

Dear Sir/Madame,

Thank you for giving us the opportunity to share with you our comments on your well-summarized features and challenges of CSA on climate-related financial risks. I highly appreciate your work on this.

Please see my comments on your specific questions below.

*Q1. How does the role of CSA vary based on the objectives listed above, and are there other prudential objectives where CSA could be relevant?*

*Q2. What are the key challenges in applying CSA, and how can they be overcome?*

*Q5. How does the design of CSA exercises vary depending on the objectives? Please elaborate on the main usage-specific considerations for each of the different objectives.*

As the paper pointed out, the objectives of the scenario analysis and stress testing for climate-related financial risks are generally supposed to "verify the robustness of the financial system/financial soundness of individual banks," including risk identification, risk management process, internal and supervisory capital and liquidity assessments, and assessment of business model resilience and business strategy building.

However, the objectives of some CSA and CST conducted by some agencies (e.g. ECB(2022), ECB(2023), BOE(2022)) in the past seem to be inclined more to "verify the possible benefits of net zero 2050 scenario", which is targeted to limit the increase of global temperature to +1.5 degree, in terms of burden on the financial system, rather than to verify directly the robustness of the financial system/individual banks financial soundness.

The above differences are often reflected in the selection of the baseline scenario. In the case of CSA, which verifies the robustness of the financial system/individual banks' management, the baseline scenario is usually the most likely scenario over the pre-determined time horizon. In the context of climate-related financial risk, this should be the current policy scenario (particularly in the case of the short-term scenario) so long as the future policy changes depend on many uncertain factors despite some current governments' strong commitment to net zero by 2050. I suppose that FRB (2024) exactly follows this case. This approach is also

beneficial for individual banks to assess their risks based on realistic scenarios, thus facilitating them to incorporate this practice into their risk management BAU.

Meanwhile, if the objective of CSA/CST is to ensure the long-run benefits of pursuing the net zero 2050 scenario course, setting this scenario as the baseline scenario and then see the difference of outcome between this and other policy option scenarios should be the appropriate way for the authorities to attain their objective. However, this approach is hard for individual banks to digest into their risk management BAU as the risk assessment in this process pay little attention to the probabilities of scenarios.

The paper should clarify the above differences in the past CSA/CST objectives conducted by some supervisory authorities and subsequent consequences on banks' risk management.

*Q3. What are the key areas where CSA methodologies and capabilities need to be further developed to be useful and relevant for the different objectives listed in this paper?*

Regarding "risk identification," CSA/CST focusing on climate-related financial risks in major countries often use the "carbon tax rate" on energy consumption as a key parameter of transition risk and assume that an increase in this rate will lead to a deterioration of obligor companies' financial soundness and ultimately to an increase in their PD. About the impact of an increase in the carbon tax rate on obligors' PD, there is a general tendency to use a structural model assuming a certain rate of price pass-through (rather than a reduced-form model), perhaps due to a lack of data on individual companies.

However, according to my study of the sensitivity of cost-sale ratio to changes in energy prices in the case of major brown industries as well as individual major firms, I have noted that the impact of energy prices was considerably smaller than expected for some industries/firms (the possibility of a very high price pass-through rate to final products). For applying the outcome of CSA/CST into the BAU risk management of banks, the authorities should focus more on realistic data, which is often obtained from the reduced-form model approach using obligors' financial data, rather than conservatively interpreted intuitive numbers.

Again, regarding risk identification, correctly incorporating the elements of "adaptation" into the scenario might be a key issue in some countries to enhance banks' risk management effectively.

We should note that the enhancement of "adaptation" could change the way and timing for banks facing the materialization of physical risks. For example, in Japan, the government's post-disaster "adaptation" to localized physical risks (e.g., severe windstorms and floods) tends to have a greater positive economic effect than a negative one on the region. In addition, due to non-life insurance companies being slow to differentiate insurance premium rates by region, it has been observed that less divergent insurance premium rates mitigate the vulnerability of certain regions to physical risk. All the above indicates that a system for sharing physical risk in certain regions at the national level through the national government and insurance companies has been built in Japan.

In this case, financial institutions are required to manage risk based on this risk-sharing system, where the importance of geography, often emphasized in most BCBS/NGFS guidance, is greatly reduced. (The importance of geography, in this case, is supposed to be shifted to the national government and non-life insurance companies instead). Also, the point at which the manifestation of physical risks will have a significant impact on financial institutions is, unlike the assumptions of the NGFS, IPCC, and others, the point at which the Japanese government's budget deficit increases due to the burden of "adaptation" to physical risks, making it difficult to continue such policies (or manifesting itself in the form of an increase in the sovereign risk of the Japanese government).

The above are also the CSA/CST elements that need to be improved to be effectively used for banks' risk management purposes.

FRB(2024)、"Pilot Climate Scenario Analysis Exercise Summary of Participants' Risk-Management Practices and Estimates" May 2024

BOE(2022)、"Results of the 2021 Climate Biennial Exploratory Scenario", May 2022

ECB(2022)、"2022 climate risk stress test", July 2022

ECB(2023)、"Road to Paris: stress testing the transition towards a net-zero economy" September 2023