

2021 **CLIMATE RISK** Regulatory Expectations and Stress Testing

BY ANN CRAIG AND JO PAISLEY

# Climate Risk Regulatory Expectations and Stress Testing

#### By Ann Craig and Jo Paisley

Risk managers and other business leaders around the world are closely watching as regulators address the looming issue of climate risk. What the U.K. Prudential Regulation Authority (PRA) started, by issuing supervisory expectations on how banks and insurance companies need to approach managing the financial risks of climate change, other regulators are continuing, all with their own flavor.

But climate, after all, is the most global of issues. Are regulators aligned in their expectations regarding climate risk management in financial firms? And, in addition to supervisory expectations, how do supervisory approaches differ around the world?

At GARP's 2020 <u>Climate Risk Symposium</u>, we asked our audience whether they thought that regulators were sufficiently aligned. As Figure 1 shows, the audience wasn't at all convinced that they were, with around a third of respondents suggesting a number of emerging differences that could cause problems. A small minority noted significant issues in meeting multiple requirements.

### Figure 1: Do you think that regulators are sufficiently aligned on their expectations regarding climate risk management in financial firms?



To investigate further, we took a look at what supervisors have been requiring firms to do and the nature of supervisory expectations of how financial institutions should be considering and incorporating climate-related risks into their business-as-usual activities. We then looked at the way that regulators are proposing quantifying the risks.

#### SUPERVISORY EXPECTATIONS ON CLIMATE RISK MANAGEMENT

So far, the supervisory guidance published across multiple jurisdictions has been broadly consistent around how financial firms should consider climate-related risks in their institutions' governance, strategic decision-making, risk management frameworks (including the use of scenario analysis and stress testing), and disclosures.

However, as we <u>reported</u> in September 2020, there is one critical difference we are seeing in the expectations of Asian regulators widening their scope beyond climate risk to include environmental risks. The Hong Kong Monetary Authority, the Monetary Authority of Singapore, Bank Negara Malaysia and the China Banking and Insurance Regulatory Commission are also expecting financial institutions to integrate environmental risks such as pollution, loss of biodiversity, and changes in land use into their governance and quantitative frameworks. Similar moves are being seen in Europe from the European Central Bank (ECB) and European Banking Authority (EBA) in their guidance on regulatory expectations, which also include consideration of environmental risks.

So at a headline level, there does seem to be a reasonable degree of alignment, which no doubt reflects the influence of bodies such as the <u>Network for Greening the Financial System</u> (NGFS) and the <u>Financial Stability</u> <u>Board</u> (FSB). The NGFS — a so-called 'coalition of the willing' rather than a formal standard setter — has 83 central banks and supervisors as members as of December 2020, including the recently joined US Federal Reserve System. That said, the devil is in the detail and it may be that when the actual regulations are put into practice, subtle differences in requirements can cause headaches for firms when needing to meet multiple requirements.

#### SUPERVISORY APPROACHES TO QUANTIFYING CLIMATE RISKS

The next key area of focus where we are beginning to see the first shoots of supervisory growth is in the quantification of climate-related risks by way of scenario analysis and stress testing exercises. So how aligned are these exercises?

Quantification is typically in two forms: "top-down" analysis, undertaken by regulatory authorities and "bottom-up" industry-wide stress testing exercises undertaken by financial institutions using their own data and based on supervisory scenarios.

A number of regulatory authorities have undertaken "top-down" analysis to quantify climate-related risks to financial stability, mostly focused on their local jurisdictions and with limited scopes. The <u>FSB</u> has undertaken a useful stocktake of such exercises, including the first central bank climate stress test undertaken by De Nederlandsche Bank (DNB), which investigated the implications of energy transition risks to the Dutch financial sector over a five-year period. There have since been further exercises executed by financial authorities, including the Bank of England (BoE), ECB, European Systemic Risk Board (ESRB), Bank of Italy, and the French Prudential Supervision and Resolution Authority (ACPR). Please see the <u>Annex</u> for a list of useful links.

These regulatory exercises provide useful information and are important in the ongoing development of climaterelated scenarios, stress testing methodologies, and data. Banks may be required to provide data to the relevant authority to undertake the exercise, but alignment across the exercises is not really an issue. A number of regulatory authorities have indicated that supervisory "bottom-up" stress testing exercises are being included as part of their potential future work, including the EBA, ECB, Hong Kong Monetary Authority, Monetary Authority of Singapore, Australian Prudential Regulation Authority, Reserve Bank of New Zealand, and Banco Central do Brasil.

To date, however, there are only two exercises which have been formally announced (in the sense of publishing timelines and details), and these are from the Bank of England (BoE) and the Banque de France (BdF)/ACPR. The BoE published a consultation for its next Biennial Exploratory Scenario (BES) which will test the resilience of the largest U.K. banks and insurers to the risks from climate change. The BES will launch in June 2021. The BdF/ACPR launched its voluntary pilot climate exercise in July 2020 with the objective of raising the awareness of French banking and insurance institutions to the climate change risks to which they are exposed. So how aligned are these two exercises?

Figure 2 provides a brief comparison of the BoE and BdF/ACPR stress tests, using the regulators' own language. The differences in taxonomy used for the two exercises make a direct comparison difficult. Indeed, it is most likely that it is this sort of difference in detail that underpins our audience's skepticism about regulators being fully aligned.

	BANK OF ENGLAND Biennial Exploratory Scenario (BES) stress test*	BANQUE DE FRANCE / ACPR Voluntary pilot climate exercise 2020
Participation	Large banks Certain large insurers via BES-aligned climate scenarios added to the 2021 Insurance Stress Test	Main French banking and insurance groups
Balance sheet	Fixed balance sheet to 2050 Firms' management actions also to be included in the submission (see below)	Static balance sheet to 2025 Dynamic balance sheet from 2025 - 2050 to evaluate firms' actions and implementation of strategy in response to climate risks
Timetable	Launches in June 2021 First submission in two parts to size the risks on firms' current business models, as well as firms' assessment of their management actions in response to the risks. Submission due by end-September 2021 BoE to consider a further round of submissions to explore system-wide impacts in December 2021 Results published Q1 2022: no firm-level financial impacts to be published, but BoE considering the value of disclosing firm-level metrics to illustrate risk management capabilities and drive improvements	Publication of final assumptions in July 2020 Submission of results in October - December 2020 Measurement of potential second round effects in January - March 2021 Results published in April 2021 at aggregate level only

#### Figure 2: Comparison of BoE and ACPR exercises

<sup>\*</sup> Updates published in <u>November</u> and <u>December</u> 2020

	BANK OF ENGLAND Biennial Exploratory Scenario (BES) stress test*	BANQUE DE FRANCE / ACPR Voluntary pilot climate exercise 2020
Time horizon	2020 - 2050 with reporting at every five-year point The 'no additional policy action' scenario will be calibrated to assume the more material risks anticipated in the period 2050 - 2080 occur by 2050 in this scenario	2020 - 2050 with reporting at 2025, 2035, 2040, 2050
Scenarios	<ul> <li>Three scenarios to capture transition and physical risks:</li> <li>Early policy action - transition starts early and increase in global temperature stays below 2oCin line with the Paris Agreement</li> <li>Late policy action - global climate goal is met but transition delayed and more severe to compensate</li> <li>No additional policy action beyond that already announced and the transition is insufficient to meet the global climate goal</li> <li>The BES will leverage the reference scenarios published by NGFS</li> </ul>	<ul> <li>Three transition risk scenarios:</li> <li>Reference scenario - calibrated on the NGFS orderly transition scenario</li> <li>Adverse scenario 1 - calibrated on the NGFS disorderly transition</li> <li>Adverse scenario 2 - based on the NGFS "Immediate 1.5 scenario with limited CDR (carbon dioxide removal) technology" complemented by adverse productivity shocks</li> <li>Physical risk scenario for insurers:</li> <li>Based on the "RCP 8.5" scenario of the Intergovernmental Panel on Climate Change (IPCC) to represent a scenario in which the mitigation efforts are limited</li> </ul>
Reporting metrics	Banking book: impairment charge Traded risk: excluded from the exercise For insurers, the impact will be measured for both assets and liabilities	Banking risks: impact on Expected Credit Losses (ECL) Market risk: revaluation of trading portfolio at fair value and counterparty risk For insurers, the impact will be measured for both assets and liabilities
Capital and solvency capital requirements	Not used to set capital requirements	Not used to set capital requirements

<sup>\*</sup> Updates published in <u>November</u> and <u>December</u> 2020

So was our audience justified in their skepticism about regulatory alignment on their expectations regarding climate risk management in financial firms?

Overall, there seems to be broad alignment at a high level on the expectations for embedding climate in risk management, although the focus on climate versus broader environmental risks is an area of emerging divergence.

When it comes to the bottom-up stress testing exercises, there is little to go by so far. However, the pipeline of exercises announced has been generating discussion around the key challenges seen in undertaking these exercises. The <u>Bank Policy Institute</u> (BPI) has published a helpful overview of the important methodological challenges associated with climate change stress testing. Despite the challenges, BPI does also recognise the importance of continuing work in this area to advance the use of scenario analysis and methodologies. It also provides valuable information for public policy purposes and highlights the costs in delaying the implementation of climate change policies.

The other area of concern is around the level of global regulatory alignment, a particular focus if history is anything to go by. The issue of regulatory alignment has been much discussed in the area of macro-economic stress testing, and is a problem that we have written about extensively, recommending that supervisors adopt a <u>Supervisory Code of Practice</u> to encourage alignment and coordination. Given the truly global nature of climate risks and the urgency of the challenge, there is an even more pressing need for these exercises to be meaningfully comparable.

The U.S. Commodity Futures Trading Commission (CFTC) recognised this issue in its <u>report</u> on managing climate risk in the U.S. financial system. One of the CFTC's recommendations is that regulators should closely monitor international experience, engage in international forums, and ensure that climate risk stress testing in the U.S. is comparable to similar exercises in other jurisdictions and avoid duplicative exercises for multi-jurisdictional firms. This recommendation can surely be extended to all regulators to aim to achieve global comparability. The window for the global regulatory community to build a globally consistent and collaborative approach to climate risk stress testing is open — but it needs to be captured rapidly.

There are key requirements which, if addressed and met in a timely way, would benefit a broad array of organizations and societies around the world. They are creative ways to strengthen international collaboration and knowledge sharing among financial institutions, regulatory bodies, and policy makers; a high degree of transparency of methodology and requirements from all supervisory bodies, which should be open to critique and comment from the industry; and a collective way to learn from these exercises, to avoid creating a patchwork of new regulatory requirements that would ultimately result in a globally consistent approach to manage the complex financial risks from climate change.

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## Annex: Useful Links to "Top-Down" Regulatory Climate Analysis

#### FSB

<u>Stocktake of Financial Authorities' Experience in Including Physical and Transition Climate Risks as Part of Their</u> <u>Financial Stability Monitoring</u> - July 2020

#### BoE

<u>Staff Working Paper No. 856</u>: High Water, no marks? Biased lending after extreme weather - March 2020 <u>Staff Working Paper No. 852</u>: Does energy efficiency predict mortgage performance? - January 2020 <u>Transition in thinking: The impact of climate change on the UK banking sector:</u> Case studies - September 2018 <u>Bank Underground: The tip of the iceberg: the implications of climate change on financial markets</u> - January 2017

#### ЕСВ

<u>Financial Stability Review, May 2020</u> – Box 3 Euro area banks' sensitivity to corporate decarbonisation <u>Financial Stability Review, November 2019</u> – Euro area banking sector <u>Financial Stability Review, May 2019</u> – Special Feature A: Climate change and financial stability

#### ESRB

Positively green: Measuring climate change risks to financial stability - June 2020

#### EBA

Discussion paper: On management and supervision of ESG risks for credit institutions and investment firms, Box 16 - October 2020

#### **BdF/ACPR**

Analysis and synthesis: Climate change: which risks for banks and insurers? - April 2019

#### DNB

<u>Waterproof? An exploration of climate-related risks for the Dutch financial sector</u> – May 2019 <u>An energy transition risk stress test for the financial system of the Netherlands</u> – October 2018,

#### **Bank of Italy**

<u>Occasional Paper: The carbon footprint of Italian Ioans</u> - April 2020 <u>Climate change and bank lending: the case of flood risk in Italy</u> - August 2019

#### **Bank of Spain**

Energy transition and financial stability. Implications for the Spanish deposit-taking institutions - August 2019

#### **Bank of Canada**

Staff Discussion Paper: Scenario analysis and the Economic and Financial Risks from Climate Change - May 2020

#### State Bank of Pakistan

Financial Stability Review - 2018: Chapter 3.3 Resilience of the Banking Sector under Stress Scenarios



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