U.S. GSIBs Assess and Manage Climate Risk

FINANCIAL SERVICES FORUM

U.S. GSIBs recognize that climate change poses a risk. Forum firms identify, rank, manage, and test physical and transition risks related to seven risk categories – credit, market, liquidity, compliance, operational, strategic, and reputation.

What Scenario Analyses Are U.S. GSIBs Undertaking?

U.S. GSIBs have conducted exploratory internal climate risk analyses using various methodologies, including various scenarios that account for both physical and transition risks. **Physical risks** are those posed by chronic or extreme weather events, such as temperature rise, drought, sea level rise, floods, tornadoes, hurricanes, or wildfires. **Transition risks** are those resulting from a transition to a low-carbon economy.

U.S. GSIBs continue to evaluate climate scenarios recommended by the Network for Greening the Financial System and further developing methodologies to measure physical and transition risk for possible integration into risk management processes. Some firms have evaluated the impact on lending portfolios of various scenarios associated with a 1.5, 2, and 4 degree Celsius temperature increase over long-term time horizons of 20-30 years.

Physical Risk Analysis

- Analyzed the potential exposure of select residential mortgage portfolios based on the level of risk and frequency associated with 12 potential hazards, including tornado, earthquake, tropical cyclone, hailstorm, wildfire, river flood, flash flood, coastal flood, lightning, tsunami, volcano, and winter storm to determine credit risk and potential losses.
- Examined the impact of extreme weather events, like sea level risk, flooding, and severe storms, that disrupt operations at one or more primary firm locations that impact the firm's ability to service clients, the value of investments, client cash flow, credit risk associated with loans, and other credit exposures.
- Considered changes in the frequency and severity of extreme weather events, which could cause significant property damage or business interruption for clients and customers in impacted areas.
- Assessed the frequency and severity of major weather events that could impact operations, induce damage, disrupt supply chain, or hinder ability to provide products and services.
- Mapped exposures by geography and then cross-referenced these global geographies against potenal hot spots for physical climate impacts, then took into account counterparty financial health, insurance applicability, the specific physical vulnerability of each underlying physical asset, and more.

Transition Risk Analysis

- Assessed policy changes that would pose a transition risk, such as a sudden carbon tax and energy efficiency standards changes, to determine the impact on related business sectors as well as the effect on operating costs and credit worthiness of commercial real estate and agriculture.
- Evaluated an acceleration to low-carbon technologies and an evolving regulatory environment that would put pressure on the expense base of those companies that operate in carbon-intensive sectors and could lead to credit or investment losses.
- Evaluated the effects on loan portfolios following a carbon tax and a rapid consumer shift toward electric vehicles.

Scenario Analysis Is Distinct from Stress Testing

There is an important distinction between scenario analysis and stress testing, namely scenario analysis does not result in capital adequacy consequences whereas stress tests do. Fed Governor Lael Brainard has stated "To be clear, scenario analysis is distinct from our traditional regulatory stress tests at banks. Scenario analysis is an exploratory exercise that allows banks and supervisors to assess business model resilience to a range of long-run scenarios. It seeks to understand the effects of climate-related risks on a range of financial markets and institutions, as well as the potentially complex dynamics among them. By contrast, traditional stress tests are a regulatory exercise to assess the capital adequacy of banks to specific macroeconomic scenarios and financial market shocks over the short-run."

International Regulatory Approach

The Bank of England has been further along in conducting climate change scenario analysis and has clearly stated, it is in its infancy and meant to be exploratory. In its 2021 guidance for exploratory scenarios, the Bank of England stated in bold, "the Bank intends for the CBES to be a learning exercise. Expertise in modelling climate-related risks is in its infancy, so this exercise will develop the capabilities of both the Bank and CBES participants." Because of this, "[t]he exercise will not be used by the Bank to set capital requirements, and individual participants' projected losses will not be tied directly to actions participants are required to take." Instead, submissions may inform future policy.