

ERM: Regulatory and Professional Issues For Actuaries

Apex Discussion Series

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ERM: Regulatory and Professional Issues For Actuaries

About the Speaker

Kevin Madigan PhD, ACAS, MAAA

Mr. Madigan is a consulting actuary in Pinnacle's Saratoga Springs, NY office. He holds a PhD and an MA in Mathematics from the University at Albany, SUNY, and a BS in Mathematics from Auburn University. He has worked in the insurance industry since 1995. He currently chairs the Joint CAS/SOA Committee for the ERM Symposium and is a member of the ERM Task Force of the Actuarial Standards Board.



Insurance regulators & supervisors **around the world** are focused (or are focusing) on ERM in a **coordinated** fashion

Regulatory Focus: Global & Coordinated

International Association of Insurance Supervisors (IAIS)

- Established in 1994
- Represents insurance regulators/supervisors of some 190 jurisdictions in nearly 140 countries, constituting 97% of the world's insurance premiums.
- Works closely with other financial sector standard setting bodies and international organizations (IMF, World Bank, UN, Basel Committee...)
- Objectives
 - ❑ Promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders
 - ❑ Contribute to global financial stability

The NAIC and 56 jurisdictions in the US are members of the IAIS

IAIS CommFrame

Common Framework for the Supervision of Internationally Active Insurance Groups:

- Development began January 2010
- “... allow for a more integrated and international approach”
- “... foster global convergence of regulatory and supervisory measures and approaches”
- “ComFrame is designed to become a multilateral, coherent and sustainable IAIS policy response to operationalise the supervision of IAIGs”

– adopted January 2010

IAIS

- Establish Insurance Core Principles (ICPs) – first were adopted in October 2000
 - ICPS can be used to determine a country's compliance with the Financial Sector Assessment Program (FSAP) of the IMF and World Bank (1999)
 - IAIS is revising ICPs with goal of completion/adoption by November 2011
 - All insurance supervisors expected to reflect revised ICPs in legal frameworks and supervisory practices. All G20 insurance supervisors expected to undertake a self-assessment against the new ICPs by early 2012.
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IAIS ICP 16: Enterprise Risk Management

- **“The supervisory regime establishes enterprise risk management requirements for solvency purposes that require insurers to address all relevant and material risks.”**
 - “The solvency regime requires the insurer’s enterprise risk management framework to provide for the identification and quantification of risk under a sufficiently wide range of outcomes using techniques which are appropriate to the nature, scale and complexity of the risks the insurer bears and adequate for risk and capital management and for solvency purposes.”
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IAIS ICP 16: Enterprise Risk Management

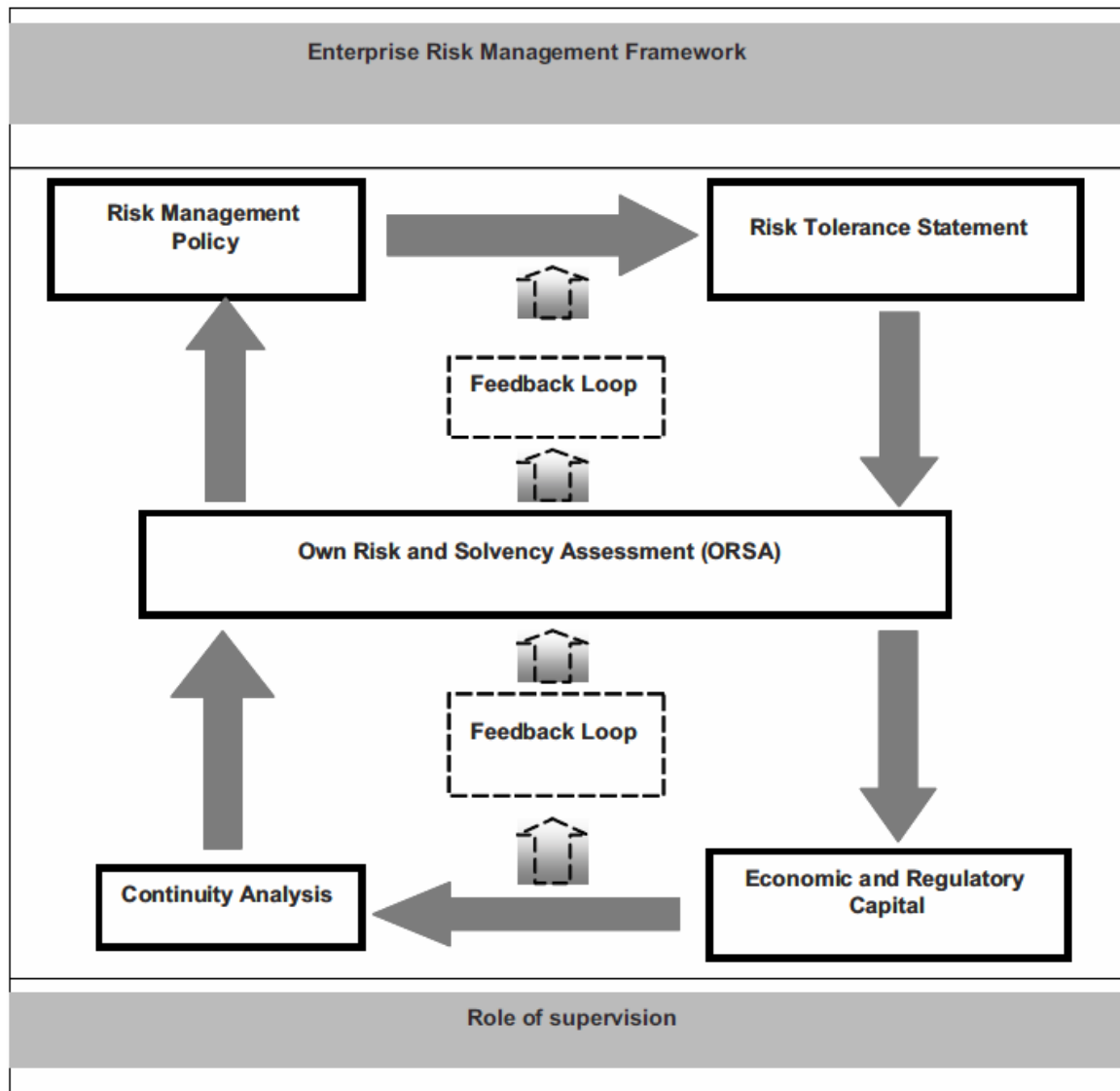
- “The solvency regime requires the insurer to have a risk management policy which describes the relationship between the insurer’s tolerance limits, regulatory capital requirements, economic capital and the processes and methods for monitoring risk.”
 - “The solvency regime requires the insurer regularly to perform its own risk and solvency assessment (ORSA) to assess the adequacy of its risk management and current, and likely future, solvency position.”
 - “The solvency regime requires the insurer’s board and senior management to be responsible for the ORSA.”
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IAIS ICP 16: Enterprise Risk Management

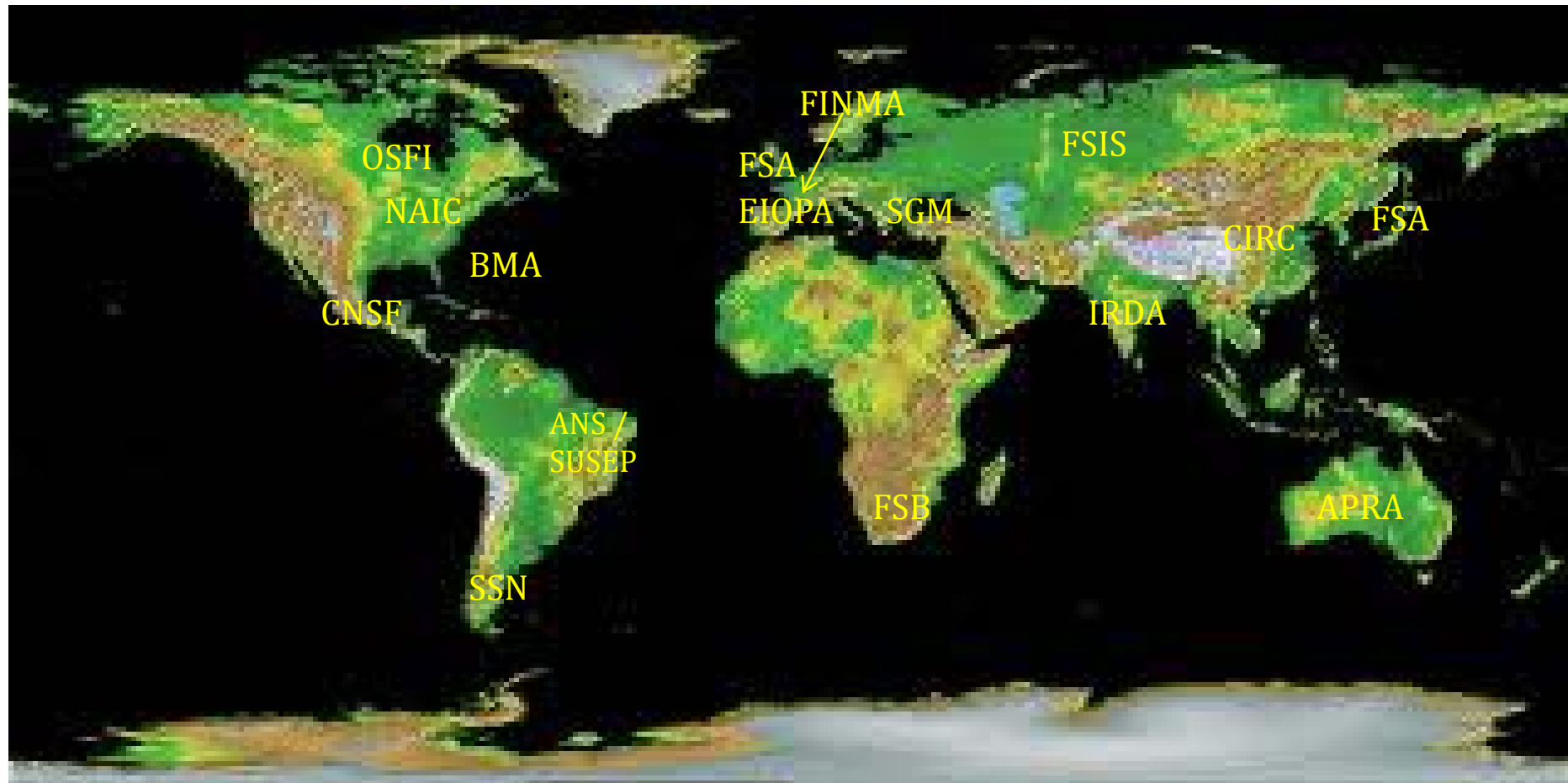
“The solvency regime requires:

- the insurer, as part of its ORSA, to analyse its ability to continue in business, and the risk management and financial resources required to do so over a longer time horizon than typically used to determine regulatory capital requirements;
 - the insurer’s continuity analysis to address a combination of quantitative and qualitative elements in the medium and longer-term business strategy of the insurer and include projections of its future financial position and analysis of its ability to meet future regulatory capital requirements.”
-

IAIS standard ERM framework



Worldwide Focus on ERM

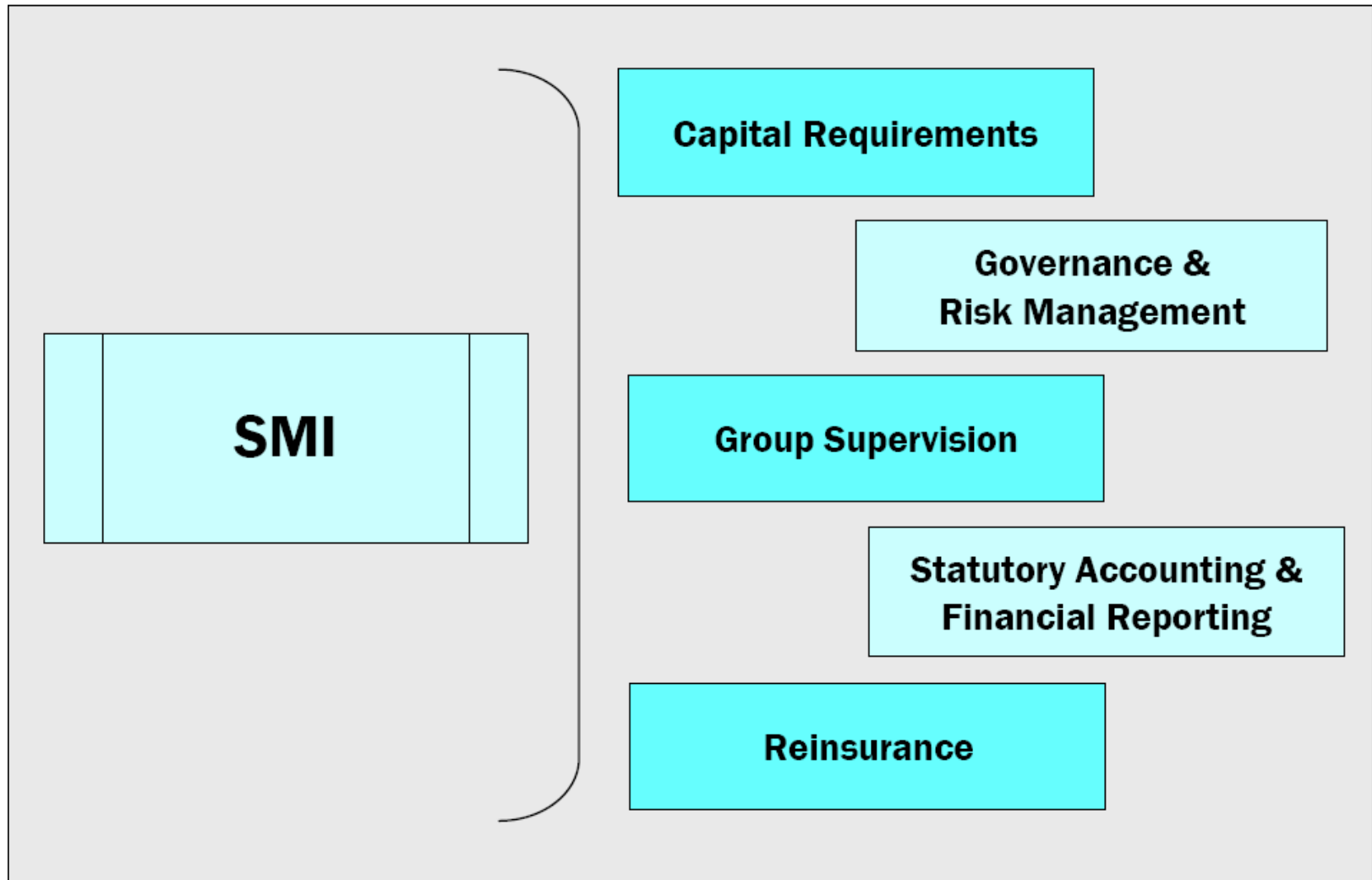


NAIC SMI

Solvency Modernization Initiative

- critical self-examination to update US insurance solvency regulation framework; includes review of international developments regarding insurance supervision, banking supervision, and international accounting standards and their potential use in U.S. insurance regulation.
 - Includes the entire U.S. financial regulatory system and all aspects relative to the financial condition of an insurer, and is not limited to the evaluation of solvency related areas. The SMI focuses on key issues such as capital requirements, governance and risk management, group supervision, statutory accounting & financial reporting, and reinsurance.
 - Includes an expansion of the ability to look at any entity within an insurance holding company system that may or may not directly affect the holding company system, but could pose reputational risk or financial risk to the insurer through a new **Form F – Enterprise Risk Report**.
-

NAIC SMI



NAIC SMI – Items of Interest to Actuaries

- “Expansion on the ability to look at any entity within an insurance holding company system that may or may not directly affect the holding company system, but could pose reputational risk or financial risk to the insurer through a new Form F – Enterprise Risk Report.”
 - Dec 2010 revisions to Insurance Holding Company System Regulatory Act (Model 440) and the Insurance Holding Company System Model Regulation (Model 450)
- ORSA
- RBC Revisions
 - Retain focus on identification of “weakly capitalized companies”
 - Not a calculation economic capital targets (difference from Solvency II)
 - Concentrating on priority risks and method to combine risk charges
 - Adjustments to reflect other SMI changes
 - Addition of Catastrophe risk
- Statutory Accounting changes

Form F

- Material developments regarding strategy, internal audit findings, compliance or risk management affecting the insurance holding company system;
 - Acquisition or disposal of insurance entities and reallocating of existing financial or insurance entities within the insurance holding company system;
 - Any changes of shareholders of the insurance holding company system exceeding ten percent (10%) or more of voting securities;
 - Developments in various investigations, regulatory activities or litigation that may have a significant bearing or impact on the insurance holding company system;
 - Business plan of the insurance holding company system and summarized strategies for next 12 months;
 - Identification of material concerns of the insurance holding company system raised by supervisory college, if any, in last year;
 - Identification of insurance holding company system capital resources and material distribution patterns;
 - Identification of any negative movement, or discussions with rating agencies which may have caused, or may cause, potential negative movement in the credit ratings and individual insurer financial strength ratings assessment of the insurance holding company system (including both the rating score and outlook);
 - Information on corporate or parental guarantees throughout the holding company and the expected source of liquidity should such guarantees be called upon; and
 - Identification of any material activity or development of the insurance holding company system that, in the opinion of senior management, could adversely affect the insurance holding company system.
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US ORSA

- ❑ Response to ICP 16 of IAIS
- ❑ An opinion on the adequacy of the ERM system and the Capital of the firm
- ❑ Made by the management and the board
- ❑ Based upon their own assessment of company FUTURE plans and risks and capacity to bear risks
- ❑ Still very much a work in progress. Target implementation late 2012.

U.S. ORSA

Section 1: Risk Management Policy

Section 2: Risk Quantification & Stress Tests

Section 3: Prospective Solvency Assessment

ORSA: Risk Management Policy

- Identify all relevant and material risk categories and describe how those risk categories are monitored and managed
 - Include any management activities or policy related to processes of identifying, assessing, measuring, monitoring, controlling and mitigating risks associated with group membership
 - Disclose how company's management uses its risk management policy in day-to-day operations
 - Disclose how the risk management policy is related and tied to the determination of the amount and quality of its economic capital and regulatory capital
-

ORSA: Quantification & Stress Tests

For each material risk category

- Quantify measurements of risk exposure
 - In normal and stressed environments
 - Under a range of outcomes using risk measurement techniques appropriate to the nature, scale and complexity of the risks
- Expect no standard set of stress conditions that each company should run, but regulator may have input regarding the level of stress that company management should consider for each risk category

ORSA: Quantification & Stress Tests

Property/Casualty Insurance Company

Risk	Notional	Expected Value	Expected Value	Reverse Stress Test	Measurement
Category	Amount	Normal	Stressed	Factor	Type
Reserving					
Underwriting					
Expense					
Catastrophe					
Credit					
Operational					
Counter-party					

ORSA: Prospective Solvency Assessment

In effect a feedback loop

Given current

- Risk profile
- Risk management policy
- Quality and quantity of capital

Project future financial position

- ability to meet regulatory capital requirements, reflecting changes to current risk profile caused by executing 3 to 5 year business plan under normal and stressed environments
 - Consider risks associated with group membership
 - Contingency plans to resolve capital adequacy issues
-

ORSA Concerns & Issues

- Confidentiality
- Group vs Legal Entity
- Frequency of Filing
- Roles of Management and Board
- Time Horizon

Actuarial Standards of Practice

- ❑ Standards are a true sign of a profession
- ❑ Defines what can be considered true actuarial professional work
- ❑ Standards address work of the individual actuary
- ❑ Basis for Disciplinary Process
- ❑ Basis for Professional Opinions
 - Tied to regulatory requirements in some situations
 - Provides a way for actuaries to communicate when they are being asked to deviate from normal practices

ASB Appoints ERM Task Force

- 2005 – decided field was not yet ready
- 2010 – reported back with recommendations
 - Existing SOPs not sufficient to guide actuaries practicing in ERM area
 - ERM is significant new area of actuarial practice
 - Actuaries need standards in this new area
 - Regulators are moving towards ERM regulations where professional standards could be important

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Actuarial Standards Board

□ May 2010

- Accepted Task Force recommendations to develop new standards
- Requested Task Force to develop draft standards

□ March 2011

- Task Force presents a discussion draft for ERM standards to ASB
- Board decides to circulate the discussion draft for comments

Discussion Draft Topics

1. Risk Evaluation

- Economic Capital Models
- Other Risk Evaluation

2. Risk Treatment

- Risk Control Cycle
- Risk Tolerance/Appetite/Limits
- *Risk measuring and reporting (Covered in #1 above)*
- Risk Mitigation Emerging Risks

Important ERM Topics that were not included

- ❑ Culture
- ❑ Organization
- ❑ Governance

Key ERM elements in ORSA Proposal

- 1) Identify risks
- 2) Measure risks
- 3) Risk feedback loop
- 4) Risk tolerance statement
- 5) Risk policy

Key ERM elements in ORSA Proposal

- 1) Identify risks <==Specified
- 2) Measure risks <==Risk Evaluation
- 3) Risk feedback loop <==Risk Treatment
- 4) Risk tolerance statement <==Risk Treatment
- 5) Risk policy <==Risk Treatment

Adequacy of Capital

- Addressed by Risk Evaluation

Preliminary Conclusion:

- These two standards would support an actuarial professional opinion for the ORSA

Contents of Draft ERM Standards

- Scope
 - Discussion of tasks performed
 - Tells when to apply standard
- Considerations (Shoulds)
- Communication
- Disclosures (Musts)

Economic Capital Tasks (Examples)

- Design, build, operate and/or report on the findings of an organization's Economic Capital model.
- Review and validate the results of an organization's Economic Capital model.
- Develop, review or validate the assumptions and methodologies underlying an Economic Capital model.
- Provide an independent third party review of an organization's Economic Capital model.
- Provide documentation relating to an organization's Economic Capital model.
- Analyze the impact of a strategic decision on an organization's Economic Capital.
- Recommend allocations of Economic Capital to units within an organization.
- Communicate the purpose, use(s), results and limitations of an Economic Capital model to both technical and non-technical audiences.

Economic Capital Considerations (Examples)

- The appropriateness of the selected time horizon and confidence level underlying an organization's definition of Economic Capital.
- The degree to which the Economic Capital model captures all material risks of the organization in a consistent manner.
- The degree to which the Economic Capital model is dynamic and flexible in nature, robust, reproducible and adaptable to new risks.
- The appropriateness of an Economic Capital modeling framework that doesn't allow for Stress Testing and Scenario Testing.

Economic Capital Considerations (Examples)

- The degree to which the Economic Capital models reflect the nature, scale and complexity of the organization.
- The degree to which the methodology and supporting assumptions underlying an Economic Capital model are identified, supported and documented.
- The quality, accuracy, appropriateness and completeness of data underlying an Economic Capital model.
- The appropriateness of manual data entry and duplication of effort versus automation.
- The appropriateness of the methodologies for Economic Capital model validation and calibration.

Communication & Disclosures

- Model Results
- Model Limitations
- Expected usage
- Assumptions
- Whether reserve adequacy was considered
- Future Risk mitigation actions included
- Deviation from standard

Questions posed in Request for Comments

- ❑ Does this conflict with any other standards for ERM of firms?
- ❑ Are these too prescriptive or too little prescriptions
- ❑ Do these cover the ERM work of actuaries?
- ❑ Could these be of help to actuaries if they are doing ERM work outside of insurance?
- ❑ Are they clear?
- ❑ Do they encourage the right behaviors and discourage the wrong behaviors?

Future of these Drafts

- Comment Period requested by June 15
- Task Force will prepare discussion of comments and review with ASB
 - Not public response

Future of these Drafts

- If Board agrees, Task Force will proceed to write standards, hopefully by year end
 - There will be an Exposure Draft, with a second comment period
 - At the end of the second comment period,
 - the Board considers the comments,
 - agrees to changes (or not) and then
 - Makes the revised standard effective

Conclusion

- Thanks to the ERM Task Force for their work
 - David Ingram, Chairperson, Mary Ellen Coggins, Wayne Fisher, Kevin Madigan, Clause Metzner, David Rogers, Max Rudolph, Dave Sandberg, John Stark
- Please Read the draft standards
 - Available at ASB website
- Consider the questions raised
- Consider making comments to the board

Postscript

- There is a new movement in the International Actuarial Association to produce a set of International Actuarial Standards of Practice
 - Demand from smaller associations who would rather rely upon international standards than try to create their own
- The IAA has formed a committee to start to create a small set of standards
 - An ERM Task Force has been formed to create an ERM standard

Our Next Discussion

July Apex Discussion Series: The Application of Analytics to Claim Fraud Detection

Thursday, July 28, 2011

Tough economic times are leading to increased levels of fraudulent insurance claims, costing the insurance industry billions of dollars. There is an increased focus on combating fraud by insurance companies, but identifying fraudulent claims is not easy, and even though companies are turning to analytics to help, identifying claim fraud using predictive analytics techniques represents a unique challenge. This webinar will discuss applications of predictive modeling to claim fraud detection, including discussion of techniques to identify fraud in your data even with an incomplete record of whether historical claims have been fraudulent or not. Applications of these techniques can provide valuable resources to companies and claim investigators in the fight against fraud.



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Thank You for Your Attention

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