Newsflash

Bank of England publishes key elements of its 2021 CBES



Sanjay Joshi
Insurance Consultant
sanjay.joshi@hymans.co.uk

Nicola Kenyon
Head of Insurance Innovation & Change
nicola.kenyon@hymans.co.uk

Gerard Anderson
Insurance Consultant
gerard.anderson@hymans.co.uk

The Bank of England has published its 'Key elements of the 2021 Climate Biennial Exploratory Scenario' to help explore the financial risks posed by climate change for some of the UK's largest banks and insurers.

For more background information, we have previously covered this topic in our earlier Newsflash.

The Bank of England (BoE) has invited ten insurers to participate in the exercise, including four life firms, five general insurance firms, and one composite insurer, as well as seven banks/building societies and a selection of ten Lloyd's managing agents.

The BoE's desired outcomes of this exercise are to:

- Quantify the financial exposure of participants (and the broader financial system) to climate-related risks, including the assessment of any systemic risk that may arise as a result of climate change;
- Understand the challenges to participants' business models from these risks; and
- Help participants in enhancing their management of climate-related financial risk, consistent with expectations outlined in Supervisory Statement 3/19.

The BoE intend this to be a **learning exercise for all**. As climate modelling expertise is not yet fully embedded (or, indeed, developed) this exercise is intended to improve the capabilities of both the BoE and participants. It is not intended that the results will be used to set capital requirements but may inform the Financial Policy Committee's (FPC's) approach to system-wide policy issues and the Prudential Regulation Authority's (PRA's) approach to supervisory policy.

The CBES will have two parts:

1. First, firms are asked to test the vulnerabilities of today's balance sheet; and
2. Firms are asked how they might change their business (and mitigate risks) as businesses adapt over the duration of the scenarios.

In this newsflash, we look at the implications of the CBES for participants and for other PRA-regulated insurers.

What are the scenarios?

Consistent with the BoE's previous Discussion Paper, the three scenarios are based on a subset of the Network for Greening the Financial System's (NGFS's) scenarios, defined in terms of the pace of possible future government policy responses to climate change.

Policy response dictates transition pathways and, ultimately, the risks (transition and physical) to be faced.

The table below, taken from Figure 1.A of the CBES document summarises the three key future scenarios.

		Early Action	Late Action	No Additional Action
Transitional	Transition risks	Medium	High	Limited
	Nature of transition	Early and orderly	Late and disorderly	N/A
	Peak UK carbon price	900 USD/tonne CO2	1,100 USD/tonne CO2	30 USD/tonne CO2
Physical	Physical risks	Limited	Limited	High
	Mean global warming	1.8°C	1.8°C	3.3°C
	Mean UK sea level rise	0.16m	0.16m	0.39m
	Impact on output	Temporarily immediate lower growth	Recession in years 11-15	Permanently lower growth

Figure 1.A: overview of the three climate scenarios published in the CBES

The BoE has not specified a stress test by providing stressed variables for all of the relevant inputs: it has provided some key variables (including: macro, financial, transition, and physical variables) and requested that participants "join the dots" for other markets (e.g. credit, where change in spreads is not specified by duration) or mortality (where it is requested that firms consider their own views of likely implications for future mortality experience). Below we consider some of the most challenging aspects of the ask from the BoE.

Liability assumptions

The BoE's guidelines indicate that the calculations should include re-evaluation of the liability side of the balance sheet (with a focus on Solvency II Best Estimate Liabilities). However:

- There are no explicit **longevity or mortality shocks** included in the CBES scenarios, and no quantitative information is provided to aid participants in constructing their own mortality/longevity scenarios;
- In addition to mortality/longevity assumptions, life insurers are required make their own assumptions on **lapse or policyholder behaviour** consistent with the market movements in the scenarios.

Firms are expected to undertake their own liability modelling for these scenarios. For many, this may be the first time that liability-side risks have been modelled in this way, and is likely to prove especially challenging for firms that have not yet considered the potential impact of climate change on their liabilities *(some useful information on this topic can be found in this 'Hot and Bothered?' paper, prepared by Club Vita)*.

Counterparty analysis

The BoE have outlined that firms should assess the vulnerability of individual counterparties' business models to the underlying climate-related risks in each scenario. The counterparty-level assessment has become a tiered system which will likely reduce the burden relative to the expectations set out in the previous discussion paper (where 80% of the most material counterparties were to be assessed on an individual basis). Under the tiered system, at least 100 of the largest and most material corporate counterparties will be subject to a "rigorous" bottom-up analysis of individual exposures, this is referred to in the guidance as "tier 1" counterparties. The remaining counterparties (tier 2) can be completed on a less granular and simpler approach, such as sectoral analysis.

Firms are expected to form judgements on how tier 1 counterparties would be positioned under each of the scenarios, factoring in all climate-related mitigation plans that a company currently has in place. The BoE have noted that firms should look to counterparties' climate disclosures, including disclosures made under the TCFD. Where appropriate, or where there is no other option, firms are expected to engage directly with their counterparties, as far as possible, in order to ascertain the information required to conduct this climate scenario analysis.

This is clearly a resource intensive ask of the BoE, and firms without adequate resource in place may find this impossible to undertake. Some of the data may simply not be available and engaging with such a large proportion of an insurer's book directly is nothing short of a mammoth task.

Carbon pricing

The modelling exercise also introduces the idea of carbon pricing (to be used to assess and quantify the transition risk on the asset-side of the balance sheet under each of the three scenarios). In the guidance provided, the BoE have made it clear that assets' valuations, credit ratings, and general outlook should be re-evaluated by incorporating information relating to the new carbon price, with carbon prices in each of the three scenarios outlined above in figure 1.A.

The carbon price in the CBES can be thought of as a summary that incorporates a range of different policies aimed at reducing greenhouse gas emissions, as policies will likely aim to make it less attractive to emit greenhouse gases, and can be seen as a proxy for the effect of these policy changes on the balance sheets of counterparties. They can be seen to be closely linked to the transition risk that these counterparties will face in the event of governmental policy action.

Carbon price can be interpreted as a carbon tax. High-emitting sectors will have to pay a larger share of this tax as we move to a low-carbon economy, and so will pay a larger share of their revenue in tax if they do not take mitigating actions; this will likely affect their profitability and financial stability. As the carbon tax can be seen as a proxy for the cost of policy action on companies, the price of carbon is significantly higher in the two scenarios where policy action is undertaken, and is limited in the scenario where no policy action is undertaken.

Determining how a carbon tax will affect the outlook of counterparties may be a novel approach for some participants who may have not previously undertaken modelling of this nature. Assessing how carbon price will affect firms' valuations and financial stability may prove challenging.

There is limited guidance provided by the BoE on how this should be carried out in practice. The BoE has set out some considerations such as shock to the supply capacity of the economy from rising carbon prices, and carbon extraction firms may no longer be allowed (or may no longer find it economically viable) to extract all of their carbon assets, and so these assets can be seen as "stranded" and the value of these will need to be written down, affecting the financial outlook of these firms.

A sizeable qualitative questionnaire

The submission requires the completion of a questionnaire, which includes almost 100 questions, with an expected word count typically in the range of 250 to- 750 words (in some cases more).

The questions cover topics such as:

- whether the financial institution collates climate related information from counterparties, how climate risks are managed within the organisation,
- to what extent the firm's business model will be sustainable in each of the scenarios, and
- questions around which quantitative methodology is employed as part of this exercise.

The questions are both vast and varied, and a lot of detail has been requested by the BoE. With four months to complete this questionnaire (in addition to the complications introduced by the modelling exercise itself) firms may be starting to feel the resource strain.

What next?

Firms will welcome some of the relaxation of requirements (compared with the previous Discussion paper), which includes requiring only Year 10 and 30 projections for No Additional Action scenario and introducing a tiering system for the counterparty analysis. With initial submissions due in October, the exercise will represent a significant task for most firms.

Key dates:

- **13 October 2021**: participants' initial submissions due;
- **End-January 2022**: the BoE expects to launch a second round of the exercise and will release any materials associated with that second round; and
- **May 2022**: publication of CBES Results (in the event that the Bank makes the decision not to go ahead with a second round, the Bank will publish results sooner).

If you would like to discuss with one of our specialists, please get in touch.