CERES, HOLLY LI

Proposal and Comment Information

Title: Enhanced Transparency and Public Accountability of the Supervisory Stress Test Models and Scenarios; Modifications to the Capital Planning and Stress Capital Buffer Requirement Rule, Enhanced Prudential Standards Rule, and Regulation LL, R-1873

Comment ID: FR-2025-0063-01-C38

Submitter Information

Organization Name: Ceres

Organization Type: Company

Name: Holly Li

Submitted Date: 02/20/2026

Ceres Accelerator
FOR SUSTAINABLE CAPITAL MARKETS

February 20, 2026

To the Board of Governors of the Federal Reserve System:
Attn: Ann E. Misback, Secretary of the Board
Re: Docket No. R-1873

Submitted Via https://www.federalreserve.gov/apps/forms/proposals/FR-2025-0063-01

Re: Enhanced Transparency and Public Accountability of the Supervisory Stress Test Models and Scenarios; Modifications to the Capital Planning and Stress Capital Buffer Requirement Rule, Enhanced Prudential Standards Rule, and Regulation LL; Extension of Comment Period

Ceres and the Ceres Accelerator for Sustainable Capital Markets appreciate the opportunity to comment on the proposed rule "Enhanced Transparency and Public Accountability of the Supervisory Stress Test Models and Scenarios."

Ceres is a nonprofit advocacy organization with over 35 years of experience working to accelerate the transition to a cleaner, more just, and resilient economy. Our Investor Network, Company Network, and Policy Network include many large US institutional investors and large companies with whom we work on a range of sustainability-related and policy-related issues. The Ceres Accelerator for Sustainable Capital Markets aims to transform the practices and policies that govern capital markets by engaging federal and state regulators, financial institutions, investors, and corporate boards to address weather-driven risk as a systemic financial risk. The comments provided herein represent only the opinions of Ceres, and do not necessarily infer endorsement by each member of our Investor, Company, or Policy Networks.

We support the Board's proposal to expand disclosure and public consultation around supervisory models and scenarios. We also encourage the Board to explicitly strengthen how extreme-weather-related financial risks are incorporated into supervisory stress testing as a routine component of credit and liquidity risk assessment. These enhancements operate within the existing supervisory framework and refine established credit and liquidity risk assessments.

Recent research and market evidence demonstrate associations between extreme weather exposures and standard risk metrics. Extreme weather-related risks are increasingly observed to manifest through standard prudential channels and are therefore highly relevant considerations for supervisory loss modeling and funding stress testing. While not perfect, these findings are well-documented, and they highlight that the losses arising from these interactions may not yet be fully reflected in standard macro-driven probability of default (PD) or loss given default

Ceres Headquarters: 99 Chauncy Street, Boston, MA 02111
California Office: 369 Pine Street, Suite 620, San Francisco, CA 94104
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(LGD). Therefore, incorporating extreme weather as risk drivers into credit and liquidity assessments within the current framework, not as new risks or categories, enables the models to better reflect credit risk and liquidity risk under stress.

1. Extreme weather shocks already affect U.S. tail risk measures relevant for stress testing

Extreme weather and disaster risks are quantifiably affecting established measures of financial stability. An analysis of US syndicate lending (Conlon, et al., 2024) shows that one standard deviation increase in cross-state climate risk exposure leads to MES rises by approximately 14.7%, the 5% Value-at-Risk (VaR5) increases by 5.9%, the 1% Value-at-Risk (VaR1) by 10.2%, and the ΔCoVaR(1%) climbs by 6.1%. Another study of U.S. banks (Noth and Schüwer, 2023) find that severe weather-related disasters lead to persistent deterioration in bank asset quality. Banks with greater exposure to disaster-affected regions experience statistically and economically significant increases in non-performing assets (NPA) ratios in the one to two years following a disaster, and large disaster episodes are associated with an increase in NPA ratios of roughly 0.13 percentage points,

At the global level, 2023 World Bank research (Nie, et al., 2023) finds that the NPL ratios rise about 0.37 percentage points in the first year after a severe extreme weather event and can increase up to 0.6 percentage points two to three years later. This suggests that disaster risk is a near-term driver of portfolio deterioration.

Extreme weather risks are increasingly working through the same prudential channels used in supervisory stress testing, so they should be accounted as integral to risk management and capital adequacy assessments, not as isolated anomalies.

Some studies (Blickle, et al., 2025) note that the average effects of even severe weather disasters on U.S. bank solvency have historically been modest. However, they likely understate the forward-looking risk because they usually assume stationarity in the disaster process, do not explicitly model the balance-sheet role of property insurance, and rely on linear extrapolation to assess tail outcomes. In reality, shock effects rarely intensify linearly, and insurance coverage erodes, as discussed below, and loss dynamics are usually convex rather than proportional.

2. Incorporating extreme weather materially increases projected losses and capital needs under stress

When extreme weather risk is explicitly included into portfolio credit frameworks, the standard measures of loss and capital requirements systematically increase across a wide range of model

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California Office: 369 Pine Street, Suite 620, San Francisco, CA 94104
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specifications. In an illustrative global credit portfolio model (Buzzacchi, et al., 2025), incorporating climate risk parameters, on average, increases Basel-style credit VaR by 2.5%, Expected Loss by 1.4%, and Economic Capital by 2.7%. It also finds the effects to be state-dependent, multiplicative, and tail-sensitive.

Additionally, the degree of capital stress varies widely depending on how macroeconomic shocks interact with extreme weather events. A portfolio modeling of $2.2 trillion in syndicated loan exposure across 28 large U.S. banks (Ceres, 2021) finds that in a high-warming scenario, the portfolio VaR (99%) can reach 3.2% to 4.0% of portfolio value ($70–$87 billion) from direct physical impacts and 9.7% to 12.1% ($210–$263 billion) including indirect macroeconomic spillovers in long-horizon physical risk scenarios, illustrating the magnitude of tail amplification under severe physical risk pathways. To capture the true capital required to withstand severe stress scenarios, the model would need to explicitly account for tail amplification from extreme weather events.

3. Extreme weather and transition risk are already reflected in bank funding costs and liquidity constraints

Extreme weather and transition risks are increasingly observed to be reflected in bank funding markets. Evidence shows that banks with greater exposure to extreme weather and transition risk bear higher short-term funding costs, suggesting that lenders and investors are already pricing transition risks.

A global study using Dealscan syndicated loan facilities (Kempa, 2026), covering 85,780 loans to more than 9,000 firms in 77 countries, finds that loans in countries with higher extreme weather vulnerability face higher borrowing costs. A one-standard-deviation increase in extreme weather vulnerability in the firm's host country, increases loan spread by 39 basis points, a higher credit risk premium. Loans with longer maturities are affected more by this vulnerability.

A study on climate and bank liquidity (Giuzio, et al., 2026) finds that banks that finance more carbon-intensive activities face noticeably tighter and more expensive liquidity. The difference, while not huge, is measurable and persistent. On average, these banks pay 3 to 5 basis points more in repo rates. During financial stress periods, they need to pay 9 to 15 basis points more, triple the average.

4. Insurance market volatility amplify credit losses following extreme weather events

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Insurance pricing is another quantifiable driver of credit risk. A study on insurance price and mortgage delinquency (Ge, et al., 2024) shows that a $500 increase in insurance premiums for a property with an insured value of $400k corresponds to a 27% increase in the mortgage delinquency rate. It also finds that premium increases from 2022 to 2023 are linked to an 8% rise in delinquencies nationwide, an estimated 149,000 more defaults in a single year. Even modest premium hikes can put real pressure on borrowers' ability to stay current.

Combined with the increasing insurance protection gap (Monasterolo, et al., 2025), essentially the inability of insurance markets to fully cover disaster losses, the extreme weather induced default events erode asset quality and increase borrower defaults. Underinsurance not only leaves losses unmitigated but also actively transmits financial stress to banks by increasing borrower defaults and reducing collateral value.

Reduced insurance accessibility also directly hurts banks' income sources. In California, 13% of realtors reported they had transactions canceled in 2024 due to insurance issues; double the 7% rate in 2023 (Carbonaro, 2024).

5. U.S. supervisory and micro-level evidence indicate severe tail vulnerability despite modest average effects

Bank-level analyses show that extreme weather exposures are associated with materially higher risk across multiple prudential channels. A study on large U.S. bank holding companies (Berger, et al., 2023) indicate that doubling exposure to extreme storms raises operational losses by 8.4% (roughly $22 million per quarter per bank), with tail events and categories like asset damage and business disruption most affected. FDIC studies of major hurricanes reveal that community banks in hard-hit areas saw past-due and nonaccrual loan ratios climb from 1.8% to over 10% after Hurricane Katrina, especially in low- and moderate-income communities. Loan-level research of mortgages from Freddie Mac (Dombrowski, et al., 2025), using the survival model, shows that when extreme weather, such as severe rainfall and wind events, the mortgage payment rate goes down, and the probability of default goes up. Although the report does not address the expected losses at default or the role and impact of insurance, it provides evidence that extreme weather events increase mortgage default probability (PD) at the loan level.

Combined, they reinforce the importance of focusing stress testing on tail scenarios, concentrated exposures, and interactions with adverse macroeconomic conditions. Even in situations where the average impacts may be moderate, tail risks and local effects can be severe. Supervisory frameworks therefore need to capture tail amplification, nonlinear effects, and cross-bank differences, not just an average.

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Recommendations

- **Incorporate insurance volatility into loss projections.** Loss forecasts should explicitly address insurance protection gaps, including premium increases, reduced availability, post-disaster compensation challenges, and the pace of change, especially the misalignment between annual insurance renewals and the longer maturity of bank loans and mortgages. These factors should be reflected in estimates of loan losses, collateral values, and related capital and liquidity stress metrics.

- **Incorporate extreme weather risk into loss projections.** Loss forecasts should explicitly model the effects of acute extreme weather shocks on borrower performance, collateral values, operational losses, and regional asset quality deterioration. These dynamics should be incorporated into estimates of PD, LGD, portfolio loss distributions, capital needs under stress, and funding and liquidity pressures.

- **Enhance disclosure of extreme weather risk model linkages.** Supervisors should explain how factors such as tail risk amplification, correlation models, and loss distribution adjustments are integrated into credit risk models in Supervisory Stress Test Methodology, such as the one published in June 2025. Greater transparency in modeling choices will help banks understand supervisory judgments and improve risk management practices.

Incorporating extreme weather risk factors and insurance volatility as refinements to existing credit and liquidity risk parameters does not require new risk categories or standalone climate scenarios. It strengthens the measurement of existing credit and liquidity risks under stress. These risks have measurable impacts on credit quality through observable channels. Explicitly integrating them into supervisory stress testing supports the Board's mandate to ensure safety, soundness, and financial stability.

We appreciate the Fed's efforts to improve transparency in stress testing scenarios and frameworks. For questions or suggestions, please contact Holly Li (hli@ceres.org).

Sincerely,

Holly Li
Program Director,
Ceres Accelerator for Sustainable Capital Markets

Ceres Headquarters: 99 Chauncy Street, Boston, MA 02111
California Office: 369 Pine Street, Suite 620, San Francisco, CA 94104
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