



SINGAPORE
ACTUARIAL
SOCIETY

Opening Address for the ERM Session
Actuaries and Climate Risk
SAS Superweek 2020 | 27th November

Paul Wee
Chair ERM Committee

SINGAPORE ACTUARIAL SOCIETY

SUPER WEEK | 23 - 27 NOV 2020

BRAVE NEW NORMAL



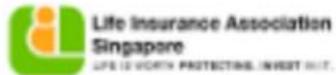
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Three C's (COVID, Cyber, Climate Risk)

- 2020 has been a tough year disrupting how we work, affecting our businesses as we now live and work in a new normal.

Three main areas:

- COVID/Pandemic
 - Cyber Risk
 - Climate Risk
- We need to think in terms of these common themes
 - Capital, solvency impacts and stress testing
 - Collaboration among ourselves and thought leadership
 - Competition and how to survive in the economy with a competitive edge



DAY 05: 27 NOV 2020

ENTERPRISE RISK MANAGEMENT CONFERENCE

- | | |
|---------|--|
| 10.00am | Welcome and Introduction to ERM Session
Actuaries and Climate Risk
Paul Wee, Swiss Re |
| 10.20am | Risks Associated with Autonomous Vehicles
Abdallah Zabian, DXC |
| 11.00am | Break |
| 11.10am | Government Support for SMEs in Response to COVID-19:
Theoretical Model Using Wang Transform
Goh Jing Rong, Risk Lighthouse |
| 11.50am | Climate Change Index
Davy Dao, Deloitte |
| 12.30pm | Lunch |
| 1.30pm | Epidemic Risk Insurance:
Challenges, Products and Market Development
Dr Gunther Kraut, Munich Re |
| 2.10pm | Sustainability Risk Management
Bruno Vial, Wagram Consulting |
| 2.50pm | Break |
| 3.00pm | Pro-Cyclicality Beyond Business Cycles:
The Case of Risk Measures
Marie Kratz, ESSEC |
| 3.40pm | Silence is not Golden:
Cyber Creates a New Normal for Risk Insurers
Matt Harrison, RMS |
| 4.20pm | Break |
| 4.30pm | Silent Cyber
Jamie Pocock, Guy Carpenter |
| 5.10pm | Conquering Cyber Risk
Bethany Vohlers, AIR |
| 5.50pm | Closing |

Actuaries and Climate Risk

- Actuarial Science, Data Science and now Climate Science
- Why do we need to be interested in Climate Risk?
 - Disruption to our business and lives
 - Understand protection gaps and opportunities
 - Part of broader requirements (e.g TCFD)
- What is the link among these sciences?
 - Data is needed or used extensively, and will benefit the analysis
 - Uncertainty as a problem statement, and having tools to address uncertainty
 - Interlinked and dependent

Recent Consultation Paper on Climate Risk

- Consultation Paper “Application Paper on Supervision of Climate-related Risks in the Insurance Sector”
 - Jointly released for consultation on 13 October 2020 by the International Association of International supervisors (IAIS) and the Sustainable Insurance forum (SIF).
 - Links to earlier papers by the IAA on Climate Risks and Stress Tests.
- Key messages
 - Remind that climate risk is addressed under ICPs 14, 17, 19, 24.
 - Embedding climate risk in governance and for Actuarial Functions to take climate risk into account, among all control functions.
- Ongoing consultation open until the 4th December to the IAA.

Embedding Climate Risk in Actuarial Processes

- Following on from the application paper and IAA papers on climate risk.
- Embedding has to be linked to the company-wide efforts.
 - Example, work with underwriters to know clients to identify as part of the transition effects.
- Adopting a “Building Block” approach before jumping into stress tests
 - Possible groupings are: Awareness, Data and Tools & Methodologies
 - Awareness – Understanding the landscape and regulations
 - Data – Understanding the ways climate information is used in actuarial work
 - Tools & Methodologies – Various means to model and understand qualitatively and quantitatively climate risk impacts in typical actuarial work.
- Climate change indexes are useful part of data and quantification, allowing to understand historical trends.

Stress Tests for Climate Risks

- Regulatory direction for insurers to address climate risk, including the quantitative aspects.
- MAS IWST due in 2021 covering climate risks, and need to identify climate pathways and related changes to exposures and impact to the portfolio by 2030.
- Adopting a “Building Block” approach towards the climate science
 - Details of the Representative Concentration Pathways (High/Medium/Low)
 - How to translate RCPs into economic and then to insured losses
 - Visibility on all climate related disclosures
- Physical acute is commonly done. Chronic, transition and liability risks need to be researched with academic community and specialist modellers.

What is Next with the SAS ERM Committee

- Afternoon Forums / Webinars
- Climate Risk Training session with school
- Cyber Panel Discussion session
- SAS Climate Risk Index
- Joint sessions SAS-ESSEC CREAR
- Internship and Call for volunteers

Any Questions

