



Draft CP RTS – Market Risk Assessment Methodology and significant share

Public Hearing

25 January 2016 | London

Mandate(s) in Article 363(4) of the CRR

EBA shall develop draft regulatory technical standards to specify the following:

(a) the conditions for assessing materiality of extensions and changes to the use of internal models;

Model Changes RTS

(b) the **assessment methodology** under which competent authorities **permit** institutions to **use internal models**;

New mandates

(c) *the conditions under which the share of positions covered by the internal model within a risk category shall be considered significant as referred to in paragraph 2.*

EBA shall submit those draft regulatory technical standards to the Commission by **31 December 2014**.

Similar mandates existed for **Credit and Operational Risks**

Interaction with
the BCBS FRTB

Assessment of Significance

Level of application of the assessment

Unlike for IRB in market risk there are no roll-out plans or permanent partial use ('PPU') – the assessment of the significance of positions has to be conducted for the particular combination of legal entity(ies) and risk category(ies) for which the bank is requesting modelling permission,

Methodology applied

When assessing the significance of positions, the EBA has considered that, due to differences in the nature of general and specific risks, it is appropriate to treat those positions subject to general risk of equity and debt instruments as well as subject to foreign-exchange and commodities risks, differently from those positions to be included in the internal model for specific risk of equity and debt instruments.

For General risk – excluding structural FX positions

$$\frac{\textit{standardised charge for non modelled positions}}{\textit{standardised charge for non modelled positions} + \textit{standardised charge for modelled positions}}$$

For Specific risk – excluding securitisations

$$\frac{\textit{sum of long and short for non modelled positions}}{\textit{sum of long and short for non modelled positions} + \textit{sum of long and short for modelled positions}}$$

The use of net positions for specific risk avoids the distorting effect of having potentially a significant part of positions pondering 0% RWAs in the assessment of materiality -same rationale applied in the RTS on materiality thresholds for specific risk (December 2013).

Assessment of Significance

Treatment of positions excluded by the competent authority

The EBA is consulting on the possibility of requesting two calculations:

- When submitting a model application banks would be required to comply with a high threshold for the positions they intend to include in the internal model - level of **5 to 10%**, i.e. 90 to 95% of positions included.
- In case competent authorities have excluded some positions from the scope banks will have to perform the calculation again - lower threshold, level of **30 to 40%**, i.e. 60 to 70% of positions to be included.

Initial and regular assessment of significance

- The assessment of 'significant' has to be conducted regularly to ensure the significance requirement established in Article 363 is met. At a minimum, the positions excluded from the internal model at inception should not grow significantly after the initial validation. However, computing the ratios based on SA may be too burdensome.
- The EBA is proposing that, at a minimum, as part of the annual internal validation, the risk control unit assesses the materiality of positions excluded using the proportion of:
 - (i) the P&L and
 - (ii) the own funds requirementsstemming from the positions included in the scope of the model compared with the total by risk category.

Preparation year prior to model approval

Modelling accuracy track record (Art. 638(1) of the CRR)

When the model application is submitted, the market risk internal model shall have been working for at least one year in a stable way.

- 250 back-testing observations are needed to determine the VaR and SVaR multipliers
- During this one year period the model should not be subject to any material changes – defined according to the EBA RTS on model changes
 - If material changes are introduced the RTS allows the possibility of re-computing the Backtesting to complete the 250 days needed.
- During this preparation year institutions should calculate the risk metrics, obtained for the risk categories included in the model application scope, for the latest benchmarking portfolios published by the EBA (at least yearly exercise)
 - Competent Authorities shall assess the results provided by the institution against the data obtained for all institutions in the EU.

Structure of the RTS

Modelling application by risk category vs modelling standards by type of model

While the CRR establishes in Article 363 that the **permission** by the competent authorities for the use of internal models shall be required **by risk category**, modelling **validation** is in practice not conducted solely by risk category, but **by** a combination of risk category and **type of model**,

- a) general risk of equity instruments: positions shall be subject to **VaR** and **SVaR**
- b) specific risk of equity instruments: positions shall be subject to **VaR** and **SVaR**, **in addition** they **may** be included also in **IRC**.
- c) general risk of debt instruments: positions shall be subject to **VaR** and **SVaR**
- d) specific risk of debt instruments: positions shall be subject to **VaR**, **SVaR**, **IRC** and, solely for securitisation positions and nth-to-default derivatives that meet the requirements stated in Art. 338, **APR**.
- e) foreign-exchange risk: positions shall be subject to **VaR** and **SVaR**
- f) commodities risk: positions shall be subject to **VaR** and **SVaR**

Just like the CRR, the RTS has been organised following a ‘model’ structure

Proposed General-Specific risk hierarchy

Article 365 establishes ‘general’ requirements, whilst Article 370 introduces ‘additional’ requirements ‘particular to’ specific risk modelling. Accordingly (though not explicitly introduced in Article 363) a bank won’t be able to apply for specific risk (of either equity or debt instruments) without having authorisation (or applying simultaneously) to model general risk.

Proportionality

The standards should be applied considering the complexity of the model, which should be linked to the complexity of the instruments that are negotiated in the trading area – the RTS proposes 3 categories of instruments.

Assessment methodology

Common Governance Section

Segregation and Independence of the risk unit

- Ultimate responsible of the risk unit shall be a senior manager of the institution, though not necessarily a member of the board. However, the RTS also requires that the risk unit is represented at the Board at a minimum when it discusses areas that are relevant for the unit.
- In order to assess how the independence of the risk unit is exercised in practice and how the views of the risk unit are incorporated into the decisions of the Board on market risk matters, competent authorities are requested to examine the proposals from the risk unit as well as the final decisions taken by the Board

Variable remuneration of the risk unit / internal audit personnel

The variable remuneration of the staff and senior management responsible for the risk control unit and / or the internal audit shall not be 'materially linked' to the performance of the tasks related to trading business areas under their supervision

Outsourcing

Outsourcing should not be extended to areas beyond the ones permitted under the CRR, there should be sufficient in-house understanding of the outsourced tasks and the competent authority should be able to have access to all relevant information.

Assessment methodology

Common Governance Section

Initial and regular internal validation

- Initial validation: prior to the model approval shall cover all aspects of the internal model.
- Periodic validation: in line with IRB requirements, the EBA is proposing that, at a minimum, the risk unit reviews yearly the internal model. For this periodic validation, the assessment may focus in the relevant areas affected by changes in the trading business, new methodologies or instruments introduced, as well as any areas which might have been identified as problematic .

Completeness of the internal validation

The CP is proposing a number of tests and assessments that have to be conducted during the initial (and, if relevant, periodic) validation. These include, among other elements the need to:

- Assess the back-testing results for the two P&Ls for different levels of calculation (i.e. not just the 'top of the house' back-testing), including also 'exceptions' due to valuation gains exceeding VaR.
- Assess also the relevance of any missing risk factors in VaR.
- Apply statistical tests regarding distribution assumptions.
- Analyse the results from the institution's Stress Testing programme and from the Hypothetical portfolios developed to assess particular features that should be captured by the model.
- Evaluate the adequacy of proxies used in the model and the robustness of the IT systems.

A **formal report** reflecting the conclusions obtained from the initial and periodic validations shall be produced

Assessment methodology

Common Governance Section

Independence of the internal validation

- At a minimum, this requirement implies that the staff that has developed and implemented a model shall not be the same that the one in charge of validating it.
- An improvement from the previous option would imply the need to create an independent ‘validation unit’ within the risk unit that would be fully responsible of the validation and would never be involved in the model development and/or implementation.
- an independent validation unit, entirely segregated from the ‘risk unit’ and with completely different reporting lines, is the best option in terms of independence, but it is also the most burdensome.

New product approval policy

- Evolving nature of trading activities, in particular for advanced institutions.
- The EBA considers is necessary to incorporate a stable framework around the introduction and formal approval of new instruments and products into market risk models.

Internal reports and structure of committees

- The EBA is requesting that all the reports produced by the risk unit are appropriately approved and documented.
- In addition, as part of the new product approval policy abovementioned, the institution must also establish a ‘new product committee’, comprising all affected parties by the negotiation of new products, to monitor appropriately.
- The EBA considers that the level of daily involvement in the monitoring and control of the internal limits required in the CRR implies that this task is formally assigned to a committee that meets frequently enough to study any limit breach and take corrective action or escalate it.

Assessment methodology

Common Governance Section

Internal limits and limit breach approval process

- Internal limits are considered in the RTS a central element necessary for the control of trading activities.
- VaR limits are not the only method that institutions use to control traders' activities; the RTS recognizes institutions generally establish other type of limits apart from VaR (based on sensitivities, or lost trigger type). The RTS states that these other limits shall be consistent with the ones based in VaR metrics and shall also be formally approved
- At the same time, VaR is a central element of the regulatory model and so it is given a predominant role in the RTS. Neither SVaR nor IRC or Correlation Trading Modelling limits are ex ante obligatory.
- The EBA is proposing a two-tier limit setting process, with some VaR limits being necessarily established and reviewed by the institution's Board, and a second tier of VaR internal limits being established and updated by the internal committee previously mentioned
- Back-testing will be requested for all levels at which VaR limits have been established by the Board.
- A 'formal' limit breach approval process shall be established. Any limit breaches shall be resolved by the unit that established it in the first place.

Stress testing programme

In accordance with Article 368(1)(g) of the CRR, the RTS requires that the risk unit establishes, at least annually, a series of scenarios that should be run at least monthly. The scenarios shall capture a series of historical and hypothetical events, but the RTS also requests that ad-hoc and reverse stressed test scenarios are applied.

Assessment methodology

VaR and SVaR sections

Calculation of VaR and SVaR at consolidated level

The RTS includes specific requirements for the calculation of VaR and SVaR at consolidated (and, where relevant, sub-consolidated) level:

- Fulfilment of the requirements established in Article 325 is a ‘precondition’ that has to be met to allow a consolidated VaR calculation.
- The EBA is consulting on a series of additional requirements to allow performing a single VaR / SVaR calculation, when the scope of an internal model includes positions booked in different ‘units’ that operate under different time zones.
- In all cases positions shall be captured close of business. Once positions have been grouped in a single portfolio, they shall be treated as if they had been held in a single jurisdiction.
- However, the RTS also acknowledges that, on occasions, some instruments (labelled as ‘local’ products) might only be traded in specific markets, so some flexibility is allowed.
- In any case the two P&L used for back-testing purposes, under Article 366 of the CRR, shall be calculated consistently with how the VaR is computed.
- Banks must clearly document (and competent authorities review) how these differences are taken into consideration, both for VaR calculation and for the two P&L computations used for back-testing purposes.

Assessment methodology

VaR and SVaR sections

Back-testing requirements

- As previously noted, formal back-testing, conducted by the independent risk unit, is requested for the VaR limits established by the institution's Board.
- The RTS further specifies how the two Profit and Loss calculations referred to in Article 366(3) of the CRR shall be calculated:
 - Hypothetical
 - Actual
- The EBA is considering for consultation two possible P&L computations for the 'hypothetical' back-testing: (i) consider only the P&L stemming from the risk categories included in the scope of the model (ii) consider the P&L stemming from all the risk categories independently of whether they are included in the scope of the model or not.
- For the back-testing based on actual P&L, institutions are requested to compute the full P&L (after excluding fees, commissions and net interest income) produced for all risk categories listed in Article 363,
- The RTS establishes that, when CAs allow institutions to consider only hypothetical back-testing exceptions, it is still not acceptable that a material number of overshootings is primarily caused by intraday trading or new trades. The CA is required to consider the relevance of these overshootings when assessing the VaR and SVaR multipliers proposed by the institution

Assessment methodology

VaR and SVaR sections

Treatment of 'event risk'

- 'Event risk' is mentioned in Article 370(f) of the CRR as one of the elements that has to be captured when modelling 'specific risk' (both for equities and debt instruments); however event risk is not defined, nor mentioned again, anywhere in the rest of the CRR.
- 'Event risk' comes from the 1996 MRA where it was applied also for credit and market positions in the TB.
- However, after the Market Risk Amendment was modified with the publication by the BCBS of the so called 'Basel 2.5' package in July 2009, it was decided that the 'credit' component of event risk (e.g. default and migration) would now be fully captured by the IRC.
- The RTS considers that there is no need to model event risk in VaR and SVaR for those positions included in the scope of a validated IRC model. This of course includes all positions subject to credit risk but also equity positions in case they have been included in the scope of the IRC model in accordance with Article 373 of the CRR. The rationale for this interpretation is that event risk is largely, if not entirely, captured already in the IRC; in addition, the interpretation allow an alignment of the RTS with the international standards produced in Basel.
- However, for those equity positions which are not included in the IRC calculation, the RTS establishes that the VaR and SVaR model shall capture 'event risk'. The requirements for event risk, in line with Basel 2.5, relate entirely to equity risk.

Assessment methodology

VaR and SVaR sections

Treatment of own creditworthiness – EBA is consulting on whether it should be included or not in the IMA

- Legal CRR requirements:
 - Article 33: gains or losses on liabilities and on derivative liabilities of the institution that result from changes in the institution's own credit standing are not included in any element of the own funds.
 - Article 327: institutions' holdings of their own debt instruments shall be disregarded in calculating specific risk own funds requirements under the standardised approach.
 - In contrast, the CRR remains silent on the treatment of own credit standing under the internal model.
- The combination of Article 33 and Article 327 of the CRR could imply that any changes in valuation stemming from the institutions' own creditworthiness on any financial instrument held in the trading book (asset, liability or derivative) should be disregarded for the specific VaR, SVaR and IRC capital charges. In addition, there is no 'turning back' to the SA in case the internal model for 'own debt' is rejected.
- Any effect in P&L would also have to be eliminated from the valuation daily changes applied for BT.
- On the other hand, it could be argued that Article 367(1) of the CRR requires that internal models capture 'all material price risk', which would include the 'own credit worthiness' component. In addition the inclusion of own debt for migration was contemplated in the EBA IRC guidelines (most institutions include them).
- Finally, the capture or exclusion of an institution's own creditworthiness may also raise operational or boundary issues:
 - It may be operationally difficult to exclude changes in own credit from both hypothetical and actual P&L
 - It is unclear whether, for specific risk purposes, only 'direct' positions in own debt instruments should be excluded (e.g. positions in own debt instruments arising from trading or market-making activity in its own bonds) or whether also 'indirect' positions should be excluded

Assessment methodology

VaR and SVaR sections

Assessment of the appropriateness of VaR and SVaR multipliers and reserves proposed by the institution

- The multiplier proposed for VaR and SVaR by the institution (i.e. the 'at least 3' before computing any back-testing add-on) should reflect any deficiencies or modelling flaws, provided they are not material enough to put the whole model methodology into question.
- The multiplier should also reflect an excessive number of exceptions which may have been primarily produced by intraday transactions or new trades.
- The RTS establishes that the SVaR multiplier cannot be lower than the one proposed for VaR.
- The RTS also contemplates the possibility that firms use reserves to address some model flaws.

SVaR specificities

- The SVaR section builds on EBA existing guidelines as well as on institutions' observed range of practices for SVaR. The RTS text does not deviate significantly from the 2012 guidelines, however it does specify to a greater extent some of the requirements related to the determination of the stressed period, as well as its regular monitoring and exceptional review in case the SVaR falls below the daily VaR metric.
- The EBA is also requesting feedback on some of the requirements included in the SVaR guidelines (in particular related to the selection of proxies for SVaR), in order to assess whether they are still relevant and justified from a methodological perspective.

Assessment methodology

Incremental Default and Migration Risk model (IRC)

- Just like with SVaR, the RTS builds on the 2012 guidelines produced by the EBA and also on the observed range of practices followed by institutions when implementing these guidelines.
- The RTS is more prescriptive than existing guidelines in a number of areas, such as the modelling assumptions and correlations, the selection of ratings, PDs and LGDs, transition matrices or Liquidity Horizons used in the IRC model. It also introduces specific governance requirements for the inclusion of equity positions in IRC.
- The RTS excludes the use of zero PDs for modelling purposes; this is in line with the requirement, established in Article 373 of the CRR, to model in IRC all positions subject to specific interest rate risk *'including those subject to a 0% specific capital charge'* according to the standardized approach.

Internal model for correlation trading

- The RTS establishes governance requirements for the inclusion of positions and appropriate segregation of instruments included in the correlation trading portfolio.
- Due to the technical difficulties of modelling jointly all the different risks included in the portfolio, the EBA has decided to allow explicitly, at least for consultation, the application of a 'building block-type approach to model all or some of the risk factors listed in Article 377(3) of the CRR.



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