First EU-wide central counterparty stress test exercise. May 2016.

On 29 April, ESMA published its report on the first stress tests on European central counterparties across the European Union. The tests were run in cooperation with the National Competent Authorities responsible for their supervision through the Supervisory Colleges and the European Systemic Risk Board, using end-2014 data.
Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories (EMIR) requires ESMA to carry out annual stress test on central counterparties (CPPs) based in the European Union.

The purpose of the stress tests is to assess the resilience and security of European CCPs and identify any vulnerabilities. T**he test results show European CCPs to be resilient** in the face of the stress scenarios used, which modelled extreme but plausible market developments.

ESMA's stress tests focused solely on the counterparty credit risk which the CCPs would face if multiple clearing members defaulted and there were simultaneous market price shocks. As this is the first time such EU-wide stress tests have been run, ESMA decided to focus on counterparty credit risk to CCPs and leave the analysis of other risks for future tests.

The tests were carried out on 17 European CCPs. ESMA tested the resources of each CCP against scenarios that combined multiple clearing member defaults with scenarios of market stress. The results showed that CCP resources were sufficient to cover losses caused by the default of the 2 biggest clearing members across the EU combined with historical and hypothetical market stress scenarios.

That said, under more severe stress scenarios, results showed that CCPs would suffer residual uncovered losses of between EUR 0.1 billion and EUR 4 billion. This is notably the case in a scenario which assumes the top-2 clearing members of each CCP default on their obligations not only to that CCP but to all CCPs of which they are members. This equates to more than 25 clearing members defaulting EU wide.

Scenarios considered

The stress tests exposed CCPs to 3 different scenarios in terms of their clearing members:

• **Scenario A**: default by the top-2 clearing members by exposure of each CCP, considering also whether they are members of other EU CCPs.

• **Scenario B**: default by the top-2 groups of clearing members in the EU with greatest aggregate exposure to EU CCPs.

• **Scenario C**: default by the top-2 EU-wide clearing members by aggregate exposure to EU CCPs, weighted additionally by probability of default (PD).

Scenarios of sharp movements in market prices

Having established that scenarios where a clearing member defaults pose, in themselves, no threat to the resilience of CCPs, the tests went on to consider scenarios where such defaults were combined with extreme movements in market prices, modelled using both historical scenarios and hypothetical scenarios that CCPs use in their daily resources management. Also, where it was felt necessary, scenarios were customised to produce a defined set of minimum shocks that would test for a total of 36 market risk factors affecting 5 asset classes: interest rates, commodity derivatives, equities, exchange rates and credits.

Finally, the stress tests as a whole were complemented by an analysis of CCP interdependence based on their shared clearing members. This also included an assessment of exposure concentration by CCPs and potential

knock-on effects for non-defaulting clearing members triggered by the CCPs loss absorption mechanism. A number of reverse stress scenarios involving increasing numbers of defaulters were also considered as the testers probed for extreme but plausible test scenarios that would significantly impact the resilience of European CCPs. These reverse stress test scenarios generated no plausible scenario with systemic impact.

ESMA recommendations

Although EU CCPs in general seem well-placed to ride out severe scenarios, **ESMA's report made recommendations to the National Competent Authorities of the CCPs** on two points:

a) Assessment of the creditworthiness of clearing members: much of the CCPs' collateral are pooled resources by non-defaulting clearing members. In extreme circumstances, these clearing members may face significant losses which could, in turn, lead more to default causing further losses to the CCP. To address this, ESMA recommends that CCPs include in their analyses of clearing member creditworthiness, their potential exposures arising from their membership in other CCPs. This analysis is essential to identifying the potential sources of greater exposure;

b) Methodologies for price shocks: in analysing the data provided by the CCP, ESMA also noticed that, in some cases, the price movements used by CCPs for some cleared products in their own stress tests were less conservative than the minimum used in these tests or fell short of the most extreme historical movements observed. To achieve continuous resilience of CCPs, ESMA recommended that the National Competent Authorities check that CCPs review the price shocks used in their stress test methodologies wherever weaknesses have been identified in the course of this exercise.

Also, ESMA issued a Q&A briefing explaining in greater detail the general scope of the stress test exercise and the different scenarios and methodologies used.

Links: PRESS RELEASE CCP stress test results