

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

- The FSA and the BOJ, in cooperation with three major banks, conducted the second scenario analysis on climate-related risks.
 - ✓ The aim of the exercise was not to quantitatively assess the impact of climate-related risks but to identify issues for future improvement.
 - ✓ The exercise targeted the impact on loans (credit risk), which potentially has a large impact on banks' financial conditions.
 - ✓ The focus was on transition risk analysis in a shorter term (7 years). The FSA and the BOJ added a tailored stress scenario by adjusting a NGFS scenario.

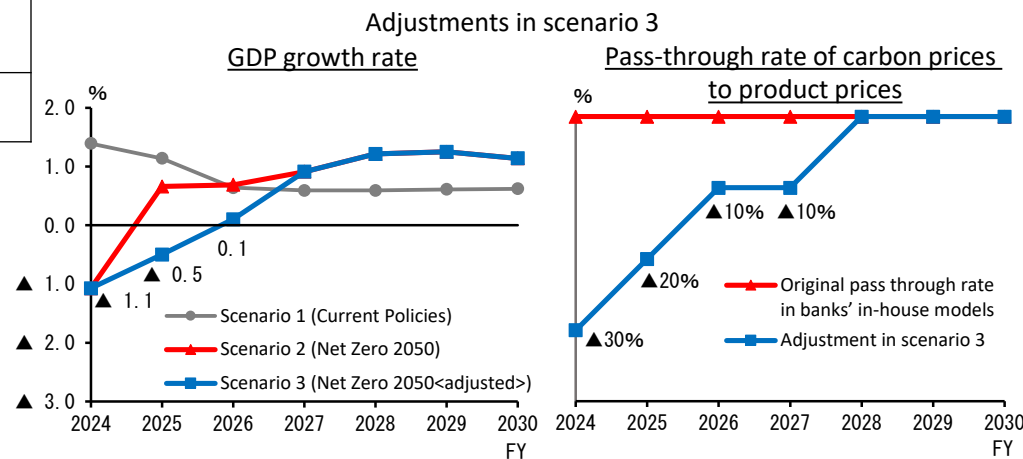
Scenario analysis framework

	2nd scenario analysis	1st scenario analysis
Climate-related risk	Transition risk	Transition risk Physical risk
Analysis period (Transition risk)	FY2024-FY2030 (7 years)	FY2021-FY2050 (30 years)
Financial risk	Credit risk (credit losses)	
Exposure	Domestic and overseas 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 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 2nd scenario analysis

Scenario 1	Current Policies scenario (NGFS scenario 4th edition) No additional GHG emission reduction measures are implemented.
Scenario 2	Net Zero 2050 scenario (NGFS scenario 4th edition) Strict emissions reduction policies and innovation limit temperature increases to 1.5 °C, globally achieving the net zero CO ₂ emissions by 2050
Scenario 3	Net Zero 2050 with further adjustments Economic activity stagnates due to a delay in the adaptation of corporate and household sectors to climate policies. Consequently, corporate sector is not able to pass through carbon price to product prices smoothly, leading to deterioration in profitability mainly in high-emission sectors.



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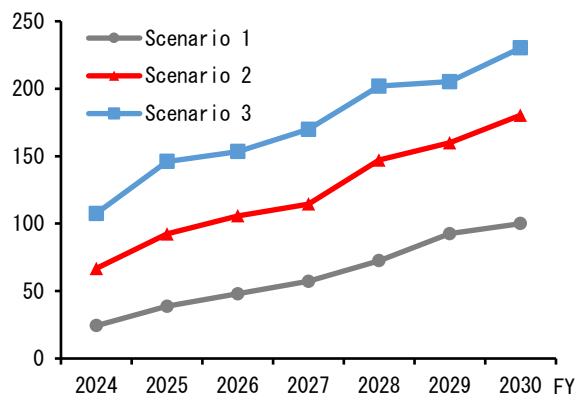
- The analytical capability has been further enhanced in the participating banks since the first scenario analysis (e.g., widened coverage of analysis by sector-specific models and improved model documentation).
- The FSA and the BOJ conducted in-depth dialogues with the banks on issues regarding the 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

2nd scenario analysis	1st scenario analysis
Oil and gas, electricity power, steel, automotive(OEM)	Oil and gas, electricity 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 considerably lower than the participating banks' average annual net income. The results do not provide a definitive assessment of the impacts of climate-related risks as scenario analysis methods and the data availability and quality continue to evolve.

Major issues and challenges

(i) Validity and consistency of scenarios

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

(ii) Granularity and uncertainty of analysis

- ✓ The variation of loss projection depending on 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-intensive products.

(iii) Overall development of framework for scenario analysis

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



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