

ERM – Using it to Make Money

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Enterprise Risk Management (ERM) Key Points

- Get paid for the risks you take
- Best solutions are unique to your company!
- Best way to do this?
 - Use common sense
 - Variety of metrics
 - Use models but be skeptical

Culture

- Starts at the top and builds momentum
 - Alignment
 - Integrity – walk the walk
- Encourage honest discussions
- Who is your CSO (Chief Skeptical Officer)?

Emerging Risks

- Unknown unknowns
 - Never happened before
- Developing risks (evolving)
 - Home mortgages
- Not
 - Perfect Storm

Culture or Emerging Risk?

Financial Risk Management Failures

- 1973: **Equity Funding Fraud**
- 1983: **Baldwin United Shell Game**
- 1984: **Continental Illinois Bank Run**
- 1986: **The ZZZ Best Carpet Scandal.**
- 1988: **Equitable (NY) GIC losses.**
- 1989: **The US S&L Crisis.**
- 1991: **Salomon Brothers Bond Scandal.**
- 1991: **BCCI Scandal.**
- 1991: **Executive Life / First Capital Life Junked**
- 1991: **Mutual Benefit Liquidity Squeeze**
- 1991 – 1996: **Lloyd's Asbestos Liabilities**
- 1994 – 2002: **Japanese Real Estate & Banking**
- 1994: **Orange County Default**
- 1994: **Kidder Peabody Fiasco.**
- 1994: **Confederation Life Failure**
- 1994: **Monarch Life Seizure**
- 1995: **The Barings Derivatives Scandal.**
- 1996: **Sumitomo Copper Scandal.**
- 1997: **The Natwest Hole.**
- 1997: **The Bre-X Mining Scandal.**
- 1997: **Smith Barney Investor Fraud.**
- 1997: **Bank of Tokyo-Mitsubishi Derivatives Loss.**
- 1997: **UBS Derivatives Model Problems.**
- 1997: **Prudential Insurance US Market Conduct**
- 1997: **Nissan Mutual ALM Failure**
- 1998: **Griffin Trading Bond Futures losses.**
- 1998: **Russian Bond Debacle.**
- 1998: **The LTCM Risk Model Failure.**
- 1998: **Asian Economic Flu Crisis**
- 1999: **Toho Mutual & Daihyaju Mutual**
- 1999: **General American Liquidity Failure**
- 1999: **Korea Life ALM Losses & Failure**
- 1999: **Unicover Fiasco**
- 2000: **Equitable UK Pension guarantees**
- 2001: **American Express CBO Losses**
- 2001: **World Trade Center**
- 2002: **Enron & Worldcom**
- 2002: **Conseco chokes on Green Tree**
- 2002: **HIH Surprise**
- 2002: **Amer Skandia VA problems**
- 2003: **Parmalat Accounting Scandal**
- 2003: **Allmerica VA reserving**
- 2003: **Annuity & Life Re Overgrowth**
- 2004: **Marsh Contingent Commissions**
- 2005: **AIG Finite Re**
- 2006: **Scottish Re Tax Asset**
- 2006: **Hurricane Katrina**
- 2007: **Bear Stearns/Countrywide/??? Sub Primes**

Perfect Storm/Emerging Risk/Repeats

- Soc Gen (seems so long ago now)
- Subprime
- Common themes
 - Funding liquidity
 - Leverage
- What's next?
 - Recession
 - Commercial Mortgages
 - Private Equity
 - Public pension plans

How do you Price For...

- Casualty
 - Earthquake/Volcano
 - Hurricane/Tornado/Flood
- Terrorism
 - Anthrax in Chicago – the Windy City
 - Trains in Chicago – crossroads of America
 - New York City – water
 - Political assassinations

Principle-Based Approaches

- Dependent on modeling
 - Generally uses recent history to drive correlations
 - Assumes asset liquidity
 - Assumes funding liquidity
- Peer review is key
 - Model risk is minimal
 - Limited data points
 - Complexity
 - Defend and document
- Good work may be overridden by regulatory zeal

PBA and Enterprise Risk Management

- ...Use the same tools
- ...Leverage existing models
- ...Iterative improvements
- ...Use stochastic results (sort/graph)
 - Pick a level of conservatism
 - Conditional Tail Expectation (CTE/TVaR)
- ...Are built off cash flows
- ...Allows firms to choose risks to exploit

Deterministic Scenarios

- Scenario Planning
 - 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

Scenario – Pandemic Event Risk

- Tail risk/Catastrophic risk
- Example – Influenza pandemic
 - 25% morbidity, 0.6% mortality in OECD
- Risk to life insurer
 - Business continuity
 - Claims
 - Liquidity (assets down/claims up)
 - Counterparty (reinsurer solvency at risk)

Practical Uses

- Marginal impact
 - Organic growth
 - Project (aging) current A/L portfolio
 - Introduce new product
 - Reinsurance (with and without)
 - Investment strategy
 - Acquisition
 - Strategic planning

Thank you!

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