4 Hotspots

4.1 Climate-Related Risk (including Biodiversity)

Hotspot Description

The risk that actuaries may not appropriately consider, or communicate clearly, the impact of climate-related risk on their actuarial work. The related influence of climate change on, and from, biodiversity-related influences is also noted. Biodiversity risk is expected to become a specific hotspot in the near future (perhaps in the JFAR Risk Perspective 2022, as understanding of this risk improves).

Current Influences

Climate-related risk represents a material financial risk to future economic and market conditions. The direct and indirect consequences of climate and environmental changes are also likely to impact claims experience and modelling assumptions.

There is ever-increasing political and societal pressure on long-term investors (e.g. life insurers and pension schemes) to respond to climate change. This means that users of actuarial work will want to be assured that the impact of their exposures from physical, transition, and liability risks related to climate change are fully assessed and incorporated into actuarial work. Actuaries need to help users of their actuarial work understand the degree to which these risks have been incorporated in their assessment, and the uncertainties around their inclusion. Actuaries may also need to help users of their actuarial work understand any residual risks that remain.

Physical risk is associated with the damage caused by changes to the world's weather patterns and systems. Global warming represents a significant (and perhaps existential) threat in the long-term. Even in the short-term actuaries need to consider risks of changes to frequency and intensity of natural catastrophes leading to severe losses at the extreme of what might be anticipated. This is particularly an issue for pricing general insurance and for investments (especially in real assets).

Transition risk is the risk to companies arising from the need to transition their business model to one that can be sustained in a low carbon environment. This is a risk that is present in the short-term and may have differential effects on different companies and sectors, and may be heavily influenced by local, national, or supranational regulations and actions. Actuaries need to be aware of the potential impact of transition risk when advising on which companies to include in equity investment portfolios and the assumptions to be made concerning investment portfolio performance.

In respect of both risks there is a risk of climate-related litigation liability with potential implications for the pricing of Directors' and Officers' (D&O) insurance and Business Interruption (BI) insurance.

Governments, users of actuarial work, and society more broadly have increased efforts in recent years to mitigate climate-related risk and their impact, as well as developing pathways to a transition to net zero.[2] Numerous regulations introduced to enforce these ambitions have now been in place for a number of years and have been mainstreamed; for example, ongoing efforts to mandate disclosure in line with the recommendations of the Task Force on Climate-related Financial Disclosures[3] (TCFD). Financial services firms should be increasingly familiar with the regulations and must develop the skill and expertise to meet them. As efforts to tackle climate change gain momentum, both in the UK and internationally, actuaries must be aware of the increased role they will play in delivering these efforts.

Linked to climate-related risk is biodiversity, or nature, loss. Biodiversity is affected by climate change, with negative consequences for human well-being. Through the ecosystem services it supports, biodiversity also makes an important contribution[4] to both climate change mitigation and adaptation. The Dasgupta Review,[5] published in April 2021, reviewed the economics of biodiversity and assessed the economic benefits of biodiversity globally as well as the economic costs and risks of biodiversity loss. The review has brought increased policymaker and regulator attention to the issue of biodiversity loss, and the role of private finance in addressing biodiversity loss.

Some recent assessments[6] have suggested that the world's largest insurers are currently falling behind the world's largest banks on responsible investment governance, climate change, biodiversity, and human rights. While this is not an issue that actuaries can address alone, there may be a role for actuaries working for insurers to improve that position by elevating these topics with their internal executives and board members.

Key developments and JFAR member regulators' actions during 2020/21

UK Actions

The following paragraphs consider briefly actions taken by the UK government and JFAR member regulators.

UK sets ambitious new climate target

On 20 April 2021 the UK government announced plans to set the world's most ambitious climate change target into law to reduce emissions by 78% by 2035[7] compared to 1990 levels, in line with the recommendation from the independent Climate Change Committee.[8] The UK government intends for the new target to become enshrined in law by the end of June 2021.

G7

The UK hosted the 47th G7 summit in Carbis Bay, Cornwall on 11-13 June 2021. As the G7 President the UK sought to solidify and extend an earlier virtual meeting[9] of the G7 on 20-21 May 2021 which committed to accelerating progress under the Paris Agreement,[10] achieving net zero greenhouse gas emissions as soon as possible and by 2050 at the latest, harnessing the significant opportunities for sustainable development (including green jobs and sustainable, resilient growth), and mobilising and aligning finance to support the green recovery.

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2 https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/
3 https://www.fsb-tcfd.org/
4 https://www.cbd.int/climate/
5 https://www.gov.uk/government/collections/the-economics-of-biodiversity-the-dasgupta-review
6 https://shareaction.org/research-resources/insuring-disaster/
7 https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035
8 https://www.theccc.org.uk/
9 https://www.gov.uk/government/publications/g7-climate-and-environment-ministers-meeting-may-2021-communique/g7-climate-and-environment-ministers-communique-london-21-may-2021
10 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

COP26

The UK will host the 26th UN Climate Change Conference of the Parties[11] (COP26) in Glasgow on 1-12 November 2021. The climate talks will bring together heads of state, climate experts, and campaigners to agree coordinated action to tackle climate change. As the COP26 President the UK is committed to working with all countries and joining forces with civil society, companies, and people on the frontline of climate change to inspire action ahead of COP26.

Climate Financial Risk Forum (CFRF)

The CFRF,[12] co-chaired by the FCA and the PRA,[13] brings together senior representatives from across the financial sector to build capacity and share best practice between financial regulators and the financial industry. In June 2020 the CFRF published a guide[14] to help the financial industry approach and address climate-related financial risks. The guide aims to help financial services firms understand the risks and opportunities that arise from climate change, and support financial services firms as they adapt their risk, strategy, and decision-making processes to reflect climate-related financial risks.

The guide includes a summary co-produced by the PRA and the FCA, as well as the following four industry-produced chapters:

- Risk management (includes risk management annex[15] with list of data and tools providers)
- Scenario analysis
- Disclosures
- Innovation

Institute and Faculty of Actuaries

The IFoA published its climate change statement[16] in January 2021. The statement takes an international outlook on climate-related risk and takes an actuarial view by focusing on risk mitigation. The statement is intended to drive action in aligning the finance system with a net zero ambition. The statement sets out the context for all activities arising from the IFoA's Climate-Related Risk Taskforce[17] (CRRT).

The IFoA's CRRT is currently progressing 38 recommendations, endorsed by the IFoA's Council, aimed at supporting IFoA Members understand and address climate-related risk in their actuarial work. Key recommendations include updating the actuarial syllabus to promote greater consideration of climate-related risk, reviewing the IFoA's regulatory framework to mainstream climate-related risk within it, and encouraging the introduction of relevant new knowledge and new skillsets into actuarial work through thought-leadership.

The IFoA became a signatory[18] to the Green Finance Education Charter[19] (GFEC) in July 2020. The GFEC was developed by the UK Department of Business Energy and Industrial Strategy, Her Majesty's Treasury, and the Green Finance Institute to act as a tool for focusing collaboration between the UK government and industry. The IFoA is one of the original 12 professional bodies to sign the GFEC and has undertaken to integrate green finance into IFoA work and to engage and educate IFoA Members. The IFoA's commitments under the GFEC feed into the CRRT recommendations under knowledge and skillsets. The IFoA is reviewing its ethical code of conduct, the Actuaries' Code, to consider whether changes should be made to meet those commitments and expects to consult on this in 2021.

The IFoA has also created a Biodiversity and Natural Capital Working Party[20] to consider and promote the urgent need for actuaries to

11 https://ukcop26.org/uk-presidency/
12 https://www.fca.org.uk/transparency/climate-financial-risk-forum
13 TPR and the FRC are observers.
14 https://www.fca.org.uk/publication/corporate/climate-financial-risk-forum-guide-2020-summary.pdf
15 https://www.fca.org.uk/publication/corporate/climate-financial-risk-forum-guide-2020-data-tools-providers.pdf
16 https://www.actuaries.org.uk/climate-change-statement
17 https://www.actuaries.org.uk/system/files/field/document/CRRT.pdf
18 https://www.actuaries.org.uk/news-and-insights/news/ifoa-signs-green-finance-education-charter
19 https://www.greenfinanceinstitute.co.uk/green-finance-education-charter/
20 https://www.actuaries.org.uk/practice-areas/sustainability/research-working-parties/biodiversity-working-party

take into account the importance, perils, and impacts of global biodiversity risk. It also seeks to promote the role of finance in addressing the risks of biodiversity loss.[21] Biodiversity loss is amplified by, and amplifying of, climate change impacts. The IFoA considers this to be an important stream of ongoing work that is likely to need its own specific risk focus in the near future.

Prudential Regulation Authority

In July 2020 the PRA sent a letter[22] to the CEOs of all PRA-regulated firms to build on the expectations set out in the PRA Supervisory Statement on Enhancing banks' and insurers' approaches to managing the financial risks from climate change[23] (SS3/19). The letter also served to provide observations on good practice and set out steps for implementation.

The Bank of England launched the 2021 Biennial Exploratory Scenario[24] (the Climate BES) in June 2021. The objective of the Climate BES is to test the resilience of the largest banks, insurers, and the financial system to different possible climate pathways and provide a comprehensive assessment of the UK financial system's exposure to climate-related risk. The Climate BES asks firms to consider three scenarios, which are based on scenarios published by the Network for Greening the Financial System[25] (NGFS).

In November 2020 the PRA published the response to the general insurance industry – a framework for assessing financial impacts of physical climate change.[26] The report outlined the PRA's response to industry feedback received on the framework for assessing financial impacts of physical climate change[27] report (May 2019).

The PRA has further demonstrated that climate-related risk is a key priority by communicating this in letters about 2021 priorities to the Chief Executive Officers of PRA-regulated insurance firms,[28] PRA-regulated UK deposit takers,[29] and PRA-Regulated international banks.[30]

Financial Conduct Authority

In December 2020 the FCA published Policy Statement PS20/17[31] to introduce a new rule to enhance climate-related disclosures by listed issuers and clarify existing disclosure obligations.

Under the rule, in-scope issuers (commercial companies with a UK premium listing) would be required to state in their annual financial report whether they have made disclosures consistent with the recommendations of the Task Force on Climate-related Financial Disclosures[32] (TCFD) or explain if they have not done so.

The FCA also introduced a Technical Note in PS20/17 clarifying existing disclosure obligations for a wider scope of issuers.

Encouraging issuers to make more comprehensive and high-quality climate-related financial disclosures should:

- enhance market integrity due to better informed asset pricing and more accurate valuation of issuers' securities;
- improve available information to enable financial services firms to develop products that meet consumers' climate-related preferences, and reduce the risk of consumers buying unsuitable (or mis-sold) products by supporting more reliable climate-related disclosures to clients and end-investors; and

21 http://blog.actuaries.org.uk/blog/biodiversity-sessional-planting-seeds
22 https://www.bankofengland.co.uk/prudential-regulation/letter/2020/managing-the-financial-risks-from-climate-change
23 https://www.bankofengland.co.uk/prudential-regulation/publication/2019/enhancing-banks-and-insurers-approaches-to-managing-the-financial-risks-from-climate-change-ss
24 https://www.bankofengland.co.uk/stress-testing/2021/key-elements-2021-biennial-exploratory-scenario-financial-risks-climate-change
25 https://www.ngfs.net/en
26 https://www.bankofengland.co.uk/prudential-regulation/publication/2020/response-to-the-general-insurance-industry-feedback
27 https://www.bankofengland.co.uk/prudential-regulation/publication/2019/a-framework-for-assessing-financial-impacts-of-physical-climate-change
28 https://www.bankofengland.co.uk/prudential-regulation/letter/2020/pra-insurance-supervision-2021-priorities
29 https://www.bankofengland.co.uk/prudential-regulation/letter/2020/ukdt-supervision-2021-priorities
30 https://www.bankofengland.co.uk/prudential-regulation/letter/2020/ibd-supervision-2021-priorities
31 https://www.fca.org.uk/publication/policy/ps20-17.pdf
32 https://www.fsb-tcfd.org/

- support more effective competition between financial services firms: with better information to support firms' product development and their own disclosures, clients and end-investors will be better equipped to assess which products meet their needs.

The FCA has since consulted in June 2021 on potential client-focused TCFD-aligned disclosures by UK-authorised asset managers, life insurers, and FCA-regulated pension providers in CP21/17.[33] The FCA has further consulted on enhancing climate-related disclosures by standard listed companies and is seeking views on ESG topics in capital markets in CP21/18.[34]

The Pensions Regulator

The Pensions Regulator (TPR) published its climate change strategy[35] in April 2021. The strategy sets out TPR's strategic response to climate change and how TPR will support pension schemes' trustees to meet the challenges from climate change. The strategy comes ahead of proposed regulations which will require trustees of larger pension schemes to maintain oversight of, and make mandatory disclosures in relation to, climate-related risk. Beyond the proposed regulations the strategy outlines TPR's expectations that all pension schemes' trustees will comply with existing requirements; for example, to publish their statement of investment principles and implementation statement.

In July 2021 TPR will consult on draft guidance outlining what is expected from pension schemes' trustees who are subject to the new requirements. TPR's guidance is intended to be read alongside statutory guidance from the Department for Work and Pensions (DWP). TPR will also consult on a new appendix to its monetary penalties policy, which will outline TPR's approach to penalties for breaches of the proposed regulations.

Financial Reporting Council

Throughout 2020 the FRC has undertaken a thematic review[36] of climate-related considerations by boards, companies, auditors, professional bodies, and investors.

The thematic review acknowledged the important role boards, companies, auditors, professional bodies, and investors play in considering climate-related issues. These important actors assess climate-related challenges, help to drive appropriate reporting to the market, equip accountants and auditors with relevant knowledge and the confidence to challenge, and encourage the behaviour and reporting they want to see. These groups all play important roles in delivering society's climate ambitions, as each has the capacity to act as a driver of change.

The thematic review highlights the FRC's views on current market practice, outlines expectations, and shows where it will focus energies in ensuring that those within the FRC's remit are responding appropriately to this challenge.

In November 2020 the FRC published a Climate Thematic Summary Report[37] which brought together views on all areas of the thematic review.

On 10 November 2020 the FRC made a statement[38] on Non-Financial Reporting Frameworks, encouraging "*UK public interest entities voluntarily to report against the Task Force on Climate-related Financial Disclosures' (TCFD) 11 recommended disclosures and, with reference to their sector, using the Sustainability Accounting Standards Board*[39] *(SASB) metrics.*"

33 https://www.fca.org.uk/publications/consultation-papers/cp-21-17-climate-related-disclosures-asset-managers-life-insurers-regulated-pensions
34 https://www.fca.org.uk/publications/consultation-papers/cp21-18-enhancing-climate-related-disclosures-standard-listed-companies
35 https://www.thepensionsregulator.gov.uk/en/document-library/strategy-and-policy/climate-change-strategy
36 https://www.frc.org.uk/frc-for-you/climate-thematic-review-2020
37 https://www.frc.org.uk/getattachment/ab63c220-6e2b-47e6-924e-8f369512e0a6/Summary-FINAL.pdf
38 https://www.frc.org.uk/news/november-2020/frc-nfr-statement
39 https://www.sasb.org/

Global Actuarial Involvement

Climate change is an issue that transcends borders and the International Actuarial Association[40] (IAA) has been approached by supranational bodies (OECD[41] and others) to help develop understanding of how the base risk may evolve.

To support this, the IAA established a Climate Risk Task Force[42] (CRTF) to deliver on several IAA activities relating to climate-related risk over a five-year time horizon. The objectives of these activities are to contribute to the valuable global efforts to further identify, measure, and manage climate-related risk, thereby serving the public interest.

In September 2020 the IAA published the first in a series of planned papers. Importance of Climate-Related Risks for Actuaries[43] discusses the main components of the climate-related risk relevant to actuaries, their implications, the broad categories of actuarial work and the importance of climate-related risk to each category. The second paper, Introduction to Climate-Related Scenarios,[44] was published in February 2021 and aims to provide background covering principles and outlining the processes for developing climate-related scenarios. The third paper, *Scenario Application to Financial Institutions and Insurance*, is to be published shortly.

More papers are scheduled to be released over the coming years to address the needs of actuaries, including:

- a paper on the application of climate-related risk scenarios to asset portfolios with an important subsidiary goal of encouraging consistency between assets and liability modelling;
- a paper on climate-related risk management and addressing emerging third-party regulatory / reporting / disclosure requirements;
- a paper on the potential effects of transition and adaptation steps; and
- a paper on the link between climate-related risk scenarios and social security.

A review of existing IAA publications is also planned to identify and address any gaps related to climate-related risk.

Several actuarial indices have already been developed to allow actuaries, public policy makers, and others to assess the current state and effects of climate change and these represent initial educational tools. The IAA initiative is intended to lead to further actuarial tools being developed to assist in combating the impact of climate change.

International Actions

EU Sustainable Finance Disclosure Regulation

The EU's Sustainable Finance Disclosure Regulation[45] (SFDR, (EU) 2019/2088) came into force on 19 December 2019 and phasing in commenced on 10 March 2021. The objective of the SFDR is to set out the duties of financial market participants with regards to integrating environmental, social, and governance (ESG) risks and disclosing information on this. The UK government has opted not to implement the SFDR into UK domestic law following the UK's post-EU Exit transition period. However, SFDR will most-likely still be relevant for UK firms either as a requirement under the regulation or in practical terms.

European Green Deal

The European Green Deal,[46] announced by the European Commission in December 2019, commits to the EU becoming climate-neutral by 2050, whilst promoting to help companies

[40] https://actuaries.org/iaa
[41] https://www.oecd.org/
[42] https://www.actuaries.org/IAA/Documents/COUNCIL/Meetings/2020_Brussels/06a_ProposedFinal_SOI_on_Climate_Risks_8March2020_clean.pdf
[43] https://www.actuaries.org/IAA/Documents/Publications/Papers/CRTF_ImportanceClimateRelatedRisksActuaries_FINAL.pdf
[44] https://www.actuaries.org/IAA/Documents/Publications/Papers/CRTF_Introduction_Climate_Scenarios.pdf
[45] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R2088
[46] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

to become world leaders in clean products and green technologies. It provides an action plan to boost the efficient use of resource by moving to a clean circular economy, and to restore biodiversity and cut pollution. The EU 2030 Climate Target Plan[47] and the EU Biodiversity Strategy for 2030[48] were both presented in 2020.

EIOPA issues Opinion on the supervision of the use of climate change risk scenarios in ORSA

In April 2021 the European Insurance and Occupational Pensions Authority (EIOPA) issued an Opinion on the supervision of the use of climate change scenarios in the Own Risk and Solvency Assessment[49] (ORSA) addressed to national supervisory authorities, which outlined expectations on the supervision of the integration of climate change risk scenarios by insurers in their ORSA.

In order to foster forward-looking management of climate change risks to ensure the long-term solvency and viability of the insurance industry, national supervisory authorities should expect insurers to integrate climate change risks in their system of governance, risk-management system, and ORSA, similar to all risks undertakings are or could be exposed to. In the ORSA insurers should do an assessment to identify material climate change risk exposures and subject the material exposures to a risk assessment. Climate change risks should be assessed not only in the short-term but also in the long-term using scenario analysis to inform the strategic planning and business strategy.

China's net zero goals

In September 2020 President Xi Jinping made a pledge to cut China's CO_2 emissions to net-zero by 2060.[50] As the world's largest single emitter of greenhouse gasses, this is an extremely important development and signifies the global momentum that is building. China's plan to meet these long-term targets is outlined in its 14th five-year plan (2021-2025).

US joins the Network of Central Banks and Supervisors for Greening the Financial System (NGFS)

The US Federal Reserve joined the NGFS[51] in December 2020, together with seven other new members: Central Bank of Paraguay, Financial Regulatory Authority of Egypt, Financial Services Authority of Indonesia, Central Bank of Iceland, Polish Financial Supervision Authority, Central Bank of Uruguay, and the European Securities and Markets Authority. The addition of these new members cements the NGFS's commitment to collective action on a global level.

The US joining the NGFS follows the executive actions[52] of President Joe Biden to rejoin the Paris Agreement[53] on climate change and the directing of his agencies to reverse a number of previous policy positions on environmental regulations and emissions standards. These actions are reflective of President Biden's broader plan to align climate goals with economic recovery.

47 https://ec.europa.eu/clima/policies/eu-climate-action/2030_ctp_en
48 https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en
49 https://www.eiopa.europa.eu/content/eiopa-issues-opinion-supervision-of-use-of-climate-change-risk-scenarios-orsa_en
50 https://www.carbonbrief.org/qa-what-does-chinas-14th-five-year-plan-mean-for-climate-change
51 https://www.ngfs.net/en/communique-de-presse/us-federal-reserve-joins-ngfs-and-two-new-publications-released
52 https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/27/fact-sheet-president-biden-takes-executive-actions-to-tackle-the-climate-crisis-at-home-and-abroad-create-jobs-and-restore-scientific-integrity-across-federal-government/
53 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement