ECC Clearing Circular No. 58/2025
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Redesign of the statistical component of the Initial Margin Spot Market (IMSM) model

Summary

As of 8 December 2025, the calculation model for the statistical component of the Initial Margin Spot Market model (IMSM) will be adjusted. Due to this change, new IMSM parameters will be applicable:

Parameter	Current	New
α (multiplier for statistical component)[1]	1.8	**3.8**

All other IMSM model parameters remain unchanged.
The changes will be used for the first time in the IMSM calculation on 8 December 2025, coming into effect the following day, 9 December 2025.

Change Description

The Initial Margin Spot Market (IMSM) is called for expected transactions on the power and natural gas spot markets, ensuring that potential exposure from expected transactions will be covered with a high degree of confidence. It is calculated as the maximum of two components, a short-term component using a multiple of the maximum exposure observed in the last 30 business days and a long-term component (also called statistical component) that estimates the general potential exposure level over a lookback period of one year. Finally, a minimum margin amount is added to the maximum of the two model components to ensure that there is a minimum margin available even when there is no historical data available.

ECC plans to change the calculation of the statistical component of the IMSM on 08 December 2025. All other model components won't be adjusted.

The change mainly improves the stability of the statistical component and prevents margin increases in case of no or negative exposures. To achieve this, ECC will adjust its calculation of the statistical component in the following way:

- An adjusted time-weighting for the calculation of the mean and the standard deviation
- a rule-based cap to prevent margin increases in case of no or negative exposures
- The incomplete exposure for t_0, also referred to as t_0-exposure, will not be considered anymore in the statistical component. It will remain part of the short-term maximum component.

Information

A member's IMSM requirement can be calculated using the Initial Margin Spot Market Sample Calculator on the ECC Website. For assistance, please contact clearing@ecc.de. For the go-live, the IMSM alpha parameter was recalibrated (see above).

The calculator, as well as the ECC Risk Parameter file on the ECC Website, will be replaced containing the new parametrisation and model change on 8 December 2025. In the meantime, both calculators for the new and old model will be available on the ECC Website. Additionally, two versions of the ECC Spot Market Margining document will be available on our website (https://www.ecc.de/en/risk-management/margining).

[1] Please note that the parameter α is applied differently in the current and new model which results in different levels of α. This does not give any indications on the magnitude of the impact of the margin change.

Calculation Details

As documented in the ECC Spot Market Margining document[2] on our website (https://www.ecc.de/en/risk-management/margining), the statistical component of the IMSM is calculated from a mean and weighted standard deviation of the underlying exposure series as

$$M_{stat,i}(t_0) = \mu_i(t_0) + \alpha \cdot \sigma_i(t_0),$$

where the parameter α is calibrated regularly to ensure sufficient margin levels and adequate backtesting results. Hereby, **the mean is currently calculated as**

$$\mu_i(t_0) = \sum_{k\in\{0,\dots,249\}: E_i(t_k)>0} \frac{E_i(t_k)}{m}$$

and the weighted standard deviation is given as

$$\sigma_i(t_0) = \sqrt{\sum_{k\in\{0,\dots,249\}: E_i(t_k)>0} \left(E_i(t_k) - \mu_i(t_0)\right)^2 \cdot \frac{\lambda^{j(t_k)}}{\lambda_\Sigma}}, \qquad \text{with} \quad \lambda_\Sigma = \sum_{j=1}^{m} \lambda^j.$$

In the new approach, the mean and standard deviation shall now be calculated via

$$\mu_i(t_0) \coloneqq \sum_{k\in\{1,\dots,250\}: E_i(t_k)>0} \frac{\lambda^k E_i(t_k)}{m} \quad \text{and} \quad \sigma_i(t_0) \coloneqq \sqrt{\sum_{k\in\{1,\dots,250\}: E_i(t_k)>0} (E_i(t_k) - \mu_i(t_0))^2 \cdot \lambda^k / m}.$$

The new statistical component is then defined as

$$M_{stat,i}(t_0) := \begin{cases} \min\{\widehat{M}_{stat,i}(t_0), M_{stat,i}(t_1)\}, & E_i(t_1) \le 0 \\ \widehat{M}_{stat,i}(t_0), & E_i(t_1) > 0 \end{cases}$$

where $\widehat{M}_{stat,i}(t_0)$ follows the calculation logic $\widehat{M}_{stat,i}(t_0) = \mu_i(t_0) + \alpha \cdot \sigma_i(t_0)$.

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[2] In the following, we will use the notations introduced in this document.