# The Second Scenario Analysis on Climate-Related Risks (Banking Sector)

■ The FSA and the BOJ, in collaboration with three major banks, conducted the second scenario analysis on climate-related risks.

- ✓ The aim of the analysis was not to quantitatively assess the impact of climate-related risks, but to identify areas for future improvement.
- ✓ The analysis assessed the impact on loans (credit risk), which potentially has a large impact on banks' financial conditions.
- ✓ The focus was on transition risk analysis over a shorter time horizon (7 years). The FSA and the BOJ included a tailored stress scenario by modifying an NGFS scenario.

## Scenario Analysis Framework

| | Second Scenario Analysis | First Scenario Analysis |
|---|---|---|
| Climate-Related Risk | Transition risk | Transition risk<br>Physical risk |
| Analysis Period (Transition risk) | FY2024-FY2030<br>(7 years) | FY2021-FY2050<br>(30 years) |
| Financial Risk | Credit risk (credit losses) | |
| Exposure | Domestic & international credit (loans, etc.) | |
| Balance sheet assumptions | Static balance sheet (no change in size or composition) | |
| Analytical approach | Bottom-up | |

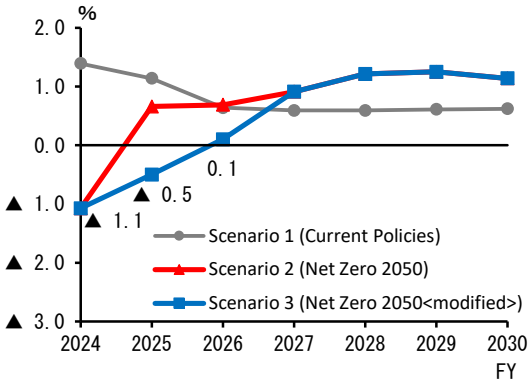
Note: Credit business is the largest source of income for banks, and credit risk assets such as loans account for a large part of their balance sheets. The preliminary analysis of market risk indicates that the impact on securities holdings (market risk) was relatively small compared to the impact on loans (credit risk) under the NGFS scenarios.

## Scenarios Used in the Second Scenario Analysis

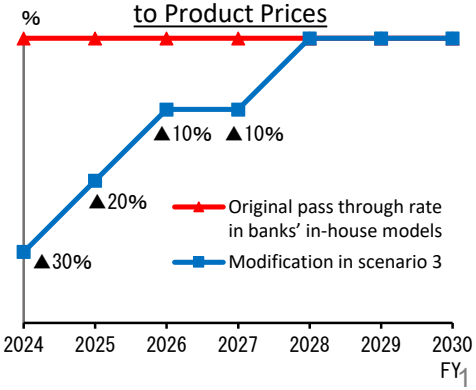
| | |
|---|---|
| Scenario 1 | **Current Policies Scenario (NGFS scenarios Phase IV)**<br>Only currently implemented policies will be preserved. |
| Scenario 2 | **Net Zero 2050 Scenario (NGFS scenarios Phase IV)**<br>Strict emissions reduction policies and innovation limit temperature increases to 1.5°C, achieving net-zero CO2 emissions globally by 2050. |
| Scenario 3 | **Net Zero 2050 Scenario with Modifications**<br>Economic activity stagnates due to a delay in the adaptation of the corporate and household sectors to climate policies. Consequently, the corporate sector is unable to pass through the carbon price to product prices smoothly, leading to a deterioration in profitability mainly in high-emission sectors. |

Modifications in Scenario 3

GDP Growth Rate




Pass-Through Rate of Carbon Prices to Product Prices



# The Second Scenario Analysis on Climate-Related Risks (Banking Sector)

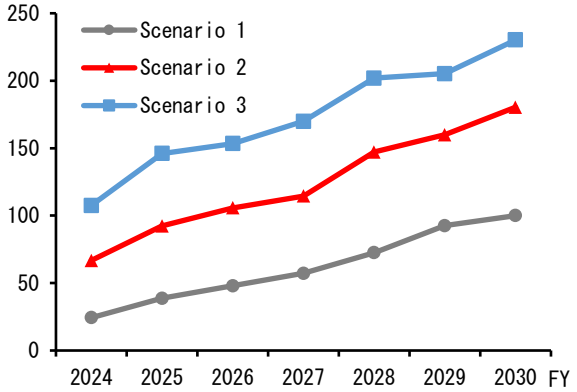
- The analytical capability has been further enhanced in the participating banks since the first scenario analysis (e.g., widened coverage of analysis by sector-specific models and improved model documentation).
- The FSA and the BOJ conducted in-depth dialogues with the banks on issues regarding the use of scenario analysis, exploiting the horizontal review of submitted analysis from the banks.
  - ✓ The FSA and the BOJ shared issues (e.g., (i) validity and consistency of scenarios, (ii) granularity and uncertainty of analysis) with the banks.

## Widened Common Coverage of Sector-Specific Models

| Second Scenario analysis | First Scenario Analysis |
|---|---|
| Oil and gas, electrical power, steel, automotive(OEM) | Oil and gas, electrical power |

Note: Sector-specific models for other sectors were also developed based on the materiality assessment of each participating bank.

## Cumulative Credit Losses (Total of Participating Banks)




Note: Cumulative credit loss in Scenario 1 through FY2030 is indexed at 100. The estimated credit losses are significantly lower than the average annual net income of the participating banks. The results do not provide a definitive assessment of the impacts of climate-related risks, as there is still room for improvement in the methodologies of scenario analysis and data availability.

## Major Issues and Challenges

### (i) Validity and Consistency of Scenarios

- ✓ The transition strategies of individual borrowers are not accurately reflected in the existing climate scenarios.
- ✓ It would be useful to assess how the differences between the transition strategies of individual borrowers and the macro-level assumptions in the scenarios can impact the analysis.
  - ➢ As the examples of the analysis on the climate change impact from the perspective of opportunity, the FSA and the BOJ shared a literature review, discussions with banks, and a model illustration of scenario analysis related to transition finance.

### (ii) Granularity and Uncertainty of Analysis

- ✓ The variation of loss projection depending on the level of the pass-through rate implies the usefulness of identification of key parameters and sensitivity analysis for the impact assessment.
- ✓ It may be useful to take into account impairment losses on assets in existing facilities with lower profitability due to a declining demand for fossil fuel-related products.

### (iii) Comprehensive Development of Framework for Scenario Analysis

- ✓ It is important to fill the gap of underlying assumptions (e.g., benchmark scenarios) between short-term climate-related scenario analysis and conventional risk management to directly integrate climate-related scenario analysis into conventional risk management.
- ✓ Challenges remain in data collection (e.g., contents and granularity of borrowers' disclosure).

**Going forward, the FSA and the BOJ will continue to engage in discussions with financial institutions regarding the methods and applications of scenario analysis, including how to address the issues identified in the first and second scenario analyses.**