



## Section Mid-Year Meetings

Actuaries  
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Wyndham Drake - Oak Brook  
Oak Brook, IL (*Chicago area*)



**Actuaries**  
Risk Is Opportunity.<sup>SM</sup>

# Enterprise Risk Management

## Five Necessary Elements of Prudent ERM Culture

**Robert F. Wolf, FCAS, CERA, ASA, FCA, MAAA**

Staff Fellow- Risk Management

Society of Actuaries

847-706-3560

[rwolf@soa.org](mailto:rwolf@soa.org)



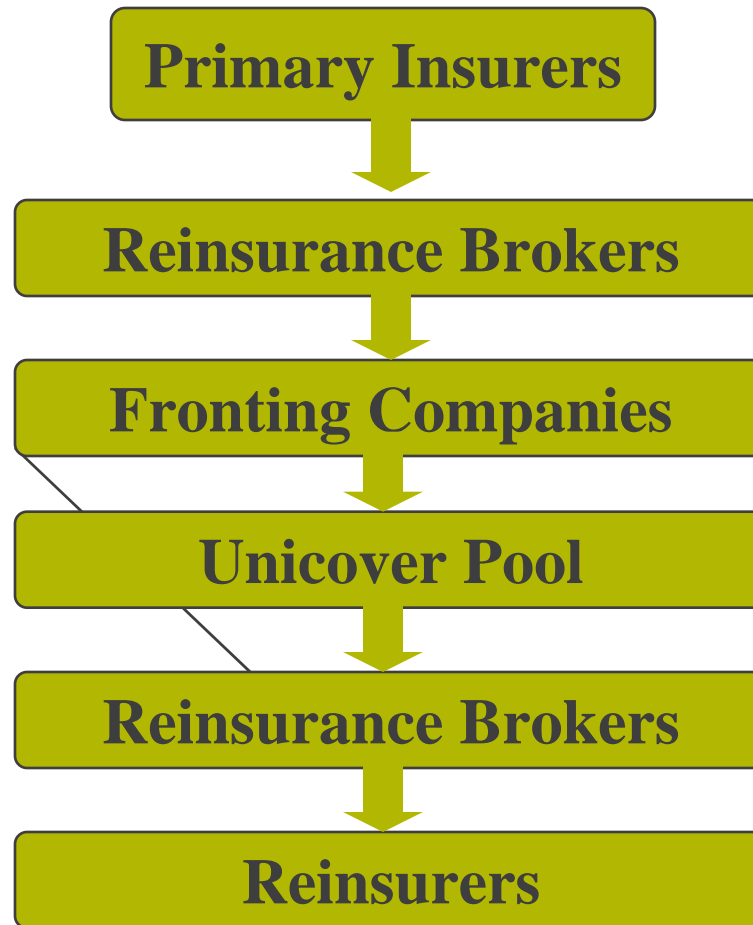
SOCIETY OF ACTUARIES

# The Financial Crises

- Lessons Learned?
- Insights?
- Proactive Solutions?
- Did ERM Fail?
- Can this Happen Again?
- Did this Happen Before?



# Remember Unicover?



Passing  
the  
Trash



# Why Did Unicover Happen?

- **Greed**
  - Strong incentive to accept premium, ceding fees
  - Accusations that risks were misrepresented
- **Complexity/Ignorance**
  - Didn't understand “carve-out” business (life reinsurers took on medical portion of risk)
  - Higher-ups thought it was ordinary A&H
  - Regulators asleep at the switch
- **Economic**
  - Weak premium growth in WC, competition,
  - Rate on line falling; preserve revenue stream

*Robert Hartwig, Chief Economist, Insurance Information Institute , NYC*



# Power of ERM.....

- Optimizing the characteristics and tools involving of the laws of probability and statistics
  - Diversification
  - Correlation



# Enterprise Risk Management

## 5 Necessary Elements as Learned from Financial Crises

<http://www.soa.org/library/essays/rm-essay-2008-toc.aspx>



## “Chief Skeptical Officer?”

*“When a business line brings a new idea to the CEO, he should be able to ask, ‘Have you run this past the Chief Skeptical Officer and does she concur with this proposal?’ The CSO (could also be referred to as the Common Sense Officer) might not always be popular, but the improved decisions made will allow the CEO to more confidently execute the company’s strategic plans.”*

*...Max Rudolph’s Essay*



# Necessary Condition for a Prudent ERM Framework

# 5 Risk Managers Must Question the  
Answers



# Models- Our “Bread and Butter”

- Related to overreliance on models
  - Tail events are unknown, huge
  - Cannot be hedged away
- Focus: how to manage through them

*[Complex] systems are not confined to historical experience. Events of any size are possible, and limited only by the scale of the system itself. Since we have scaled the system to unprecedented size, we should expect catastrophes of unprecedented size as well.*



# Modeling Risk

- We can build it, but can we understand what makes it tick?
- Oversimplify our models due to lack of understanding
  - Exacerbated by leverage

*“New products, by definition, carry more risk,” she said. The models should penalize investments that are complex, hard to understand and infrequently traded, she said. They didn’t.*



*“Risk managers should always be aware that marginal analysis can produce incorrect results. They should follow my mother’s caution ‘what if everybody did that?’ and look into their statistics more carefully,”*

.....Dave Ingram’s essay “Your Mother Should Know”



# What Market?

- “Here we are led to draw a distinction between ‘wild’ markets and ‘free’ markets. A wild market is unregulated and unscrutinized. Information flows are purposely impeded for competitive reasons and reduced to trickles from rumor and espionage. No one knows what anyone else is doing, and pricing is blind and haphazard. In such a market, there are no safeguards against anticompetitive behavior and no guarantee that the market will clear.” .....

*“Transparency and Liability Valuation,”* Philip E. Heckman, ACAS, president of Heckman Actuarial Consultants Ltd., writes:



# Bad computer models can lead to distrust of ERM

*Many of the flaws that have led to current turbulent conditions have not ridden in on the back of a black swan. Instead they are the result of weaknesses and failings in the interpretation of risk analysis and the processes of oversight.*

*This episode ... potentially [creates] credibility problems for ERM. ... [When] poorly supervised, but apparently sophisticated modeling exacerbates a business disaster rather than helps avoid it, it is viewed by some as a general failure of both risk modeling and ERM.*



*“Each new market crisis demonstrates that correlation in stressed environments is much higher than historical averages would indicate,”*

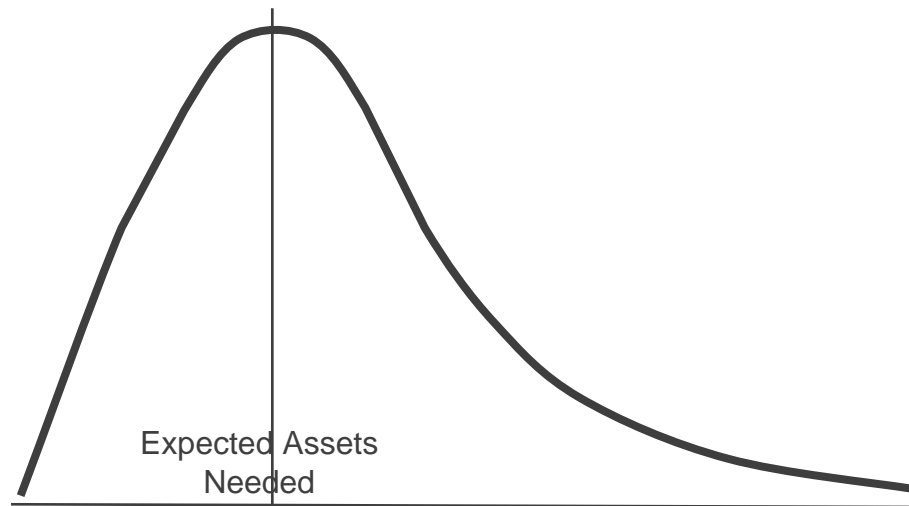
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*“... the quantification of remote probabilities is more difficult than the quantification of possibilities.”*

From the “Credit Crisis Lessons for Modelers” essay by Parr Schoolman, FCAS, Vice president at Aon Benfield Analytics.



# How Much Capital is Enough ?



Where is the Edge of the Cliff? {

Three horizontal arrows pointing to the right, indicating different levels of capital adequacy or risk management focus.

- Confidence Required

- ◆ in the marketplace
- ◆ By investors
- ◆ By regulatory supervisors.

- Focus away from 1 in 1000 year event

- Focus to Recovery Management on a Going Concern



## Necessary Condition for a Prudent ERM Framework

# 4 Modeling Must Consider Crises Mode.  
Management Must consider the decision-making of people.

*Assume that in crisis mode, everyone behaves the same.*

The "M" in ERM stands for Management



# Risk Hedging and/or Risk Transfer

- Cannot assume you can lay off risk tomorrow (and lay it off at today's prices)
- What happens if you end up owning that risk?

*Over time we accumulated a balance-sheet of traded assets which allowed for very little margin of error. We owned a large portfolio of “very low-risk” assets which turned out to be high-risk ... We had not fully appreciated that 20% of a very large number can inflict far greater losses than 80% of a smaller number.*



*“...It's hard not to read news about property-casualty insurers whose financial strength ratings tumble from "A" to "B" in a heartbeat, only to have their hearts stop beating soon after, without wondering what's going on....”*

- ◆ Suzanne Sclafane, National Underwriter

# Domino Effects

## Liquidity, Liquidity, Liquidity

Common Themes of Insurer Failures:

Something--→

- ◆ Reserve deficiencies >
  - Ratings downgrades --→
    - New/renewals slow down
    - Reinsurance Recoverables
    - Liquidity Diminishes
  - More rating Downgrades
    - Etc. etc.etc.
    - Downward sloping freefall



# Necessary Condition for a Prudent ERM Framework

*# 3 Assume we Cannot Get Rid of the Risk Tomorrow*

*History is Not Destiny*



# Accountability

- Securitizing mortgages took responsibility for underwriting failures away from writers and put them 3<sup>rd</sup> party
  - “Return” decision making not “risk and return” decision making
- Reliance on rate makers (why do we give them authority when they have no accountability?)

*In [surmounting the financial crisis] we want to reward "responsible risk taking," not "irresponsible risk taking" ... "we want free markets but we don't want value-free markets."....Gordon Brown*



# Necessary Condition for a Prudent ERM Framework

# 2 Nobody should have the authority to make decisions without accountability.

*Those with the authority to make decisions must have accountability for all the bets they take, not just for the winning bets*



# Incentive compensation

- Compensation practices have been at odds with risk management
  - Most firms driven by growth, profits
  - No reward for saying no
  - Risk manager acting outside the structure of the firm

*Paying company executives to act like self-interested agents of company owners unfortunately was too successful for its own good. It transformed professional managers into self-serving optimizers [and] private opportunists ...*



# Incentive compensation

- **Opportunity** to overcome an ERM hurdle: transform compensation programs to align them with stated risk tolerances
  - Tie incentive compensation to future performance
  - Incentivize risk adjusted performance

*Under most compensation programs, the business manager will be incented to continue business regardless of the risk. They are incented AGAINST risk management. ....Dave Ingram, Willis Re*



# Necessary Condition for a Prudent ERM Framework

# 1 Incentive compensation requires appropriate alignment with desired performance.

*Incentive Compensation must stop paying for excessive risk taking*



## Recap of 5 Necessary Elements

1. Incentive compensation requires appropriate alignment with desired performance
2. Nobody should have the authority to make decisions without accountability.
3. Do Not Assume we Can Get Rid of the Risk Tomorrow for the same Price as Today
4. Modeling and Management Must consider the Behavioral Decisions of people.
5. Risk Managers Must Question the Answers



# Enterprise Risk Management

- Key elements:
  - Dual nature of risk
  - Value creation
- Should really be Called “Enterprise Risk and Return Management”
- ERM reflects no new concepts but is a new “organizing” concept
  - *Assessing issues we have always addressed*



# Key Components

- **Enterprise Risk and Return Management**

*Holistic Modeling of Exogenous Risks*

+

*Considering Risks Reflecting Behavioral Motivations/Decisions/Reactions of People*

+

*Balance of Risk and Rewards*

+

*Actuarial Standards of Practice/Codes of Conduct*

+

*Strategy/Implementation/Accountability*

=

**Value Creation**



# ERM Challenges

- Difficulty in Measuring Correlation
  - Attempts to isolate relationships between variables such that historical relationships will continue into the future
  - Must Consider Everyone Behaving the same in Crises Mode
- Corporate Constraints to Integrating Risk
  - Budgets and Incentive Compensation Drive Corporate Behavior
  - Trading Mentality
  - Not particularly concerned with things that haven't happened recently



# Questions

