


# Cat Risk and Data Quality in the Rating Process

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# Catastrophe Risk – Rating Implications

- Catastrophe risk is a primary threat to solvency
- No single exposure can affect policyholder security more instantaneously than catastrophes



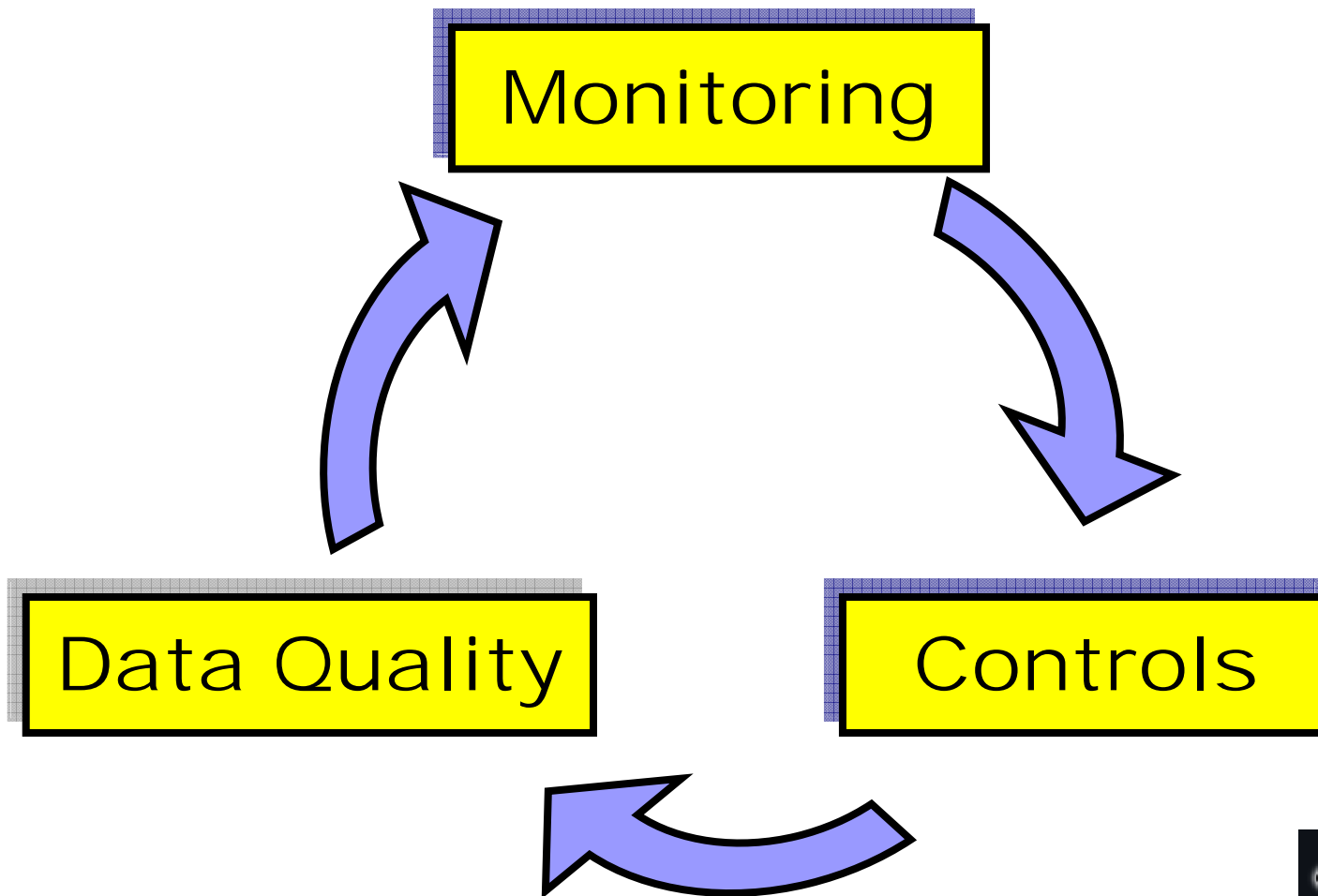


# Catastrophe Management

- Subset of Enterprise Risk Management
- Should be evaluated in the context of the total risk picture of the organization
- Tolerances should be set for all risks



# Keys to Strong Catastrophe Management





# Catastrophe Management

- Data Quality
  - Proper Coding of Loss Exposure
  - Geo-Coding
  - ITV Analysis
  - Use of Bulk Coding
  - Treatment of Multiple Locations



# Catastrophe Management

## ➤ Monitoring Exposure

- Latest Version of Catastrophe Model
- Multiple Models
- Loss Scenario Testing
- Aggregate Loss Exposure Monitored
- Monitoring is Frequent and Consistent





# Catastrophe Management

## ➤ Controls

- Setting of Aggregate Limits
- Appropriate Reinsurance Program
- Catastrophe Management Integrated into Underwriting Process





# Catastrophe Management

- New SRQ Questions
  - % of Data with Known Attributes
  - Bulk Coding Methods Used
  - Most Common Exposures
  - Data Verification
  - Handling of Multiple Locations
  - Handling of Time Element Coverage
- Questions are Intended to Provide Insight into Overall Cat Management





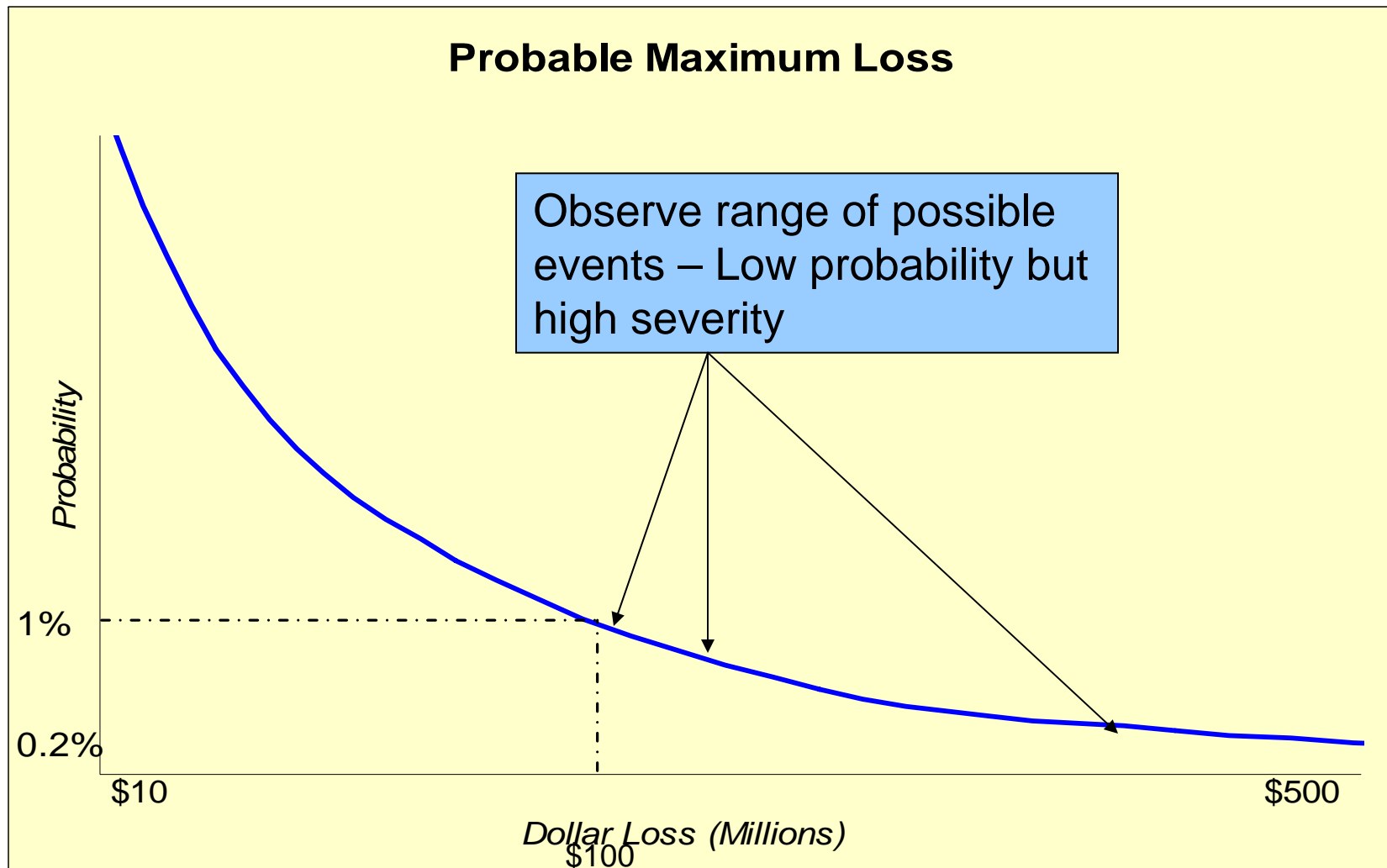


# Catastrophe Risk Measurement

- Tail Value at Risk (TVAR) or Tail Conditional Expectation (TCE)
  - The mean of all probable maximum losses greater than or equal to the return period being evaluated.
- Allows a company to evaluate its average exposure to extreme catastrophe events
- Valuable tool when used in conjunction with PML analysis



# Catastrophe Risk Measurement



# Conclusion

- Companies with strong catastrophe management:
  - Have strong risk-adjusted capitalization
  - Utilize a variety of catastrophe management approaches
  - Contemplate a range of possible events
  - Have a clearly defined strategic objective in terms of catastrophic exposure management
  - Continually monitor catastrophe exposures
- A.M. Best evaluates catastrophe exposure quantitatively and qualitatively





Questions?





# Appendix



# Best Capital Adequacy Ratio

## BCAR

- Comprehensive Tool to Evaluate Risk Components Simultaneously
- Generates Overall Estimate of Required Level of Capital to Support Risks
- Frequent Adjustments: Reserve Adequacy, Reinsurance Recoverable Credit Risk Charges, Growth Factor, Projected Capitalization
- Require Minimum Capital for Specific Ratings



# Effect of modeled PML on the Rating

- Published capital score (BCAR)
  - Surplus reduced by first event
    - Greater of 1/100 Wind, 1/250 EQ, Recent actual loss
    - Per Occurrence curve
    - Net of reinsurance
    - Gross of reinstatement premium
    - Net of 35% FIT



# Requirements in PMLs

- All lines exposed (prop, WC, GL, marine, etc)
- All coverages (bldg, contents, business interruption, additional living expenses, flood, etc.)
- Fire Following
- Demand Surge
- Storm Surge
- Secondary uncertainty
- Assumed business
- Voluntary & Involuntary Pools
- PMLs for each material Peril separately
- PMLs on worldwide basis
- PMLs all perils combined basis







# BCAR Stress Test

## ➤ Why Stress Test?

- We need to see where a company stands after an event
- Rapid escalation of insured exposures in catastrophe exposed areas
- Increased frequency and severity of losses
- Multiple (Katrina, Rita, Wilma) versus single events
- Variances between modeled losses and actual losses



# Stress Test PML – BCAR Impact

*1<sup>st</sup> Event – Larger of 1/100 Wind or 1/250 EQ*

Adjustment	Impact
Subtract after-tax net pml from surplus	Lowers adjusted surplus
Add 80% of pre-tax net pml to loss reserves	Increases required capital
Add 80% of reinsurance recoverables	Increases required capital
Raise credit risk factors and reinsurance dependence	Increases required capital
<i>2<sup>nd</sup> Event – Larger of 1/100 Wind or 1/100 EQ</i>	
Reduce surplus by after-tax net pml	Lowers adjusted surplus



# Effect of Stress test on Rating

- Stressed BCAR can fall up to 30 points from current *required capital as determined by committee*
  - 15 points for most companies (i.e. 1 FSR level)
  - 30 points for companies with
    - Good Catastrophe management
    - Financial Flexibility
- Potentially Greater Flexibility for Dedicated Subs of Strong Parent Companies
  - Issue is willingness to recapitalize

