



SOCIETY OF ACTUARIES

**ERM Symposium**  
**April 2010**

**4B - Developing an Emerging Risk Strategy**

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Where Cutting Edge Theory Meets Some of the Best Practice

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4B – Developing an Emerging Risk Strategy  
April 13, 2010



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## Emerging Risks



Where Cutting Edge Theory Meets Some of the Best Practice

- What are emerging risks?
  - Completely new risks
    - Space junk returning to earth
  - Evolving risks
    - Automaker reputation, climate change
  - Recently unseen risks
    - Asteroid/black plague

## How to avoid the “Perfect Storm” excuse



What's Coming Up? There's More to It Than You Think

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

## Survey



What's Coming Up? There's More to It Than You Think

- Used emerging risks developed by World Economic Forum (23)
- Top 5 emerging risks (including #1)
- Combinations of risks in general
- Combinations leading to political instability
- Current topics

# Emerging Risks



What's Coming Up? There's More Than Meats in the House

- 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



What's Coming Up? There's More Than Meats in the House

- 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



What's Going On? There's More to It Than It Seems

## INARM survey April 2008

- Oil price \$114
- S&P 500 1,386
- Currency 1.56 \$/Euro

## JRMS survey December 2009

- Oil price \$77
- S&P 500 1,106
- Currency 1.48 \$/Euro

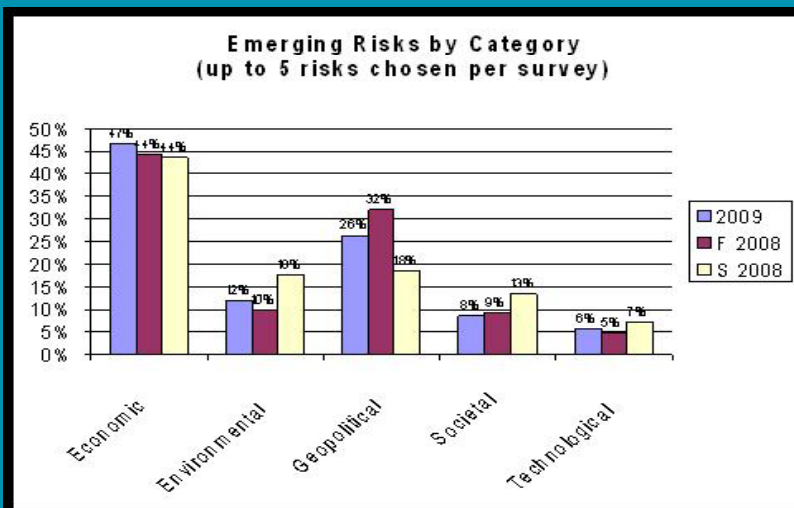
## JRMS survey November 2008

- Oil price \$68
- S&P 500 969
- Currency 1.27 \$/Euro

# Top Emerging Risks



What's Going On? There's More to It Than It Seems



# Anchors Away?



What's Going On? There's More to It Than It Seems

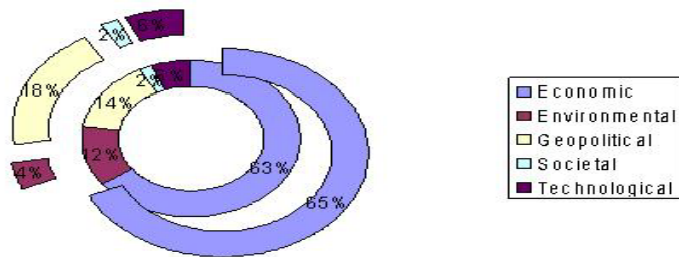
- INARM survey April 2008
  - 57% Oil price shock
  - 40% Climate change
  - 40% Blow up in asset prices/excessive indebtedness
- December 2009
  - 66% US current account deficit/fall in US dollar
  - 49% Blow up in asset prices/excessive indebtedness
  - 45% Oil price shock

# Top Category



What's Going On? There's More to It Than It Seems

**Emerging Risks by Category**  
(single greatest impact)  
outer circle Fall 2008, inner circle Fall 2009



# Risk Combinations



What's Coming Up? There's More to Watch for in 2014

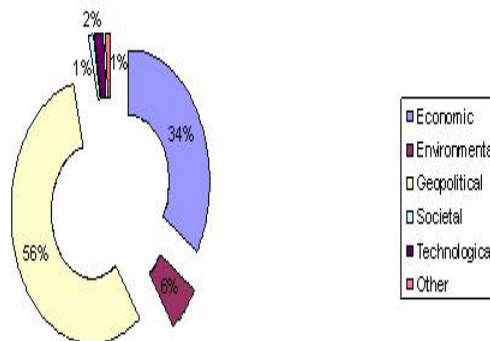
- Up to 3 combinations of 2 emerging risks
  - Top response 44 of 408 (25% of surveys)
    - **US current account deficit/fall in US dollar**
    - Blow up in asset prices/excessive indebtedness
  - #2 43 responses
    - **US current account deficit/fall in US dollar**
    - Chinese economic hard landing
  - #3 32 responses
    - Oil price shock/energy supply interruptions
    - **US current account deficit/fall in US dollar**

# Specific Risk Concern



What's Coming Up? There's More to Watch for in 2014

Combinations leading to political instability



# Political Instability



What Causes It? What Does It Do? How to Handle It?

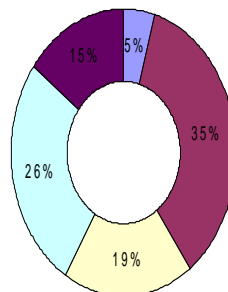
- Middle East instability
- Failed and failing states
- International terrorism
- Oil price shock/energy supply interruptions
- US current account deficit/fall in US dollar

# Leading Indicators



What Causes It? What Does It Do? How to Handle It?

Leading Indicators for Emerging Risks

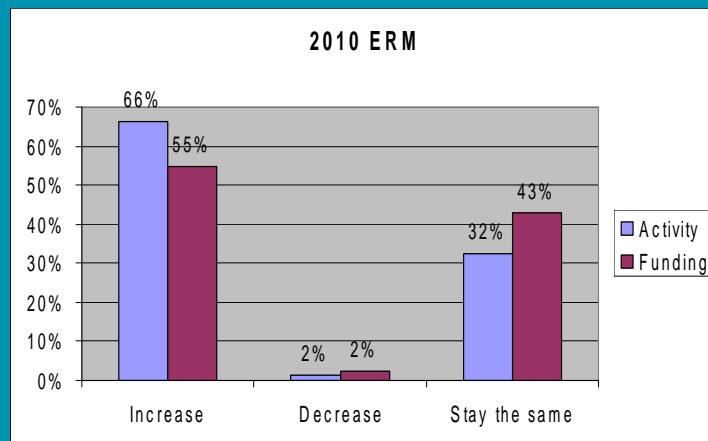


■ Yes for all ■ Yes for some □ No □ Don't identify emerging risks ■ Not sure

## ERM changes in 2010



What's Going On? There's More to It Than It Seems



## Interesting Revelations



What's Going On? There's More to It Than It Seems

- Dominance of economic risks
- Lack of increase in climate change
- Pandemic non event
- Possible unintended consequences of Chinese economic problems
- Movement toward leading indicators
- Better understanding of model limitations
- Staff catch up in 2010

## To access prior surveys



Where Cutting Edge Theory Meets Some of the Best Practice

- 2008 research
- <http://soa.org/research/health/hlth-erm-practice-health-insurers.aspx>
- Article
- <http://soa.org/library/newsletters/risk-management-newsletter/2009/march/jrm-2009-iss15.pdf>



Where Cutting Edge Theory Meets Some of the Best Practice

Thank you!  
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Where Cutting Edge Theory Meets Some of the Art Practice

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## Agenda



Where Cutting Edge Theory Meets Some of the Art Practice

- What are emerging risks?
- Why do we want a strategy to manage them?
- How do we identify them?
- What do we do with them?
- What are some of the challenges?
- What's next?

# What are Emerging Risks?



- **Our Definition:**
  - A condition, situation or trend that could impact the Company's financial strength, competitive position or reputation within the next 5 years.
- **Common Theme:**
  - Emerging risks involve a high degree of uncertainty because, unlike other risks, they don't have a track record which can be used to estimate likely probabilities and expected losses.
- **Monitoring Emerging Risks is not New:**
  - Examples:
    - Analysis of quarterly trends in mortality, persistency, morbidity.
    - Monitor credit risk profile of our investment portfolios.
    - Review business unit operating risks.

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# Why Do We Need a Strategy to Manage Them?



- **Our Objective:**
  - To establish a forward looking, comprehensive framework to manage emerging risks that could, at some point in the future; impair the Company's financial strength, competitive position or reputation.
- **Benefits**
  - Minimize surprises and earnings volatility.
  - Identify early mitigation opportunities.
  - Enable early recognition of risks which might not be recognized as material in any one area, but which might affect several businesses and become significant to the Company.
  - Identify and share best practices in managing emerging risks.
  - Strengthen the risk awareness/culture of the company through discussions about emerging risks.

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## Why Do We Need a Strategy to Manage Them? (cont'd)



- **Principles:**

- Continue to have risks managed by the area closest to taking those risks.
- Utilize the current risk management structure wherever possible.
- Engage as many associates as possible from as many areas of the company as possible.
- Strive for consistency in applying definition and measurement to enable comparison.
- Keep reporting useful, as simple as possible and frequent.
- Coordinate roles and responsibilities in emerging event situations with other existing Prudential protocols.

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## How Do We Identify Them?



- **Internal Activity:**

- Conduct brainstorming sessions with Senior Management, Subject Matter Experts, cross function/business groups, etc.
- Deliver presentations to many areas to increase emerging risk awareness and collect thoughts on emerging risks.
- Review risk reports prepared by internal areas. The standard format now includes a section on their emerging risks.
- Conducted workshop on emerging risks at internal full day Enterprise Risk Management Conference.
- Prepared Discussion Guide and provided it to all of our Risk Officers to help them conduct emerging risk discussions within their areas.
- Meet with Business Unit/Functional Area Risk Officers bi-monthly for discussion of emerging risks.
- Develop and execute process to actively manage emerging risks.
- Continue learning and improvement of managing emerging risks.

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## How Do We Identify Them? (cont'd)



- **External Information:**

- Perform Media Scan weekly.
- Review surveys and papers on emerging risks.
- Read material shared by International Network of Actuarial Risk Managers.
- Attend Risk Management Conferences.
- Read material produced by futurists for discussions of changes in the future and their potential impact on our businesses.
- Host external speakers.

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## What Do We Do With Them?



- **Conducting Pilot to Make Strategy More Actionable**

- Selected seven emerging risks for active management.
- Assigned Emerging Risk Manager to each to actively monitor them. These Emerging Risk Managers are subject matter experts in his/her emerging risk or a coordinator of subject matter experts.
- The Emerging Risk Manager provides initial information and quarterly reporting.
  - Initial Information:
    - Definition of emerging risk
    - Estimates of likelihood, impact and velocity
    - Areas of Company likely to be affected
    - Existing/potential mitigators
    - Leading indicators

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## What Do We Do With Them? (cont'd)



- Quarterly Reporting:
  - What has happened during the quarter on that particular risk?
  - What is the status of leading indicators?
  - What are the changes, if any, in estimates of likelihood, impact and/or velocity?
  - Do we need to take action now?
- Pilot includes a basic measurement scheme for likelihood, impact and velocity to score and prioritize emerging risks.

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## What Do We Do With Them? (cont'd)



- **Two Examples:**
  - Social Media (e.g., Twitter, Facebook)
    - Issues –
      - Associates may share material, non-public, confidential and/or private information.
      - Risks to intellectual property rights, advertising issues, monitoring issues and various business specific laws and regulations.
      - Risk of not engaging in social media:
        - Others control messaging about our company and brand.
        - Not being seen as an employer of choice.
    - Emerging Risk Manager Assigned
    - Separate teams brought together.
    - Company Policy drafted and approved.
    - Team is now reviewing and approving specific initiatives.
    - Team is tracking regulations and FINRA guidelines for compliance.
    - Third party vendor as well as internal associates scanning social media for mention of company to head off potentially viral comments.
    - Training for associates on the appropriate use of social media is being developed.

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## What Do We Do With Them? (cont'd)



- Healthcare Reform
  - Initially, full potential impact was not recognized because we are no longer a health insurer.
  - Business Unit Risk Officers and other interested parties were brought together to hear about potential impacts.
  - Discussion surfaced:
    - Specific potential impacts on Long Term Care, Individual Health contracts (run-off business), employee health benefits, tax deductibility of such benefits, cost of third party vendors and services.
    - Potential secondary impacts on the way we collect, use and disclose medical information.
  - Emerging Risk Manager was assigned.
  - Awareness of impact could be important as we participate in drafting NAIC models or other federal agency regulations.

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## What are Some of the Challenges?



- What are the criteria for assigning an Emerging Risk Manager to a risk, that is, to actively manage an emerging risk?
- When should we take a risk off of the list of emerging risks either because it may no longer be a risk or because it is no longer emerging?
- How should we organize electronic brainstorming sessions – all associates from one area or from diverse areas? From one business or across businesses?
- How much time and resources should we invest?
- How do we keep emerging risks on associates' radar screens?

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# What's Next?



- Develop framework to manage emerging events
  - Coordinating with Global Security Area – Roles and responsibilities defined.
  - Developing evaluation framework to prioritize extreme events.
  - Exploring early mitigation possibilities.
- Identify additional emerging risks for active management.
- Analyze correlations among emerging risks to identify potentially offsetting risks and/or leading indicators.
- Expand brainstorming to include more associates in a variety of domestic and international locations.
- Document business requirements and build database.
- Continue learning and evolution of emerging risk management to identify opportunities and protect the company.

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Thank you!  
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