

IAA Risk Book

Governance, Management and Regulation
of Insurance Operations

**Presented by Contributors to IAA Risk Book of Insurance
Regulation Committee
At the IAA Life Section Webinar March 22, 2016**



Foreword

- The goal of this presentation is two fold:
 - ✓ Provide concise overview of the IAA Risk Book rather than teach the concepts
 - ✓ Encourage audience engagement via further reading, feedback and critiques of this project
- Each chapter is summarized in 2 – 3 slides
- Speakers today:
 - ✓ Life Section: Marc Slutzky, Pedro Pacheco Villagrán
 - ✓ IRC: Dave Sandberg, Stuart Wason, Godfrey Perrott, Toshihiro Kawano, Ralph Blanchard, Eberhard Müller

About the IAA Risk Book

Background

- IRC published Blue Book on Insurer Solvency Assessment in 2004
- The Blue Book described the then current "best practice" elements of a framework for insurer solvency assessment for international consideration
- The Risk Book has been a two+ year project to update our prior work to reflect current perspectives on risk
- No single risk measure provides the full "video" picture of risk. The Risk Book reviews the multiple tools available to a company and to a supervisor to manage risk in a sustainable manner

About the IAA Risk Book

Contributors

- Risk Book steering committee includes regulators, current practitioners and retirees
- Individual authors – from around the world
- Many more contributing to review
- Objective = write each chapter in 20 pages or less
- Geared more to practice than theory

About the IAA Risk Book

How it works (on the website), how it gets updated and how to access

- Chapters being submitted as they are completed (10 out of 21 @ Mar 2016)
- Located at IAA website under PUBLICATIONS, pull down to RISK BOOK
- Or
<http://www.actuaries.org/index.cfm?lang=EN&DSP=PUBLICATIONS&ACT=RISKBOOK>
- Will accept and respond to comments
- Intend to update chapters as needed

About the IAA Risk Book

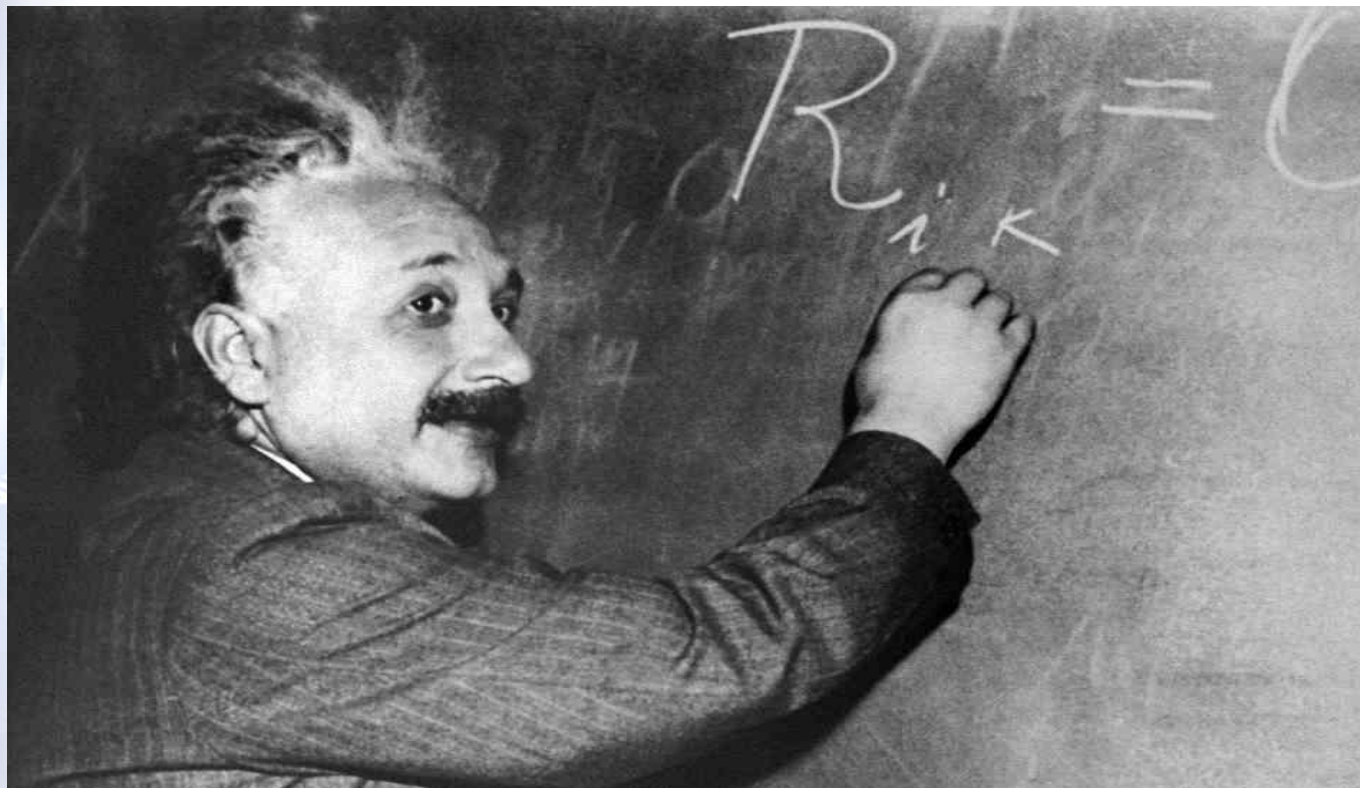
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About the IAA Risk Book

Chapters under construction

- Resolution of Insolvencies
- Role of Capital
- ALM
- Derivatives
- Financial Statements
- Governance of Models
- Communicating Uncertainty
- Materiality & Proportionality
- One year vs. Multi-year Valuation
- Policyholder Behaviour & Management Actions
- Stress Testing



Chapter 1 Introduction

Key messages include:

- Managing and Communicating Uncertainty – Our Professional Opportunity & Responsibility
- ERM Is the Core Franchise Value of Insurance

What is the Important Problem?

- What Pillar 2 (ERM) processes and tools can be used to sustain the Balance Sheet before Pillar 1 indicates the “ship has sunk”.
 - And, are they robust or smoke and mirrors?

Chapter 1 Introduction

What are the Important Solutions?

- To manage and communicate uncertainty, processes are essential
- Can the Actuarial Function step into and/or assist these roles more directly?
 - ORSA
 - Model governance
 - Stress testing
 - ERM
 - Recovery and resolution planning oversight
 - Micro (firm specific) vs macro (sector specific) implications

Chapter 2 Actuarial Function (AF)

Key messages:

- Insurance supervisors are focusing on oversight role of AF as part of second of the traditional “three lines of defence” in ERM.
- Lines of defence:
 1. Functions that own, manage, and report on risks (e.g., operational management);
 2. Functions (and processes) that oversee risks (e.g., AF, risk management, compliance, risk committees, and sign-off requirements); and
 3. Functions that provide independent assurance (e.g., internal and/or external audit).

Chapter 2 Actuarial Function

Key messages (continued):

- Actuaries are not restricted to providing the oversight of risk (i.e., second line of defence), but are active in some or all of the three lines of defence within an insurer.
- Independent risk oversight by AF is important to boards, senior management, and supervisors because of unique actuarial perspective on insurer's risks. Effective AF oversight can facilitate less intrusive supervision.

Chapter 2 Actuarial Function

Key messages (continued):

- AF frequently expected to make material contributions to ERM
- AF must be organized & operate within insurer/insurance group in clear, effective & transparent manner
- Insurance supervisors develop & maintain confidence in work of AF through:
 - Validation of important aspects of work of AF
 - Presence of strong professionalism
 - Presence of effective feedback loops between the supervisor, profession, standard setters, and the disciplinary process.

Chapter 3 Professional Standards

Key messages:

- Actuarial standards:
 - assure the public that actuaries are professionally accountable
 - gives the users of actuarial work confidence that the work has been performed appropriately
 - provide practicing actuaries with a basis for assuring their work will conform to appropriate practice.
 - can be of significant value to regulators
- Members of Full Member associations (FMAs) must comply with applicable actuarial standards.

Chapter 3 Professional Standards

Key messages (continued):

- The scope of actuarial standards includes the process of setting assumptions, selecting methodologies, and disclosure.
- Actuarial standards and regulations complement each other.
- Actuarial standards guide actuarial work:
 - usually principle-based, rather than prescriptive
 - permit departures from the standard's guidance if justified.
- Regulations are usually prescriptive and mandatory.
- Model actuarial standards are adopted in a particular jurisdiction by the entity entitled to enact standards.

Chapter 4 Operational Risk

Key messages:

- Quality & maturity of risk management process are key indicators that can impact potential losses arising from operational risk (OR) events.
- OR is closely linked to the risk culture of an insurer; qualitative issues (such as strength of governance processes and oversight functions) play large role in management of OR.
- Reliability of any OR modelling exercise is strictly connected with actual quality of the overall data (internal or external data) - generally an unknown.

Chapter 4 Operational Risk

Key messages (continued):

- Appropriate model calibration in the data-poor environment of operational risk is one of the most significant and persistent challenges for insurers.
- Typically a capital charge or other mitigation method acts to reduce risk exposure, but adding an operational risk charge based on past losses (or the lack thereof) can be pro-cyclical.

Chapter 4 Operational Risk

Key messages (continued):

- Operational risk events for high-frequency/low-severity events can be captured & modelled; tail events that are low frequency/high severity are where a qualitative scaling assessment can be most effective.
- Credible approach for OR should include a blend of qualitative and quantitative assessments to evaluate the effectiveness of management processes to address OR exposures to both low and high-severity events.

Chapter 5 Catastrophe Risk

Key messages:

- Catastrophes result in a sudden and mass destruction of property, lives, environment, and/or the economy.
- Catastrophes can be natural or man-made (e.g., terrorism).
- The frequency and severity of catastrophe losses have been increasing over past several decades primarily due to increasing concentrations of population and property in geographical areas prone to disasters.

Chapter 5 Catastrophe Risk

Key messages (continued):

- Catastrophes impact society first, and insurers only to the extent that the damages are insured.
- Due to their infrequent nature, analysis of past losses can't sufficiently measure catastrophe risk, so many insurers use catastrophe models to estimate potential losses.
- Catastrophe models are based on four primary components – event catalogs, intensity formulas, damage functions and a financial module.

Chapter 5 Catastrophe Risk

Key messages (continued):

- Model uncertainty is unavoidable and is impacted by both data issues (related to quality and availability) and political issues (influencing how events will unfold in times of stress). This is in addition to the uncertainty related to random events.
- Model development and usage is evolving, including a trend towards open models (as opposed to closed proprietary models) and their use for scenario analysis.
- Catastrophe models are part of the risk management process both in terms of pricing/underwriting and in terms of solvency/capital management.

Chapter 6 Non-Proportional Reinsurance

Key messages:

- Non-proportional reinsurance (NPR) is a very powerful tool in spreading risk, diversifying risk and managing the “dangerous” tail of loss distributions.
- NPR is used extensively in P&C reinsurance , but is less common for life and health insurance where proportional reinsurance continues to dominate.
- In addition to risk and capital considerations, NPR is used extensively to reduce the potential volatility of a company's quarterly or yearly earnings.

Chapter 6 Non-Proportional Reinsurance

Key messages (continued):

- The risk assessment and the pricing of NPR products are reliant upon having good meaningful data.
- As regulatory capital regimes become more risk-based it is likely that NPR solutions will become more common across all lines of business.
- NPR structures, and reinsurance in general, carry a risk in respect of a failure of the reinsurer which needs to be reflected in the capital requirements.

Thank you



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