EIOPA Sustainable Finance Conference 2023

TOPICAL SESSION 1: ONE-OFF COORDINATED CLIMATE SCENARIO ANALYSIS ASSESSING CLIMATE-CHANGE RELATED RISKS

Overview and status of the exercise

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SETTING THE SCENE

- Under the European Green Deal, all 27 EU Member States committed to **turning the EU into the 1st climate-neutral continent by 2025** and pledge to reduce emissions by at least 55% by 2030
- **Transitions comes at a cost**: the European Commission estimated that EU will need EUR 350 billion in additional investment per year over this decade to meet its 2030 emission reduction target in energy system alone
- Such a level of investment cannot be achieved just by **public spending. Private financial flows** into sustainable economic activities are needed

THE EXERCISE: REQUEST AND PURPOSE

- The European Commission would welcome an assessment of the extent to which early **climate risk related shocks in form of transition risk or anticipation of increasing physical risks on the valuation of the assets**:
  - Could already generate significant stresses to the financial system also considering **contagion and second round effects**
  - could **jeopardise the achievement of the EU’s emissions reduction** targets for 2030 by compromising the EU’s financial system and its ability to fund the transition
- The results could feed into:
  - subsequent **supervisory or monitoring programmes** of the ESAs and the ECB, where the exercise identifies specific vulnerabilities in the financial system such as concentration risks
  - Where appropriate, supervisory authorities may **provide feedback** on issues identified in this exercise to their supervised entities

THE EXERCISE:
EIOPA APPROACH

- **Scenarios and shocks**:
  - Scenarios to be developed by **ESRB** in cooperation with the **ECB**
  - Instantaneous shocks calibrated per sector (NACE code) and asset classes
- **Scope and data**:
  - Solo Insurance undertakings and IORPs
- **Approach**:
  - Top-down using Solvency II report and IORP reporting (YE 2022 submissions)
  - Avoid data request to industry

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  - Could already generate significant stresses to the financial system also considering **contagion and second round effects**
  - could **jeopardise the achievement of the EU's emissions reduction** targets for 2030 by compromising the EU's financial system and its ability to fund the transition
- The results, to be summarised in a common report expected not later than Q1 2025, could feed into:
  - subsequent **supervisory or monitoring programmes** of the ESAs and the ECB, where the exercise identifies specific vulnerabilities in the financial system such as concentration risks
  - Where appropriate, supervisory authorities may **provide feedback** on issues identified in this exercise to their supervised entities

THE SCENARIOS:
BASED ON ECONOMIC AND NGFS PHASE IV

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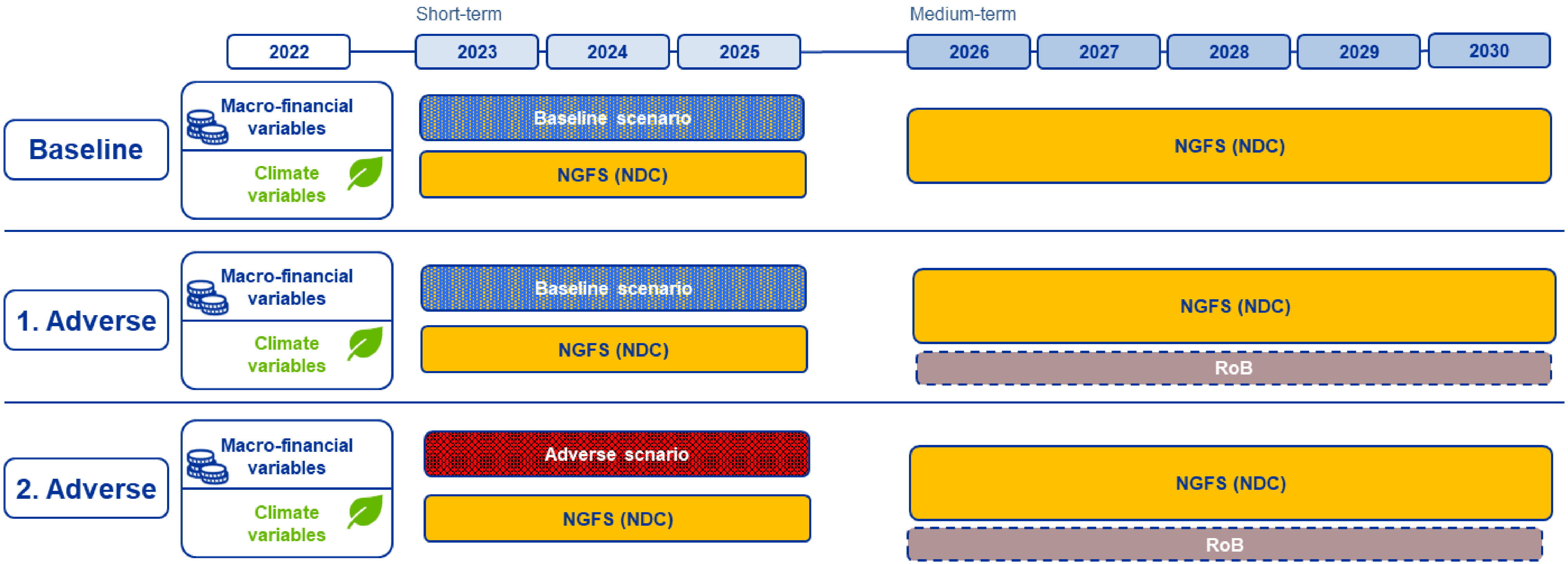

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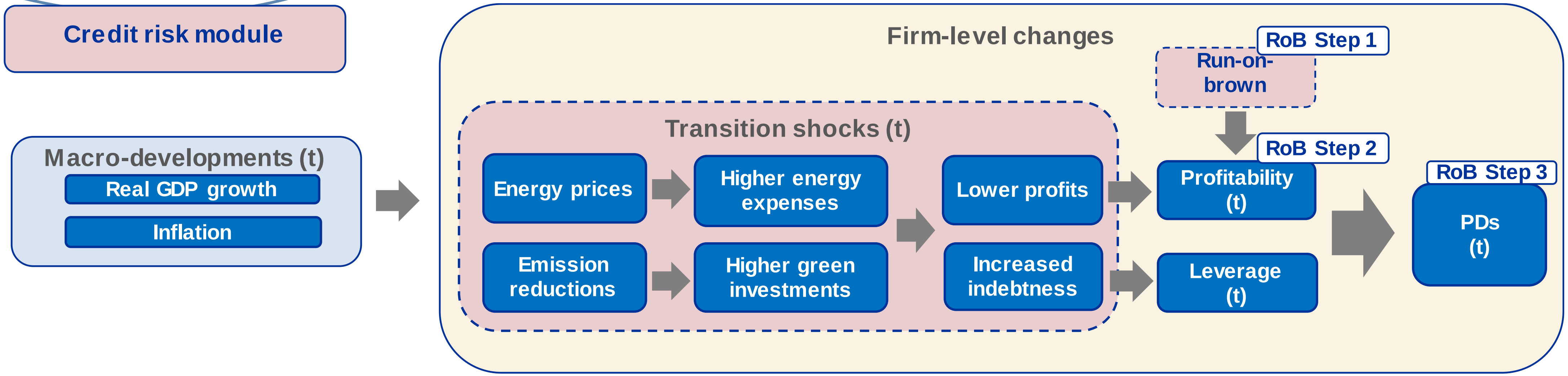
RUN-ON-BROWN: TRANSMISSION MECHANISMS ON CREDIT RISK



- Run on Brown is an exogenous shock on firms’ financial constraints due to their exposure to transition risk (Step 1).
- The calibration of the RoB shock is based on the assumption that the profitability of the most polluting firm is reduced by an amount consistent with the maximum possible deterioration of the financial constraints index (FCI, ranging from 0, 1).
- Other firms face a shock proportional to their degree of brownness determined for each firm by their emission intensity (defined as Scope 1 and 2 tCO2 emissions / revenues in million EUR) relative to the maximum emission intensity.

Market risk module

- Firm valuation incorporating the RoB shock on profitability, based on the individual (annual) cash flows for the 2023-2030 period and using the transition risk premia add-on.

RUN-ON-BROWN: IMPLEMENTATION

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- Step 1: Determining an exogenous shock on firms' financial constraints (their exposure to RoB)
  - We assume **an exogenous shock on firms' financial constraints index** (by Ferrando and Ruggieri, 2015)
- Step 2: Translating firms' financial constraints to changes in profitability
  - **Changes in firms' FCI** are translated to **changes in firm-level profitability**, according to the methodology in Ferrando et al. (2015), with **coefficients re-calibrated on a sector-level**
- Step 3: Measuring the impact on credit risk and market risk
  - Based on the **firm-level credit and market risk modules** of the ECB top-down climate stress test framework

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