# HKAB's Comments on BCBS consultative document on the Fundamental review of the trading book

We are generally supportive for BCBS to address the shortcomings in the overall design of the trading book regime. But we are mindful that there are various levels of trading activities engaged by banks across the globe. Therefore, that whilst aligning standards globally, it is more appropriate to give flexibility to banks with various levels of trading activities to decide which approaches/models to use in determining the boundary of trading and banking books and the capital charge for trading book. For more sophisticated banks with higher trading activities, they may have more resources and need to redesign their current market risk management system. On the other hand, those less sophisticated banks may not have the resources to handle this regulatory change with these complexities.

Below please find our comments on the list of questions raised by BCBS on market risk models and their methodologies.

1. **Which boundary option do you believe would best address the weaknesses identified with the current boundary, whilst meeting the Committee's objectives?**

   We are generally supportive for establishing a more objective boundary between trading and banking book assets that materially reduces the scope for regulatory arbitrage. However, we are guided by the view that regulatory capital should align with the banks' underlying economic risk. Both proposed boundary options in the consultative document: i) trading evidence - based boundary and ii) valuation based boundary cannot fully avoid boundary shift problems or classification difficulties that may arise as a result of the fundamental differences now existent in capital rules. Nor can they, as seen from this consultative document (CD), define a comprehensive rationale for the banking/trading boundary to enable easier decisions on capital treatment.

   Although practical ambiguity may continue to exist, from the CD, majority of our members have a clear preference to the trading evidence based (TEB) approach, which provides a more objective and prudent measure to determine the classification, with reasons expanded below.

   **Trading evidence based (TEB) approach**

   Under TEB approach, a bank is required to provide evidence of its ability to trade and manage the instrument on a trading desk, including (a) daily mark to market capability, (b) policies to support (c) ability to manage, (d) trading feasibility and (e) risk monitoring. There are to be strict limits on the ability of banks to move instruments between books after initial designation.

   This approach is largely in line with the current market risk capital charge regime and the controls proposed for this approach would strengthen the current boundary due to the more detailed and objective metrics that are required. Under the current market risk capital charge regime (both for Internal Models Approach and Standardised Approach), these controls/requirements fall under qualitative

requirements, and banks are required to prove to their regulators these controls e.g. tradability of their trading positions. Under the proposed TEB approach, these controls become more objective due to being more quantitative in nature, as well as requiring additional policies and procedures in order to demonstrate objective evidence for "intent" to the regulators.

It is also more aligned to how the business is actually being managed. It may permit the same instrument to exist in both banking and trading books and supports a situation whereby two banks holding the same instrument are eligible to different capital treatments. TEB is more flexible in comparison to the "valuation based" as TEB' by interpretation seems better able to reflect the underlying risks and substance of trades.

When considering industry development, this approach may on the other hand, prove difficult for new products where typically the trading liquidity initially is shallow. New products may span across incidents of a new form of contract based on standard market factors, extension of a currently traded contract to a new market factor or extension of a currently traded contract on a market factor to a new tenor. All such even minor variants may impact the ease of capture for trading evidence. In addition, this approach will likely result in divergence from the accounting.

Most importantly, local regulators will be expected to issue practical guidelines taking into account possible industry strain, in aspects of say, proof of access to relevant markets, historical data on trading in those markets, and plans to trade on a market for which a bank has limited data collection experience. Assessment of the trading liquidity of instruments should focus on the liquidity of market risk factors (i.e. on the ability to hedge) rather than on the liquidity of the instruments alone. Standards should not be so rigidly defined as to arbitrarily reclassifying portfolios between trading book and banking book simply because of changes in market liquidity.

Overall, if being implemented properly and consistently across all jurisdictions and banks, this proposed approach is expected to add more transparency and robustness to the current market risk capital charge regime.

**Valuation based approach**

By the name of this approach, there is a probable outcome whereby any fair valued instrument would be subject to market risk capital charges. Although the "valuation based" approach may be operationally easier to implement as instruments carried at fair value are plainly identifiable from financial statements, it is a much less prudent approach for the industry and would result in 1) a disconnect between the regulatory categorization of risk and how the risk is actually managed and 2) decoupling the relationship between economic risk and RWA. For example, there would be an extensively larger trading book, leading to available-for-sale (AFS) assets and private equity to be classified as trading, which does not provide incentives to align capital with good risk management practices.

The valuation based trading book definition may significantly overstate a business risk scenario as any non-qualifying hedging instruments, e.g. credit default swap and interest rate swap, in the banking book or AFS fixed income portfolios held for the purpose of liquidity management will be covered by VaR or expected shortfall with the hedged items whilst the hedged items such as, loans and deposits, will continue to remain in the banking book. Yet in fact from a risk management perspective, the overall interest rate risk of the combined portfolio could be nil or minimal.

In a large banking group that has a legal structure across different geographies, a situation may arise whereby there would be inconsistent accounting requirements leading to a variation in capital calculation. Across the industry as a whole, different jurisdictions will again have different accounting requirements, making a like-a-like capital assessment almost impracticable.

Another issue is that it does not reflect the fact that banks use most of their fair valued financial instruments to manage their interest rate risk in the banking book. Banks hold a large number of AFS securities to act as a liquidity buffer (and will need to increase AFS holdings with the introduction of the Liquidity Coverage Ratio (LCR) from January 2015). Given that AFS assets form a natural duration hedge to structural interest rate liabilities (as well as the fact that the risk on AFS securities are subject to whole life default risk - where there is a specified minimum holding period), AFS securities are considered more appropriately capitalized through current measures. Separating assets and liabilities in capital requirements (AFS and retail deposits) would deter firms to practice good risk management principles under the "valuation based" boundary, which further suffers from having a lack of global consistency in accounting standards.

However some of our members prefer the "valuation based" boundary as it is more in line with accounting and operationally easier to implement. Under this boundary option, it can close the gaps in terms of the mismatch among risk management, capital calculation and accounting in relation to some financial instruments which get mark to market under the current definition of banking book as these instruments are not subject to market risk capital charge. It could also facilitate in aligning banks management of these instruments internally. However, the Committee should consider the potential adjustment to the valuation-based boundary such that fair valued financial instruments for hedging the banking book risk should be allowed to be included in the banking book. Non-traded assets and liabilities (e.g. patents, property) should be exempt from market risk.

Hence our proposal is to allow banks flexibility in the choice of model, with less active trading banks likely to follow the valuation based approach for its simplicity, but more complex banks able to adopt the TEB approach.

We also propose a concept of "intermediate" books as an alternative to trading/banking book. Please refer to our response to Question 10 for details.

**2. What are commenters' views on the likely operational constraints with the Committee's proposed approach to capturing market liquidity risk and how might these be best overcome?**

We find it difficult to adopt the liquidity horizon bucketing approach without further challenge to its principles. The approach tends to ignore the basic non-linearity that exists across products and risk categories. The CD suggests three options. The first two options would not preserve the underlying correlation structure across different risk factors. Option 3 would preserve the underlying correlation structure but constructing a unified weighted-average liquidity horizon using the market-to-market is problematic for derivatives. With the introduction of many liquidity horizons into a modelled approach, it would also generate greater model uncertainty, and is a measure that cannot be objectively tested. There might be situation where the liquidity horizon of one risk factor artificially helps to offset against the volatility of another risk factor for which the model could not be able to avoid.

We think that the different liquidity horizon treatment should be treated outside of VaR or ES model. We believe that liquidity risk should be reflected as the cost of exiting a position within a given horizon. This can be translated to a capital add-on for any liquidity horizon in a pre-determined measurement, say, bid/ask spread on exit – a simple deduction is that the longer the liquidity horizon is, the higher bid/ask spread should be charged. Also given that a prudent valuation adjustment (PVA) framework is already in place for some banks and they may use higher bid/offer spreads as one component of the PVA, this could be a simpler method and could avoid potential overlaps.

We might expect good quality sovereign bonds to be mapped as highly liquid, but as the credit quality deteriorates we would see sovereign issuers migrating down to less liquid buckets. Mapping tables can be built to cater for different liquidity horizons.

**3. What are commenters' views on the proposed regime to strengthen the relationship between the standardised and internal models-based approaches?**

We support the intention to align properties of standardised approaches with internal models-based approaches to enable a stronger relationship between the two. However, we think that setting a standardized RWA calculation as a regulatory capital floor would discourage banks to improve their existing models and develop new models.

In Hong Kong, where small and medium sized banks are likely to adopt standardized approach because of limited trading activities, it is important that the local regulator would not impose an over-sophisticated measurement given considerable support infrastructure required for small and medium sized banks to meet the over-sophisticated measurement.

We also support the move to make "model disapproval" a feasible option for local regulators. However, where a bank's model performance deteriorates

beyond back-testing, we would suggest a smooth transition using an interpolation that allows it to move smoothly from internal models back to standardised rules.

**4. What are commenters' views on the Committee's proposed desk-level approach to achieve a more granular model approval process, including the implementation of this approach for banking book risk positions? Are there alternative classifications that might deliver the same objective?**

There could be practical difficulties in implementing the desk-level approach unless more guidelines are provided to identify the right parameters in classifications (by desk, by risk factor, or by product) and in defining the level of granularity (one, two, or many levels below firm-wide). It could be a burden for banks to keep the definition of desks. The proposed desk-level approach is discriminating in the sense that its functionality may vary a lot amongst different desks, in terms of model validity.

The treatment of the internal transactions among different desks would also complicate the proposed desk level approach. If the internal deals are allowed to be included in the capital charge calculation, it would create arbitrage opportunity. If the internal deals are excluded, the sales desks would then not be able to transfer the risks to trading desks. It would cause further complications in the treatment of internal hedging transaction between desks adopted internal model approach and those adopted standardised approach.

A lot of banks currently have their models approved on a legal structure basis across the board rather than by desks, this also determines their capability in performing back-testing. We prefer a gradual approach than a binary approach where an insignificant outlyer (could be statistical noise) would lead to an amplified penalty. Under this gradual framework, there is no need for a floor to be computed based on standardized rules because the capital requirement would gradually migrate to lean on parameters set under standardised rules in case the performance of internal models deteriorates. It would provide the right incentives and time allowance for banks to develop their own internal models.

Below is one suggested approach:

We suggest that capital charge should be the sum of:
- Model based capital for desks or group of desks
- A fraction of standard rules for desks with sub-optimal model performance
- Standard rules for unapproved desks

We suggest to have the option to pay both model and standard rules for desks which are either yet to receive approval or have cancelled approval. This is so portfolio hedges are not split in the model calculation, for example:

Desks: A,B,C,D,E,F,G (where A, B & C are likely to be within one asset class)

Desk with approval: A,B,D,E,F,G

Desk with failed backtesting / no approval: C only

We would like capital to be:
Capital = STDRULES(C) + Model(A,B,C,D,E,F,G)

This is because hedges could be in place for desks A,B,C (e.g. a portfolio wide interest rate or FX hedge) and we suggest the option to keep those desks that passed model backtesting, to continue to pay based off model.

**5. What are commenters' views on the merits of the "direct" and "indirect" approaches to deliver the Committee's objectives of calibrating the framework to a period of significant financial stress?**

We prefer "indirect" approach due to the lack of data availability with "direct" approach. Under the ever-changing environment in the banking industry and continuous offering of new products and new markets, it is impractical to have one single historical period that can always factor in all the risk factors to derive the correlation relationship for stressed scenario adjustments.

However we have concerns regarding the specific example of an "indirect method" on page. 36 in the document. The indirect method example proposed on page. 36 takes the form:

$$ES_S = MaxStressLoss_R \frac{ES_{FC}}{ES_{RC}}$$

where $ES_S$ is the proposed stressed measure, $ES_{FC}$ is expected shortfall based on the full set of risk factors in the current period, $ES_{RC}$ is expected shortfall based on reduced set or risk factors in the current period and $MaxStressLoss_R$ is the maximum stressed loss based on the restricted set of risk factors.

Our problem with this method is that $ES_S$ here is not a stressed expected shortfall but rather a maximum stressed loss scaled by the ratio of two expected shortfall measures. It is not even clear that the scalar necessarily be greater than one but in any case it is simply not the intended risk measure and would likely be unstable and very extreme. We believe a measure that better captures the intent is as follows:

$$ES_S = ES_{FC} \frac{ES_{RS}}{ES_{RC}}$$

This approach provides an expected shortfall measure based on current expected shortfall based on the full set of risk factors and scaled by the ratio of expected shortfall based on a set of reduced risk factors scenarios observed in a period of stress to the expected shortfall based on the same reduced set of risk factors observed in the current period.

**6. What are commenters' views on the merits of the desk-based and risk-factor-based aggregation mechanisms to deliver the Committee's objectives of constraining diversification benefits?**

Since both the capital calculation and model development are generally done by risk factor, risk factor-based aggregation mechanism is more intuitive. Desk-based approach on the other hand is harder to align across the industry and may not present a consistent picture of risk capital measurement. The main limitation to desk-based approach is its inability to fully reflect the potential hedging benefits across different desks..

Some banks also felt that a supervisory prescribed set of correlations would lead to poorer risk management as a result of misaligning capital and risk measures. Furthermore, it is not possible to prescribe correlations that are conservative for all portfolios.

In order to restrict benefits of diversification, allowing a fraction of the "model diversification" would be considered acceptable and the Committee needs to standardise disaggregation of asset/risk classes e.g. using well defined asset classes, because diversification measures depend on the disaggregation method.

**7. How can regulators ensure robust supervision of integrated market and credit risk modelling? In particular, how would an integrated modelling approach affect other elements of the proposed framework (eg the choice of the quantile parameter for ES, the P&L attribution and backtesting processes, etc)?**

Regulatory supervision is achieved by reinforcing compliance, ensuring industry communications and conducting periodic field visits. In a developed geographic regime, the robustness of risk modeling is reliant on bank's internal top down risk management governance.

Although a fully integrated and more holistic model is desirable, there are considerable practical difficulties on implementation. For instance, it would be very judgmental to provide estimates on reliable correlations between discrete (default and migration) and continuous events (credit spread). Differentiating event type of risks would require the quantile of the market risk ES model to be set on compromised conditions, making model validation and back-testing much more challenging when put into operations.

We believe that the type of risk measures is required to be compatible with the type of risks considered (for example, non-VaR-type risks are best measured with non-VaR-type measures rather than considering them together with VaR measurements), such that the use of these measures in the calculation of capital be viewed separately. For example, simply increasing the confidence interval to encapsulate multiple risk factors would be counter productive as the measures will become less easily tested and more model dependent.

We recommend the use of global multipliers [1] and objectively "testable" measures to high "un-testable" percentiles.

[1] The calibration of such multipliers may appeal to a high confidence limit target

**8. What are the likely operational constraints with moving from VaR to ES, including any challenges in delivering robust backtesting, and how might these be best overcome?**

We support the proposal to move from VaR to ES in principle as ES is a better measure of the risk and more sensitive to extreme tail event risk which VaR has proven failed to capture. ES covers the entire tail beyond a chosen confidence level as compared with VaR which is only one point on the distribution. It also satisfies the coherency properties desirable in a risk measure.

Operationally, banks should be able to source the historic data required by referring to the same pool of information as currently used to compute VaR. Practically, some adjustment or cleansing may be required. We would suggest a confidence level of 95%, instead of the current 99% because the statistical uncertainty in estimation is not larger than variations due to a change in risk profile. Meaningful testing can be performed over a recent period, for example one year, repeated quarterly. Extreme model dependence is avoided as it would be the case for a very far tail measure. It enables the derived results to better represent non-linearities and a more comprehensive range of shocks. In addition, back-testing ES at 95% would give a larger number of excess P/L observations to average upon. It will provide a meaningful amount of data subject to daily back-testing or other ex-post statistical test

For some banks, detailed P/L attribution and data volume processing and storage may call for systems revamp. Some development is required to incorporate non-VaR type tail risks for reporting and explanation around ES.

**9. Which of the two approaches better meets the Committee's objectives for a revised standardised approach?**

The standardised approach is currently adopted by banks where a) sophisticated measurement of market risk is not required, or b) the internal market risk model is inadequate. The revised standardised approach appears to be more risk-sensitive and can strengthen the relationship between the existent standardised and internal models approaches as discussed.

Two approaches are recommended in the CD. The partial risk factor approach captures the delta position netting effect with limit cross-cutting risk factors (mainly on FX and general interest rate risk). The fuller risk factor approach can reflect better diversification benefits on different instruments through the recognition of systematic risk hedging. It has catered for the non-linearity of option products in the capital calculation.

More sophisticated banks would prefer the fuller risk factor approach on the notion that it is a more extensive exploration into fundamental risk components when compared to partial risk factor approach. On the other hand, for small and medium sized banks that do not have the resources to support sophisticated pricing models and trading systems (required of the fuller risk factor approach), the 'partial' risk factor approach would have the merit of simplicity.

The Committee is encouraged to recognise that the implementation effort required should not be underestimated, even with the partial risk factor approach. It is questionable however, in regards to the usefulness of disclosing standard rules for capital across the entire trading book, however it is encouraging to see that the transparency shown so far in calibrating the standard rules on capital, and we look further to collaborating in the design of the calibration algorithm.

We also feel that both approaches need further simplification to meet the Committee's principles of simplicity and transparency in the revised standardised approach.

We support regulators' objectives to make standard rules more risk sensitive but the industry should come up with a practical methodology to avoid a situation where even the standard rules could become an on-going burden.

**10. Do commenters propose any amendments to these approaches?**

**i. "Intermediate" book as alternative**

The current two-book approach accommodates positions in financial instruments that straddle these (trading/banking) strict boundaries. We propose the concept of 'intermediate' books to properly house and reflect the risk of some instruments which may fall short of meeting the full requirements of trading evidence assessment. These, as we can think of currently, are less liquid instruments (e.g. new products with shadow liquidity, trading instruments become illiquid due to temporarily tighten liquidity or market downturn, etc) and hedges which instead of an immediate reclassification to the banking book, should be re-categorised and be eligible for capital treatment that best reflect their liquidity and economic risk appetite consumption. When sufficient liquidity can be demonstrated, these instruments can be moved back to the pure trading book.

The Trading book is still applicable to instruments that have short liquidity horizons, for matching the conventional view of a traditional trading book. The 'intermediate' book is used for holding positions of a short to medium horizon to reflect the "product" basis risk. Positions can be transferred to it from either the Banking book or the Trading book and that capital requirements would capture market risk. Additional capital charges can be computed through an adjustment to reflect the increased liquidity horizon to be applied against the instruments.

In addition to the vanilla amortized cost instruments, any instruments plus hedges that can demonstrate robust hedging relationship through effectiveness tests should continue to be defined under the Banking book, with the argument that this type of hedges is entered for longer term economic benefits or for liquidity and funding risk mitigation, rather than to capture short term profit opportunities. Industry has proposed that any interest rate risks pertaining to the AFS portfolios can be captured by a calculation of Interest Rate Risk in the Banking Book (IRRBB) as part of Pillar 2.

**ii. Incorporating varying liquidity horizons in the regulatory market risk metric (Annex 4, Section 2)**

Under Option 2 (scaling of one-day shocks) we suggest that the committee considers scaling rules other than the square root of time and also growth laws by risk factor asset-class and type. This is because risk factors are observed not to grow like the square root of time.

**iii. Standard rules floor**

We advocate a smooth transition between the modelled and standard rules for capital requirements, which should depend on model performance and encompasses the proposal for a granular model approval. The transition approach (standard rules capital surcharge) retains the principle of motivating the improvement of risk measurement standards: for this reason we strongly recommend it over the use of a capital floor, which would misalign capital efficiency and risk management.

**iv. Other Comments and questions**:

(a) Under existing market risk framework, structural FX position is allowed to be exempt from the calculation of market risk capital requirement. Under the Valuation-based boundary approach, would this exemption still be applicable?

(b) Does the actual daily P&L mentioned in P&L attribution assessment include intraday P&L and valuation adjustment conducted on month end?

(c) Are intraday P&L and valuation adjustment types of non-modellable risk factors?

(d) Given any methods which do not rely on full repricing would not be appropriate given the importance of modelling the tail of the loss distribution, does it imply the parametric approach which relies on the first and second derivatives of pricing model will be no longer allowed?

(e) The consultation paper hints that the ES would be calibrated to stressed period. However, it would be a challenge to the products involving new risk factors. e.g. the CNH/CNY market is new and most of the related risk factors did not exist in 2008 or 2011 (latest possible stressed period).