



## P&C Modeling in U.S. Regulation

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Sept. 16, 2011

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## Rate & Solvency Regulation

- NAIC CAT Modeling Handbook; Florida Commission
- Model Audit Rule
- Solvency Modernization Initiative
  - Own Risk and Solvency Assessment (ORSA)
  - RBC CAT Risk

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## CAT Modeling Validation

- Accuracy of Model
  - Backtesting with empirical data, but adjusted (e.g. for population growth, inflation, etc.)
  - Logical relationship to risk
  - Sensitivity, Stability
  - Convergence – results from iterations of models should converge
- Peer Review / Expert Opinion
- Validate Data Inputs into Model

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### Evaluation of CAT Models: Expect Regulators' Questions

- Data: Sources & Accuracy
- Assumptions in Modeling
  - Appropriateness of model
  - Validation & sensitivity testing
  - Which "switches" are turned on?
- Output
  - Reasonability Check
  - Adjustments & Interpretations

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### Model Audit Rule

- Relates to Internal controls over financial reporting
- Modeling can be used in the determination of reserves.
- There are no specific model validation requirements.

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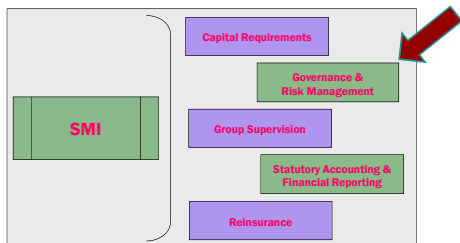
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### Solvency Modernization Initiative (SMI)

*Critically review the entire solvency regulatory framework in the U.S.*



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## U.S. ORSA Guidance Manual (Draft)

- Section 1: Risk Management Policy
- Section 2: Assessment of Risk
  - Stress Tests
- Section 3: Group Capital & *Prospective* Solvency Assessment

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## U.S. ORSA

All insurance groups >\$1B premium  
and  
Any individual insurer >\$500 Million

The ORSA requirement will apply to  
approximately 90% of the U.S. insurance  
market.

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## U.S. ORSA Section 1: Risk Management Policy

- Description of ERM Framework/Principles:
  - Risk culture and governance
  - Risk identification and prioritization
  - Risk appetite, tolerances, and limits
  - Risk management and controls
  - Risk reporting and communication

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### U.S. ORSA Section 1: Risk Management Policy

- Risk Management Policies
  - Risk Categories
  - Processes and methods to monitor risk
  - Investment, Underwriting, Claims' handling, and anti-fraud policies
  - Asset-liability management activities
  - Retention programs
  - Policies and activities to mitigate risks
  - Description of Compensation and Incentives' assessment and consideration in ERM.
  - ...and anything else...

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### U.S. ORSA Section 2: Assessment of Risk

- Quantify risk exposure
  - Under Normal Environment
  - Under Stressed Environment
- Reverse stress test  
(level of stress which could cause the insurer to fail)
- Expectations are that the extent of the assessment will vary proportionately to the nature, scale, and complexity of risk.
- No Prescribed Stress Tests in the ORSA

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### U.S. ORSA Section 3: Group Capital & Prospective Solvency Assessment

- Group Capital Assessment
  - Accompanied by narratives to define the accounting used, time horizon, risks quantified, measurement metric, diversification benefits, etc.
- Prospective Solvency Assessment
  - Show that given the current assessment of risk and business plans, the company has the necessary financial capital and quality capital to execute a 2-5 year business plan.

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## U.S. ORSA – Not Yet Adopted

- The ORSA Guidance Manual is still in draft stage; goal is to complete this by November.
  - It is not prescriptive, so you need to start working out what is appropriate for your company/group.
- ORSA could potentially be requested in early 2013.
  - Yes, REALLY!!!
- No required validation of models, but the stronger the internal controls and validation, the more believable and useful it will be.

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## Want More Info. about SMI?

NAIC Website [www.naic.org](http://www.naic.org)

- Solvency Modernization Initiative button
-  Consultation papers on capital requirements, accounting/valuation issues, governance, and risk management
- Links to Task Forces & Working Groups
- Updates & SMI Roadmap

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