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# Calculation and Exchange of Initial Margins for Bilateral OTC Derivatives



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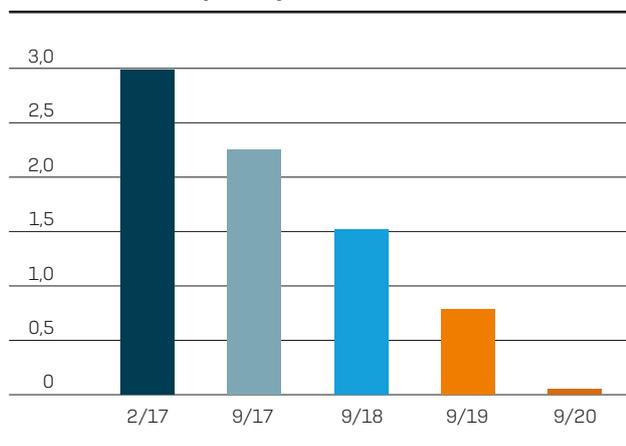
Calculation and exchange of initial margins has an impact on the pricing of bilateral derivatives leading to a new “Valuation Adjustment”, the so-called “Margin Value Adjustment” (MVA).

# Calculation and Exchange of Initial Margins for Bilateral OTC Derivatives

## 1. Regulatory Background

The detailed regulatory requirements for the collateralisation of bilateral OTC derivatives have been laid down in the RTS (EU) 2016/2251.<sup>1</sup> The text defines, in particular, which market participants have to exchange initial margins when trading a derivative bilaterally: If for both counterparties the groupwide aggregated notional of derivatives which are not centrally cleared exceeds a threshold, initial margins have to be exchanged. This threshold was set to 3 trillion Euros in the first phase of the bilateral initial margin obligation, but will be lowered each year to 750 billion Euros in 2019 and to the final value of 8 billion Euros in 2020.

Notional threshold (EUR tn)



Therefore, this topic is likely to also be relevant for medium-size or small houses if either a bilateral derivatives trading business or affiliation to a larger corporate group exists.

## 2. Initial Margin Models

Currently two models for the calculation of initial margins for bilateral derivatives are available:

- **Standardised / Grid-based approach:** This model has been defined by the regulators and is straightforward to implement. It may, however, lead to very conservative initial margin requirements.
- **Standard Initial Margin Model (SIMM):** This model, developed by ISDA, is used by most large banks. It is significantly more risk sensitive than the grid-based approach, but also more complex.

As criteria for the decision on whether SIMM should be used, two main questions have proven to be relevant:

- **Efficiency of the model:** Will we be able to significantly reduce our initial margin requirements by using SIMM?
- **Market standard:** Can we continue to trade with our current counterparties? This question is often the more relevant one for smaller houses.

Whether or not the utilization of SIMM yields any significant savings in terms of initial margin is strongly portfolio dependent. In order to gain more insight into this point and to have substantiated information for the choice of an initial margin model, portfolios have to be analysed in detail, for example during a pre-study.

If the decision is made to implement SIMM, any gaps in the data basis first have to be filled. The implementation of the actual model can then be done 'in-house' or by connecting to centralized solutions for initial margin management. Furthermore, one should consider the establishment of new processes, for example, model governance or dispute management, as an integral part of a SIMM implementation project.

As a final remark with respect to the implementation of SIMM, we would like to point out the structural similarities to the FRTB standardised approach. Both models need sensitivities as main input, and although the models differ in some details, SIMM-compliant sensitivities can often be largely taken over for the implementation of the FRTB approach. Therefore we recommend aligning both projects and verifying if synergy effects can be achieved.

## 3. Exchange of Collateral

The margining process for initial margins differs in several points from the established processes for variation margins. As netting of requested and posted initial margins is not permitted, two separate initial margin figures have to be processed. In the case that SIMM is used, dispute processes are more involved and hence more time critical due to the increased complexity of the model and the larger number of parameters to be checked. Using the functionalities offered by specialized service providers can be of great value in this regard.

<sup>1</sup> Other jurisdictions have established similar legal requirements

With respect to settlement and exchange of initial margins, the exchange of securities via tri-party agents rather than the exchange of cash has been established as market standard.

During implementation, existing processes to other tri-party services like tri-party repo or tri-party securities lending can possibly be leveraged. Using specialized service providers may also prove helpful here.

#### 4. Impact on Derivatives Pricing

Calculation and exchange of initial margins has an impact on the pricing of bilateral derivatives leading to a new "Valuation Adjustment", the so-called "Margin Value Adjustment" (MVA).

MVA in the current market environment is merely focused on pricing. It is justified due to the funding costs caused by the posted initial margins both for centrally cleared and bilaterally traded derivatives.

Taking care of MVA from an accounting perspective under IFRS 13 would also seem logical in order to achieve consistency with FVA, but currently still fails for various reasons, which include the challenging methodology, different methodological approaches across the market and the current lack of a coherent practice to include these costs into prices. However, this situation is likely to change with the stepwise onboarding of more banks up until September 2020.

From a methodological perspective, the simulation of future initial margin is the main challenge. For SIMM this means effectively the simulation of the complete set of relevant sensitivities on all Monte Carlo paths for all simulated exposure grid points across all portfolios for which initial margin is posted. To achieve this today, special computational techniques for speeding up this calculation, such as AAD, are often used.

You can find more information on MVA or xVA in general on our website.

#### We Support You!

Since the first phase of the bilateral initial margin obligation, d-fine has been supporting banks in all aspects of the calculation and the exchange of bilateral initial margins. We are able to leverage our extensive experience in the development and implementation of initial margin models and the implementation of tri-party repo/securities lending and collateral management solutions as well as the expertise gained in projects covering counterparty credit risk and xVA.

Given our expertise and experience, we are able to support you both as a one-stop supplier for an implementation project and as specialists for specific aspects like initial margin calculation, custodians and tri-party agents, or MVA. Furthermore we can support your project planning or conduct a pre-study, e.g. to evaluate the expected initial margin figures for your portfolios or to critically assess the existing settlement and collateral management processes. We can support you in each step to compliance with the bilateral initial margins requirements, regardless if you follow the recently published ISDA step-by-step guide<sup>2</sup> or an approach more specific to your firm.

We would be happy to arrange a meeting with you to discuss your firm's next steps. We look forward to hearing from you!

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<sup>2</sup> <https://www.isda.org/a/iVmEE/ISDA-Initial-Margin-Fact-sheet.pdf>

d-fine

**Your contact at d-fine**

d-fine Ltd  
6-7 Queen Street  
London, EC4N 1SP

Artur Steiner, Partner  
[artur.steiner@d-fine.co.uk](mailto:artur.steiner@d-fine.co.uk)

**You can find us at**  
[www.d-fine.co.uk](http://www.d-fine.co.uk)

**Contact us on**  
+44 20 7776 1000