



cutting through complexity

Actuaries and insurance supervision

ACTUARIAL CONFERENCE FOR
INSURANCE SUPERVISORS

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Dr. Gábor Hanák





*Hazardous waste clean up project at Quanta Resources PCB dump site,
Queens, NYC - Jim Werner*

<http://oneread.dbri.org/2004/at-work/images/werner-clean-up.jpg>

- **Roles of the actuary**
- **Actuarial standards**
- **Financial condition**

Roles of the actuary

■ What is an actuary?

- An actuary is a business professional who deals with the financial impact of risk and uncertainty
- Traditionally in insurance and pensions
- Wider field: other financial services, social security, general risk management

■ What does 'professional' mean?

- To belong to a profession...
- Education
- Code of Conduct including disciplinary process
- Standards, due process in promulgation standards
- Actuarial Association of Europe (Mutual Recognition Agreement)
- International Actuarial Association



Roles of the actuary

■ The actuary in insurance

- Product development, pricing, underwriting and reinsurance
- Technical provisions
- ERM, capital models, ALM
- Profit sharing
- ORSA, business plan

Judgment

■ Formal roles of the actuary in insurance companies

- Certifying
- Reporting
- Opinion
- Validation
- Access the Board
- Whistle blowing

Roles of the actuary

- **Roles of the actuary external to insurance companies**
 - Outsourced function
 - Audit
 - Supervision
 - Rating
 - Analysis
 - Advisory

- **Supervisory reliance on the work of an actuary**
 - At the firms
 - At the supervisor

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Actuarial standards

■ Solvency II requirements

- The actuaries performing the actuarial function must be able to demonstrate their relevant experience with applicable professional and other standards

■ Model standards produced by the IAA and the AAE

- Helps serve the public interest
- Users may rely on actuarial advice subject to professional standards
 - Firms
 - Regulators/supervisors
 - Auditors
 - Policyholders/beneficiaries
 - Etc.

Actuarial standards

■ Due process

- Strategic Action Plan
- Statement of Intent (SOI)
- Exposure Draft (ED)
- Final standard

■ General Actuarial Practice (ISAP1, ESAP1)

- Provides guidance to actuaries when performing actuarial services to give intended users confidence that actuarial services are carried out professionally and with due care
- Results are relevant, presented clearly and understandably
- Assumptions and methodology are disclosed appropriately

Actuarial standards

■ Other standards by the IAA

- **ISAP2**: Financial Analysis of Social Security Programs; adopted
- **ISAP3**: IAS19 Employee Benefits; ED
- **ISAP[4]**: IFRS X Insurance Contracts; Draft SOI commented
- **ISAP[5]**: Insurer Enterprise Risk Models; Draft SOI exposed to comments
- **ISAP[6]**: ERM Programs and IAIS Insurance Core Principles; Draft SOI exposed to comments
- **ISAP[7]**: *IAIS' Basic Capital Requirements; Draft SOI under development by the Task Force*



Actuarial standards

■ Other standards by the AAE

- **ESAP2**: Actuarial Function Report under Solvency II; working draft
- Under consideration
 - **ESAP[3]**: Actuarial practice in relation to the ORSA process under Solvency II
 - **ESAP[4]**: The role of the actuarial function in contributing to the risk management system under Solvency II
 - **ESAP[5]**: Actuarial practice in relation to internal models under Solvency II



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Financial condition

- A. Nick Leeson
- B. Equitable Life
- C. 911
- D. Hurricane Katrina
- E. Jérôme Kerviel
- F. Subprime crisis

Which is the right order of the estimated claim of C, D, F?

- 1. $D > F > C$
- 2. $F > C > D$
- 3. $F > D > C$



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Morals of the “Subprime”

■ Importance of proper incentives

- Investment banks
- Intermediaries
- Customers
- Auditors
- Regulators
- Supervisors
- Rating agencies
- Analysts
- Investors



Margin call

- **SETH:** I made almost a quarter of a million dollars last year... for what... pushing some numbers around on a computer screen, so a bunch of glorified crack addicts could take that information and pretend to understand it
- **SAM:** Speak, you know I can't read those fucking things they put together...
WILL: ...these here are the historical volatility index limits... which I guess our whole fucking trading model relies on pretty heavily... and we are levered up so fucking bad that if the thing starts getting outside those limits it gets ugly in a hurry
- **SARAH*:** ...the kid killed it. The formula is worthless.
JARED: What do you mean?
SARAH: It's broken.
JARED: There are **eight trillion dollars** of paper around the world **relying on that equation??**
SARAH: We were wrong.

SARAH: Is there a contingency plan here?
JARED: A contingency plan?
SARAH: Yes.
JARED: We went all in on this one.
SARAH: So we've got ourselves quite exposed here... haven't we?

***SARAH is the firm's chief risk assessment officer**



Quantitative modeling – expert opinion



From the presentation of Richard D. Phillips, Associate Dean of Academic Initiatives and Innovation, Georgia State University - ICA 2014

Which years are these cover pages from?

- A) Before 2007
- B) Between 2007 and 2008
- C) After 2008
- D) A) and B)
- E) B) and C)
- F) A) and B) and C)

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To model or not to model

■ Models are very good...

- Models capture the hard facts: how much money is needed
- All the rest is rubbish...

■ Models lead nowhere...

- Models can only capture some quantities
- Even those are ill-captured...
- The core is not the model or its result
- Qualitative risk management is far more important





**Thank you for your
attention**

**Questions,
Comments?**

Dr. Gábor Hanák
Risk and Actuarial Services
KPMG in CEE

ghanak@kpmg.com



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