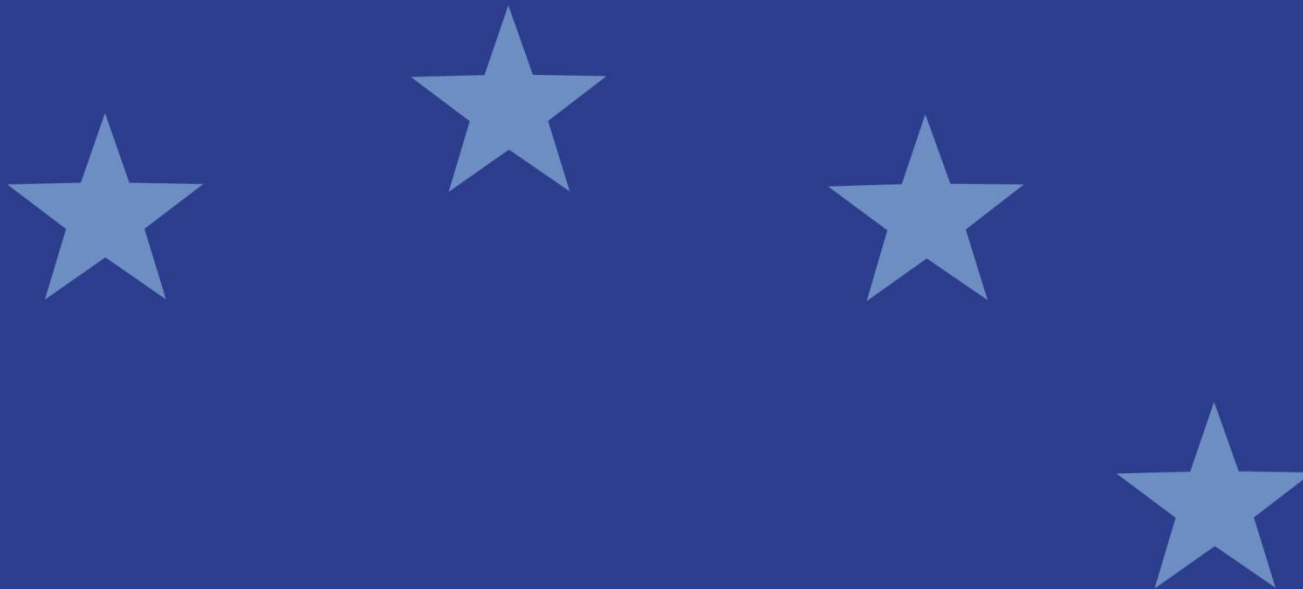


# Methodological Framework 2017 EU-wide CCP Stress Test



# Methodological Framework of the EU-wide CCP Stress Test

## Background – Regulatory Mandate

- ❑ ESMA shall (at least annually), in cooperation with the ESRB, initiate and coordinate Union-wide assessments of the resilience of CCPs to adverse market developments<sup>1</sup>.
- ❑ ESMA shall develop the following, for application by the Competent Authorities:
  - a) **common methodologies** for assessing the effect of economic scenarios on the financial position of a financial market participant;
  - b) **common approaches to communication on the outcomes** of these assessments of the resilience of financial market participants;
  - c) **common methodologies for assessing the effect of particular products** or distribution processes on the financial position of a financial market participant and on investors and customer information.
- ❑ Where the assessment exposes shortcomings in the resilience of one or more CCPs, ESMA shall **issue the necessary recommendations**.

<sup>1</sup>EMIR - Article 21(6)

# Methodological Framework of the EU-wide CCP Stress Test

## Why is the EU-wide CCP Stress Test important?

- ❑ **CCPs are systemically important and ensuring their resilience is critical to ensure the stability of the financial system.**
  - ✓ CCPs were setup to reduce systemic risk stemming from bilateral relationships,
  - ✓ CCPs are counterparties to all their members,
  - ✓ Therefore, any shortcomings leading to a failure to mitigate risks could lead to spill-over effects and exacerbate systemic risk.
  
- ❑ **CCPs are highly interconnected though common participants and the EU-wide picture is necessary to identify emerging systemic risks**
  - ✓ CCPs do run daily stress tests on the basis of stringent requirements,
  - ✓ However, CCP's stress tests focus on their own environment (participants, cleared products, activity)
  - ✓ Therefore, individual stress tests run by CCPs are necessary but cannot reveal implications from system-wide events because of their limited scope.



# Methodological Framework of the EU-wide CCP Stress Test

## What is new in the 2017 exercise?

- ❑ ESMA published on 29 April 2016 the results of the first EU-wide stress test<sup>1</sup>;
- ❑ It was the first exercise of this type ever conducted on a global level;
- ❑ As with all exercises of this scale and type, it experienced some limitations.
- ❑ We committed to further improve and evolve the methodology and many but not all the limitations described in 2016 will be addressed in 2017;
- ❑ The framework sets out the current high level design of the exercise and may need to be adapted during the execution phase. The final design including any residual limitations will be reflected in the final report.
  
- ❑ Key improvements:
  - **Extension of the scope:** Include Liquidity risk
  - **Improve scenario design and implementation:** Common, internally consistent market stress scenarios for credit and liquidity stress
  - **Data Quality Assurance:** Strengthen the validation process

<sup>1</sup> <https://www.esma.europa.eu/press-news/esma-news/esma-publishes-results-eu-central-counterparties-stress-test>

# Methodological Framework of the EU-wide CCP Stress Test

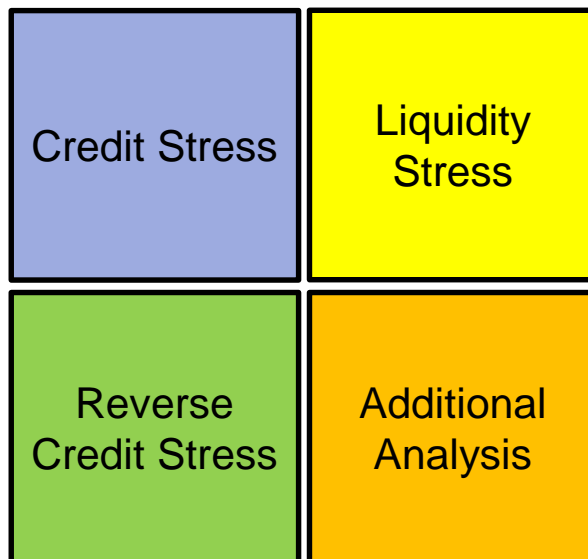
## Objectives and Principles of the new exercise

- ❑ **Objectives** of the exercise are driven by the regulatory mandate
  - ✓ **Assess the resilience** of EU CCPs to adverse market developments;
  - ✓ **Identify potential shortcomings** in their resilience;
  - ✓ **Issue recommendations** as appropriate.
- ❑ The exercise is not aimed at checking compliance of CCPs with regulatory requirements nor at identifying potential deficiency in individual CCPs stress testing frameworks.
- ❑ It may however expose individual shortcomings in which case ESMA will need to issue the necessary recommendations.
  
- ❑ **Methodological Principles**
  - ✓ Assess the resilience of **all scoped CCPs, individually** and as a **system**,
  - ✓ Use of **common methodologies and criteria**,
  - ✓ Combine **market shocks** with the **simultaneous default of market participants**,
  - ✓ **Scenario design** to reflect **EMIR prudential requirements**.

# Methodological Framework of the EU-wide CCP Stress Test

## Scope and Components of the new exercise

- ❑ The exercise will cover 17 EU CCPs including all CCPs authorised at the time of publication of the framework and all cleared products will be considered.
- ❑ The first exercise conducted by ESMA was focused on the counterparty credit risk that EU CCPs would face as a result of clearing member defaults and simultaneous market price shocks.
- ❑ With reference to the risk types that will be assessed in the new exercise, the scope is now extended to cover liquidity risk.
- ❑ The new exercise has 4 main components:



# Methodological Framework of the EU-wide CCP Stress Test

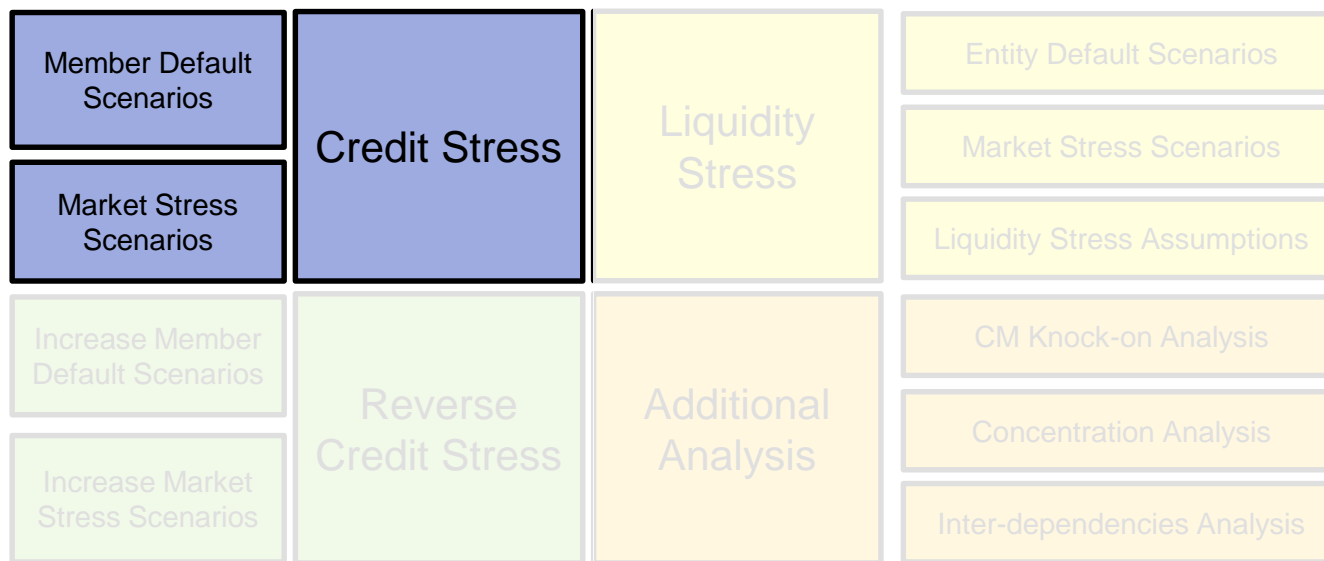
## Credit Stress (1/2) – Market Scenarios

**Objective:** Assess the sufficiency of CCPs' resources to absorb losses under a combination of market price shocks and member default scenarios.

### □ Market Stress Scenario Design,

Use 3 common, internally-consistent market stress scenarios provided by the ESRB;

- The scenarios were defined for a set of (approximately 550) high level risk factors across six asset classes and the CCPs will need to translate the risk factor shocks into P&L for their cleared products and the members' portfolios.
- ESMA has developed and has provided the CCPs a set of instructions that explain how these are expected to be implemented in order to provide clarity and address all material implementation challenges.



# Methodological Framework of the EU-wide CCP Stress Test

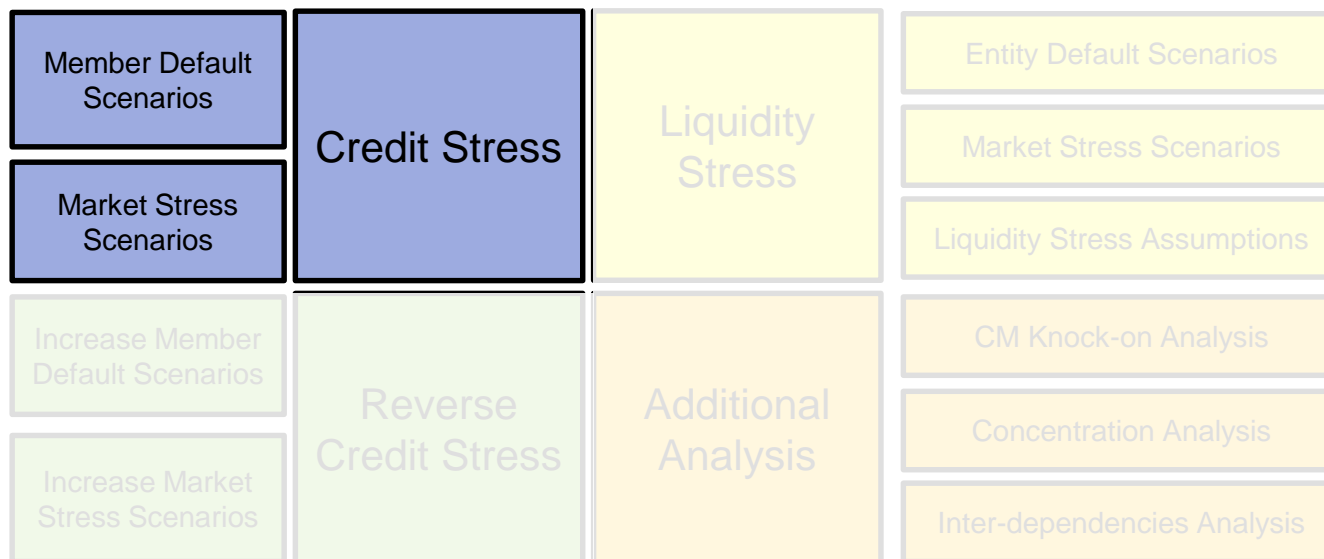
## Credit Stress (2/2) – Member Default Scenarios

**Objective:** Assess the sufficiency of CCPs' resources to absorb losses under a combination of market price shocks and member default scenarios.

### □ Member Default Scenarios,

ESMA will consider 3 different member default scenarios as in the first exercise

- MD-A : Default of top-2 clearing members per CCP,
- MD-B : Default of top-2 clearing member groups EU wide and
- MD-C : Default of top-2 clearing member groups EU wide also weighted by their probability of default.





# Methodological Framework of the EU-wide CCP Stress Test

## Liquidity Stress (1/2) – Overview

### ☐ Extend scope to cover liquidity risk

- ☐ For the purpose of the ESMA Union-wide stress test liquidity risk can be defined as the risk that the CCP has insufficient liquid funds to meet its payment obligations in a timely manner when they become due over the relevant time horizon. It can arise due to unexpected generation of liquidity needs and absence of sufficient liquidity resources.
- ☐ Liquidity risk is generated by the following channels:
  - ☐ Variation Margin due by the defaulted CMs
  - ☐ Reduction of initial margin of non-defaulting CMs;
  - ☐ Settlement of obligations of defaulted CMs;
  - ☐ Non-performance of liquidity/service providers;
  - ☐ Failure of custodians.
- ☐ Liquidity will be assessed in addition to counterparty credit risk and not as a separate exercise.
- ☐ The Liquidity stress test will aim to:
  - ☐ assess the resilience of EU CCPs to market wide and idiosyncratic liquidity stress events;
  - ☐ capture the systemic dimension of liquidity risk in addition to the analysis of resilience of individual CCPs;
  - ☐ enable ESMA to identify potential shortcomings and issue recommendations to address those.

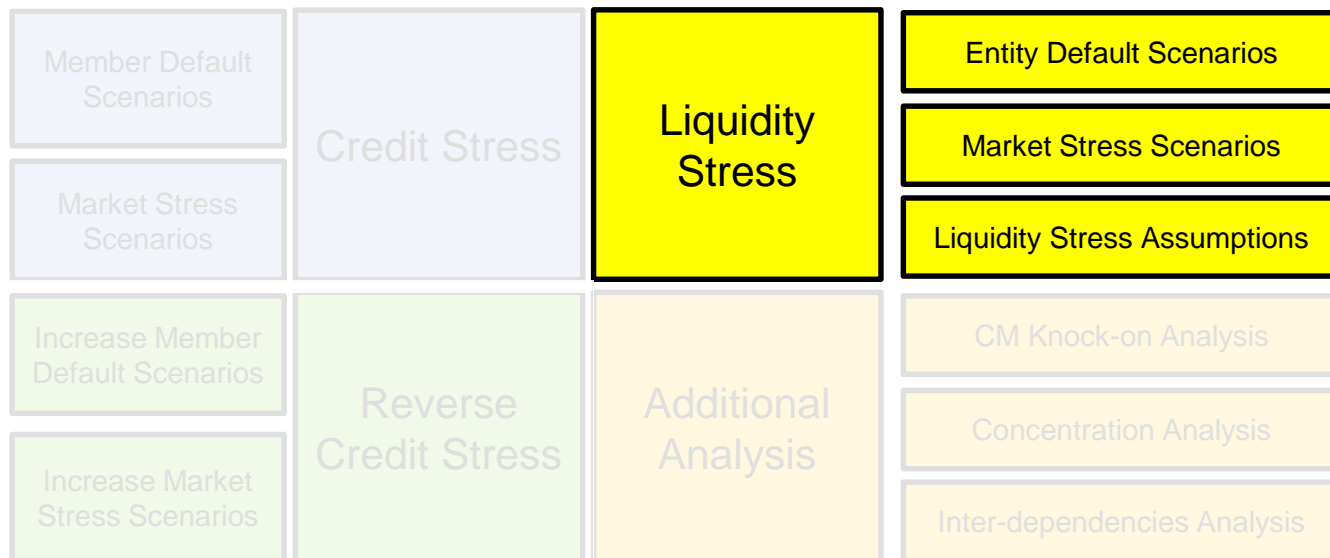
# Methodological Framework of the EU-wide CCP Stress Test

## Liquidity Stress (2/2) – Scenarios

**Objective:** Assess the sufficiency of CCPs' liquid resources under a combination of member/liquidity provider default scenarios, market price shocks and additional liquidity stress assumptions.

### □ Scenarios for liquidity stress,

- Consider CM / liquidity provider default scenarios based on the 3 common, internally-consistent market stress scenarios but considering liquidity exposures and additional liquidity stress assumptions.
- Different defaulting entities can be selected under the credit and liquidity components as in the context of liquidity stress we are looking for entities that pose the largest liquidity exposures;
- The scenarios will consider the different capacities or functions of entities that are relevant to the liquidity profile of a CCP.



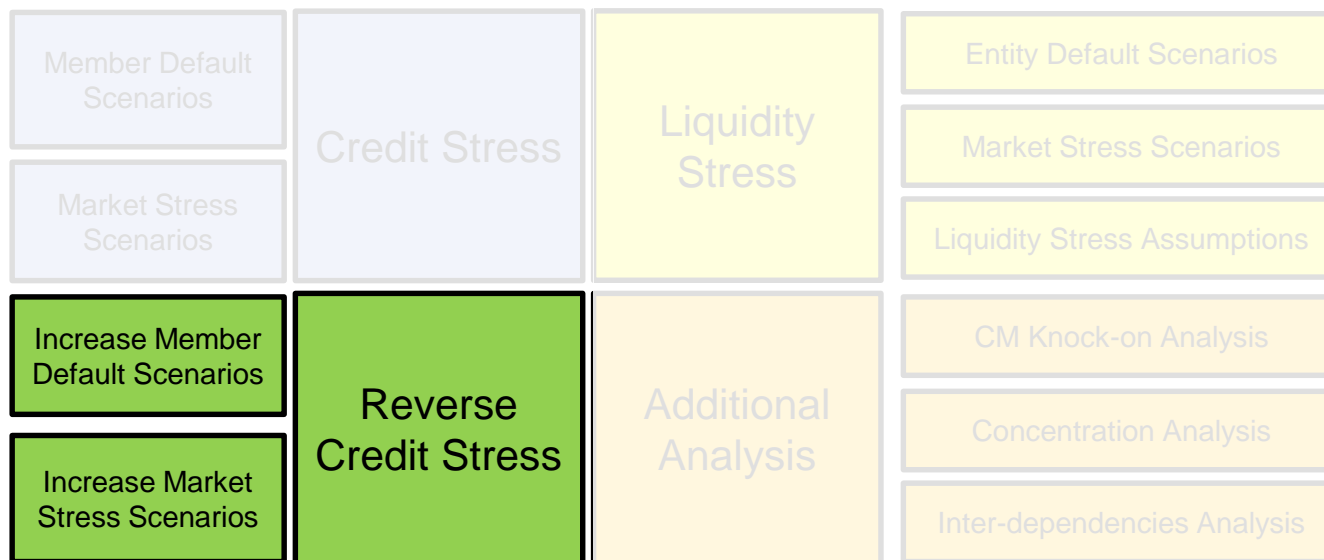
# Methodological Framework of the EU-wide CCP Stress Test

## Reverse Stress Test

**Objective:** Increase the number of defaulting entities and level of shocks to identify at which point resources are exhausted.

### Reverse Credit Stress Test Analysis

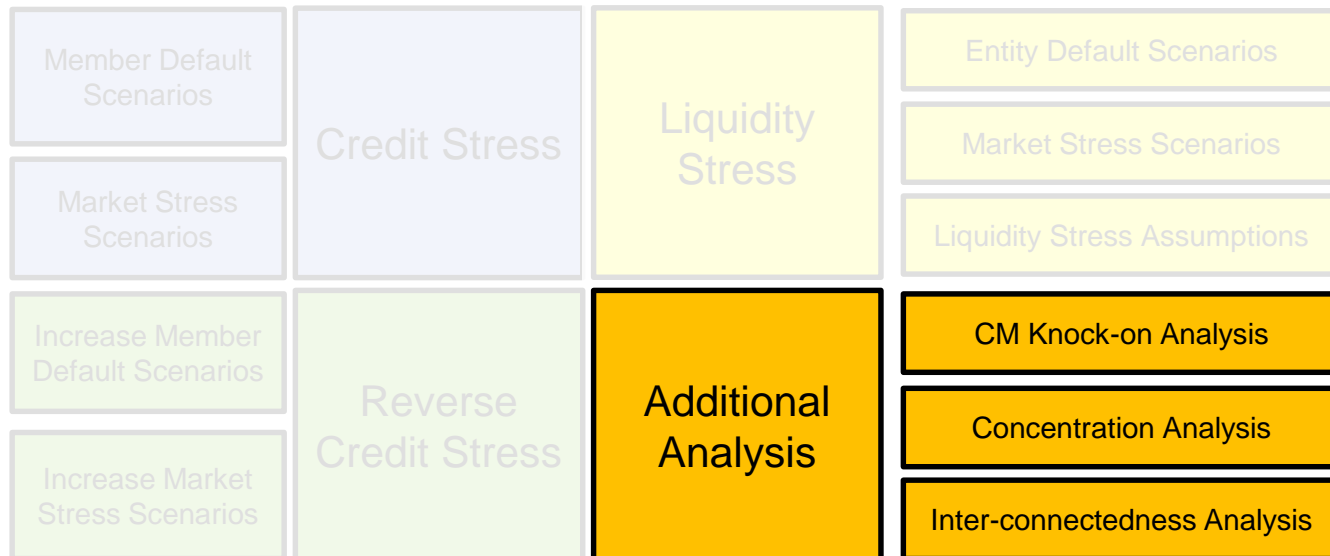
- ❑ A two-dimensional analysis of the absorption capacity of the system of CCPs by stepwise increasing the number of defaulting entities and the severity of the market shocks.
  - ❑ Increase the number of defaulting entities, beyond the initial top-n assumption.
  - ❑ Scale up the shocks in the provided market stress scenarios.
- ❑ Will be limited to the credit stress component and will not cover the liquidity risk in the 2017 exercise.



# Methodological Framework of the EU-wide CCP Stress Test

## Additional Analysis

- ❑ Repeat the additional analyses performed in the first exercise.
  - ❑ **CM knock-on analysis**
    - ❑ Assess the impact of the loss sharing mechanism of CCPs on the capital of the non-defaulting clearing members.
  - ❑ **Concentration analysis**
    - ❑ Assess the degree of concentration of CCPs exposures.
  - ❑ **Inter-connectedness:**
    - ❑ Assess the degree of inter-connectedness of CCPs through top common clearing member groups.





# Methodological Framework of the EU-wide CCP Stress Test

## Overview of the Process and Next Steps

- ❑ ESMA has designed the framework for the new exercise including the methodology;
- ❑ ESRB has provided the common market stress scenarios;
- ❑ ESMA has launched the data request, also providing detailed instructions on how CCPs are expected to calculate and report the data on the basis of the common market scenarios;
  
- ❑ The next steps are
  - March 2017: CCPs shall provide the requested data;
  - Q2 2017: Validation of the data provided first by the NCAs and then by ESMA;
  - Q3 2017: Finalise data analysis
  - Q4 2017 : Publish Final Report