CERA Global Risk Conference 2021
from 14 to 17 June 2021

Event Programme

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Welcome to the CERA Global Risk Conference 2021

Nick Dumbreck – Chair, CERA Global Association

I am delighted to invite you to attend the CERA Global Risk Conference 2021, taking place online over four days from Monday 14 to Thursday 17 June. The organising committee has arranged an impressive programme covering a wide spectrum of risk management topics, to be presented by a range of distinguished speakers. The programme comprises both live and on-demand presentations, all of which will also be available on actuview after the event. And it's free to all participants.

We hope this will be the first of many such conferences, and will welcome your feedback on both the format and the content to help shape future events.

I would like to add my personal thanks to the organising committee, to the speakers, to our sponsors and to everyone else who has helped to make this event possible.

Enjoy the conference!

Nick Dumbreck

Chair, CERA Global Association

About CERA

CERA is a global risk management credential for actuaries, currently offered by 23 actuarial associations worldwide based on a common syllabus. The CERA credential provides risk professionals with strong ERM knowledge that drives better business decisions applied in finance, insurance and well beyond. Professional ,ethical and trusted, with impeccable standards and integrity, a professional with the CERA credential is able to communicate effectively ideas with leadership and is qualified to play varying roles within an organisation.

Learn more about the credential: ceraglobal.org/cera-credential/what-is-cera/

Thank you to our contributors and sponsors

Conference organising committee

- **Ron Hersmis, Chair** Het Actuarieel Genootschap
- **Yvonne Lynch** Society of Actuaries in Ireland
- **Fred Rowley** Actuaries Institute (Australia)
- **Martin Oymanns** actuview
- **Thomas Evans** CERA Global Association

Additional thanks

- CGA Treaty Board members and associations
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Monday 14 June

Live presentations

Time (BST)	Session title	Presenter(s)	Category	Q&A	
09.00	Welcome to the CERA Global Risk Conference 2021	Nick Dumbreck	General	No	
09:15	Actuaries and Operational Risk Management	Malcolm Kemp	Operational Risk Management	Yes	View details ▶
14:00	Sounding the alarm without sounding like an alarmist: epidemiological modelling in early days of a pandemic	Prabhdeep Singh	Pandemic Risk	Yes	View details ▶

On demand presentations

Watch ▶	Impact of Covid-19 in the Insurance Sector	Hugo Gonzalez	Covid-19	No	View details ▶
Watch ▶	Sequencing risk models to answer complex questions	Brandon Katz, Dave Evans and Leighton Hunley	Climate / Mortgage Risk	No	View details ▶
Watch ▶	Decentralized Insurance and Risk Sharing	Runhuan Feng	Insurance	No	View details ▶
Watch ▶	What Cyber risk looks like for different organisations, especially insurers	Yakir Golan	Cyber Risk	No	View details ▶

Please note that the programme may change at short notice

Tuesday 15 June

Live presentations

Time (BST)	Session title	Presenter(s)	Category	Q&A	
09.00	Engaging with climate related risk	Neil Cantle and Amy Nicholson	Climate Risk	No	View details ▶
14.00	Looking at COVID 19 from a different perspective	Kees van Heugten, Servaas Houben and Rob Smit	Pandemic Risk	Yes	View details ▶

On demand presentations

Watch ▶	Merton – KMV Model: Implementation for Listed Indian Firms	Vardhan Chheda and Kumar Sudheer Raj	Credit Risk	No	View details ▶
Watch ▶	Measuring and Monitoring Climate Change Risks	Matthew Bett, Wendy Kriz and Cherry Chan	Climate Risk	No	View details ▶
Watch ▶	To come	Alpesh Patel	Operational Risk	No	View details ▶
Watch ▶	To come	Shoichi Yokota	Exchange Traded Funds	No	View details ▶

Please note that the programme may change at short notice

Wednesday 16 June

Live presentations

Time (BST)	Session title	Presenter(s)	Category	Q&A	
08.00	Risk Management Practices during a Pandemic	Doune Connett and Deniz Sumengen	Covid and Risk Learnings 2020	Yes	View details ▶
14.00	Cyber Actuarial 101	Justyna Pikinska and Conrad Williams	Cyber Risk	Yes	View details ▶

On demand presentations

Watch ▶	Go Broader	Tim Gorst and Elizabeth Baker	Non-Financial Risk Management	No	View details ▶
Watch ▶	Dutch disability; trends and risks	Han Hubers	Disability Insurance	No	View details ▶
Watch ▶	Voting paradoxes for pension funds	Matthew Glass	Pension Risk	No	View details ▶
Watch ▶	To come	Alpesh Patel	Capital Allocation	No	View details ▶

Please note that the programme may change at short notice

Thursday 17 June

Live presentations

Time (BST)	Session title	Presenter(s)	Category	Q&A	
09.00	Fee for no service	Tim Gorst	Non-Financial RM	Yes	View details ▶
	Deep Learning	Ronald Richman	Deep Learning	Yes	View details ▶
14.00	KEYNOTE: The evolution of Cyber risk and how other insurances can benefit from the innovations in Cyber risk assessment	Visesh Gosrani	Cyber Risk	Yes	View details ▶
	Creating risk indicators	Stéphane Loisel	Risk Indicators	Yes	View details ▶
	TBC	RGA Re	TBC	Yes	View details ▶
17.00	Steering Risk and Capital through International Waters	Ophelia Engelhardt-Funke	Economic Capital	Yes	View details ▶
	What to do (and not) when 'risk' communication sounds like 'mis' communication	Caroline Grégoire and Eberhard Müller	Communication	Yes	View details ▶

Please note that the programme may change at short notice

Actuaries and Operational Risk Management

Malcolm Kemp

Malcolm Kemp is a leading expert in risk and quantitative finance, with over 35 years' experience in the financial services industry.
He is the chairperson of the Actuarial Association of Europe's Risk Management Committee, a Fellow of the Institute and Faculty of Actuaries, a Chartered Enterprise Risk Actuary, a member of the Advisory Scientific Committee of the European Systemic Risk Board and Managing Director of Nematrian Limited. His career has also included being an Associate in Barnett Waddingham's life insurance consulting practice, Head of Quantitative Research at Threadneedle Asset Management, the Chief Actuary of Threadneedle Pensions Limited and a partner in Bacon & Woodrow's investment consultancy practice.

Malcolm teaches a course in Enterprise Risk Management at Imperial College Business School, London. He has written three book on quantitative finance and has authored or co-authored many papers on a variety of actuarial topics, particularly ones focusing on risk management. Recent papers he has co-authored include ones on the Solvency II Risk Margin and on Actuaries and Operational Risk Management.

The aim of the presentation is to explore the skills and techniques actuaries can bring to operational risk management. The presentation would principally refer to material outlined in the AAE discussion paper "Actuaries and Operational Risk Management" published in January 2021 (of which I was a co-author), but would expand where relevant with other perspectives. It would explore how operational risk typically fits into insurers' own risk and solvency assessments and pension funds' own risk assessments. It would also explore ways of capturing the wisdom of experts, quantitative techniques commonly applied to operational risk measurement and management, stress testing disciplines, how best to cope with limited data and how best to set operational risk appetite and limits.

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Sounding the alarm without sounding like an alarmist: epidemiological modelling in early days of a pandemic

Prabhdeep Singh

Prabhdeep Singh is a Fellow of Society of Actuaries, Chartered Enterprise Risk Analyst, and a Member of the American Academy of Actuaries. He most recently led the inforce modelling team for Life and Annuity products at Guardian Life Insurance Company of America. He was responsible for the development of insurance scenarios for the Life and Annuity products, in addition to regular reporting and analysis of Cash Flow Testing, Economic Capital, ALM, and Embedded Value. For insurance scenarios, he developed stochastic mortality scenarios, stochastic pandemic scenarios and stochastic lapse scenarios. He expanded the pandemic scenario capability to include COVID-19, allowing the company to properly reflect COVID-19's impact on Economic Capital.

I will talk about how to build an epidemiological model for an ongoing pandemic when there are many unknowns and get buy-in for the results. Modelling considerations will include:

- basics of epidemiological modelling
- enhancing tools available in R for COVID-19 modelling
- incorporating COVID-19 modelling into existing pandemic modelling
- relying on data and scientific research in early weeks of a pandemic
- capturing uncertainty in assumptions
- generating stochastic scenarios
- communicating results
- understanding the politics and news cycle impact on management views
- defining boundaries of what is known and what is not known as tool for communication.

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Impact of Covid-19 in the Insurance Sector

Hugo Gonzalez

Hugo Gonzalez has been a CERA since 2019. Chief Technical For Motor Business in CASER, previously in AXA Group has been Director of Life, Savings and Health of International and New Markets (2 years), Chief Risk Officer of AXA Mexico (4 years), Chief Actuary P&C and Health at AXA Spain (6 years). Associated professor in Universidad Autónoma de Madrid from 1997 70 2004 lecturing Financial Mathematics, Investments and in Alcalá de Henares University from 2004-2013 lecturing in Actuarial Mathematics I and II, Actuarial Modelling and Pensions Plans. Previously worked as consultant in different companies as Towers Perrin-Tillinghast (2 years) or CGAA consultants (8 years). Bachelor in Business Management by the Autónoma University of Madrid and Bachelor in Actuarial Science by the Alcala de Henares University. Professor in several masters and specialized programs (EOI, ICEA, CIFF, etc.). Fellow of the Spanish Actuarial Institute and member of his Board of Management (General Secretary since January 2013 to 2015). Has collaborated and still collaborate with public organizations as the Spanish Bank, Insurance Supervisor, the Iberoamerican Social Security Organization, etc. for the development of research and education programs.

For more than a year, the world has lived through a situation of pandemic in which there have been impacts on all spheres of life and economics. The world of insurance is not alien to this situation and has also suffered the impact, in some cases very deeply. In the presentation, we will talk about how the situation has affected the different lines of business at different levels; in commercial activity, in severity, on underwriting and, of course, at the level of control and assessment of risks. Not only will it focus on what has happened during the pandemic period but also on what is the possible future impact given first the consequences suffered and second the foreseeable change in habits, behaviours, coverages, etc. in insurance. We will try to discern what the possible strategies of the different actors in the market can be facing this new framework. The analysis will group around the main LoBs of insurance; Auto, health, life, disease, household and commercial, since the impact has been unequal among them, therefore also facing different situations that are worth analysing individually.

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Sequencing risk models to answer complex questions

Dave Evans, Leighton Hunley and Brandon Katz

Dave Evans is a Consulting Actuary in the Milliman - San Francisco practice with ten years of experience in property insurance. He is an expert in pricing and exposure management for catastrophe-exposed property insurance. Dave has helped clients validate and leverage catastrophe models for insurance and other risk analyses. At Milliman, he specializes in property risk analyses related to flood, hurricane wind, and climate change. Dave has helped insurers and reinsurers implement state of the art private flood programs, and has worked extensively with state regulators to encourage the private flood market

Leighton Hunley is a Senior Financial Consultant with the Milwaukee office of Milliman. He joined the firm in 2002. Leighton's areas of expertise include credit risk consulting, mortgage insurance, credit insurance, and mortgage market analytics. He has performed work and taken the lead on projects for mortgage insurers, reinsurers, top mortgage lenders including credit unions, and government agencies. Leighton also has experience working on projects involving student and auto loan lending, reserve evaluations, rate analyses, and financial modelling. Recently, he has managed the development of business intelligence reporting through data visualizations for clients.

Brandon Katz specializes in engineering natural catastrophe risk models for a wide range of clients including those from the insurance/financial industries and government. He is currently involved in developing and deploying probabilistic flood models and risk maps.

Previous to KatRisk, Brandon spent 5 years working for Risk Management Solutions (RMS) within the model development department where he contributed to several flood related projects. Upon leaving RMS, Brandon then spent 3 years working for the reinsurance brokerage arm of Jardine Lloyd Thompson (JLT Re) where he led the research and development team in all flood related projects. He joined KatRisk in 2016.

The risk posed by catastrophic events to mortgages, now and under future climate states, is a topic of increasing interest. Measuring this risk is complex, as it is an emerging risk with little direct historical experience. In this session, we will provide risk management professionals with an understanding of how the emerging climate risks to long-term assets such as residential real estate and mortgages can be modelled. Our session will focus on flood risk, evaluate how to model the increased costs of flood damages and flood insurance, and how to incorporate these costs into complex models used in the residential mortgage industry today.

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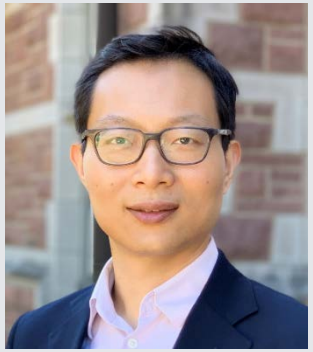
Decentralized Insurance and Risk Sharing

Runhuan Feng



Runhuan Feng is a Professor of Mathematics, Statistics, Industrial and Enterprise Systems Engineering. He is currently the Chair of Education and Research Section Council of the Society of Actuaries. He is a Fellow of the Society of Actuaries and a Chartered Enterprise Risk Analyst. He serves as an independent consultant to many external organizations and provides expert testimonies to law firms for public policy assessment and actuarial analysis. His consulting work has been used by Illinois General Assembly for pension-related legislative proposals.

As an applied scientist, Runhuan strongly believes that most interesting research problems are discovered in response to the changing needs of the industry and the society. He co-founded the Illinois Risk Lab, which facilitates research activities that integrate experiential learning for Illinois students and address industrial problems. Runhuan's research has been recognized in the practitioners' community through his applied technical contributions and presentations as invited speakers at industry conferences. He is a frequent consultant to professional organizations, non-profit organizations and start-ups.

Decentralized business models are increasingly common around the world with the rise of sharing economy. In contrast with the classic server-client model where service is provided only by a central authority, new decentralized models allow peers to act as both servers and clients on an as-needed basis and interact directly with each other. It has often been argued that decentralized business models are more cost-efficient, democratically inclusive, and responsive to consumer demands than classic centralized models. While insurance is no exception to the decentralization movement, it is not well understood in the literature how decentralization is used to re-shape the mechanism of risk pooling, which is quintessential to insurance business. In this work, we examine various forms of decentralized insurance arising from industry practice, including mutual aid from China, P2P insurance from the West, and takaful from the Middle East, and develops a quantitative framework in which they are placed on a spectrum of decentralization. As a result, optimal risk pooling strategies are analysed in effort to understand participants' rational economic behaviours.

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What Cyber risk looks like for different organisations, especially insurers

Yakir Golan

Yakir Golan is CEO and co-founder of Kovrr. He started his career in the Israeli Intelligence Forces. Following his military service, he acquired multidisciplinary experience in the Israeli and global tech markets.

For the past few years, he has been focused on bringing cyber risk management solutions based on advanced machine learning and artificial intelligence to the market.

Yakir holds a BSc in Electrical Engineering from the Technion, Israel Institute of Technology, and an MBA from IE Business School, Madrid, Spain.

Synopsis to come

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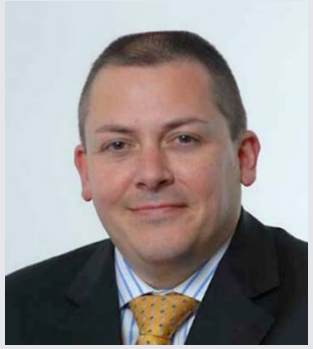
Engaging with climate related risk

Neil Cantle and Amy Nicholson



Neil Cantle is a Principal and consulting actuary working in the Life and Financial Services practice in the London office of Milliman and is one of the leaders of the London office. Neil is a recognised thought leader in risk management and is a past Chair of the IFoA Risk Management Board. He is currently a member of the Actuaries for Transformational Change group and IFoA's FinSTIC group.

Amy Nicholson is a consultant within Milliman with a range of experience within the life insurance industry in the UK. Amy has worked on various climate-related projects and has authored a number of publications on the topic of climate risk, including ESG considerations for the life insurance industry, climate change and the Prudent Person Principle, and various summaries of regulatory and industry climate change guidance. Amy's wider experience includes a range of actuarial work covering cross-border insurance transactions, rationalisation and restructuring programmes, risk management, recovery and resolution planning and other consultancy work.

A lot of firms are starting to grapple with the reality of needing to put in place their climate related risk frameworks and embed them into their business. It is tempting to treat the project as one of regulatory compliance but there is rapidly becoming a point of difference, with customers and staff asking companies what their ambition is across a much wider range of dimensions.

This session offers some practical insights into how you can articulate your ambition and then engage and mobilise your organisation to ensure that you not only meet the requirements set out by the regulators (including Supervisory Statement 3/19) but do so in a manner that sets you on the path to delivering your overall ambition. In particular, we will provide insights on how to frame the approach to managing climate related risk by considering the impact of climate change on your organisation through four key lenses:

- The financial risks posed by climate change;
- Alignment of investments and product offerings with your climate ambition;
- Driving influence through supplier management; and
- Assessing the carbon footprint of your operations.

In addition to the above, this session will provide an in-depth consideration of the assessment of financial risks posed by climate change to an organisation, including providing practical steps for quantifying the risk and how to embed this within traditional risk management approaches.

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Looking at COVID 19 from a different perspective

Kees van Heugten, Servaas Houben and Rob Smit

Kees van Heugten is a qualified actuary and mathematician with more than 25 years of experience at insurance companies and pension funds. His expertise lies in the field of (actuarial) modelling, reporting and risk management. In 2019 Kees graduated as a Certified Enterprise Risk Actuary (CERA). Kees is a member of the Royal Actuarial Society and the Royal Mathematical Society of the Netherlands.

Servaas Houben studied econometrics in the Netherlands and worked there for the first 4 years of his career. Thereafter Servaas worked in Dublin, London, and Curacao. Besides actuarial, Servaas completed the CFA and FRM qualifications. Servaas writes regularly for his blog (https://actuaryabroad.wordpress.com/), CFA digest, and actuarial magazines.

Rob Smit is a qualified actuary and has more than 20 years experience in the field of pricing models and reserving techniques. For five years Rob is the owner of restaurant RoberTine in the historical centre of Lisbon, Portugal. Rob got inspired by Covid-19 to understand more about the virus, even after being forced to close his restaurant temporarily due to the strict conditions towards tourism in Lisbon.

Synopsis to come

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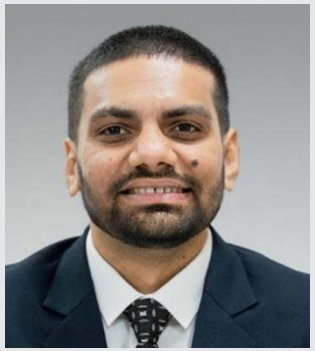
Merton – KMV Model: Implementation for Listed Indian Firms

Vardhan Chheda and Kumar Sudheer Raj



Vardhan Chheda is a consultant with KPMG and an Associate member of the Institute and Faculty of Actuaries and the Institute of Actuaries of India. He has almost 4 years of experience in the non-life insurance and risk space in India, North America and the Middle East. He has experience with stochastic & predictive modelling, risk quantification, IFRS 17 and valuation.

Kumar Sudheer Raj is a faculty in Actuarial Science area at Institute of Insurance & Risk Management (IIRM) based in India.
He has more than ten years of experience in both academics & corporate. He teaches Actuarial Mathematics & Mathematical finance subject to the post-graduate students. At present he is involved in a research project in Infrastructure Finance with IFoA London.

Objective-Credit Risk measurement is an area of great and renewed interest for both academicians and practitioners. Credit Risk modelling for Indian companies is quite topical given the heightened focus including recent guidelines issued by the Central Bank, Reserve Bank of India (RBI) to tighten the norms of NBFCs and the default by Infrastructure Leasing and Financial Services Ltd (ILFS) in 2018. Conducting a credit risk analysis in India is a challenging due to unavailability of the data. The purpose here is to conduct a Quantitative Analysis of the Credit Risk affecting companies in the different sectors in India using Merton-KMV and Altman Z Score Model. We further confirm that the financial metrics (Finance Cost, PAT & Cash) of the firm is largely impacted affecting the credit risk of the firm.

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Measuring and Monitoring Climate Change Risks

Matthew Bett, Cherry Chan and Wendy Kriz

Matt Bett is a senior consulting actuary within the Barnett Waddingham (BW) Insurance Consulting team, providing advice and services to non-life insurance clients. Matt specialises in capital modelling and internal model validation, having previously worked hands-on within a Lloyd's managing agent's capital modelling team. Matt created and developed the BW ClimaRisk tool to help integrate climate change risk management into GI insurers' decisions. He is experienced in exposure management and integrating climate change risk validation into business-as-usual internal model processes.

Cherry Chan is a member of the IFoA council and she acts as Actuarial Function Holder to a number of clients. One of Cherry's main areas of expertise is helping our clients on all aspects of Solvency II regulatory compliance, helping clients understand their risk potential, conducting stress and scenario testing and maximising their capital efficiency. Cherry works with clients on climate change through their ORSA processes and wider thought leadership. Cherry is a member of a number of member-led groups, including being the Chair of the London Market Actuaries Group, and a member of the GI Research and Thought Leadership Committee, amongst others.

Wendy Kriz has 20 years of general insurance actuarial experience in consultancy, company market and Lloyd's. Wendy is BW's GI climate change expert and is a member of the IFoA Sustainability Board. Wendy's experience extends to all areas of actuarial work including pricing, capital modelling and reserving. She is a model validation expert and passionate about good documentation. Wendy designed and conducted a survey on GI actuary's work on climate change, using the results to co-author a report: 'Climate Change: How are (re)insurance actuaries facing the challenges ahead?'.

In this talk we explore how insurers can measure and monitor their climate change risk. We outline assessing exposures in a structured way and integrating risk monitoring into business-as-usual processes.

Many insurers already struggle with having too many risk metrics to actively monitor and embed into business decisions. We discuss using climate change risk as an opportunity to optimise risk monitoring, encouraging increased engagement from the board and the wider business.

The measurement of climate change risk from an insurer's perspective is also a key challenge. To supplement the common method of scenario analysis, we propose a rating-factor driven approach that incorporates relativities by line of business, industry and geography. This approach relies on expert judgement and demands early engagement with the wider business, making it embedded by design. Intuitive and trackable "climate change risk scores" indicate the level of exposure and key risk drivers. Swarm intelligence can also be used to help parameterise the approach.

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Risk Management Practices during a Pandemic

Doune Connett and Deniz Sumengen

Doune Connett is the Chief Risk Officer at AIA NZ, a role which she has held for the last four years. Doune is a Fellow of the NZSA and has over 35 years of industry experience working in a variety of actuarial roles including Appointed Actuary, product pricing, product rationalisation and financial reporting, as well as her current role in risk management.

Deniz Sumengen is the Head of Financial Risk at AIA NZ. She is a Fellow of the UK Institute and Faculty of Actuaries (2006) and the NZSA (2019). She has over 20 years of actuarial experience, specialising in risk and capital management areas. Before moving to NZ, she has worked in senior risk management roles within the CRO teams of UK insurers.

The COVID-19 pandemic triggered the perfect storm for insurers with not much of a precedent to reference from - Spanish Flu would be the closest match which was from the beginning of the 20th century. It has had far-reaching effects on many lives, businesses, and economies worldwide and continues to do so. From day one, the risk environment has been changing and shaping for insurers as the scientific understanding of the COVID-19 virus evolves, the development of medical responses (e.g. vaccinations) and the funding and response strategies by different governments around the world.

This presentation is intended as a pandemic risk profile review for an insurer in New Zealand (life, GI or health) which will be outlining the main uncertainties and risks being introduced as a result of the pandemic, the immediate and emerging adverse effects (e.g. financial losses from insurance policies) and an outline of potential response strategies for the management to consider.

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Cyber Actuarial 101

Justyna Pikinska and Conrad Williams

Justyna Pikinska is the Head of Analytics at Gallagher Re, leading a team to help drive growth across different classes and support the entry of new reinsurance carriers to the market. She joined the original Capsicum Re business in 2016 to build a best-in-class proposition for analytics services offering practical, bespoke and value-add solutions. Since then Justyna has developed a variety of bespoke internal models. Justyna is also responsible for managing relationships with actuarial teams at international insurers to develop pricing tools, rating methodologies and underwriting guidelines, providing them with the technical capability to underwrite various risks, as well as relationships with external modelling firms, to assist them in the development of accumulation models and the creation of different realistic disaster scenarios (RDS). Prior to joining Gallagher's reinsurance business, Justyna spent seven years at Axis Insurance working across risk management and capital modelling, reserving and pricing.

Conrad Williams joined Gallagher Re in September 2017 after graduating with a Doctorate of Philosophy in Cyber, and has recently qualified as an Actuary. Since joining the Cyber Analytics Team, he has deployed his knowledge and expertise to increase the level of service offered to clients. He has been involved in all aspects of Gallagher Re's Cyber analytics offering, including deep dives into the various Cyber Vendor Models, RDS Scenario development and the assessment of Non-Affirmative Cyber risk. In addition he has led the development of Gallagher Re's bespoke Ransomware model 'Gh0st' and is working a number of cloud outage scenarios. He also has a keen interest in developing Cyber ILS offerings and bringing third party capital into the Cyber space in a meaningful way.

This talk provides a bird's-eye view of the Cyber (Re)insurance market, providing an introduction into actuarial techniques around pricing, loss trends, reserving and accumulation modelling.

We explore a number of underlying factors driving the hardening of the Cyber market, including an increase in ransomware claims, a deterioration of overall loss ratios and tighter scrutiny from regulators around capital and tail risk.

Also discussed are offsetting factors such as favourable risk-adjusted rate change, corrective underwriting actions and increasingly sophisticated vendor models, resulting in a positive future outlook for Cyber as a class.

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Voting paradoxes for pension funds

Matthew Glass

Matthew Glass is a senior consultant in the Retirement Practice and is currently based in Zurich, Switzerland. Matthew has more than 8 years of pension consulting experience in the UK and Switzerland.

Matthew provides actuarial and other consulting services to numerous clients and currently specializes in advice to companies regarding international accounting valuations, as well as providing advice to trustees related to funding valuations. In addition, he has been heavily involved in plan design and other transitional issues relating to fund mergers, the development of software tools, member communication programs, and pension fund management.

Matthew is a Fellow of the Institute and Faculty of Actuaries and received the CERA designation in 2019. He graduated from the University of California, Irvine with a Master's degree from the department Logic and Philosophy of Science. His research focused on the mathematics of voting and group decision-making.

Pension fund trustees are increasingly aware of decision-making biases, which is critical to robust pension fund risk management. However, decision-makers also need to establish robust voting procedures to ensure group decisions reflect the underlying individual preferences.

I present three case studies where pension fund decisions can go wrong due to inadequate voting methods, examine the underlying causes, and outline best practices for arriving at group decisions.

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Go Broader

Elizabeth Baker and Tim Gorst

Elizabeth Baker is a risk manager at Hollard Insurance and is the Deputy Convenor of the Risk Management Practice Committee. She has more than 30 years of experience working in financial services in a range of risk management, finance and actuarial roles in Australia, Asia and Europe in insurance companies and in consulting. She has a keen interest in more effective risk management frameworks and the management of both financial and non-financial risks and developing the role that actuaries can play.

Tim Gorst has over 25 years of financial services experience across both banking and wealth management and currently consults independently as a senior financial services and ERM actuary.
Tim also teaches Enterprise Risk Management at the Australian National University in Canberra and for the Actuaries Institute of Australia. Tim is a Fellow of the Institute of Actuaries of Australia and a Chartered Enterprise Risk Actuary.

This presentation discusses the ongoing need for the actuarial profession to become as engaged in non-financial risk management as it had traditionally been in the financial risk variety. Based on their professional experience across both Line 1 and Line 2 risk management, Elizabeth and Tim share practical tips for the actuary or indeed any other professional wishing to uplift their non-financial risk management game.

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Dutch disability; trends and risks

Han Hubers

Han Hubers has completed educations in Econometry, Actuarial Sciences and CERA. He has held actuarial and financial risk management positions at insurance companies, a pension fund and consulting firms in the fields of pensions and life insurance, financial risk management and Solvency II. His recent work covers worker's compensation at a large mutual Dutch insurance company and chairing a disability working group at the Dutch Association of Insurers. He wants to contribute to long-term, sustainable insurance coverage solutions for policyholders and the Dutch society.

Disability coverage has been a structural part of the Dutch insurance industry for decades. It concentrates on two groups: employees of companies and self-employed persons. The disability products are strongly related to the social security system and is therefore sensitive to political developments. But past decades have also shown that profitability of disability insurance products develops independent from many other risks and provides good risk diversification benefits.

A short overview will be provided of current disability coverage of the social security system and insurance companies. Commonly used variables for pricing and reserving will be discussed briefly, just as the familiar risks in disability risk modelling.

Insights will be provided on the impact of the recent Covid-19 pandemic on claim levels, the relation to economic developments and current plans on social security of the Dutch government.

Will pandemics remain a large future risk for disability insurance, or should we be more concerned about other developments, such as the decline of mental wellbeing, eating patterns, and other lifestyle factors? Or can or should insurance companies help with the future challenges that our society will be facing in the coming decades?

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Fee for no service

Tim Gorst

Tim Gorst has over 25 years of financial services experience across both banking and wealth management and currently consults independently as a senior financial services and ERM actuary.
Tim also teaches Enterprise Risk Management at the Australian National University in Canberra and for the Actuaries Institute of Australia. Tim is a Fellow of the Institute of Actuaries of Australia and a Chartered Enterprise Risk Actuary.

The 2018 Australian Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (Royal Commission) provided important case studies into conduct risk and it's link to risk culture. One particular conduct risk event identified at the Royal Commission was the systemic charging for financial advice that was not actually being provided to the customer. The event has cost the industry over $1b in remediation payments to customers, has cost the jobs of some of the industry's most senior executives and commented critically on the proactivity of regulators in dealing with the issue.

This presentation will explore the context and ERM related learnings from this issue and the importance of financial services conduct risk management.

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The evolution of Cyber risk and how other insurances can benefit from the innovations in Cyber risk assessment

Visesh Gosrani

Visesh Gosrani is Chair of the Institute and Faculty of the Actuaries Cyber Risk Working Party. He is also on the Advisory Board for Kovrr, a Cyber Risk model vendor and Head of Actuarial for the Medical Protection Society. Visesh has a keen interest in the collection and use of behavioural data to better select insureds and to help them reduce the risk they present. Visesh co-founded Shoal, which was developing mechanisms to deduce underlying risk preferences and was acquired by Cyence, a cyber risk model vendor. After the acquisition, Visesh was named Director of Actuarial and Risk at Cyence where he continued until after the acquisition of Cyence by Guidewire. Professionally, Visesh has over 20 years of experience as an actuary and Chief Risk Officer in the insurance industry.

This talk will provide a brief overview of the difficulties in the assessment of Cyber risk and method adopted to overcome these. It will then continue to discuss how Cyber risk can improve and how other insurances can benefit from copying the most relevant innovations for the specific line of business with a view to assessing and managing the risk within a portfolio more effectively.

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Creating risk indicators

Stéphane Loisel

Stéphane Loisel holds a PhD in applied mathematics from University of Lyon, a MSc in actuarial science and finance, and is a fellow and former member of the board of the Institut des Actuaires. He is now full professor and head of LSAF research lab at ISFA, Université Lyon 1. He was visiting professor at ORIE, Cornell University in 2014 and has been lecturing for several years in Université Paris 6 and ENSAE. Associate Editor of IME, MCAP, Risks and co-editor of EAJ, Stéphane's main research interests include ruin theory with dependent risks, Solvency II, regulation and ERM, as well as longevity risk and customer behaviour in insurance. Stéphane was the coordinator of the ANR research project LoLitA (Longevity with Lifestyle Adjustments). He is the PI of an AXA Joint Research Initiative on longevity risk and of the research chair Actuariat Durable sponsored by Milliman Paris. Stéphane is a member of the steering committee of the BNP Paribas Cardif DAMI Research Chair. He received the SCOR PhD award in 2005, the Lloyd's Science of Risk runner-up prize in 2011 and the Hachemeister prize in 2013. CERA, Stéphane is also the scientific director of the French CERA program. He is a board member of Axeria Prevoyance, and member of the Validation Advisory Committee of SCOR.

In this talk I will explain how to create dynamic, visual key risk indicators to monitor various risks related to number of events (deaths, accidents, claims, injuries, lapses...). I will present the theory as well as concrete ERM case studies.

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Steering Risk and Capital through International Waters

Ophelia Engelhardt-Funke

Ophelia Engelhardt-Funke joined Hannover Re US in August 2017 as Senior Vice President and CRO. Ophelia has over fifteen years of reinsurance experience in various roles and locations of Hannover Re Group. Before joining Hannover Re US, Ophelia served as General Manager with world-wide responsibility for Retrocession and Health Reinsurance at Hannover Re's head office in Germany. Previous roles at Hannover Re include locations in Germany and the US and responsibilities with risk mitigation and capital optimization through retrocession, business development and modelling for the UK longevity market as well as life and health pricing, data monitoring and business development for Spanish speaking markets, former Soviet Union markets and Israel as well as US accelerated underwriting business.

Ophelia holds a bachelor's degree in mathematics from Albert Ludwig University of Freiburg, Germany, a master's degree in Stochastics from Leibnitz University of Hannover and a Doctorate Degree in stochastic optimization from Technical University of Clausthal, Germany. She is a member of the actuarial society of Germany, Deutsche Aktuar Vereinigung (DAV).

This presentation provides insights into risk and capital management from the perspective of a US life and health reinsurance subsidiary of a Bermudian L&H parent which ultimately is a subsidiary of a European composite reinsurer.

Whatever you do, it has to balance impacts on:

- US statutory/RBC
- Bermuda regulatory reporting and capital requirements (and there is more than one of those)
- Solvency II
- Country specific local European GAAP
- and you have to have your own view.

Finding the best place for the risks we write and explaining it to different stakeholders while:

- considering constraints from the various regulations
- keeping an eye on potentially disruptive changes in regulation (maybe another tax reform?)
- juggling COVID related additional information and reporting requests,

is what makes the life of a CRO of an international subgroup exciting, sometimes challenging, always interesting.

We will go through some case studies on how different international requirements and their connection lead to strategic decisions about capital and business flow.

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What to do (and not) when 'risk' communication sounds like 'mis'communication

Caroline Grégoire and Eberhard Müller

Caroline Grégoire is an international mentor, coach and keynote speaker. She gathered 20+ years of experience in the (re)insurance, actuarial and risk management fields in international environments and in different leadership positions. Caroline works with leaders and managers in the finance, insurance and actuarial sectors on the communication, leadership, resilience, strategy and culture aspects of their work. She aims to give them the edge to reach peak performance! She is an association member of the Swedish Actuarial Society (Svenska Aktuarieföreningen) and a member of the German Speakers Association. She is fluent in English, French, German and Swedish.

Eberhard Müller founded 'riskmueller consulting' after a career of more than 30 years at Hannover Re, where his role included the positions of Chief Risk Officer and Chief Actuary. He was involved in Solvency II developments from the beginning and his areas of expertise encompass risk management, reserving, natcat modelling, dynamic financial analysis, securitization and operational risks. Eberhard also serves on different committees of the Deutsche Aktuarvereinigung (DAV) and the International Actuarial Association (IAA), currently as treasurer of the ASTIN section. As one of the first lecturers for the CERA education program in Germany and Europe, he knows how to communicate about risk matters and enjoys transmitting this knowledge to further generations of actuaries and risk managers.

Communicating your arguments, findings and results to non-risk specialists (may it be the board, marketing, human resources, compliance, clients, regulators, etc.) can at times be more of an art than an exact science. There are so many things that can go wrong… which can lead to misunderstandings, conflicts and erroneous decisions. While many risk managers can surely relate to miscommunication experiences, there are easy and practical hints that can significantly increase the success of your risk communication.

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