

Sensitivity testing methodology on the BSE derivative markets

In the sensitivity test we want to get an answer to this question: how would the loss/profit of the stress event presumed change with the application of the new margin parameters, compared to the current period, upon the occurrence of eventual stress.

- to what extent would the initial margins by product would change
- with what schedule would it be executable
- what impact would it have on clients
- to what extent would the clearing member level margin requirement increase
- to what extent would the level of coverage at the clearing member level change
- would it have any effect on the default funds
- would it have any effect on risk taking by the CCP

In the sensitivity test the evaluation of data will help

- to determine the parameters of the guarantee system
- to determine the minimum values of default funds

The theoretical basis of our sensitivity testing is that in the case of an eventual stress event the input parameters of the calculation change (e.g. reduced market liquidity, longer liquidation period is necessary or correlation decreases significantly and permanently in the markets), therefore we regularly check how sensitive our model is to the change of certain parameters. The results can be used under normal market conditions also as it is useful to see what cover increase can be achieved by terminating (or decreasing) spreads only, or eventually by increasing the confidence level. In addition to normal market conditions (actual variation margins) the analysis is to be checked for each stress event.

In sensitivity testing we change certain parameters of margin determination ceteris paribus and check what impact its change would have on the level of cover.

Such parameters are:

- initial margin amount by product (futures price scan range) that depends on
 - o confidence level
 - o length of liquidation period
- spreads
 - o spread parameters among products,
 - o spread parameters among expiries.

Therefore the result of the sensitivity testing assists in analyzing the level of cover provided by the margin change for the variation margins resulting from the stress test scenarios and thus the effect it would have on the size of the default fund. It has a role to support decision making as to the level of decrease/increase of the size of the default funds triggered by the increase/decrease of the margins and the effect it would have on clearing members and risk taking by the CCP.

Sensitivity tests are prepared monthly, and the results are presented for the Risk Committee quarterly.