Climate Change – A Guide for Life Insurance Actuaries

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Agenda

• Background: Why? What? Who?
• Regulatory development and disclosure
• Climate change and risk management
• Opportunities and Next steps
• Further reading
Background

Climate Change and Life Actuaries: Why?

Because you should do?
• Is climate change happening or likely to happen?
• Does it lead to financial uncertainty and risk?
• Could this be material over the short, medium or long term?

Because you must do?
• As an actuary: Institute and Faculty of Actuaries (IFOA) Risk Alert on Climate-Related Risks (IFOA, 2017).
  "Actuaries should ensure they understand, and are clear in communicating, the extent to which they have taken
  account of climate-related risks in any relevant decisions, calculations or advice."
• On behalf of an Insurer? What are the regulations that are or could impact them?

Because you can?
• What is possible in day to day actuarial work?
• What more can we do to progress knowledge and capability?
Climate Change and Life Actuaries: What?

So What Could Climate Change Do?

- Impacts of Climate Change potentially very material
- Some economic impact scenarios may be underestimating the compounding impact of physical effects
- Eg studies on 4 degrees warmer have shown
  - Large uninhabitable areas of world
  - 40m+ rises in sea level
  - Loss biodiversity eg 85%+ Amazon

1. Source: IPCC Fifth Assessment Report

Climate Change and Life Actuaries: What?

And what certainty is there about the effects?
Climate Change and Life Actuaries: What?

So what does the tell us about climate change? And how could it impact? The 2015 Bank of England report / Governors speech gives the following commonly accepted classification of the impacts of risk from climate change:

<table>
<thead>
<tr>
<th>Risk type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>First-order risks arising from weather-related events, such as floods and storms</td>
</tr>
<tr>
<td>Transition</td>
<td>Financial risks arising from the movement to a lower carbon producing economy, this would include the re-pricing of carbon-intensive assets.</td>
</tr>
<tr>
<td>Liability</td>
<td>Risks that could arise for insurance firms from parties who have suffered loss and damage from climate change, and seek to recover such losses from others</td>
</tr>
</tbody>
</table>

Climate Change and Life Actuaries: Who?

So is it relevant to your role?

<table>
<thead>
<tr>
<th>Impact Area</th>
<th>Actuarial Impacts / Areas of Work</th>
</tr>
</thead>
</table>
| Changes to investment performance from • direct climate impacts on specific assets, • regulation or restrictions leading to ‘stranded assets’, • investment opportunities in capital intensive climate change mitigation or transitions | Investment advice
Product design eg investment fund choices and disclosure |
| Changes and uncertainty around mortality and morbidity | Product design
Product pricing
Reserving
Capital Management |
| Changes to regulation | Risk governance
Risk reporting
Corporate level disclosures
Customer / distributor disclosures |
| Overall uncertainty around timing, magnitude and response to climate change | Risk governance
Strategic planning |
Regulatory development and disclosure: where are we today?

Even though the level of regulation explicitly and specifically related to climate change for life insurance actuaries and companies may be limited this is developing. In terms of the current status we can consider:

- **Explicit, Current Requirements**: for actuaries - IFOA Risk Alert. For firms - increasing explicit references to climate change in pensions law and regulation may have an impact for some product lines.

- **Implicit, Current Requirements**: since actuaries and firms have explicit obligations to assess financial and strategic risks as a whole, are they adequately including consideration of climate change risk? What are their implied obligations to disclose climate change related risk / approach as part of wider shareholder reporting or to customers?

- **Current recommended / best practice**: eg TCFD disclosures, wider best practice around (non) investment in coal related industries. Firms’ practice and disclosure here may be impacted by external lobbying.

...and regulators are engaged and focussed on climate change risk.
Evolving thinking is reflected in the latest PRA consultation

CP23/18 seeks views on a draft supervisory statement on banks and insurers’ approaches to managing the financial risks from climate change. There are four key areas of recommendation being consulted on:

- **Governance**: climate change should be part of governance including board level and with senior manager function (SMF) individual responsibilities
- **Risk Management**: firms should address the financial risks from climate change through their existing risk management framework
- **Scenario Analysis**: where proportionate firms should use scenario analysis to assess the impact of financial risks from climate change on their current business strategy
- **Disclosure**: The PRA expects that firms will develop and maintain an appropriate approach to disclosure of climate-related financial risks

*Responses by 15th January 2019!*

The latest FCA consultation is also of relevance to life insurers

DP18/8 seeks views on a draft supervisory statement on banks and insurers approaches to managing the financial risks from climate change. There are four key areas where the FCA raises questions and is seeking views:

- **Pensions**: proposing a single package of consultation for pensions in 2019 including climate change aspects
- **Innovation**: Enabling competition and market growth for green finance
- **Disclosures in Capital Markets**: consulting on the requirements for issuers of securities in regulated markets to make disclosures about climate change risk
- **Disclosure for financial services firms**: consulting on whether disclosure should be come a requirement, what should be included and for which firms

*Responses by 31st January 2019!*
How Else Might Insurance Regulators Develop Their Requirements?

- The International Association of Insurance Supervisors (IAIS) draft paper of March 2018 offers insight on potential supervisory approaches to climate-related risks. It covers both strategies insurers could use to be resilient to climate risks, and issues relevant to regulators interacting with firms on climate change.
- A survey across the regulatory bodies of the G20 highlights that many countries have developed policy and regulatory approaches towards climate change risks and, although these approaches vary between regulators, the underlying objectives are largely similar.
- The core objectives fundamental to regulators and the potential responses are summarised in the table below.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Implications of Climate Change</th>
<th>Potential Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvency and stability of insurance firms</td>
<td>Potential for physical and transition risks to pose risks for solvency of individual firms, stemming from underwriting and investment activities</td>
<td>Supervisory engagement to quantify potential financial risks associated with physical climate damages (i.e. underwriting liabilities)</td>
</tr>
<tr>
<td>Market conduct, consumer protection, access and affordability, conduct and compliance</td>
<td>Potential for climate change render assets uninsurable (redlining); transparency for consumers on climate change practices and strategies; delivering enabling conditions for insurance product development</td>
<td>Assessment of firm conduct on climate change issues, Supporting consumer awareness and literacy, Engagement with other policymaking bodies</td>
</tr>
<tr>
<td>Macroprudential stability</td>
<td>Potential for transition risks issues to pose systemic risks to the financial system and macro-economy</td>
<td>Assessments of exposure to high carbon assets risk, Alignment of investments with climate goals</td>
</tr>
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How is Practice Evolving on Disclosure?

- At an international level, the Financial Stability Board (FSB) has created the Task Force on Climate-related Financial Disclosures (TCFD).
- The TCFD’s goal is to promote voluntary, consistent, comparable, reliable and clear disclosures around climate-related financial risk.
- The TCFD sees access to better-quality information will allow market participants to better understand and manage these risks, and an early understanding can, in turn, help promote a smooth, orderly market transition to a lower carbon economy.
- The final report of the TCFD was released in June 2017. The report is not limited to life insurance companies and suggests financial disclosures that could be adopted across a wide range of industries, recognising that reporting will evolve over time.
- Supplemental guidance is issued at a more granular level, broadly categorised into financial and non-financial, with the financial sector further sub-categorised into banks, insurance companies, asset owners, and asset managers.

TCFD recommendations may be relevant both for life insurer’s own disclosures but also for the companies they invest in.
How is Practice Evolving on Disclosure?

- The TCFD report recommended a four-pillar approach to company disclosure around climate change, shown below:

<table>
<thead>
<tr>
<th>Governance</th>
<th>Strategy</th>
<th>Risk management</th>
<th>Metrics and Targets</th>
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<tr>
<td>Disclose the organisation’s governance around climate-related risks and opportunities</td>
<td>Disclose the actual and potential impacts of climate-related risks and opportunities on the strategy and financial planning of the business</td>
<td>Disclose how the organisation identifies, assesses, and manages climate-related risks</td>
<td>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities</td>
</tr>
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- The TCFD is also carrying out ongoing monitoring of actual levels and types of disclosures in company reports to see how this is evolving.

Climate Change and Risk Management
Risk management stages

The maturity of the risk management of Climate Change risks

- General Awareness / Identification
- Scenario Testing
- Strategic / Business Planning
- ORSA
- Capital Models and Pricing

What are we doing?
What can we do?

Risk identification and awareness

- Uncertain time horizon
- Irreversible
- Outcome uncertain
- Broad effects
- Dependent on actions
- Secondary effects

How do we understand the risks of Climate Change?
## Risk identification

Example: A simple risk framework to combine climate risk factors with common insurance framework risks

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## Risk identification

Example: Possible risks arising in our framework

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Scenario analysis

What are the key components (and considerations) of scenario planning?

- Multiple scenarios
- Physical and Transition
- Time horizons
- Shocks and Trends
- Internal and External sources
- Management Actions
- Limitations
- Links to risk factors
- Narratives not numbers

Development in risk management

Future developments

Strategic / Business Planning
ORSA
Capital Models and Pricing
Developing risk management

Applying ERM key principles

- Governance and framework
- Risk Management policy
- Risk tolerance statement
- Risk responsiveness

Enterprise Risk Management

Risks from climate change

- ORSA
- Economic capital
- Continuity analysis
- Role of supervision

Climate Models

Complex models exist, though not for actuarial purposes
Capital, Demographics, and Pricing

**Pillar 1**
Updates to standard formula

**Pillar 2**
Inclusion in ORSA scenarios

Climate Change capital

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Capital, Demographics, and Pricing

Risks and risk drivers

- Migration
- Temperature
- Funding
- Air Quality
- Mortality
- Longevity
- Morbidity
Capital, Demographics, and Pricing

- Capital Impacts
- Demographic Changes
- Other Factors

Best estimate pricing basis

Opportunities and Next Steps
Opportunities

- Investment strategy and capital projects
- New products and “Green Finance”
- Corporate Social Responsibility

Next steps

- Your role and climate change
- Your company and climate change
- Publications
- Risk framework
- Scenario analysis
- Internal working parties
Next steps

- Climate Change for Life Actuaries working party final paper
Further reading

FCA  PRA  IFoA  TCFD  IPCC

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