

Adding Value With Enterprise Risk Management

Twin Cities Actuaries Club
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Financial Crisis – Same Old Tune

- Culture
- Accountability
- Incentives
- Exposures/correlations in the tail
- Leverage
- Systemic risk/liquidity

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National Public Radio (US)

- <http://www.npr.org/templates/story/story.php?storyId=100430248>
- February 9, 2009 Joanne Silberner
 - Drop in stock price
 - Drop in asset values
 - Drop in covered lives
- Additionally
 - Public relations pricing risk
 - Health care reform

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Enterprise Risk Management

- “ERM is the process by which organizations in all industries assess, control, *exploit*, finance, and monitor risks from *all sources* for the purpose of increasing the organization’s short and long term *value* to its stakeholders.”

- Casualty Actuarial Society, 2003

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Goals of ERM

Risk Steering

- Focus on exposure
- Scenario Planning (2 sided)
- Strategic planning
 - Enterprise Risk and Return Management
 - Optimize
 - Make better decisions

Risk controlling

- Focus on controls/audit
- What bad things could happen
- Limit downside
- Strong practices provide base for risk steering

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ERM by industry

- ERM Framework/Process is the same
- Risks differ (silos)

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Practice Area ERM

- Health
 - Focus on operational and pricing risks
- Pension
 - Life cycle of DB plan lags company life cycle
- Casualty
 - More quantitative, concentration risk
- Life
 - Focus on asset and ALM risks
- **Watch for risk interactions**

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Literature Search for CE

ERM Practices as Applied to Health Insurers

<http://www.soa.org/research/research-projects/health/hlth-erm-practice-health-insurers.aspx>

CPD module: Introduction to ERM

Wordpress riskviews

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Key Elements of ERM Process

- Define risk
- Identify/prioritize risks
- Set risk appetite/alignment (capacity/budget)
- Common language/decision making
- Key risk indicators (leading/lagging)
- Environmental scanning

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Using ERM to Add Value

- Strategic planning role
 - Understand your risk profile
 - Solutions are unique
 - Quantitative/qualitative tools
- Good ERM goes beyond
 - Checklists
 - Rating agency requests
 - Risk mitigation

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Scenario Planning – tell a story

- Deterministic scenarios
 - Worried about specific outlier event
 - Modeling constraint
 - Run-time constraint

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Practical Uses of Scenario Planning

- Marginal impact
 - Organic growth
 - Project (aging) in-force
 - Introduce new product
 - Mitigation strategies (e.g., reinsurance)
 - Asset mix/investment strategy
 - Acquisition

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Emerging Risks

- What are emerging risks?
 - Completely new risks (some are Black Swans)
 - New earthquake zone
 - Evolving risks (creeping)
 - Public pension guarantees
 - May be internally generated
 - Subprime mortgages
 - May be externally generated
 - Competitor (e.g., oil spill)

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Perfect Storm?

- Copout
 - Once per century events don't happen 4 days in a row
- How to avoid
 - Environmental scanning
 - Mean reversion
 - Independent thinking
 - Perfect Sunrise

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Emerging Risk Surveys

- Emerging risks developed by World Economic Forum (23)
- Top 5 emerging risks
- Risk combinations
- To take the survey

<http://www.soa.org/research/research-projects/risk-management/research-2010-emerging-risks-survey.aspx>

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Emerging Risks

- Economic
 - Oil price shock
 - Fall in value of US \$
 - Chinese economic hard landing
 - Demographic shift
 - Blow up in asset prices
- Environmental
 - Climate change
 - Freshwater loss
 - Tropical storms
 - Earthquakes
 - Inland flooding

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Emerging Risks

- Geopolitical
 - International terrorism
 - Weapons of mass destruction
 - Interstate/civil wars
 - Failed states
 - Transnational crime
 - Globalization fallback
 - Regional instability
- Societal
 - Pandemics
 - Infectious diseases
 - Chronic diseases
 - Liability regimes
- Technological
 - Critical information infrastructure
 - Nanotechnology

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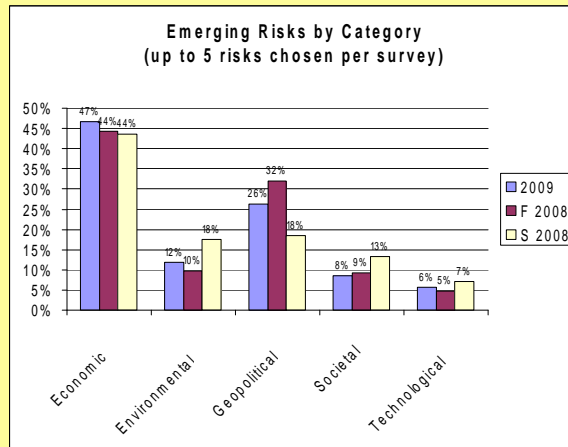
Current Environment Matters

- INARM survey April 2008
 - Oil price \$114
 - S&P 500 1,386
 - Currency 1.56 \$/Euro
- JRMS survey November 2008
 - Oil price \$68
 - S&P 500 969
 - Currency 1.27 \$/Euro
- December 2009
 - Oil price \$77
 - S&P 500 1,106
 - Currency 1.48 \$/Euro

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Anchors Away?



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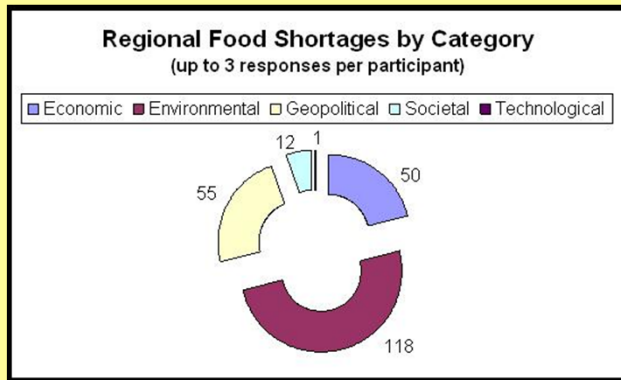
Top Emerging Risks

- Fall 2009
 - 66% US current account deficit/fall in US dollar
 - 49% Blow up in asset prices/excessive indebtedness
 - 45% Oil price shock/energy supply interruptions
 - 33% Chinese economic hard landing
- Spring 2008
 - 57% Oil price shock/energy supply interruptions
 - 40% Climate change
 - 40% Blow up in asset prices/excessive indebtedness

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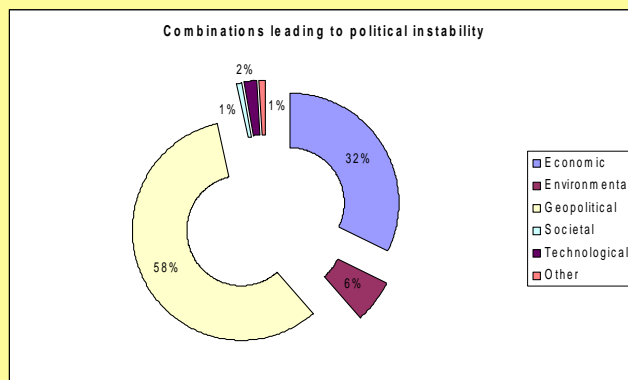
Specific Risk Concern



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Specific Risk Concern



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ERM Best Practices

- ERM is used to make strategic and tactical decisions
- Risk culture penetrates all levels
- Board/senior management is involved
- Environmental scanning
- Contrarian thought is encouraged

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Thank you!

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