SICSIC ADVISORY
FINANCIAL SERVICES
RISK & REGULATION

Climate change financial risk

HOW AND WHY THE INSURANCE INDUSTRY SHOULD BE NAVIGATING THE RISKS OF A CHANGING CLIMATE

March 2021

INTRODUCTION

The COVID-19 pandemic has shown the deep turbulence caused by an unexpected global crisis on financial institutions and markets - and as a result on entire economies. In many ways, it has been a testing ground for the next seismic and unchartered shift that will be climate change - and it is no surprise to see climate risks now move up the priority list for financial leaders, governments, and regulators.

If the changes we faced in the wake of COVID-19 were "unprecedented," climate change will be a whole brave new world on top of that.

> ***Climate change will change everything - how we live, how we work, what we buy, how we structure society, how we interact in communities, how we travel, even what we eat. It will be a magnified version of what we've tasted during the pandemic, at an even more unpredictable pace. In addition to assess its potential impact on world economies, we need to assess its impact on individual firms.***

Climate change first started to appear on global financial governance radars over the last decade but quantifying its effect on financial services and organisations is still a relatively new and developing practice. While it is true that insurers have been modelling increasing losses due to weather-related affects for some time, changes in policy and economic drivers to meet low carbon transition are rather more difficult to predict.

These climate-related financial risks are complex because they can be interdependent - and can't be predicted based on historical losses or experience. The climate data and regulatory response to what is required to move whole economies to carbon neutral are also not set-in stone, and will continuously change as economies move forward. Models may produce interesting guidance, but they cannot be taken as gospel. For example, sudden and disruptive events may change perceptions in investor asset values and economic drivers – for instance due to increases in carbon emission prices. Changes in regulation may push advances in technologies that could also drive market shifts.

To recognise and understand the impact these changes will have requires organisations to invest in learning and upskill for new risk thinking. Firms need to use a risk management approach based on professional skill and knowledge, supported by evolving models.

With competing priorities, this may not be understood to be a current need. However, developing long-horizon risk modelling skills - and employee understanding of scenario analysis and portfolio management that takes climate change impact into account - is imperative. It is the only way to understand the physical impacts that are already happening, and navigate the transition, which is likely to be different across different sectors, locations and economies. Firms therefore should apply a clear and logical approach to start the process, deepening the practice and use of iterative learning, and adapting or building models and tools over time to maintain an advantage.

It will take interrogation, innovation, and imagination to scope, mitigate, and create these solutions. There is obviously a steep learning curve for financial organisations to get to grips with the ramifications of climate change on their businesses, and the Prudential Regulation Authority (PRA) believes insurance firms are already behind in their development of such practices.

> ***2021 is a key year to catch up - primarily because by the end of the year the regulator will require that climate change financial risks be part of risk management frameworks and end of year reporting.***
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> ***Secondly, because the UK will be under particular scrutiny as the host of the UN Climate Change Conference (COP26) in Glasgow this November. Our economic system, resilience and actions will be examined and there is an opportunity to shine on the world stage.***

Firms should already be preparing for year-end reports to detail how climate risk will impact the long-term financial interests of their business. That said, the report is just part of it. Firms should also be working diligently to enhance existing frameworks and procedures to ensure they are able to recognise and mitigate climate change financial risks as best as possible. It is important to recognise how decisions they make today will affect future financial risks, and their future as a company.

The good news is that the challenges of climate change will also bring with them opportunities - if firms are ready to spot them and capitalise on them with top performing products. Financial services will be key players in providing the backbone for green investments and a stable, resilient economy as the world transitions away from carbon heavy economies - and adapts to the evolving consequences of a changing climate.

We believe that climate change should be an integral part of firms' risk management frameworks with a clear impact assessment of each risk type (e.g. credit, insurance, market, etc).

TIMELINE AND KEY DOCUMENTS:

UK climate change financial risk

SEPTEMBER 2015
PRA report:
The impact of climate change on the UK insurance sector

OCTOBER 2018
PRA Consultation Paper 23/18
Enhancing banks' and insurers' approaches to managing the financial risks from climate change

APRIL 2019
PRA Policy Statement 11/19
Enhancing banks' and insurers' approaches to managing the financial risks from climate change

DECEMBER 2019
BoE Discussion Paper:
The 2021 biennial exploratory scenario on the financial risks from climate change

JUNE 2020
PRA Dear CEO Letter on
Insurance Stress Test 2019

JULY 2020
PRA Dear CEO Letter on
Managing climate-related financial risk

AUGUST 2020
Department for Work and Pensions consultation: *Taking action on climate risk: improving governance and reporting by occupational pension schemes*

NOVEMBER 2020
Interim report of the
UK's Joint Government-Regulator TCFD Taskforce

2021 Climate Biennial Exploratory Scenario (CBES) timelines, participants and planned programme announced

JUNE 2021
Bank of England to release CBES scenarios

SEPTEMBER 2021
CBES analysis submission due

NOVEMBER 2021
Climate Change COP 26 – Edinburgh

31 DECEMBER 2021
Climate Change financial risk to be embedded into Risk Management Framework

Q1 2022
Company ORSA and SFCR to now include climate change financial risks going forward

UNDERSTANDING CLIMATE RELATED RISKS

Climate risks as they affect insurance firms go way beyond preparing for a bit more flooding or a few more electric cars.

There are three main channels of risk to consider, physical risk, transition risk, and liability risk.

Physical risk	• Refers to the physical changes in the climate – including heat waves, wildfires, snowstorms, and rising sea levels • Can be acute, including fires, floods and blizzards, or chronic, such as rising global mean temperatures and increase in desertification • Could affect operations, investments, portfolios, product demand and supply, and risk appetites – direct impacts to financial services and potential general slowdown of the economy.
Transition risk	• Refers to the risks presented as economies transition to lower or zero carbon emissions - more indirect for financial services • Can be regulatory – for instance carbon taxes, or increased reporting requirements • Credit risk – poorly prepared firms could be overwhelmed by acute and chronic impacts, or lack the ability to respond to escalating regulatory demands • Underwriting risk and reputational impact – companies need to prove they are addressing these risks internally and considering their external impact on the planet and supporting the development of the low carbon economy.
Liability Risk	• Refers to the unknown and possibly high cost of dealing with losses or damage from physical or transition risk factors • These risks will vary, but the recent supreme court case for business interruption has shown the potential financial impact of covering major incidents, and the reputational impacts of not doing so • There will also be an increase in liability for directors and officers not properly managing or reporting climate risks.

Understanding these risks as they affect individual firms is only the first step. Next, organisations are expected to model those risks, put numbers on them, and put plans in place to mitigate them.

WHAT DO REGULATORS EXPECT IN 2021?

'The Bank's response to climate change is motivated by its statutory objectives. The first involves promoting safety and soundness by enhancing the PRA's approach to supervising the financial risks from climate change. The second involves enhancing the resilience of the UK financial system by supporting an orderly market transition to a low-carbon economy.'

Bank of England

There are three key actions that the Bank of England and the PRA are focusing on in 2021:

1. Climate change embedded into risk management framework
By the end of 2021, the PRA expects all insurers to have embedded climate change financial risk into their risk management framework.

2. Climate stress tests
The Bank of England requires chosen firms to complete Insurance Climate Biennial Stress tests (CBES). Firms should already be managing their data to respond the scenarios that will be released in June, with initial submissions due by September 2021.

3. Climate related financial disclosures
Based on the TCFD recommendations, the PRA is requiring firms to enhance their disclosure related to climate change across the spectrum of internal and external disclosure (ORSA, SFCR, Financial Report).

WHAT EXACTLY DO INSURANCE FIRMS NEED TO DO THIS YEAR?

FOUR PILLARS OF CLIMATE-RELATED FINANCIAL RISK MANAGEMENT

PRA recognise that embedding climate-related financial risk management is a journey for firms, and that there are significant gaps in data, tools, process and expertise. These gaps require firms to invest appropriate time and resources to close and enhance year on year. By the end of 2021, the expectation is for firms to be able to demonstrate progress and improvements in the following four areas.

There are four pillars of regulatory focus for firms to embed by the end of 2021. Firms are expected to have appropriately embedded the following processes which support identification, assessment and reporting of climate change impacts on risks and opportunities.

Risk management

Firms should ensure their risk frameworks support the identification and management of climate related risks and create processes that feed decision-meaningful data and MI back to leadership to support strategy.

Governance

Firms are required to have Board level oversight in managing climate-related risks and opportunities. Boards must review their risk appetite based on real data and insight, oversee the risk management framework and embedding of related processes across the business.

Scenario analysis

Firms are expected to use scenario analysis to understand what risks can affect their business. Firms should test themselves against risks material to their business, based on forward looking developments and with potential pathways based on climate science, government policy and developing litigation. Working through varied scenarios will help identify and quantify risk, enabling outcomes to translate into possible financial impacts that can then inform further analysis or discussion and strategy.

Disclosure

Information reported to investors, stakeholders and regulators should be meaningful and decision-useful, flagging the company's climate risk maturity, showing its workings, and giving confidence in its underwriting processes, investments, and future strategies.

CASE STUDIES – CLIMATE CHANGE RISK IN PRACTICE

Case study 1: Underwriting Risk Appetite and Reputational Impact

Lloyd's market released a policy to withdraw support from all new coal, oil sands and related activities from 1 January 2022, and is urging syndicates to follow a phased approach to stop underwriting these risks by 2030 to support the low carbon transition. It shows the momentum of environmental pressure - and syndicates will come under the same scrutiny and competition to achieve the stated milestones. Many large companies have renounced their support for coal operations, and some - like Zurich and Aviva - are going even further by heavily supporting development in renewables, investment in flood resilience and announcing commitments in decarbonising portfolios.

Liability ***Insurance risk***

Case study 2: Transition and Physical Risks in Investment Portfolios

A mid-sized life insurer has used climate data and long-term risk modelling to understand the credit risk exposure in their commercial investments backing their pension portfolio. They found they needed to increase the calibration for additional flooding and loss of value over decades based on flood models and temperature changes, as well as a plausible level of increase in cost of carbon emission costs causing credit defaults in their loans. This study has helped them revise their long-term investment strategy and taken them in a direction they wouldn't have found without it.

Assets ***Credit risk***

Case study 3: Litigation exposure in Underwriting

Legal investigations are happening to review the status of climate change risk in D&O insurance. At present, D&O is silent on climate change risk, but it's under debate whether it should be part of existing or new policies under wordings about Director's dishonest or intentional misconduct, misleading statements, and failure to take all precautionary measures to avoid or lessen the chance of a claim. Clarity is key – especially in the wake of the UK High Court ruling on business interruption. To navigate potential claims that would come from climate change risk across all lines of business, Chief Risk Officers, Chief Underwriters and in-house council are taking note, making sure they understand the risk horizon, and adjusting underwriting footprint and guidance now.

Liability ***Insurance risk***

TEN KEY ACTIONS FOR CLIMATE CHANGE FINANCIAL RISK MANAGEMENT

1. Assess firm maturity on climate risk through gap analysis
2. Board awareness & culture change programme
3. Seek company-wide collaboration on identification of climate change impacts – all areas should be informed and risks profiled
4. Set up and calibrate climate scenarios in line with the management anticipations of business impact
5. Enhance risk frameworks to include climate-related financial risk management
6. Board to update risk appetite taking into account climate stress
7. Collect MI and external data to inform annual climate risk review
8. Link metrics to business goals and appetite, with a view to create transparent disclosure and reporting
9. Focus on top risk priorities defined by materiality and proportionate to the business
10. Scope and build into RM framework to capture new opportunities.

HOW CAN SICSIC ADVISORY HELP?

We have developed an approach to integrate the impact of climate change into insurers' existing risk management framework covering the four dimensions: governance, risk management, scenario analysis and disclosure.

Sicsic Advisory partnered with Elseware to bring a climate change scenario model to the market to assess the impact on assets and liabilities, capturing transition and physical risk. Already implemented by several financial institutions, this approach supports setting strategy, regulatory reporting, stress tests and external disclosure.

We support insurers to increase their climate capability and confidence with health-check diagnostics, tailored advice and guidance on data collection, quantification and regulatory expectation, best-practice modelling and mentoring for Leadership and Boards.

We can help organisations at any stage of the journey:

Readiness review	• Gap analysis • Modelling and aggregation • Risk management framework and governance
Risk management framework and governance	• Strong risk management and governance framework with decision useful information • Build extremal confidence with investors and stakeholders
Stress test and scenario analysis	• Designing short- and long-term scenarios tailored to individual businesses • Scoping financial impacts • Mapping to organisational goals • Supporting integration into existing ERM frameworks
Reporting and disclosure	• Understanding stakeholder and regulator demands • Supporting knowledge-building • Creating reporting documentation
Portfolio and underwriting management	• Appetite and governance support • Client information development: underwriting, investment and claims
Integration support	• Leadership mentoring • Employee engagement & culture, training and communications

Elseware

Sicsic Advisory and Elseware are bringing together the collective industry and regulatory experience around risk management, risk modelling and regulatory change – gained across banking and insurance sectors.

Elseware are specialized in risk modelling and quantification. Elseware analyses and assess operational risk scenarios using a structured method and a simulation software (MSTAR). This method is used by leading financial institutions for regulatory (CCAR, ICAAP) and non-regulatory applications (KRI, risk management). This method is now applicable for Climate-related Financial Disclosures (TCFD) and stress test and scenario analysis.

elseware RISK MANAGEMENT AND QUANTIFICATION EXPERTS

Michael Sicsic *Managing Director*
Senior executive in the field of risk and regulation in the financial services sector with a deep understanding of business models and products across the insurance sector with a focus on operation and risk management. Michael spent four years at the FCA as Head of Supervision for General Insurance Retail Sector.
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Kelly Coombes *Climate Change Lead*
Kelly Coombes is a climate risk consultant focusing on the management of financial risks from climate change. She combines over 15 years' experience in the insurance sector as a broker, underwriter, and insurance product manager at the international level together with her work and study of environmental damage, sustainability, and climate change impacts.
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Hugh Savill *Senior Advisor*
Extensive knowledge of the regulatory landscape and comprehensive understanding of the evolution of the insurance sector. His 17-year tenure as Director of Regulation at the Association of British Insurers (ABI) enables Hugh to uniquely provide clients with detailed and balanced insight of both market best practice and regulatory demands of reporting expectations.
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Martin Jarman *Senior Consultant*
Martin has extensive experience with various roles at the Senior Enterprise Risk Management level. He has in-depth understanding of capital allocation and modelling with an excellent track record in leading strategic change through implementing integrated ERM frameworks. Martin has both insurance and broad market experience to bring to clients.
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Patrick Naim *Risk Modelling and Quantification Expert*
Patrick and Elseware are recognised experts in risk modelling and quantification with key experience in climate change risk. Patrick's methods focus on forward looking modelling and combining data and expert judgment. Patrick is the CEO of Elseware, designer of the award winning MSTAR tool and platform implementing the XOI methodology.
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