

# **Session 2A: Does ERM Need an Economic Capital Model?**

**Global Best Practices in ERM  
Max J. Rudolph, FSA CFA CERA  
Rudolph Financial Consulting, LLC  
December 10, 2008**



# Economic Capital – A Good Idea?

## Maybe

## Yes

- Why?
  - External stakeholders
- Metrics
  - 99.987654321%
- Aggregation
  - Correlation matrix
- Culture
  - Talk the talk
- Communication
  - Single number

- Why?
  - Manage the business
- Metrics
  - Multiple measures
- Aggregation
  - Copulas
  - Variance Reduction
- Culture
  - Walk the walk
- Communication
  - Tell a story

# EC and Enterprise Risk Management

- ...Leverage existing models
- ...Iterative improvements
- ...Use stochastic results (sort/graph)
  - Choose conservatism
  - Metrics like Conditional Tail Expectation (CTE) or Value at Risk (VaR)
- ...Are built off cash flows

# Knowledge Gained from Modeling

- Shortcomings if company isolates knowledge
- Positives when done correctly
  - Competitive advantage
    - Accept risk (sometimes exploit)
  - Not a competitive advantage
    - Mitigate (e.g., hedging, reinsurance)
    - Avoid

# Model Risk

- Economic capital
  - Sensitivity of assumptions
  - Limited significant digits
- Key is how you use the tools, not how sophisticated they are
  - Arbitrage free scenarios
  - Number of PhDs might be contrary measure
- Quantification is less important than culture

# Risk Culture

- Starts at the top and builds momentum
- Encourages honest discussions
- Necessary but not sufficient
  - Enron, LTCM, VA GMDB, Defined Pensions, Sub-prime
- Positives when done correctly
  - Alignment
  - Integrity – senior management walks the walk
  - Transparent/Proactive
  - Everyone is a risk manager
- Easier to get right at small companies

# Emerging Risks

- Unknown unknowns
  - Never happened before
  - How do you incorporate in your model?
- Scenario Planning – deterministic scenarios
  - Worried about specific event
  - Modeling constraint
  - Time constraint
  - Ignored in most Economic Capital models

# What to look for

- Consistency
- Risk constraints
- Leverages internal programs
  - balanced scorecard
  - incentive compensation



# Making Economic Capital Work

- Cost – must prioritize projects
- ERM/EC project should provide actionable information
- Don't accept cookie cutter solutions
- Who is your CSO?
  - Chief Skeptical Officer
  - Common Sense Officer

- Companies that understand the risk/return economics of a business can take more of the profitable risks that make sense for the company and less of the ones that don't. You need to know which are which.

# Thank you!

Max J. Rudolph, FSA CFA CERA  
Rudolph Financial Consulting, LLC  
max.rudolph@rudolphfinancialconsulting.com  
(402) 895-0829

[www.rudolphfinancialconsulting.com](http://www.rudolphfinancialconsulting.com)