

ERM at Health Insurers/ Emerging Risks

**Kansas City Actuaries Club
Max J. Rudolph, FSA CFA CERA
Rudolph Financial Consulting, LLC
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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

Historical View of Risk

- Silo based – one risk at a time
- Driven by models
- Mitigation focus
- Rating agency centric

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

ERM for Honest/Dishonest

Risk Steering

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

Dishonest/clueless

- Focus on controls
- What could happen
- Audit focus
- Limit downside

Key Elements of ERM Process

- Identify/prioritize risks
- Involve board
 - Risk appetite/alignment (capacity/budget)
- Common language
- Key risk indicators (leading/lagging)
- Common decision making process
- Emerging risks

Objectives of ERM

- Value added
- Knowledge
- Culture
- Compliance

Skepticism

- Culture encourages challenges
- Listen and brainstorm

What's different for Health Insurers?

- ERM Framework/Process is the same
- Risks differ (silos)
- Focus on liability and operational risks

Literature Search

- Kara Clark ERM articles
 - Aug 2005/Jan 2006 Health Section Newsletter
 - ASHRM monograph ERM January 2006 (3 parts)
- The Actuary
 - Bob Wolf's series of articles
- CPD module: Introduction to ERM
- www.rudolphfinancialconsulting.com

SOA Survey – ERM at Health Insurers

- How often is the company risk profile reviewed?
- What documents are given to new board members to describe risks taken?
- How could the ERM program be improved?
- Does the company have a succession plan?
- Is pricing methodology consistent across all purposes?

Comments from Survey

- External stakeholders rarely ask questions about ERM
- Many firms limit their ERM discussion to risk mitigation
- Few health consultants see ERM's value
- Some use ERM to provide a consistent framework when considering opportunities

Using ERM to Add Value

- Strategic planning role
 - Understand your risk profile
 - Solutions are unique
 - Quantitative/qualitative tools
- ERM is not
 - A checklist exercise
 - A rating agency exercise
 - Just about risk mitigation

Risk Committee

- Key product officers from across the company
 - Aids succession planning by providing cross training
 - Builds team that is used to working together
- Chance for other experts to review in advance
 - “Break the product”
 - Avoids some major mistakes
 - Checks and balances
 - Pricing discipline
 - Business units buy in
- Risks debated before accepted
 - Proactive

Scenario Planning – tell a story

- Deterministic scenarios
 - Worried about specific event
 - What if once per century hurricane or pandemic
 - Modeling constraint
 - I don't know how to do it
 - Time constraint
 - I can't do it based on lengthy run time

Practical Uses of Scenario Planning

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

ERM Best Practices

- ERM is used to make decisions
- Risk culture penetrates all levels
- Board involvement and buy-in is key
- Emerging risk scanning

Additional material

- <http://library.soa.org/research/health/hlth-erm-practice-health-insurers.aspx>
- <http://www.soa.org/library/newsletters/health-watch-newsletter/2010/may/hsn-2010-iss64.pdf>
- <http://www.soa.org/library/newsletters/health-watch-newsletter/2010/february/hsn-2010-iss63.pdf>

Emerging Risks

- What are emerging risks?
 - Completely new risks
 - Evolving risks

Perfect Storm?

- Environmental scanning
- Mean reversion
- Copout
 - Once per century events don't happen 4 days in a row

Surveys

- Used emerging risks developed by World Economic Forum (23)
- Top 5 emerging risks (including #1)
- Combinations of risks
 - Political Instability
 - Regional food shortages
- Current topics

Emerging Risks

- Economic
 - Oil price shock
 - US current account deficit
 - Chinese economic hard landing
 - Demographic shift
 - Blow up in asset prices
- Environmental
 - Climate change
 - Freshwater loss
 - Tropical storms
 - Earthquakes
 - Inland flooding

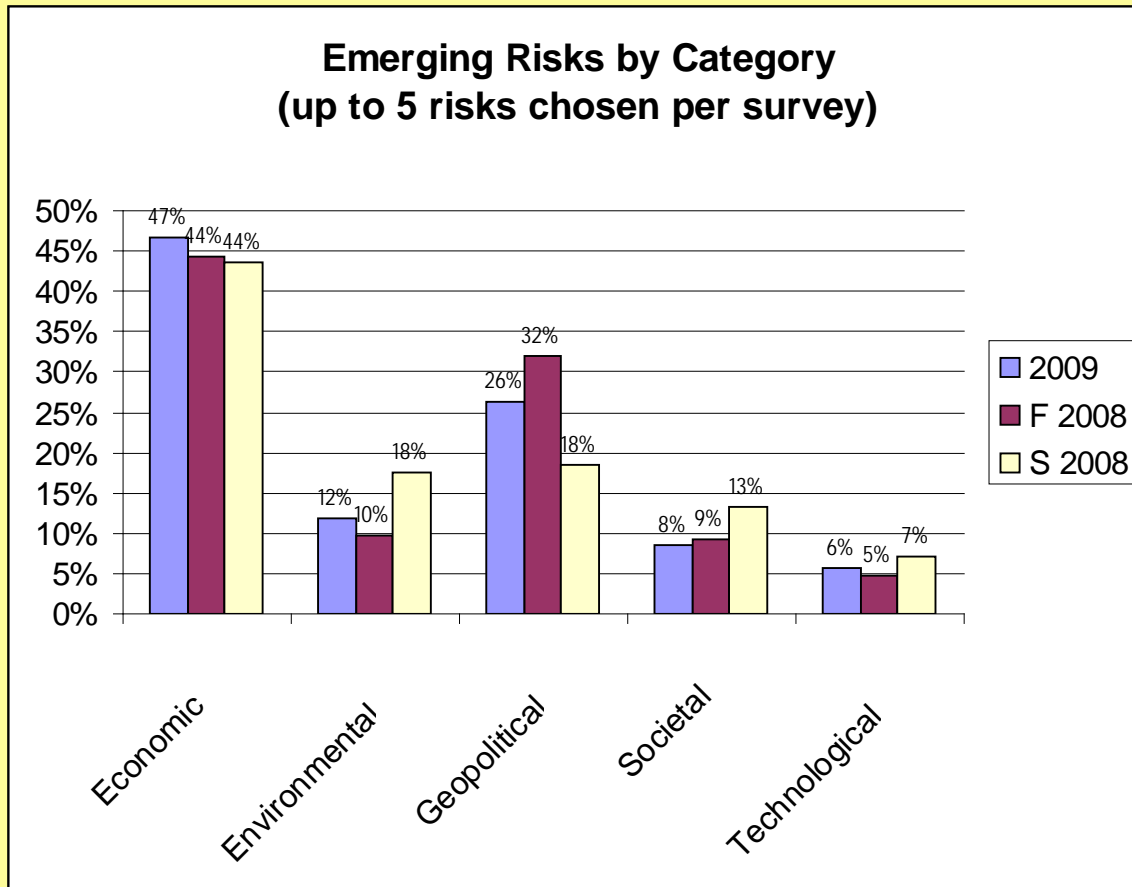
Emerging Risks

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

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

Anchors Away?



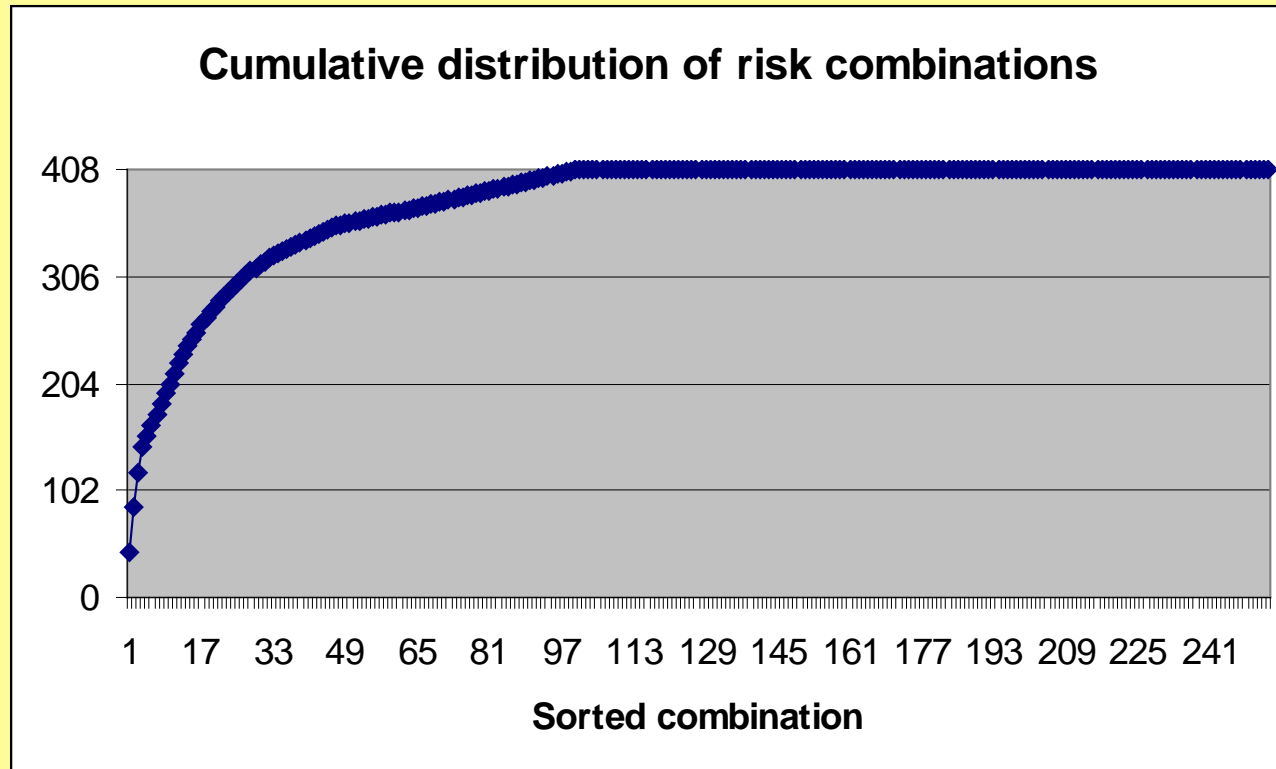
Top Emerging Risks

- **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**

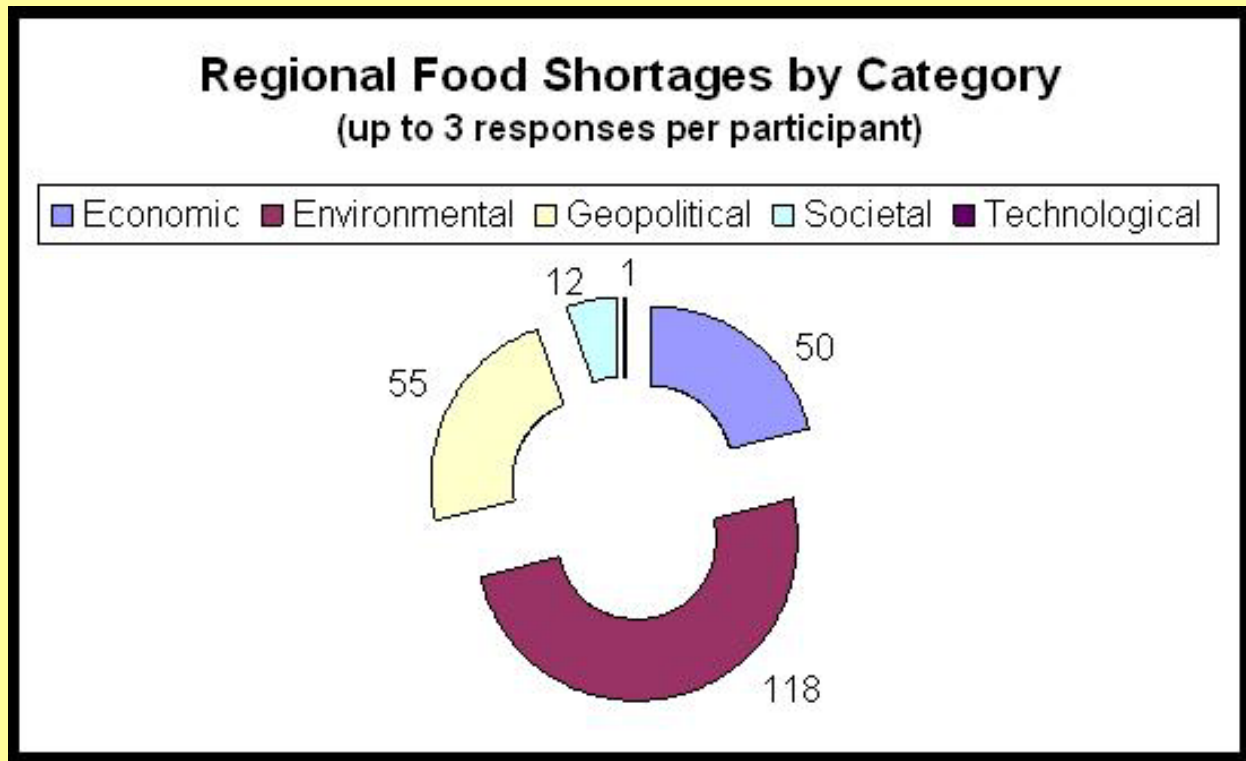
Risk Combinations

- Listed up to 3 combinations of 2 emerging risks
 - Top response 44 responses
 - US current account deficit/fall in US dollar
 - Blow up in asset prices/excessive indebtedness
 - 43 responses
 - US current account deficit/fall in US dollar
 - Chinese economic hard landing
 - 32 responses
 - Oil price shock/energy supply interruptions
 - US current account deficit/fall in US dollar

Risk Combinations



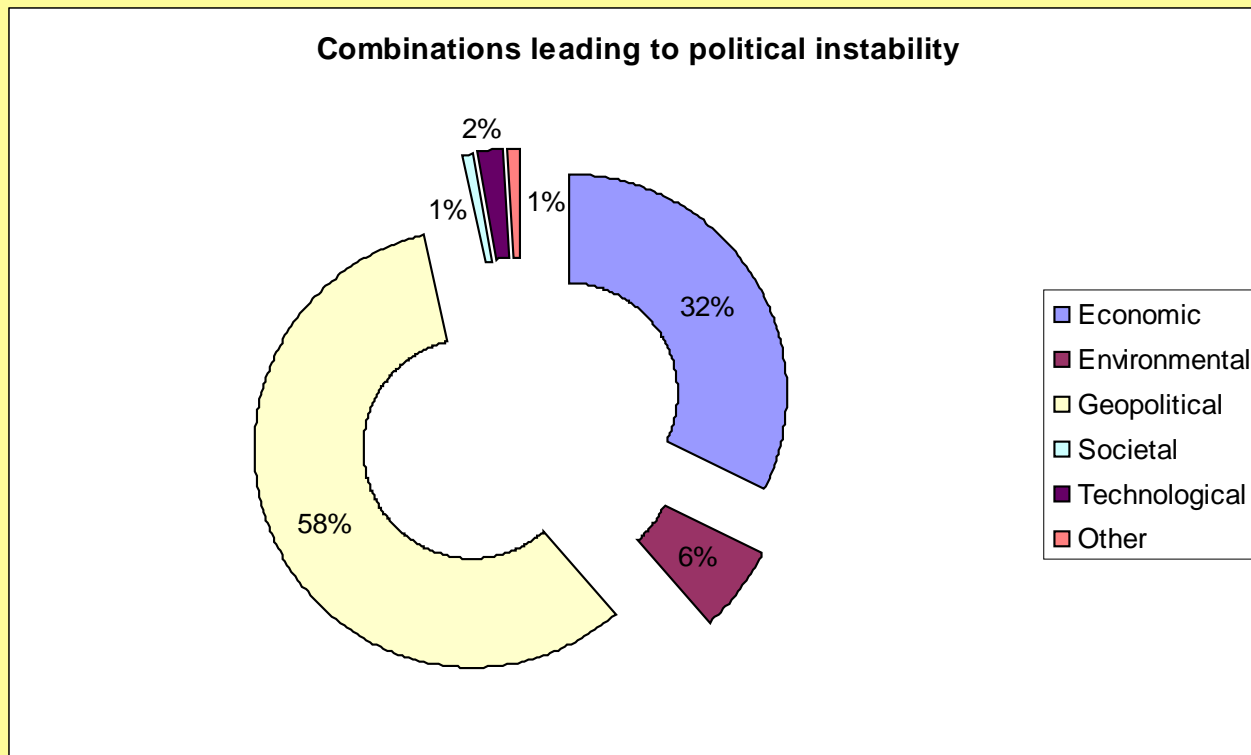
Specific Risk Concern



Regional Food Shortages

- 47% Climate change
- 36% Loss of freshwater services
- 35% Oil price shock/energy supply interruptions
- 30% Natural catastrophe: Inland flooding
- 27% Interstate and civil wars

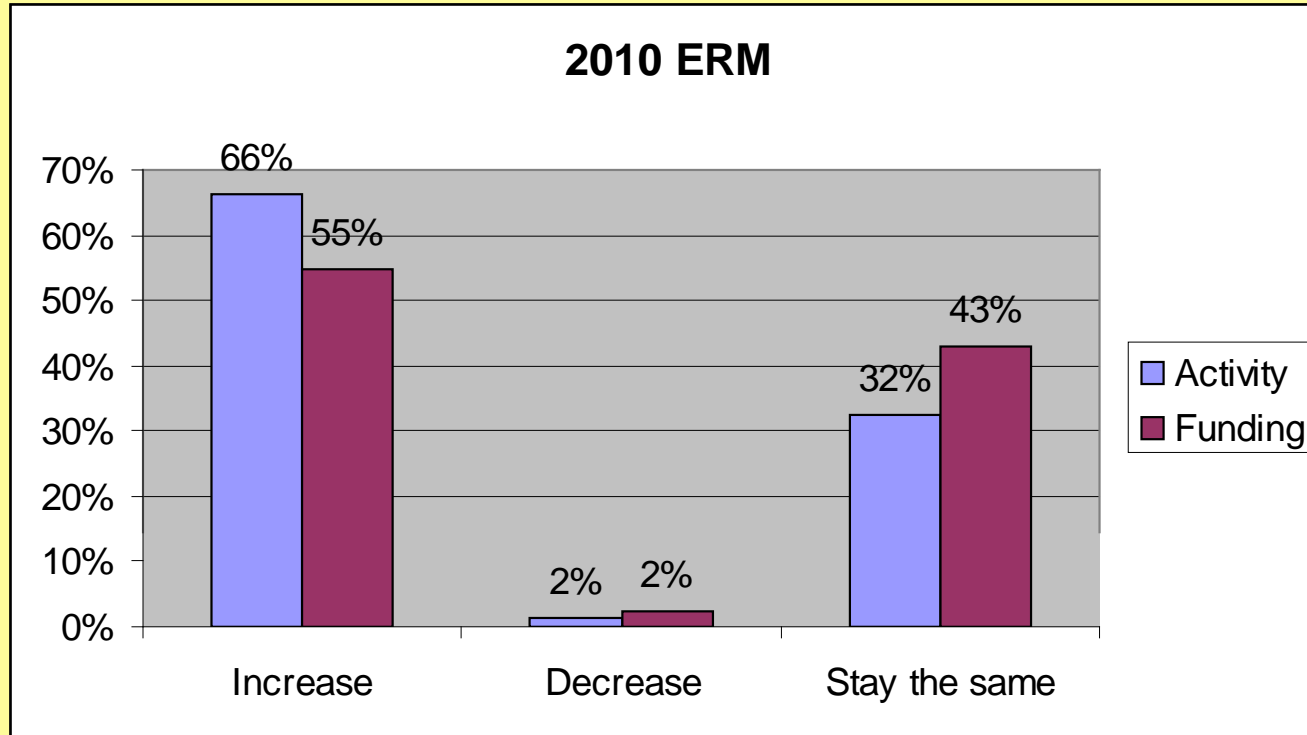
Specific Risk Concern



Political Instability

- 40% Middle East instability
- 32% Failed and failing states
- 31% International terrorism
- 30% Oil price shock/energy supply interruptions
- 23% US current account deficit/fall in US dollar

Activity in 2010



Other Questions

- CTE is primary internal metric (conditional tail expectation)
- Time horizon for economic capital
- Modeling improvements
 - Model efficiencies
 - Tail correlations
- Leading indicators

To access the survey

- <http://soa.org/research/risk-management/research-2009-emerging-risks-survey.aspx>
- <http://soa.org/library/newsletters/risk-management-newsletter/2009/march/jrm-2009-iss15.pdf>
- <http://soa.org/library/newsletters/international-section-news/2008/august/isn-2008-iss45.pdf>

Thank you!

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

www.rudolphfinancialconsulting.com