

MARKET NOTICE

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 Equity Derivatives
 Commodity Derivatives
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SUBJECT: CONCENTRATION MARGIN

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In March 2015 the JSE Clear Board approved a framework for calling a higher level of initial margin from portfolios presenting large and concentrated exposures. This framework adds an additional component to the current initial margin framework specifically designed to mitigate the concentration risk faced by the clearinghouse; this component will henceforth be referred to as concentration margin. It should, however, be noted that concentration margin is merely a component of initial margin, and will be treated as initial margin under the JSE Clear rules and directives.

The concentration margin framework consists of two components:

- A component to take cognisance of the amount of time needed to liquidate specific positions and the potential losses associated therewith (henceforth referred to as the liquidation period component), and
- A component to ensure that under JSE Clear's stress testing policy, the stressed exposure for a particular portfolio is never greater than a predefined tolerance level (henceforth referred to as the large exposure component).

In order to minimize the sudden impact on client cash flows, the concentration margin framework will be implemented in two distinct phases:

- Phase 1 will only involve the implementation of the liquidation period component, whilst
- Phase 2 will only involve the implementation of the large exposure component.

Initially, phase 1 will be rolled out for the equity derivatives market only. More specifically, the liquidation period component for the equity derivatives market will be implemented according to the following phased approach:

1. From 01-June-2015 to 05-June-2015 JSE Clear will only call for concentration margin from accounts where the total liquidation period component (aggregated across all underlying securities) is greater than a threshold of ZAR 500 million, and only the portion that is greater than the threshold will be called for. The threshold will be reduced for each of the remaining phases.
2. From 08-June-2015 to 12-June-2015 a threshold of ZAR 450 million will be applicable.
3. From 15-June-2015 to 19-June-2015 a threshold of ZAR 400 million will be applicable.
4. From 22-June-2015 to 26-June-2015 a threshold of ZAR 350 million will be applicable.
5. From 29-June-2015 to 03-July-2015 a threshold of ZAR 300 million will be applicable.
6. From 06-July-2015 to 10-July-2015 a threshold of ZAR 250 million will be applicable.
7. From 13-July-2015 to 17-July-2015 a threshold of ZAR 200 million will be applicable.
8. From 20-July-2015 to 24-July-2015 a threshold of ZAR 150 million will be applicable.
9. From 27-July-2015 to 31-July-2015 a threshold of ZAR 100 million will be applicable.
10. From 03-August-2015 onwards a threshold of ZAR 50 million will be applicable.

An implementation plan for the remainder of phase 1 and phase 2 will be communicated at a later stage.

It should be noted that the JSE is in the process of working towards a framework that would allow participants to post the concentration margin component of their initial margin requirement in the form of non-cash collateral. However, the concentration margin framework will be implemented regardless of the progress made with this regard.

The appendix provides more details with regards to the calculation methodology for the liquidation period component, and an example of the calculation is also provided. In order to avoid larger than anticipated initial margin calls, clients are advised to give careful consideration to this methodology when considering the economics of clearing large transaction through JSE Clear.

APPENDIX A: CALCULATION METHODOLOGY

Assume that the contract level initial margin requirement (IMR) for a particular future is calculated using Value-at-Risk (VaR) methodology with an $\alpha\%$ confidence level and an n -day liquidation period, and let $VaR_{\alpha;n}$ denote the VaR percentage used to determine the contract level IMR.

Let Γ denote the 90-day adjusted average daily value traded¹ in the underlying of the abovementioned futures contract. The maximum participation in the said underlying on any given day is M , where:

$$M = \frac{\Gamma}{\Theta}$$

where Θ is a parameter agreed on by the JSE Clear Risk Committee.

Let Π denote the size (in terms of delta-adjusted net notional across all expiries) of an arbitrary futures position on the abovementioned underlying. The position level liquidation period represents the number of days it will take to liquidate the particular position in the event of a default. The position level liquidation period ν , is calculated as:

$$\nu = \min(x \in \mathbb{N}_{>0} : \Pi - xM \leq 0).$$

The liquidation period component of the concentration margin relating to Π is then calculated as follows:

$$IM_{liq} = \begin{cases} M \times VaR_{\alpha;1}(\sqrt{2} + \sqrt{3} + \dots + \sqrt{\nu}) + (\Pi - [\nu - 1]M)VaR_{\alpha;1} \times \sqrt{\nu + 1} - (\Pi \times VaR_{\alpha;1} \times \sqrt{n}), & \nu > n - 1 \\ 0, & \nu \leq n - 1 \end{cases}$$

where

$$VaR_{\alpha;1} = \frac{VaR_{\alpha;n}}{\sqrt{n}}$$

The total account level liquidation period component is then derived by aggregating the liquidation period component across all underlying instruments.

The JSE will publish n , $VaR_{\alpha;n}$, and M on each occasion that contract level IMRs are updated.

¹ Adjusted average daily value traded is the average of the last 90 days value traded excluding the 9 (10%) days with the largest value traded. This avoids the average value being skewed by infrequent large trades which cannot be depended upon when liquidating a position.

EXAMPLE

Underlying	Net Notional Exposure (Π)	$VaR_{\alpha;1}$	Contract Level Liquidation Period (n)	Max daily participation (M)
Company ABC	950 million	5%	2-days	100 million

The first step in the calculation of the liquidation period component of the concentration margin requirement involves the calculation of the position level liquidation period, $\nu = \min(x \in \mathbb{N}_{>0}: 950 - x \times 100 \leq 0) = 10$.

The liquid period component of the concentration margin will then be as follows:

$$IM_{liq} = 100 \times 5\% \times (\sqrt{2} + \sqrt{3} + \dots + \sqrt{10}) + (950 - 9 \times 100) \times 5\% \times \sqrt{11} - (950 \times 5\% \times \sqrt{2})$$

The liquid period component will thus equal ZAR 48.345 million. The effective level of gearing on the entire position will thus reduce from 14.14:1 to 8.21:1.

Please contact Paul du Preez (pauldp@jse.co.za) or risk@jse.co.za if you have any questions with regards to this notice.

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