

# Financial Risk&Regulation

The EBA has developed the new requirements  
for the validation of initial margin models

Newsletter – March 2024

The European Banking Authority (EBA<sup>1</sup>) issued a new draft of regulatory technical standard (RTS) in July 2023 regarding the validation requirements for methods used to determine initial margin<sup>2</sup> under the European Markets Infrastructure Regulation. The aim of the proposal is to harmonize supervisory procedures supporting compliance with the bilateral margin framework for over-the-counter (OTC) derivatives, not cleared by a central counterparty, as prescribed by the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO). It also establishes a framework for the proportionate application of these procedures. Methods used for margin calculations are often highly technical and consequently receive less attention. However, inadequate handling of margin models and related requirements carries significant business, reputational, and regulatory risks. In our newsletter, we review the background and key points of the proposal, as well as several amendments proposed in the months following the draft's publication.

## Margin Requirements

For OTC derivatives transactions not cleared by a central counterparty, there are two types of collateral used to cover the risk of nonperformance. Variation margin represents collateral that tracks changes in the counterparties' exposure to each other, i.e., the market value of the transaction, usually on a daily basis. Initial margin, on the other hand, provides coverage against exposure changes resulting from market movements during the margin period of risk (MPoR<sup>3</sup>) in the event of potential nonperformance, which counterparties set aside at the inception of the transaction.

## Margin calculation in practice

The RTS draft places particular emphasis on the Initial Margin Model Validation (IMMV) as the primary tool of regulation. While in theory, there is a diverse toolkit available for modeling the value of initial margin, in the segment falling under Basel supervision, the use of margin calculation models requires prior approval from the BCBS and IOSCO, or other relevant regulatory authorities. As a result, in practice, two main methods have become prevalent.

<sup>1</sup> European Bank Authority.

<sup>2</sup> EBA's Final Draft Regulatory Technical Standard (July 2023). [Final Draft RTS on Initial Margin Model Validation.pdf \(europa.eu\)](#)

<sup>3</sup> The time period from the most recent exchange of collateral covering a netting set of contracts with a defaulting counterparty until the contracts are closed out and the resulting market risk is re-hedged.

## 1. Schedule-Based Approach

Among market participants with smaller portfolios and generally smaller-scale business activities, the so-called Standardized Initial Margin Schedule has become prevalent. This model categorizes assets according to risk indicators based on requirements published by BCBS-IOSCO<sup>4</sup>, assigning margin requirements as a percentage of the nominal value to these categories. The advantage of this method is its simplicity, ease of implementation, and maintenance. However, it typically involves a conservative approach, requiring significantly larger reserves compared to deposit requirements calculated using more sophisticated models.

## 2. Standard Initial Margin Model

The Standard Initial Margin Model<sup>5</sup> (SIMM) is a model developed by the International Swaps and Derivatives Association (ISDA), suggested as a market standard. It considers recommendations from both market participants and regulatory authorities. SIMM has gained widespread adoption among major market players, including investment banks, large brokerage firms, and investment funds.

SIMM is based on the portfolio's risk sensitivity. To determine this, counterparties can utilize pricing and risk models developed and maintained either by themselves or by third-party model providers, as long as they comply with SIMM requirements. SIMM provides detailed specifications regarding the mathematical methods applied, risk weights, and correlation parameters used. The model is consistent with the international framework established by BCBS and IOSCO. Accordingly, it calculates initial margin assuming a 10-day MPoR for a 99% confidence interval and allows for the netting of offsetting risks.

SIMM requires transparency and ease of reproducibility of models, which further strengthen market participants' confidence and simplifies margin exchange processes. Its advantage over the significantly simpler schedule-based approach is that, based on ISDA estimates and the quantitative impact study conducted by BCBS-IOSCO, adopting the SIMM model may come with significantly more favorable cost implications.<sup>6</sup>

## The EBA's final draft on IMMV requirements

When developing the details of the model validation framework, the primary goal was to ensure compliance with existing European and international regulatory requirements, as well as to align with current market practice.

To ensure that the regulatory burden of model validation is proportionate to the size of the institution and its impact on the market, the draft defines two approaches: the **standard** and **simplified** approaches. The latter is available to institutions that do not qualify as credit institutions/ investment firms or whose aggregate month-end average notional amount of non-centrally cleared OTC derivatives for the months March, April and May of the preceding year is below EUR 750 billion.

### *Fundamental expectations regarding the margin model*

The regulation outlines specific expectations regarding the application of the initial margin model. Here we highlight some of those which are necessary for the understanding of the validation requirements, and backtesting.

A significant portion of the requirements revolves around netting sets, which refers to a legally enforceable bilateral netting agreement between two counterparties for OTC derivative transactions not cleared by a central counterparty. Diversification or risk offsetting may not be carried out for risks originating from different counterparties or different product classes for specific counterparties. Accordingly, the initial margin model must be separately applied to the defined netting sets, and risk offsetting within netting sets is only possible along the following asset classes: a) interest rates, currency, and inflation, b) equity, c) credit, d) commodities and gold, and e) other.

Another requirement for the model is that when determining initial margin, the change in the value of transactions within netting sets must be calculated based on a one-sided 99% confidence interval and a MPoR of at least 10 days. Additionally, the model must be recalibrated at least annually using historical data covering a period of 3-5 years, with at least 25% of the data derived from „a period of significant financial stress”.

<sup>5</sup> ISDA, SIMM technical workpaper (December 2013). [Standardized Initial Margin Model \(isda.org\)](https://www.isda.org/standardized-initial-margin-model)

<sup>6</sup> ISDA, SIMM technical workpaper, page 2 (December 2013). [Standardized Initial Margin Model \(isda.org\)](https://www.isda.org/standardized-initial-margin-model)

## The main characteristics of the validation requirements

In terms of the structure, the standard and simplified validation procedures, are very similar: both comprehensively address topics such as materiality thresholds, documentation and data reporting obligations, expectations regarding internal organizational units, processes, and model performance.

### Validation requirements for the standard procedure

An important characteristic of OTC derivatives is that a significant portion of market participants utilizes the SIMM model developed by ISDA for determining initial margin requirements, which was a major consideration during development. However, it's worth emphasizing that the SIMM model is not exempt from the requirements outlined in the draft.

#### *Documentation requirements when submitting a new model for initial approval, or in case of material model modification or extension*

The submitted application must include, among other things, a precise and detailed description of the model's logic, purpose, and subject, a comprehensive impact study, related technical and procedural documentation, reports on internal independent review and approval procedures, documentation of current and previously used margin models. Where applicable, related documentation shall also be provided on the third parties' involvement in the development, implementation and maintenance of the model or its components.

#### *Internal governance and procedural requirements*

The TRS draft extensively addresses the proper structuring, roles, and other requirements for internal development, IT, audit, management, and decision-making groups related to margin models, ensuring appropriate development, application, control, and management processes. These requirements must also be thoroughly documented. An important example is the internal approval process, specifically ensuring compliance with validation requirements for the margin calculation model and its implementation. This process should be conducted by a group independent of development and application,

possessing adequate expertise and experience. Their task includes examining the model, its assumptions, and the adequacy of calibration procedures, as well as conducting historical and other extensive statistical testing. Continuous monitoring, testing, and analysis should be documented in detail and kept up to date. Furthermore, every report or application submitted to the relevant authorities must first pass through the internal approval process.

#### *The reporting obligation of anomalies observed in the model's performance*

The draft states that the results of the backtesting must be reported for netting sets with significant risk. The level of risk is expressed by the Margin Average Shortfall (MAS), which is the average value of exceeding the estimated initial margin during backtesting. In standard validation, netting sets with a MAS exceeding 5 million euros are considered to have significant risk, and reporting obligations apply to netting sets with the 15/10/5 highest MAS values, categorized as red/yellow/green (more details on the so-called traffic light test used in the evaluation are provided in the quantitative assessment of model performance).

### Validation requirements for the simplified procedure

Regarding documentation requirements, a significant simplification is introduced in the simplified procedure, where the determination of reporting obligations related to model changes or extensions does not solely depend on the nature of the change but also requires reaching a certain materiality threshold for the impact of the change. Also worth mentioning are the simplifications related to documentation of technical and procedural processes.

The internal governance and procedural requirements mostly align with those formulated within the standard procedure framework.

In the case of simplified validation, the structure for determining materiality thresholds for reporting anomalies in model performance remains like the standard procedure, with only the threshold values differing: Netting sets with a MAS exceeding 500,000 euros are considered to have significant risk, and reporting obligations apply to the 5/3/2 netting sets with the highest MAS values, categorized as red/yellow/green.

## Quantitative assessment of model performance

The quantitative assessment of model performance is a key tool in validation, for which the RTS draft mandates backtesting. During backtesting, the estimated initial margin generated by the model must be compared with the actual value changes of the position under various scenarios based on real market movements. Depending on the construction of scenarios, this can be static or dynamic backtesting. Both methods are essential components of internal model validation at the model's introduction and continuous monitoring and analysis thereafter. Below, we provide a brief overview of the requirements for defining some key metrics.

### Static backtesting

During static backtesting, firstly, for each netting set, a historical period of similar length and characteristics to the calibration period must be identified, containing fresh data. Subsequently, for each day within this period, the value change of the netting set over a time interval equal to the MPoR (measured from the respective day) must be calculated, and then compared to the estimated initial margin provided by the model. If the value change exceeds the estimated initial margin, it indicates an exceedance. Then, applying the traffic light test, the netting set receives a green, yellow, or red classification based on the number of exceedances:

- a. Green if the number of breaches is less than or equal to  $N_{g,s}$ .
- b. Yellow if the number of breaches is greater than  $N_{g,s}$  and less than or equal to  $N_{a,s}$ .
- c. Red if neither green nor yellow.

To determine the values of  $N_{g,s}$  and  $N_{a,s}$  used for classification, the draft relies on past exceedances. Assuming that the value changes under MPoR follow either a normal distribution or another distribution supported by empirical evidence, the threshold for breaches is set as the 99th percentile of this distribution. The thresholds for  $N_{g,s}$  and  $N_{a,s}$  are then provided by the 95th and 99.99th percentiles of the distribution of the number of value changes exceeding the threshold over a period with a length same as the backtesting period.

**VaR based analysis:** During static backtesting, an additional VaR-based analysis must be conducted for the selected netting sets. Firstly, the historical

VaR for the calibration period and the backtesting period (corresponding to the MPoR duration) must be determined, along with the MAS for these periods. In this analysis, the MAS calculated by the model is compared to the MAS values obtained using historical VaR (benchmarking).

### Dynamic backtesting

The dynamic backtesting is very similar to the static case; however, here we highlight the main differences:

- The backtesting period should cover the most recent 250 trading days, for which data required to determine the value changes of netting sets are available.
- The value changes of netting sets over a 1-day horizon and a 1-day MPoR should be used.
- Conducting the VaR based analysis is not necessary.

## Compliance deadlines

The draft also sets deadlines for compliance with the requirements, which depend on the validation procedure used by the institution and its trading volume in OTC derivatives:

- 1 year for standard validation,
- 2 years for simplified validation in case the nominal value of the relevant transactions is above 50 billion euros and
- 3 years for simplified validation in case the nominal value of the relevant transactions is below 50 billion euros.

## The EBA's and ISDA's proposed amendments to the regulation

The EBA, in parallel with the issuance of the draft, officially formulated its opinion on the European Markets Infrastructure Regulation's requirements, concerning the subject matter of the draft, relying on consultations and extensive surveys conducted during the development of the draft.<sup>7</sup> It emphasized that the EBA finds the scope of those covered by the draft excessively broad and suggests for consideration by the European Commission particularly narrowing down of the scope of those falling under the simplified procedure, as well as defining those who completely fall outside the regulation's scope based on the volume of their activities.

In addition, the EBA has formulated the necessity of a central coordinator at the European Union level, primarily for the sake of transparency in



the approval processes of the SIMM model, its integration into global standards, and coordination with regional authorities. The EBA envisions itself fulfilling the role of coordinator for the entire sector, facilitating the alignment of margin calculation practices applied within and outside the European Union.

The ISDA, representing market participants, welcomed both proposals from the EBA in a statement. It emphasized that ISDA found the requirements for smaller institutions disproportionate and unnecessary, proposing a similar suggestion to the EBA's for narrowing the scope of the regulation: suggesting an average aggregated month-end nominal amount of 750 billion euros in March, April, May of the preceding year as a lower threshold. It also stated that representing a unified European Union level position in the global market would be particularly beneficial for both regulatory authorities and market participants and supports the EBA in taking on this role. Additionally, the ISDA made smaller technical amendment proposals, primarily concerning reporting obligations related to model changes and rationalizing approval deadlines.<sup>8</sup>

\* \* \* \* \*

**Upon the new European regulatory framework's entry into force, the implementation and maintenance of the complete infrastructure of the initial margin models, just as the establishment and maintenance of the continuous monitoring and analysis procedures require significant preparation and impose a heavy burden on the participants of the OTC derivatives market. KPMG's team of experts is ready to assist clients with exceptional expertise at every step of the process.**

<sup>7</sup> Opinion on regulatory scope and validation of initial margin models (July 2023). [EBA Opinion on regulatory scope and validation of initial margin models.pdf \(europa.eu\)](https://www.eba.europa.eu/en/press-communications/press-communications/14847)

<sup>8</sup> Validation of Initial Margin Models: ISDA's open letter regarding the EBA's opinion (October 2023). [EU-IMMV-RTS-Letter\\_Level-One-Changes\\_100323.pdf \(isda.org\)](https://www.isda.org/press-releases/2023/10/23/immv-rtts-letter-level-one-changes-100323.pdf)

The newsletter was prepared by: Tamás Glatz, Soma Nagy, József Soltész, Edina Szirmai

## Contacts:



**Ágnes Rakó**  
Partner  
M: +36 70 370 1792  
E: [agnes.rako@kpmg.hu](mailto:agnes.rako@kpmg.hu)  
[KPMG.hu](https://www.kpmg.hu)



**Péter Szalai**  
Associate Partner  
M: +36 70 370 1739  
E: [peter.szalai@kpmg.hu](mailto:peter.szalai@kpmg.hu)



**Edina Szirmai**  
Principal Consultant  
M: +36 70 520 4639  
E: [edina.szirmai@kpmg.hu](mailto:edina.szirmai@kpmg.hu)



**József Soltész**  
Senior Manager  
M: +36 70 370 1766  
E: [jozsef.soltesz@kpmg.hu](mailto:jozsef.soltesz@kpmg.hu)



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation. The KPMG name and logo are registered trademarks or trademarks of KPMG International.