Prudent Enterprise Risk Management:
Lessons From The Financial Crisis
(Concurrent Session C-17)

CAS 2009 Spring Meeting
New Orleans
May 3 – 6, 2009

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Lessons from the 2008 Financial Crisis

- **Control leverage!**
- **Anticipate market illiquidity!**
- **Maintain adequate enterprise liquidity!**
- **Don’t (totally) outsource credit analysis to rating agencies!**
- **Understand enterprise complexity!**

Control Leverage!

- **Many banks had asset leverage of 30:1 or more**
- **Insurers typically had less asset leverage, but liabilities are risky, too**
- **AIG predicament illustrates the dangers of uncontrolled derivative exposure, which is not counted in the asset leverage ratio**
  - Banks affected, too
- **Recommendations:**
  - Realistically model risks in any leveraged enterprise
  - Use street smarts and common sense to check modeling
  - Reduce leverage to safer level

Implicit Leverage in a Credit Default Swap
Fannie Mae 7-Year CDS (February 2007)

- **Sale of $10M swap yielded asset and matching liability of $110K**

- **Equivalent credit-spread-harvesting trade:**
  - Purchase of $10M Fannie Mae bonds, funded by
  - Short sale of $10M U.S. Treasuries
  - Result is $10M increase in assets

- ***Real* leverage in CDS = 90 times reported leverage ($10M/$110K)!**

Anticipate Market Illiquidity!

- **Some derivatives (e.g., puts and calls) can be hedged, IF market for underlying asset is deep and liquid, trading costs are low, and future volatility can be estimated**
- **If NOT (or if naked seller does not hedge), risk neutral framework collapses and naked sellers face uncompensated risk**
  - Has been an issue for banks, traders, life insurers
  - Problem exacerbated by high leverage
- **Recommendation:**
  - Limit size of naked short positions in derivatives of this type

Maintain Adequate Enterprise Liquidity!

- **Many financial institutions were overly reliant on short term credit**
  - Lehman, Bear Stearns, others

- **AIG failed to anticipate collateral requirements**

- **Recommendations:**
  - Secure longer term financing
  - Limit enterprise collateral obligations to available Treasuries + credit lines

Don’t Totally Outsource Credit Analysis to Rating Agencies!

- **Ratings proved to be poor indicator of credit quality (especially but not only for asset-backed securities)**

- **Do the highest ratings actually *encourage* inordinate risk-taking incompatible with the ratings?**
  - AIG, Swiss Re, GE

- **Recommendations:**
  - Do own credit analysis and/or
    - Limit credit exposure *even* to highest rated counterparties
    - Diversify intelligently

Understand Enterprise Complexity!

- **Some financial institutions apparently became too complex for their risk management framework**

- **Enterprise risk management must be embedded in the organization, but is *especially critical* in the executive suite**

- **AIG executives appeared not to grasp the risk in CDS portfolio**
  - 2007 10-K reported \$5M $\text{VaR}_{95\%}$ (1-day horizon), explicitly admitting that "credit related factors, such as credit spreads or credit default, are not included in AIGFP's VaR calculation."

- **Recommendations:**
  - Need combination of Taleb's (The Black Swan)
    - Fat Tony (street smart, experienced, knows markets & human behavior, skeptical of models)
    - Dr. John (academic, innovative, believes models help to explain reality)

Further Reading: SOA / CAS / CIA E-Book

- Risk Management: The Current Financial Crisis, Lessons Learned and Future Implications
- Wacek short essay, "Derivatives, AIG and the Future of Enterprise Risk Management," starts on p. 26

Panel
Q & A