Summary of Issues

We fully support the objective of having complete and high quality data in support of banks' internal models, supported by consistent regulation. We understand the importance of capital metrics being estimated based on a "sufficient" amount of "reliable" data and hence the desire to have written standards on what is meant by "reliable" and "sufficient". We also understand therefore the desire to have eligibility criteria based on such standards that if one of the standards is not met relative to some risk factors, then those risk factors shall not be part of the internal model based capital calculation.

Practically, we believe a strict in-or-out type of criteria can be disruptive as there can be rapid changes in the modellability status of risk factors with data availability near the cut off of the standards but with potentially significant discontinuous outcome as data availability or quality changes slightly.

The standards should be written relative to the objective. The objective to capture a tail loss would be very different from an objective to predict or track day-to-day changes. The objective in prescribing data standards is to ensure inputs to the model are complete and of high quality. Modeling technique can also compensate for the lack of extreme moves if only a relatively short sample of data is available. An example is to impose a distribution with a fatter tail.

So while it is essential to have data quality/sufficiency standards, there should be some flexibility relative to its materiality in terms of its impact on the capital measures as well as the performance of the measure relative to the intended use.

With the above general comments in mind, we would like to highlight specific areas where the language in the rules might be too strict if interpreted in face value.

Continuously Available Real Prices

The language regarding the classification of modellable risk factor referencing "continuously" available "real prices" is too restrictive for practical use.

- What does "continuously available" mean? If there is a missing observation, does it immediately cause a risk factor to be non-modellable?
- There are risk factors which are themselves not "prices" but are derived from real prices. Are they being allowed? Examples are implied volatilities, implied correlations, constant maturity yields, etc. These "non-price" risk factors play a very important role in the pricing and risk management of derivatives products. If they are deemed not modellable as a strict interpretation of the language would imply, then there will be a significant increase in capital for many derivative products making such market not viable.
- There are also risk factors which are used today (and approved by regulators) such as principal component factors and residuals as part of specific risk capture. Those are not "prices" themselves but are derived from pricing inputs. Are those risk factors not allowed? If they are non-modellable as a strict interpretation of the language would imply, then many specific risk model would not be allowed and we are back to standardized charge for all of them. This would be a big impact on the affected markets.

Representative Transactions

The language regarding the classification of modellable risk factor referencing real prices for a sufficient set of representative "transactions" needs to be clarified.

- There can be many transactions in a day and across different time zones. Also, what "representative" mean here? Which transaction? Or how many transactions?
- For ES modeling using daily data and a historical simulation approach, historical time series needs to be aligned. It is therefore unclear which transaction price shall we use for each risk factor – let alone the fact that these are very difficult to track.
- Furthermore, the model is back-tested using hypothetical end-of-day P&L. Transaction data does not fit well with ES modeling and backtesting. The requirements, under strict interpretation cannot be implemented without further clarification.

Issues on Capital Calculation for NMRF

On the capitalization of NMRFs the requirement is that each NMFR is to be capitalized over a period of extreme stress for the given risk factor and no diversification effect is allowed in the aggregation. Issues with this approach include:

- First of all, since NMRF's are by definition risk factors with insufficient reliable data. It is unclear how those risk factor specific extreme stress period can be identified. Some big moves observed by some firms could simply be data error. Comparability across firms would be an issue.
- Furthermore, conceptually, this calculation would become risk insensitive because stressed scenarios of different NMRF's can be incompatible (i.e. they cannot happen at the same time while aggregating with no diversification is equivalent to assuming that they would occur together. An example is missing data on the spread of two similar credit names. One with a long position while the other with a short position. For the long position, the stressed period is likely to be a period with significant spread widening while for the short position, the stressed period would be a significantly spread tightening period. Obviously, we cannot be in the most spread widening period and the most spread tightening period at the same time.
- The simple summation without diversification benefit also poses the risk of setting wrong incentive as large concentrated exposures to a NMRF are treated the same as small exposures on a large number of NMRFs. Thus, large concentrated non-modellable risk is not penalized. The inclusion of a large number of immaterial NMRF's can also take scare resource away which could further dilute the attention to large missing risks.

Industry Recommendations

We believe the language on continuous real prices and representative transactions should be revised to allow non-price risk factors (for pricing and VaR modelling) and the use of end of day marks as oppose to "real transactions".

- We would deem end of day marks "reliable" as they are for P&L purposes and are already subject to well established processes and controls. If end of day marks are not "reliable" enough for ES calculation, the same issue would apply for backtesting purposes.
- The use of industry consensus data should not be precluded. Usage should depend on data quality and supervisor approval.

We suggest that the stressed charge for NMRF should be based on the same overall firm-wide stressed period as opposed to each NMRF specific stressed period. This removes uncertainty and noise issues as

related to the data quality of NMRF. This also removes the issues with incompatible NMRF specific stressed periods as discussed above.

The individual NMRF charge should be aggregated with some degree of diversification. This has the desired effects of penalizing NMRF's with large concentrated exposures while rightfully putting less emphasis on smaller NMRF's.

Materiality should be a consideration in determining if a charge for a NMRF needs to be calculated and included in the aggregation. It can be a significant operational burden and a distraction from material risks if all non-modellable factors are required to be calculated regardless of the materiality of exposures. As introduced in the CP2 (cf bcbs265, p30), we suggest the TBG to reinforce its statement that only material NMRF should be capitalized.

3.3. Incremental Default Risk (IDR)

Definition and Consistency of IDR

The proposal is not clear regarding what exactly IDR is incremental to. There appears to be a distinction in guidance between the SBA implementation for Default Risk and the IMA implementation for IDR and it is not clear if that is intentional: under SBA, the proposal says it is to "the mark-to-market loss already recorded in the P&L" while in IMA it says to the "mark-to-market losses already taken at the time of default. The industry believes that default risk capital, under both SBA and IMA, should be incremental to the losses already capitalized, respectively, through SBA and IMA in order to avoid a double counting of capital. In CCAR, IDR is incremental to the loss already captured through the market shock, thus avoiding the double count. If this should be done for SBA, it is unclear which elements of SBA are to be accounted for in the default risk calculation and how this is to be accomplished. In IMA calculation of IDR, there is no such single market shock in ES as it comes from a distribution, and is thus poorly defined. Moreover, the modeling complexities and the relative merits of an IMA calculation accounting for simulated loss prior to default have not been explored.

PD Floor of 3 bps

While there is in general credit risk on government bonds, we believe that applying the same PD floor on governments as for corporates is not appropriate, given the exceptional characteristics of governments to raise revenue and monetize debt. This is reflected empirically, where no investment grade sovereign has entered default over a one year horizon, in the forty year data set available. Moreover, applying the same floor to all sovereign exposures, which are naturally highly concentrated, may have an adverse impact on the market-making of sovereign debt.

Industry recommendation

Industry technical analysis suggests that a floor of 1bp may be more appropriate, given the data available.

Scope of Inclusion: Equity products

We believe there are several conceptual challenges around the mandatory inclusion of equity products in IDR and Jump-to- default ("JtD"), as follows:

- While equity prices will clearly move (usually to zero) in the event of issuer default, there is no contractual link between the value of a firm's equity and its creditworthiness. Hence the defined distinction between default and repayment (on maturity) which exists for credit products – and gives rise to 'jump-to-default risk' - does not exist for equities. Moreover, equity prices are generally more volatile relative to debt, and hence potential losses will be well captured by a market risk ES metric, so the rationale for an additional capital charge based on default risk is unclear.
- Equity products are in general much more liquid than credit products, as reflected in the liquidity horizons specified for the ES model. So, if equities must be included in IDR, we would advocate the use of a horizon shorter than one year.

There is a particular technical challenge to model the impact of simultaneous default on a large number of issuers on the value of multi-name equity products, particularly on index options. Given the diversified nature of index products, issuer JtD risk is not a major driver of potential losses, and hence we urge that firms be allowed to take a pragmatic approach to measuring the default risk on such exposures. For example, an approach based on the sum of single-name JtD losses, as opposed to an implicit or explicit requirement to compute exposure against every possible permutation of issuer defaults, would be an efficient way to capture the credit exposure on multi-name equity products.

Due to above listed inconsistencies and the missing rationale to have an additional capital charge based on default risk for equities we object against a mandatory inclusion of all equity products in the trading book. There should still be the choice of an optional inclusion in order to properly model the risk of units where credit and equity products are strongly interlinked, i.e. equity products with a credit risk component (e.g. convertible bonds) and their corresponding equity hedges.

Correlation Assumptions

Recommend the use of S-IRB correlation (stressed Internal Rating Based approach) i.e. PD-dependent correlation on the grounds of simplicity, comparability and risk sensitivity (through PD).

We welcome the language in CP3 permitting the use of credit spread data to calibrate default correlations where (e.g. for governments) equity price data is unavailable. It is not clear however why the BCBS generally prefer to use equity data for this purpose, as credit spreads are intuitively much more closely linked to issuer solvency than equity prices.

Industry Recommendation

We therefore advocate the use of credit spread data should be permitted as an alternative to equity data for all issuers.

Interpretation of Two-Factor Model

We understand that the prescription of a two-factor model is intended to reduce model variability between firms. To this end, we suggest that the meaning of a "two-factor default simulation model" be clarified, as this is open to interpretation[9]. For example, it could be interpreted to mean:

- Two factors in total, i.e. one common factor and one issuer-specific factor.

[9] There is a further clarification in QIS3 instructions, paragraph 176: "Banks must use a default simulation model with two systemic risk factors. " However, this is still open to interpretation.

- Two systemic factors, one common to all issuers, and one sector or region specific factor.
- Two systemic factors, with one sector specific factor and one region specific factor.
- Etc.

Interpretation on Usage of IRB parameters

EBA guidelines on IRC stated that IRBA PDs and LGDs may be used and alternatively, the use of PDs and LGDs provided by external sources (e.g. rating agencies) may also be used by institutions as they are generally considered appropriate. The FRTB now states that IRBA PD and LGD estimated must be used, but continues to state that PDs & LGDs provided by external sources may also be used by institutions provided they can be shown to be relevant for the bank's portfolio.

We ask for clarification whether Banks still have the choice to use both approaches or whether the different wording was by intent and now IRBA parameters have to be used if available?

In latter case we have concerns with respect to compliance restrictions as internal parameters, in particular internal assessment of credit worthiness, should not be made available front-office. This restriction would limit the ability to provide transparency to the IDR results and the used input parameters to the business and impact the risk management capabilities.

3.4. P&L Attribution & Model Independent Risk Assessment Tool (MIRAT)

The industry supports the idea of testing model performance and particularly focusing to the source of model underperformance. We consider such exercises to be very important in order to build better models. Industry appreciates TBG's effort on P&L attribution as a step towards achieving this aim. However, we need to highlight our concerns about the test, partly stemming from the lack of clarity as to how exactly it is executed and partly related to the purpose it is designed for. We are concerned about drawing a conclusion on whether a model is fit for purpose based on the test results given the current design.

1. **Lack of clarity**. As the test is currently prescribed in the instructions, it is unclear how it should be executed. In particular, there is ambiguity in the P&L attribution test related to the treatment of non-modellable risk factors, missing risk factors, proxies and residual from parametric simulation (for the purpose of specific risk capture). Furthermore it is unclear what type of data should be used- should those be data in the market risk simulation or market data used in the valuation model, as well as how to address data from different time zones. These different treatments and data usage may have significant implications on the sensitivity properties of the test and its ability to correctly identify the model performance issues that are of interest.
2. **Suitability for purpose**. Under one interpretation, P&L attribution is a test of the ability of the capital model to capture day-to-day P&L move. It is unclear how that fits in with the objective of the capital measure – which is to measure tail loss. A direct connection cannot be made between a model that does not capture day-to-day P&L volatility accurately and the model's suitability and approvability for capturing tail loss. For instance, a firm could use a conservative approach which is adequate for the purpose of the capital measure but does not necessarily track closely daily P&L variation. In fact, this can be an issue particularly with specific risk models approved for generating extra capital for specific risk. These models may use a fat –tailed distribution and/or parametric simulation to capture specific risk. These approaches are focused on capturing the tail

and need not track day-to-day P&L. Imposing a test that is contrary to the purpose of the capital model to capture tail risk, may lead to a lot of false negatives.

3. **Cliff effects**. Industry is also concerned about the in-or-out, that is a sharp cut off as to whether a model is eligible of not based on such tests, with which the industry and the regulators have little experience. The type I and II error of the test need to be better understood with more data and analysis before they can be used as a decision tool.
4. **Actual vs Hypothetical P&L**. The most recent text sent as part of the draft QIS instruction defines the test based on the Hypothetical P&L concept. The industry believe this is the correct measure on which to perform a P&L Attribution test.

The Model Independent Risk Assessment Tool (MIRAT)

MIRAT (a leverage ratio) may not prove to add significant value beyond the complexity it adds. The assessment of appropriate leverage at desk level is not trivial since different products and businesses will inherently have different levels of leverage depending on the product mix and portfolio composition. This becomes even more difficult when applied across the industry due to the variation in how desks are structured within different banks. Desks focused on low risk lending to high quality counterparties will have high leverage, and therefore a low ratio of RWA to exposure. This does not necessarily infer the capital model is incorrect. The details of this new metric will be difficult to calibrate to identify poorly performing models accurately. As part of the calibration, we would request that the use of this metric be assessed in terms of its efficacy, as well as its calibration.

In summary, the new model eligibility tests raise a complex set of issues which need to be carefully analysed. The industry is working towards a more detailed set of recommendations in addressing the issues highlighted above, and hopes to be able to share this with the TBG in the not too distant future.

3.5. Desk Level Approval for IMA

Under the current proposal, desks that do not achieve or maintain IMA approval are treated under Standardized approach. The industry believes that a more desirable approach would be to have a capital measure that varies continuously from IMA to Standardized depending on the performance of the internal models. This would eliminate jumps in capital and avoid a situation where the total capital on approved and disapproved desks is excessive, or even exceeds the capital if all desks were disapproved.

Industry recommends that this issue warrants further study by the TBG. For example, future studies should consider the marginal capital impact of withdrawing desks from IMA treatment to SBA treatment.

Appendix 1: Remaining issues on the presumptive list

Classification based on Accounting Treatment

In line with the assumption above that paragraph 14 takes precedence over the other classification criteria, we would like to confirm that designation to the trading book should not depend on the accounting classification so long as the requirements mentioned in paragraph 14 are satisfied. There are cases where instruments may be classified as banking book for accounting purposes, but these instruments are managed and/or hedged as a traded risk (e.g. structured notes and repos/SFTs). Conversely, we would also like to confirm that fair-valued instruments can be classified in the banking book if they do not meet the requirements of paragraph 14. There are also cases where plain-vanilla derivatives sold to retail and SME customers are fair-valued but classified, along with their hedges, in the banking book for capital allocation purposes.

With respect to repos/SFTs, we support the inclusion of the draft paragraph 8 in the QIS Annex. It is important to allow repo/SFTs to be included in the trading book as such classification is currently the subject of unnecessary international divergence, and because forcing classification into banking book excludes certain securities from acting as good credit risk mitigation for counterparty risk purposes. However we request that the word "term" is removed from the text to allow overnight and open transactions to also be included in the trading book, if these transactions are indeed supporting trading activity, in the same way that term repos are. Also it is not clear what is meant by "accounts for in its banking book", and we suggest "accounts as financing activity" as a replacement if that is the intention of the first sentence of paragraph 8. Furthermore, the requirement that "meets the requirements mentioned in paragraph 14 may be overly restrictive as the repo/SFT itself may not be traded, but the activity which it supports or whose underlying risk factors are traded, could instead mean that the repo/SFT should qualify as trading book.

In the case of structured notes, we would also like to seek clarification that if they are to be considered as trading book instruments, the own name credit risk on the structured notes should not go through the IDR calculation, based on the premise that any gains/losses arising from changes in an institution's own credit risk as a result of applying the fair value option to its liabilities are to be excluded from the calculation of common equity Tier 1 (CET1), as per current Basel 3. This is also consistent with the Basel Committee's intent to derecognize in the calculation of CET1 any impact from a Bank's own credit spread, as per the final BCBS rule on the treatment of valuation adjustments to derivative liabilities (July 2012), which also applies to all debt issued by banks. Our recommendation ensures that this aspect receives the same treatment regardless of whether the structured note is classified as banking book or trading book, to ensure there is no arbitrage between banking book and trading book in the framework on this point and to comply with the overarching principle.

Ineligible Hedges

We request clarification regarding how banking book credit hedges considered ineligible for regulatory capital purposes will be treated. Currently, there is a general premise that hedges of banking exposures are themselves banking book exposures (also upheld in paragragh 22 (g)). Similar to the above example, there may be hedges of banking book exposure that are not recognized as eligible hedges for regulatory capital purposes, but are economic hedges, which hedge banking book credit risk.

We recommend that credit hedges of banking book exposures should also be banking book exposures, whether or not those hedges are eligible to be recognized for "credit risk mitigation" (e.g. index and

single name proxy hedges). Doing otherwise would treat economic hedges as open risk positions in the trading book.

Net Short Risk Position

We request clarification regarding how a net short credit or equity position in the banking book will be determined[10]. Specifically, we want more clarity around the netting criteria that will be applied and the recognition of partial hedges. For example, in the case of a partial hedge, would only the portion of the hedge that does not serve to offset the long position need to move to the trading book? Or the entire short position? Will the partial hedge be determined by risk factor (credit or equity) or holistically? We also request the TBG to clarify its rule pertaining to Stock-based Compensation and associated hedges. Since these can be viewed as structural short equity position, proposed definitions above may conflict with current regulations. Given the above concern, we recommend the insertion of the following text as the Trading Book definition:

26. Where an institution's operating activity has resulted in a net short equity position on its own capital base (e.g. stock-based compensation), such exposures shall not be included in the Trading Book definition, unless a specific IRT has taken place

Investment in Liquid Funds

Draft rules presume investment in liquid funds to be held in the trading book, but this ignores whether the position is held with trading intent or otherwise. In addition, the draft rule does not specify what frequency look through is required. The following issues arise as a result of the draft rule:

Gating: Many investments in mutual funds do not meet the specific criteria because the directors of the fund often reserve the ability to suspend redemption (which would only be in extreme market conditions) so these funds would not meet the requirement that the shares or units should be redeemable in cash on a daily basis at the request of the unit holder. However, the positions can still be held in the trading book. We request TBG clarify that the daily price requirement excludes a need for the shares or units to be redeemable in cash on a daily basis.

Daily pricing: An indicative Net Asset Value or look-through information can usually be obtained where a bank has a dedicated fund or where a bank has negotiated specific arrangements with the investment managers but this may not be on a daily basis– although the bank would continue to actively manage the risks on the position throughout. In other circumstances, the bank may be holding a relatively small investment in the fund and thus would not be considered to be of sufficient importance for the fund to provide any granular information and again, the cost of obtaining it on a regular basis is likely to outweigh any benefits. Above all, managers of regulated funds are bound to treat all fundholders equally, which prevents them from providing some information to part of their fundholders only. Therefore, we would suggest that provided firms have access to the underlying on a less than daily frequency, firms should be permitted to treat as trading book if there is trading intent.

[10] We are aware of the operational criteria for the identification of net short risk positions for equity risk or credit risk cited in the QIS3 instructions (p. 173, note 8). Also, please note that our recommendation is consistent with CP2 (p. 49, note 21), where equity positions arising from deferred compensation plans in the banking book are excluded from the market risk framework.

If the intent and risk management criteria of paragraph 14 are satisfied and there is the ability to regularly obtain "real prices", trading book treatment be permitted. Funds with public underliers, but held without trading/short-term intent should be included in the banking book.

FX and Commodity Exposures

The proposed rules require that any FX or commodity positions held in the banking book be included in the market risk capital charges and be treated as if they were held within the trading book. We would like to confirm that the intent was to require market risk capital only for the FX or commodity exposure in the banking book, rather than requiring all risk factors for the position to be subject to market risk capital. Requiring all risk factors to be subject to market risk capital would potentially split hedges, to the extent the banking book position was a hedge to a banking book exposure (e.g. cross currency swaps hedging a loan book given the swaps which have both fx and interest rates as risk factors).

Underwriting Commitments

We would like to clarify the rationale for removing underwriting commitments from the trading book presumptive list. We acknowledge its removal may provide flexibility to firms, and this flexibility is perhaps appropriate where the items being underwritten are traditional credit products such as loans. However to avoid inconsistent application internationally, we would like to request its re-inclusion in the trading book presumptive list where the underwriting is of tradable securities. The remarks that follow relate to securities underwriting.

Underwriting is an important capital market activity with unique characteristics that warrant specific prudential treatment. Underwriting (e.g. rights issues, IPOs, new issues, etc.) are typically trading book activity from start to finish, because there is rarely an intention for the underwriter to hold the issuer securities in the long term. The current banking book treatment of applying credit conversion factors (CCF) to commitments (which are principally designed for commitments to lend), especially the proposed increase in CCF to 75%, does not reflect underwriting activity appropriately.

Underwritings often involve pre-underwriting commitments, followed by commitments to underwrite an accelerated book offering or rights issue, and rarely result in physical holdings in securities (although this can happen from time to time depending on market conditions and client demand).

During our communication, TBG expressed a desire for industry to set out clear and detailed proposals for underwriting. We would recommend incorporation of the ex-FSA BIPRU7.8 handbook text in force at 31 December 2013. We believe this represents the most detailed and relevant set of rules and guidance for underwriting activity.

If the TBG wishes to avoid substantial new text, and wishes to include only key components, we would suggest at minimum the inclusion of the following:

- Pre-underwriting commitments and underwriting commitments should be included on the trading book presumptive list.
- They should have a specific trading book treatment. Neither their full notional nor a banking book credit conversion factor percentage is applicable. Instead a percentage of notional, based on whether debt or equity, and time elapsed since "working day zero", should be taken as a position in standardized or internal model approaches.

- When a commitment is deemed to begin i.e. when a formal commitment is made to an issuer of securities to underwrite an issue of securities. This is important to identify when market risk RWA requirements should start to be taken.
- Provides reduction to the underlying exposure from "working day zero" i.e. where working day 0 is the business day on which a firm that is underwriting or sub-underwriting becomes unconditionally committed to accepting a known quantity of securities at a specified price.
    - For underwriting of rights issues, working day zero is deemed to commence from the date on which the offer becomes closed to acceptances for subscriptions.
- Between initial commitment and working day zero 10% of the net underwriting position should be used for the purposes of standardized and internal models approaches to reflect the low occurrence of failed underwritings, consistent with ex-FSA rules.
    - This should increase to 100% across a 5 day period from working day zero to working day 5.
- When the position should be included for FI deduction purposes. Please see the next section on "Interaction of SFI/NSFI with underwriting commitments" setting out specific wording suggestions.

Interaction of SFI/NSFI with Underwriting Commitments

We recommend changes to certain components of the FRTB draft rules text (Annex 4 of the *Instructions for Basel III monitoring*, February 2015) text, and slight modifications to the Basel 3 text, so as to clarify the treatment of underwriting commitments and instruments arising from underwriting activities. These would greatly help industry in clarifying how to treat underwritings for the purposes of the 3rd party financial institutions capital deduction (whether significant or non-significant).

From FRTB draft rules text:

7. Holdings of the bank's own eligible regulatory capital instruments are deducted from capital. Holdings of other banks', securities firms', and other financial entities' eligible regulatory capital instruments, as well as intangible assets, will receive the same treatment as that set down by the national supervisor for such assets held in the banking book, which in many cases is deduction from capital. Where a bank demonstrates that it is an active market-maker, then a national supervisor may establish a dealer exception for holdings of other banks', securities firms', and other financial entities' capital instruments in the trading book. In order to qualify for the dealer exception, the bank must have adequate systems and controls surrounding the trading of financial institutions' eligible regulatory capital instruments. Holdings of capital instruments which are deducted or risk-weighted at 1250% are not allowed to be included in the market risk framework. *Positions arising from underwriting activities held for longer than five working days must be included in the calculation of paragraph 80 and paragraph 84 of BCBS189, if the positions do not meet the criteria in the remainder of this paragraph. For underwriting of rights issues, five working days is deemed to commence from the date on which the offer becomes closed to acceptances for subscriptions*.

The above additional wording (first sentence) should help clarify how the underwriting exemption in paragraph 80/84 interacts with the dealer exception i.e. that positions arising from underwriting activity can indeed still be considered part of market-making activity and can continue to be excluded from the FI deduction calculation, despite their implied inclusion post 5-days in paragraph 80/84.

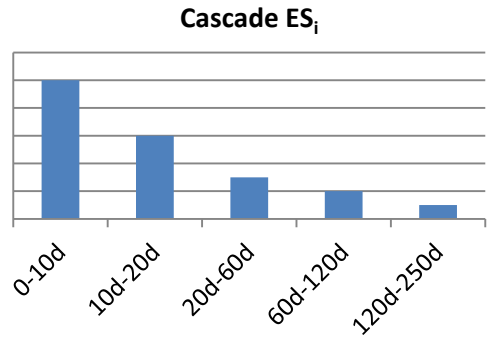
The second additional sentence should clarify that it is not necessary to include the underlying exposure of a rights underwriting commitment into the FI deduction calculation during a pre-commitment or subscription period, but only from 5 days post subscription close. This latter clarification is particularly important for underwriters (who are themselves financial institutions) to assist other financial institutions in raising further capital from their existing shareholders. It should avoid the perverse outcome of taking some percentage of the commitment into the FI deduction calculation, only to remove it for a 5 day period, and potentially to re-insert the residual (unsubscribed) position into the FI deduction calculation thereafter.

Appendix 2: Proposal to refine the proposed cascade approach to scale ES

The regulatory formula proposed in the CP3 for the liquidity adjusted Expected Shortfall (ES) is obtained by splitting trading positions into five cascading portfolios.

These portfolios are virtual and represent the loss that will occur between two consecutive liquidity horizons (from 0 to 10 days, from 10 to 20 days ... from 120 to 250 days) assuming the risk factors with shorter horizons have been hedged. As the subset of active risk factors decreases with time, it gives an impression of cascade until complete risk extinction.

For computational purposes, individual expected shortfalls (ESi)i=1..5 are computed for each portfolio based on 10-day shocks, rescaled with the square root of time, and aggregated orthogonally.



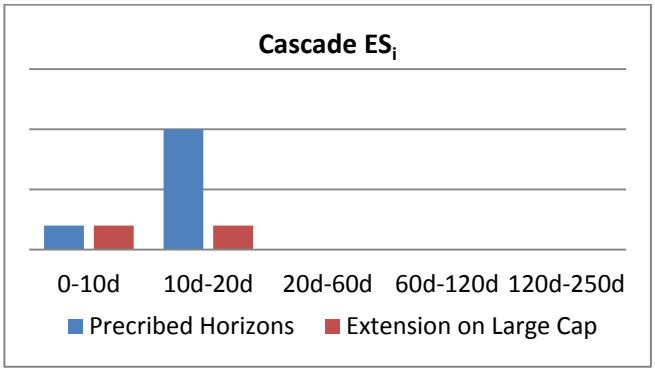
$$ES = \sqrt{ES_1^{\,2} + ES_2^{\,2} + 4ES_3^{\,2} + 6ES_4^{\,2} + 13ES_5^{\,2}}$$

Broken Hedges

As run-off positions are progressively managed towards complete risk extinction, one expects the cascading ES terms to decrease with time.

However, a strict application of the liquidity assignment can cause unintended upsurges in the residual level of risk, as liquidity mismatch within trading strategies potentially create situations of broken hedge. For instance, a mixed portfolio of small and large cap equity shares (respectively 20-day and 10-day liquidity horizons), where the latter hedge the former, will provide inconsistent risk estimates over the 10d-20d period.

To avoid such situations, the CP3 grants flexibility for banks to interpret the prescribed liquidity assignment as a 'floor', or in other words to extend on certain trading desks the horizons of specific risk factors. In our example, extending large cap horizon to 20 days would provide a much more consistent risk profile:



This flexibility is a welcomed change and efficiently addresses the problem of broken hedges. Nonetheless, the 'floor' introduces additional complexity into the ES computation, since the liquidity set up is no longer to be done at the risk factor level but at the {risk factor x desk} level. For instance, while

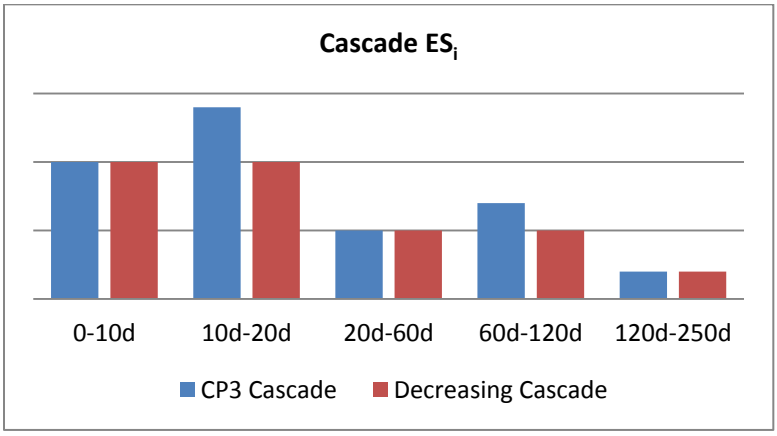
computing the portfolio-wide ES, no risk factor with 20-day liquidity should contribute to the third term ES3, except for positions belonging to trading desks where an extension is deemed necessary.

Working with multiple set up simultaneously will add to technical complexity and increase operational risks, whilst implementation will become less transparent to risk controllers and supervisors.

Additional Proposal: Decreasing Cascade

A useful complement to the liquidity floor and a welcome step towards simplification would be to force decreasing ES terms directly in the regulatory formula:

$$ES = \sqrt{\left(ES_T(P, Q_1)\right)^2 + \sum_{j \geq 2} \left(\min_{k \leq j} \left(ES_T(P, Q_k)\right) \sqrt{\frac{LH_j - LH_{j-1}}{T}} \right)^2}$$



This enhancement has several advantages:

It provides a safeguard against unintended risk upsurges and consistently materializes into the capital framework the fact that usual portfolio "derisking" or unwinding of positions is never done in a manner that it increases residual risks.

It does not require separate set up at trading desk level : one unique set up is needed and it will be easy for supervisors to control its consistency with the FRTB prescribed liquidity horizons.

The decreasing cascade approach has the merit of being systematic which will grant consistent and homogeneous implementation of the floor concept across firms. In this respect, it contributes to increase RWA comparability across firms.

It addresses efficiently the "broken hedge" issue while keeping simple and operationally tractable. In particular, CP3 allows liquidity horizons to be increased at desk x risk factor level subject to appropriate documentation and prior supervisory approval. It is very likely that this process will imply a significant additional workload for both banks and their supervisors. The proposed approach enables to get rid of such a burdensome process while preserving the economic rationale of flooring liquidity horizons.

It is a minor change to the CP3 formula and could thus be easily tested in next QISs.

Note that the proposed enhancement to the regulatory formula does not aim at replacing the flexibility given in CP3 to make exceptions in the liquidity assignment, but just achieves a subset of it. As it provides a quick-fix for non-decreasing risk profiles, it will actually reduce the necessity for banks to resort to such exceptions and deviate from the prescribed liquidity horizons.

Appendix 3: Illustration of the proposed "cascade" approach to scale Expected Shortfall

$$ES = \sqrt{\left(ES_T(Q_1).\sqrt{\frac{LH_1}{T}}\right)^2 + \sum_{j>1}\left(ES_T(Q_j).\sqrt{\frac{(LH_j - LH_{j-1})}{T}}\right)^2}$$

A portfolio has exposure to FX, IR and CS risk factors, with the following liquidity horizons:

FX	10
IR	60
CS	250

The set of liquidity horizons provided is:

j	LHj
1	10
2	20
3	60
4	120
5	250

Step 1: Calculate the 10-day 97.5% Expected shortfall for:

- The whole portfolio
- IR and CS risk factors
- CS risk factors only

Step 2: Calculate the scaled ES:

Using T = 10 and the table above, the formula becomes:

$$\mathrm{ES} = \sqrt{\left(\mathrm{ES}_{10}(\mathrm{Q}_1).\sqrt{\frac{10}{10}}\right)^2 + \left(\mathrm{ES}_{10}(\mathrm{Q}_2).\sqrt{\frac{(20 = \mathrm{ng})}{10}}\right)^2 + \left(\mathrm{ES}_{10}(\mathrm{Q}_3).\sqrt{\frac{(60 = \mathrm{ng})}{10}}\right)^2 + \left(\mathrm{ES}_{10}(\mathrm{Q}_4).\sqrt{\frac{(120\mathrm{g\ T})}{10}}\right)^2 + \left(\mathrm{ES}_{10}(\mathrm{Q}_5).\sqrt{\frac{(250\mathrm{g\ T\ =}}{10}}\right)^2}$$

Qj is the subset of risk factors with liquidity horizons at least as long as LHj. This gives:

Q1 = FX, IR and CS (all risk factors with LH ≥ 10)

Q2 = IR and CS (all risk factors with LH ≥ 20)

Q3 = IR and CS (all risk factors with LH ≥ 60)

Q4 = CS (all risk factors with LH ≥ 120)

Q5 = CS (all risk factors with LH ≥ 250)

Thus, the total scaled ES becomes:

$$\text{ES} = \sqrt{\left(ES_{10}(FX, IR, CS)\right)^2 + \left(ES_{10}(IR, CS)\right)^2 + \left(ES_{10}(IR, CS).2\right)^2 + \left(ES_{10}(CS).\sqrt{6}\right)^2 + \left(ES_{10}(CS).\sqrt{13}\right)^2}$$