Overview of Presentation

- Present a brief summary of the CAS’s research efforts
- Also brief mention of CAS’s collaborations with other actuarial organizations
- Will highlight some resources that are available from the CAS’s web site
  - www.casact.org
  - http://www.casact.org/research/ for research
CAS Committees and Working Parties

<table>
<thead>
<tr>
<th>Committees and Working Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Risk Modeling</td>
</tr>
<tr>
<td>Health Care Issues</td>
</tr>
<tr>
<td>Management Data &amp; Information</td>
</tr>
<tr>
<td>Ratemaking Research</td>
</tr>
<tr>
<td>Reinsurance Research</td>
</tr>
<tr>
<td>Reserves Research</td>
</tr>
<tr>
<td>Theory of Risk</td>
</tr>
<tr>
<td>Valuation, Finance and Investments</td>
</tr>
<tr>
<td>Research Initiatives Coordinator, AERF Grants TF</td>
</tr>
<tr>
<td>Halmstad Prize Committee</td>
</tr>
<tr>
<td>Foundational Statements Task Force</td>
</tr>
<tr>
<td>Climate Change Committee</td>
</tr>
<tr>
<td>Research Grants TF (used to be AERF Grants TF)</td>
</tr>
<tr>
<td>Loss Simulation Model Working Party</td>
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<tr>
<td>Research Working Party on Public-Access DFA Model</td>
</tr>
<tr>
<td>Tail Factors Working Party</td>
</tr>
<tr>
<td>Ratemaking Survey Working Party</td>
</tr>
<tr>
<td>Hachmeister Prize Committee</td>
</tr>
<tr>
<td>Accounting Changes Task Force</td>
</tr>
<tr>
<td>DRM Handbook Working Party</td>
</tr>
<tr>
<td>Economic Capital Working Party</td>
</tr>
<tr>
<td>R Working Party</td>
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<tr>
<td>Health Economics Working Party</td>
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What Do the Committees Do?
Click on Committee Link to Learn More

COMMITTEE ON THEORY OF RISK

The Committee on the Theory of Risk (COSTR) is charged to propose, encourage, and monitor research and other projects concerning the actuarial and financial evaluation of risk in insurance contracts and operations in support of the CAS Centennial goals.

Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Richard A. Dieing</td>
<td>Chairperson</td>
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<tr>
<td>David Appel</td>
<td>Member</td>
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<tr>
<td>Todd R. Baillie</td>
<td>Member</td>
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<tr>
<td>Anthony O’Byrne</td>
<td>Member</td>
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RPP 2 Literature Search

2. Search and Evaluation Strategy

- Definition of the search strategy - Thematic Categories:

  - Risk Identification
    - Operational Risk
    - Catastrophic Risk
    - Other Emerging Risks (e.g., infectious diseases, terrorism)
  - Risk Valuation
    - CAPM / Asset Pricing
    - Insurance Risk
    - New Valuation Techniques (e.g., Sonnenschein, AVD)
    - Risk Measures (e.g., Tail Value at Risk, ...)
    - Behavioral Insurance
  - Risk Management
    - Surplus / Capital Allocation
    - Risk Control (e.g., risk reduction strategies)
    - Reinsurance and Alternative Risk Transfer
3. Results: Aim 1 – Update of the bibliography

Risk Premium Project II (RPP II)

Management Summary

Our literature review covers 161 references. The opinions of 31 colleagues from academia and practice were incorporated in the review document. As a main result we find that actuarial and financial views of how to price risk are still converging, but additional factors have been added to the discussion such as new risk measures, new valuation techniques, behavioral aspects, or emerging risks. In the aftermath of the financial crisis systemic risk, liquidity risks, and implications from the crisis are discussed. Throughout this report the key conclusions from RPP I are revisited and the new conclusions are added to the discussion. Furthermore, five areas for future research are identified.

Revision of key conclusions from RPP I

1. Financial vs. actuarial approaches: There is an ongoing consolidation between financial and actuarial literature with regard to pricing of insurance contracts. Both fields acknowledge the role of systematic and non-systemic risk in the pricing of insurance contracts.

2. Fair value of the insurance premium: Theoretical models as well as empirical tests have confirmed that given the real-world market imperfections, the price of insurance should be a function of the (1) expected cash flow with adjustments for systematic risk, (2) production costs (i.e., expenses), (3) default risk, and (4) frictional capital costs. By the adjustments should be integrated depending on the cash flow pattern of the liabilities.

Search on a particular topic

RISK PREMIUM PROJECT (RPP) II

Home | About RPP II | Questionnaire | RPP II Results | RPP II Database

RPP II LITERATURE

BASIC SEARCH

behavioral finance Search

Browse Author Browse Category Advanced Search

AUTHOR LAST NAME BEGINS WITH:

A B C D E F G H I J K L M N O P Q R S
Committee on Reserves

- Annual call paper program
- Created working parties
  - Annual call paper program
  - Loss Simulation Working Party (Joint WP)
    - Issues Call for paper involving using model or making change to it in 2010
  - Tail Factor Working Party
  - BF Initial LR Working Party

Climate Change Committee

- Membership is very diverse including international members and non-actuaries with special expertise
- Subcommittee working on Climate Change Index
- Prepare educational materials for members
Ratemaking Committee

• Sponsors biannual call paper program
• Joined with GIRO on international Ratemaking survey
  – Companion to 2008 CAS Reserving Survey
  – Ratemaking Survey initially proposed in GRIP paper
  – Report back to the professions (GIRO, CAS Annual, RPM)
  – Important part of the CAS Research Centennial Goals
  – Desire to coordinate U.S. with UK, Australia efforts

R Working Party

• Goal and develop tools that prepare actuaries to implement advanced methods in R
• Sponsoring a limited attendance seminar in the fall
Loss Simulation Model Working Party

- Sponsored by DRMC in 2005, the LSMWP began work in 2006.
- Purpose: creation of a simulation model that will generate claims that can be summarized into loss development triangles and complete rectangles.
- Deliverables: Open source program available to CAS members, seminars, and a CAS Working Party paper documenting work.
- Will be giving workshop on LSMWP model

National Association of Insurance Commissioners Dataset

**LOSS RESERVING DATA PULLED FROM NAIC SCHEDULE P**

Glenn G. Meyers, PhD, FCAS
Peng Shi, PhD, ASA

Please direct all comments to Glenn Meyers at gmeyers@iso.com

1. Purpose

Our goal is to prepare a clean and nice data set of loss triangles that could be used for claims reserving studies. The data includes major personal and commercial lines of business from U.S. property casualty insurers. The claims data come from Schedule P - Analysis of Losses and Loss Expenses in the National Association of Insurance Commissioners (NAIC) database.

We have obtained permission from the NAIC to make this data available to all interested researchers on the CAS website.
Joint Risk Management Section

• CAS, CIA and SOA jointly fund projects through the JRMS
• Some projects include
  – Annual survey of actuaries on emerging issues
  – Two essay calls on the Financial Crisis
  – A funded project on the cause of the financial crisis
  – Contributed funding to two COTOR projects

NAAC (North American Actuarial Council)

• All North American Actuarial Association
• Several years ago began to collaborate on research projects
• Funded Climate Index project
• Funded severe inflation/deflation project
  – Developed stochastic model used in analysis that will be publicly available
  – Analyzing impact on insurance industry in North America