Finding the Right Retention

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Panelists: **Kevin Malbon,** Associate Director
Aon Global Risk Consulting

Zoë Rico, FCAS, MAAA, Regional Director & Actuary
Aon Global Risk Consulting

Wendell Ferrell, Senior Director Risk Management
Avery Dennison

Agenda

- Captive Risk Categories and the Financing Decision Framework including;
  - Program Types, the Decision Process, Portfolio Effect and Monte Carlo Simulation

- Factors that influence Retention Levels including a Retention Analysis Example

- Worldwide Risk Insurance – Background and Case Study on Avery Dennison's Captive

Captive Risk Categories and the Financing Decision Framework

Captive Risk Categories
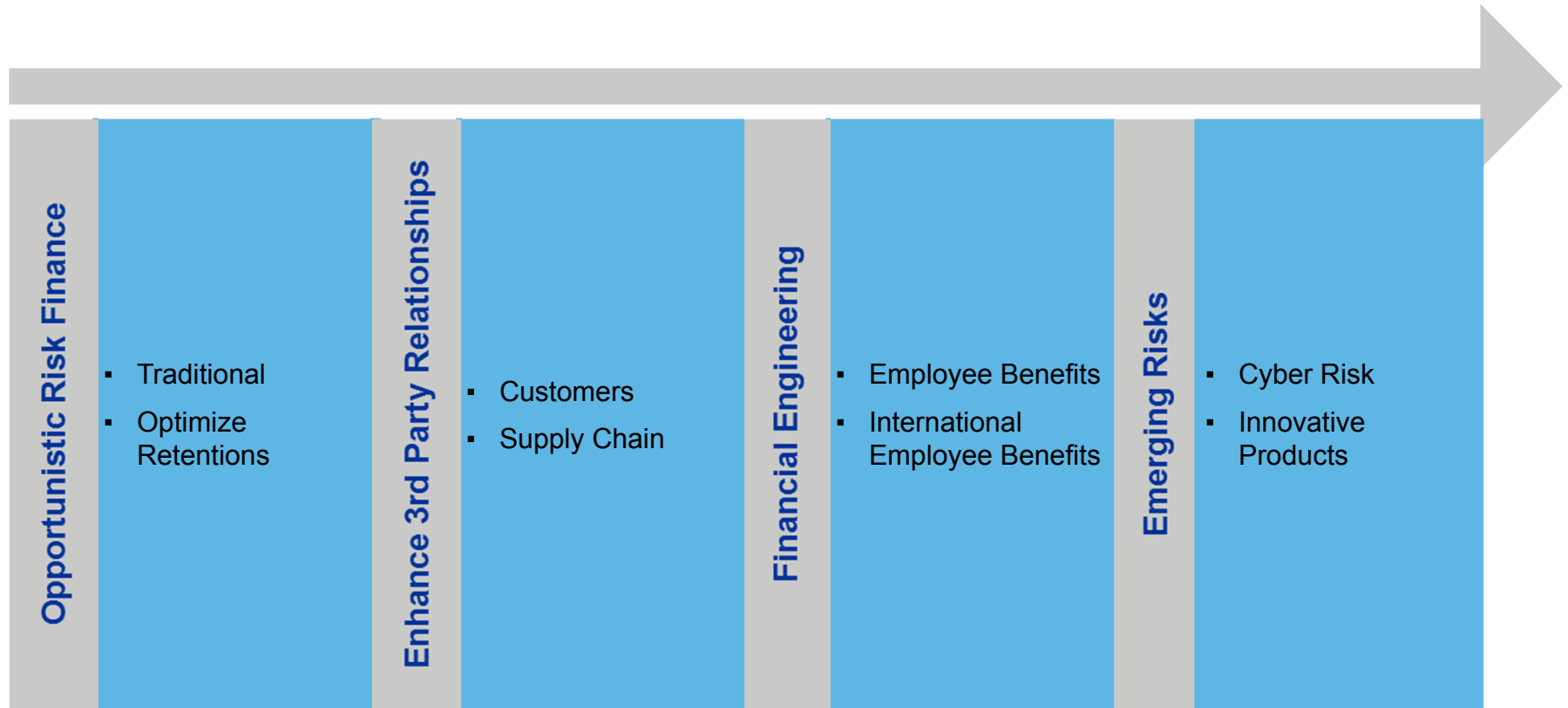
Risk Financing Decision Framework
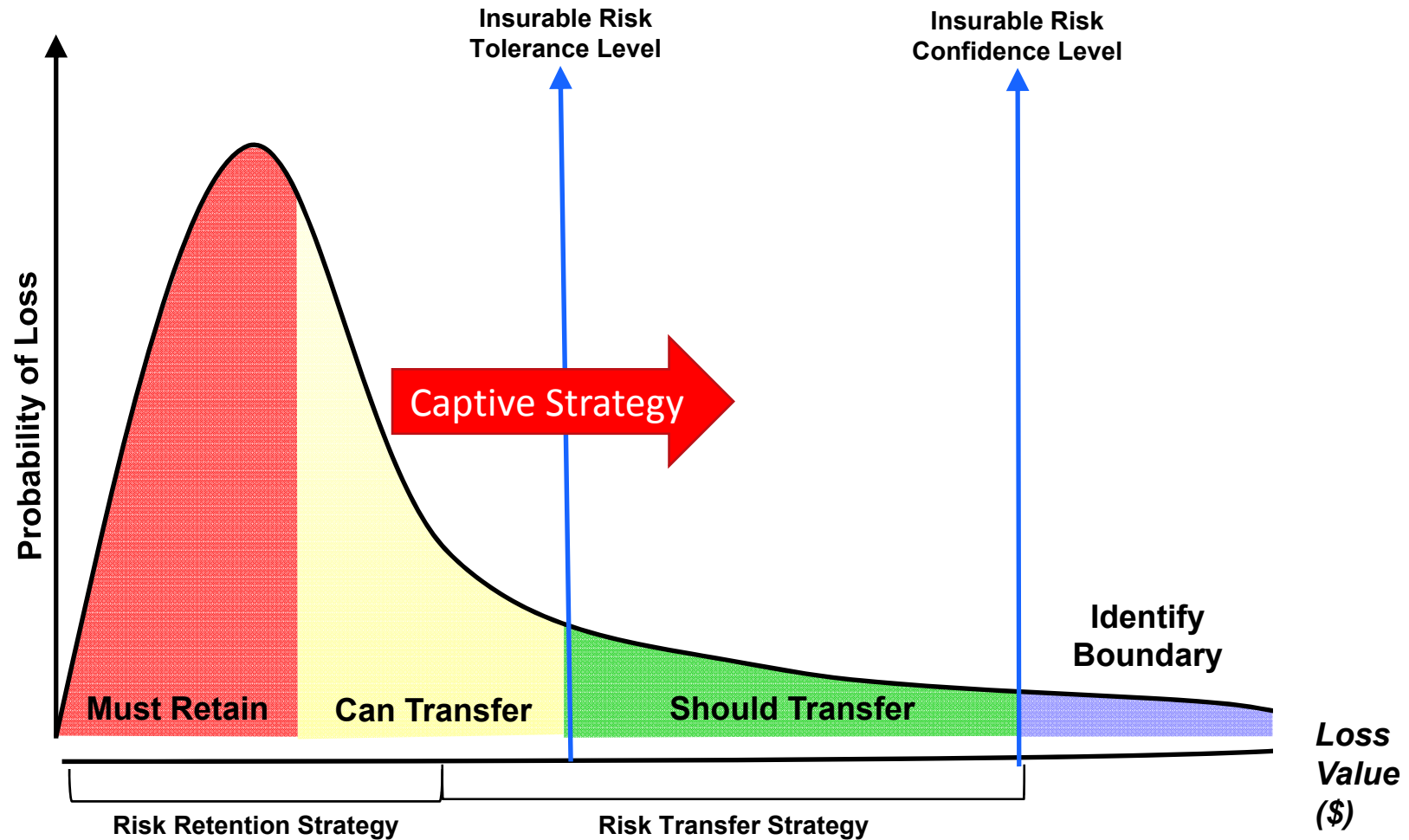
Program Types

Risk Retention Decision Process

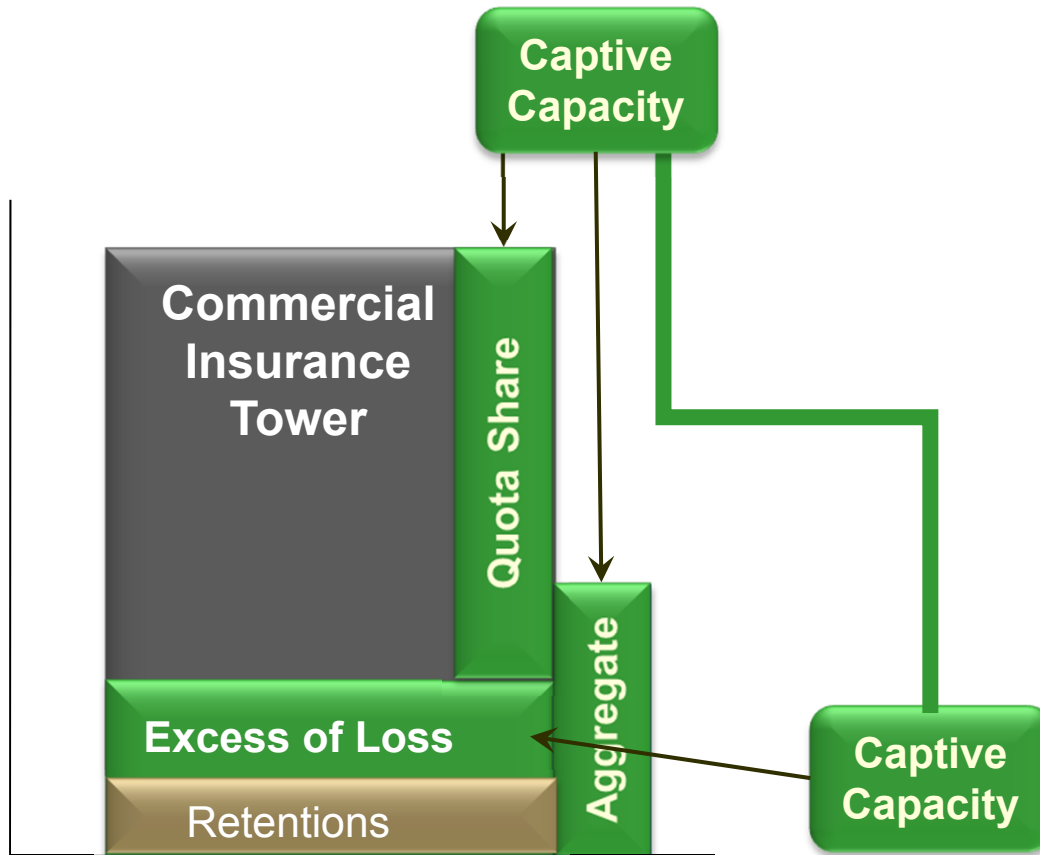Portfolio Effect

Monte Carlo Simulation

Captive Risk Categories

Opportunistic Risk Finance

- Traditional
- Optimize Retentions

Enhance 3rd Party Relationships

- Customers
- Supply Chain

Financial Engineering

- Employee Benefits
- International Employee Benefits

Emerging Risks

- Cyber Risk
- Innovative Products

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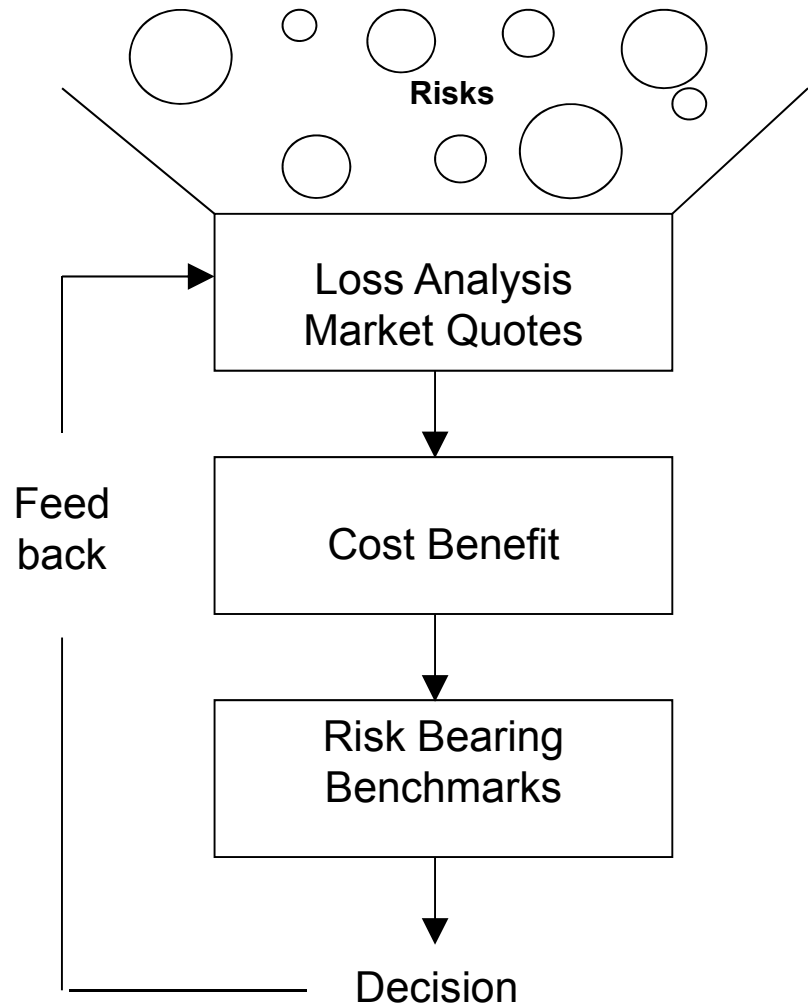
Risk Finance Decision Framework

Captive Structures: Program Types

- Excess of Loss

  - <u>example</u>: $500,000 excess of $500,000 per claim

- Quota Share

  - <u>example</u>: 20% of losses up to $10,000,000 per claim

  - Aggregate Stop-Loss

  - <u>example</u>: 100% of losses in excess of $5M aggregate retention

Risk Retention Decision Process

Risks

Loss Analysis
Market Quotes

Feed back

Cost Benefit

Risk Bearing
Benchmarks

Decision

Risk
- Identification
- Exposure
- Losses – yours or others

Analysis
- Loss modeling – individual & portfolio
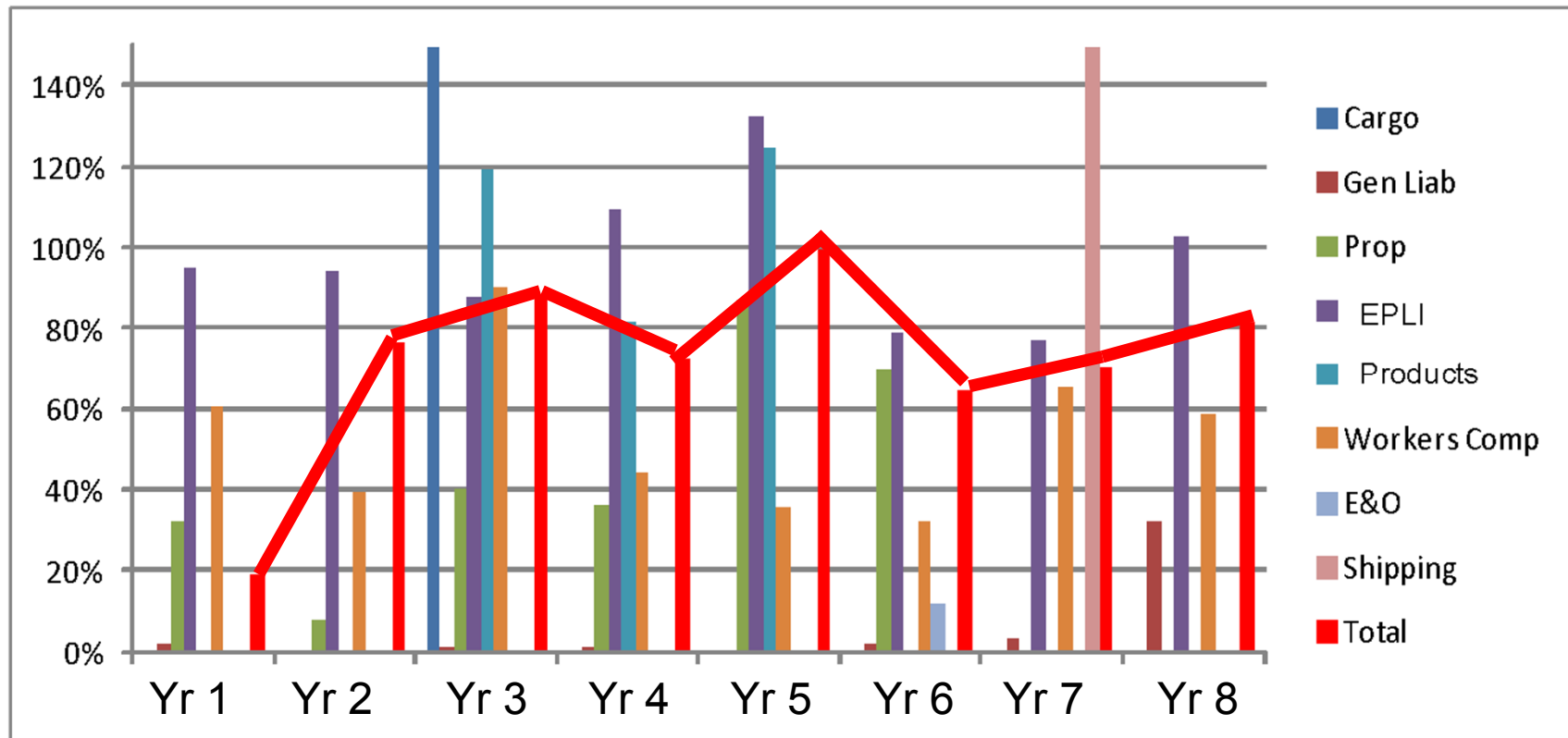- Risk transfer market view

Evaluation
- Risk/Reward tradeoff
- Asymmetry of information

What if?
- Impact on financial goals
- Career changing
- What are others doing?
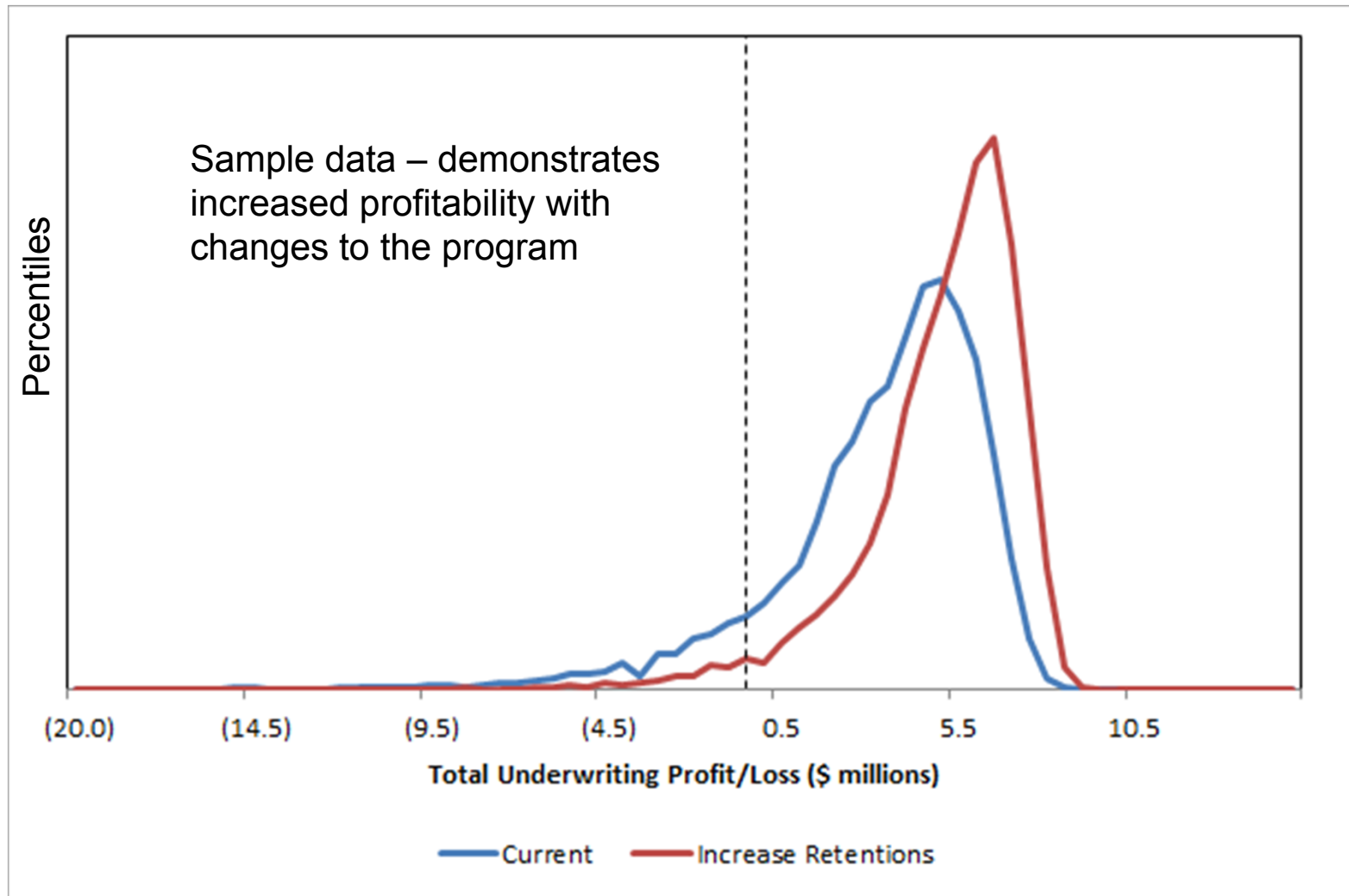
Decide and review

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Loss Ratio – Portfolio Effect

Individually the coverages or business units are very volatile, however, collectively the variations tend to offset providing more stable overall results

Use of Monte Carlo Simulation

Sample data – demonstrates increased profitability with changes to the program

Percentiles (y-axis)

Total Underwriting Profit/Loss ($ millions) (x-axis): (20.0), (14.5), (9.5), (4.5), 0.5, 5.5, 10.5

Legend: Current, Increase Retentions

Factors Influencing Retention Levels

Cost

Risk Tolerance

Loss Variability

Capital

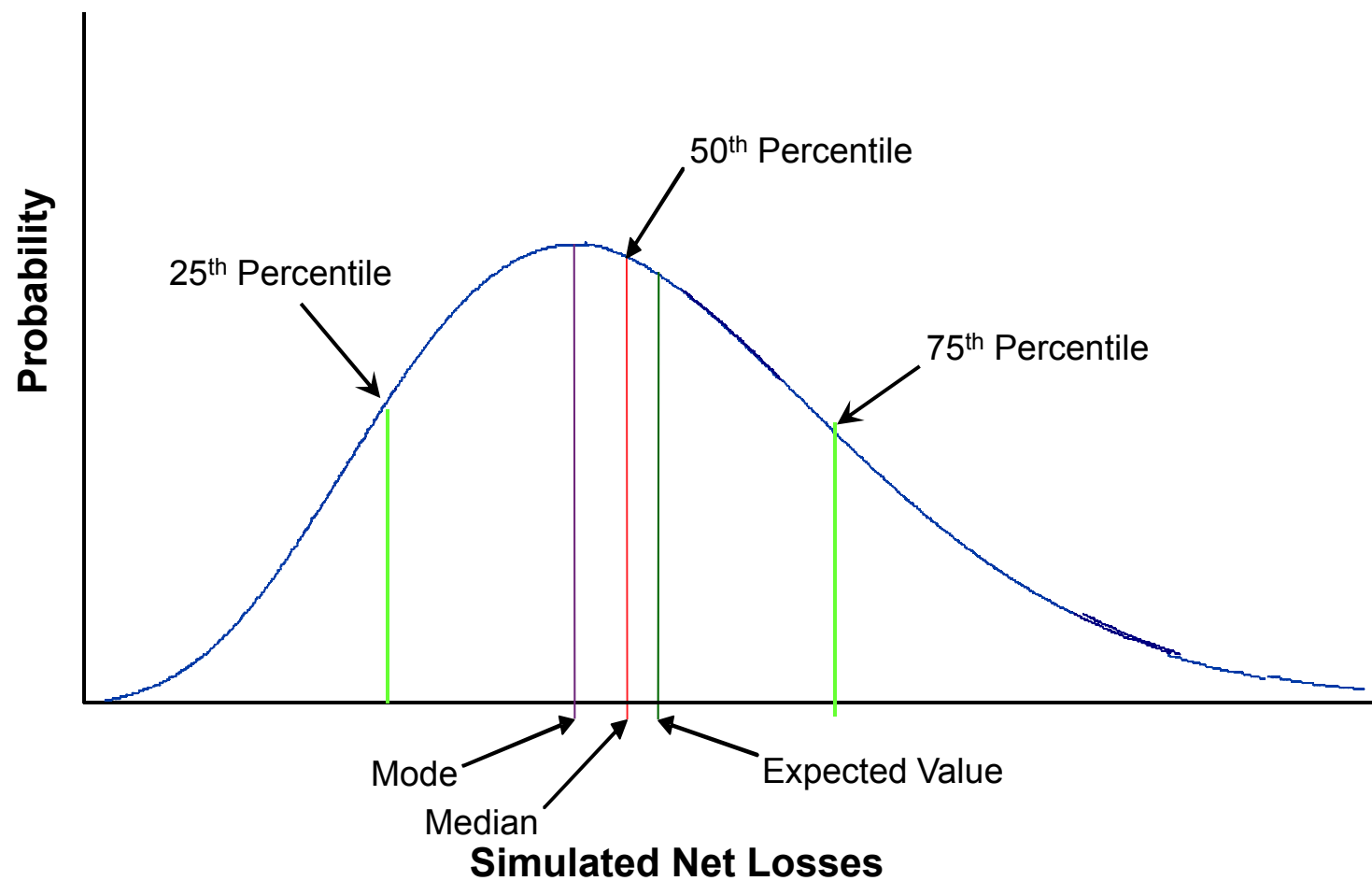# Cost of Reinsurance/Insurance and Risk Tolerance

Low frequency, high severity losses (Catastrophe)

Should Insure

Can Insure - Optimization Layer

Should Retain

High frequency, low severity losses (Attritional)

Cost effectiveness of insurance

Certainty of loss occurrence

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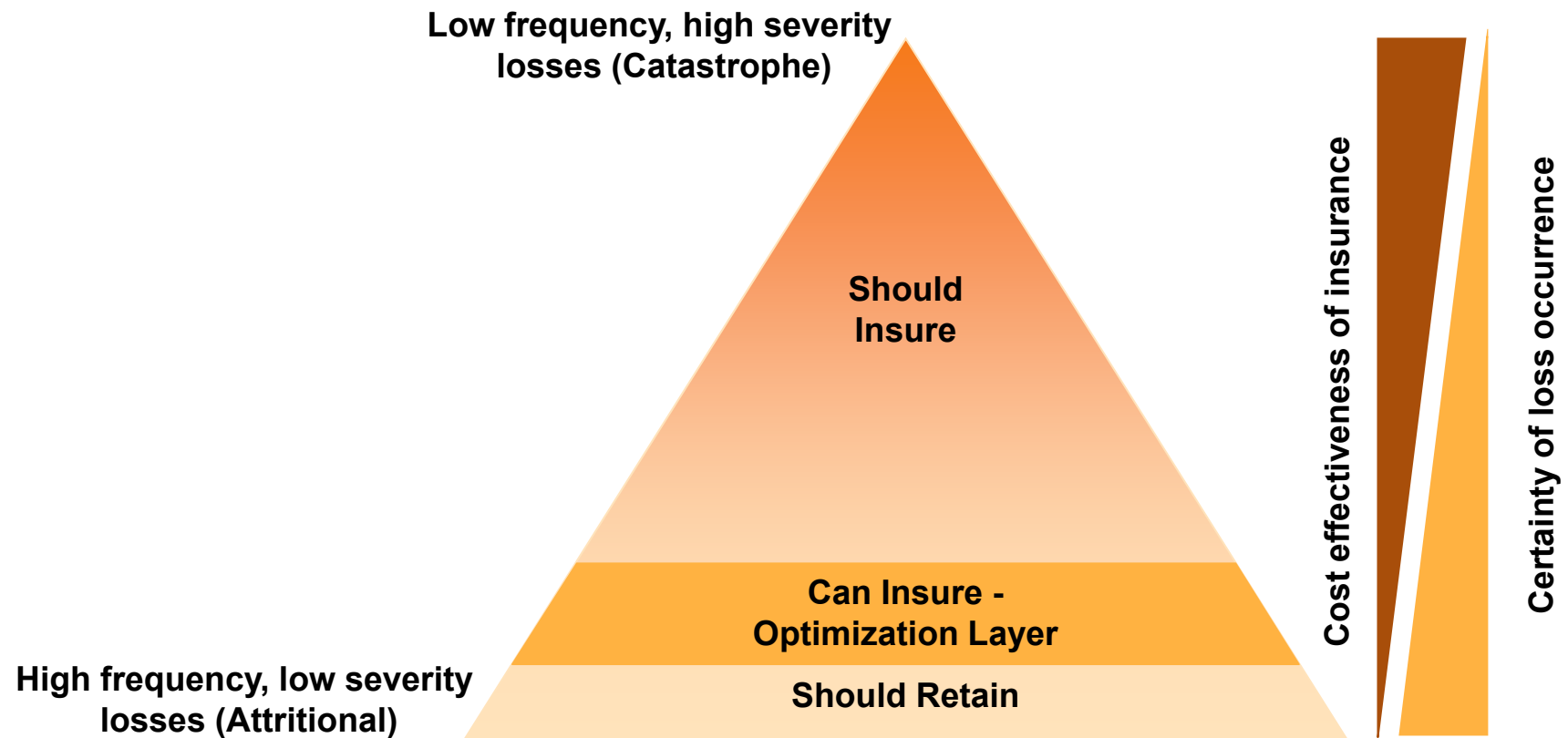
Loss Variability

Three Sources of Variability

Random nature of the insurance claims process, i.e., variation from the "expected" loss.

Uncertainty in the measurement of "expected" losses, i.e., model will not exactly fit reality

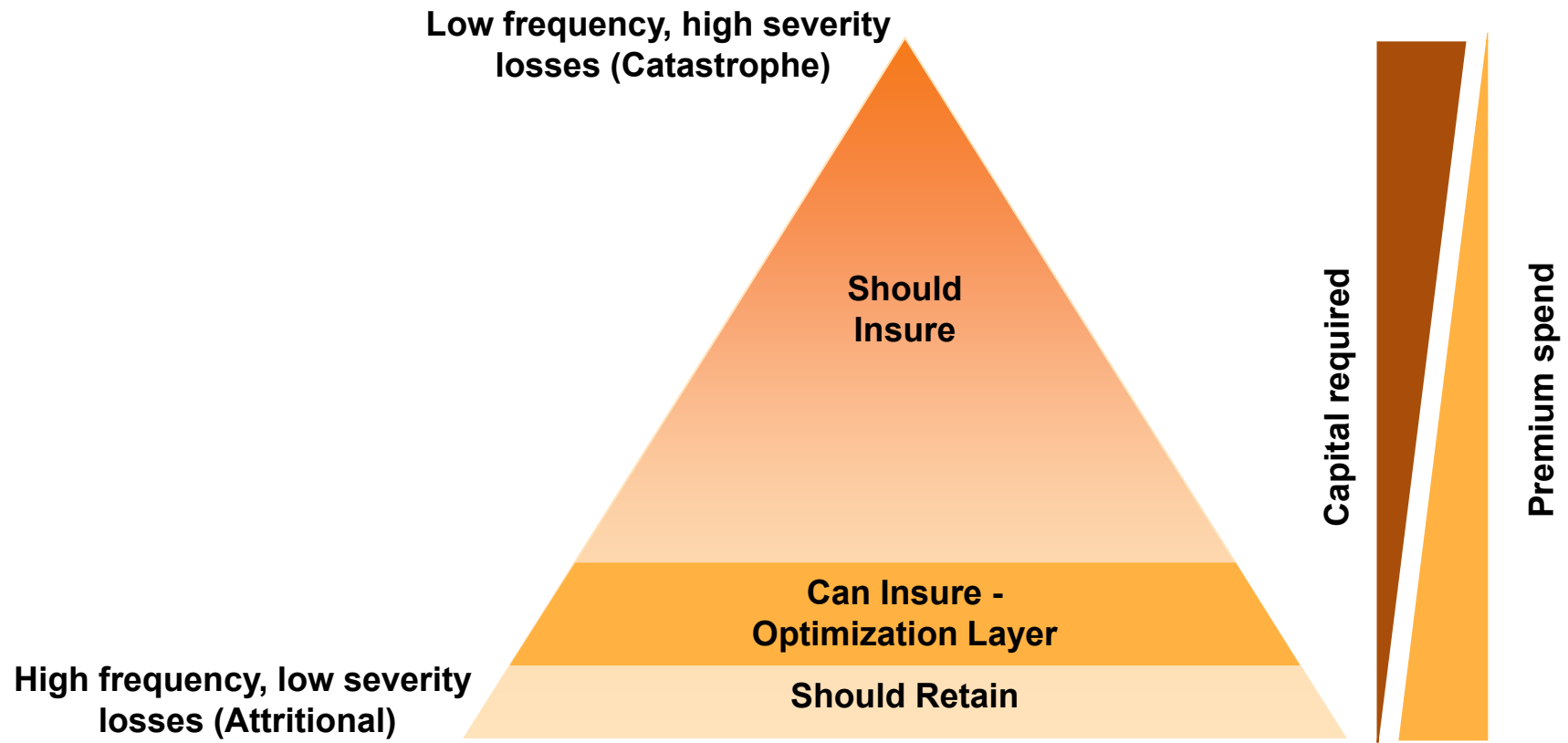**Unanticipated** unusual events, i.e., events not in the historical data

Sample: Resulting Loss Distribution

Probability

50th Percentile

25th Percentile

75th Percentile

Mode

Median

Expected Value

Simulated Net Losses

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Loss Variability (continued)

- Limited historical data may not be representative of all future events

- Recognize that you may not be able to model all of the risks, such as the following unanticipated or unusual events:

  - "Shock" losses

  - Catastrophes
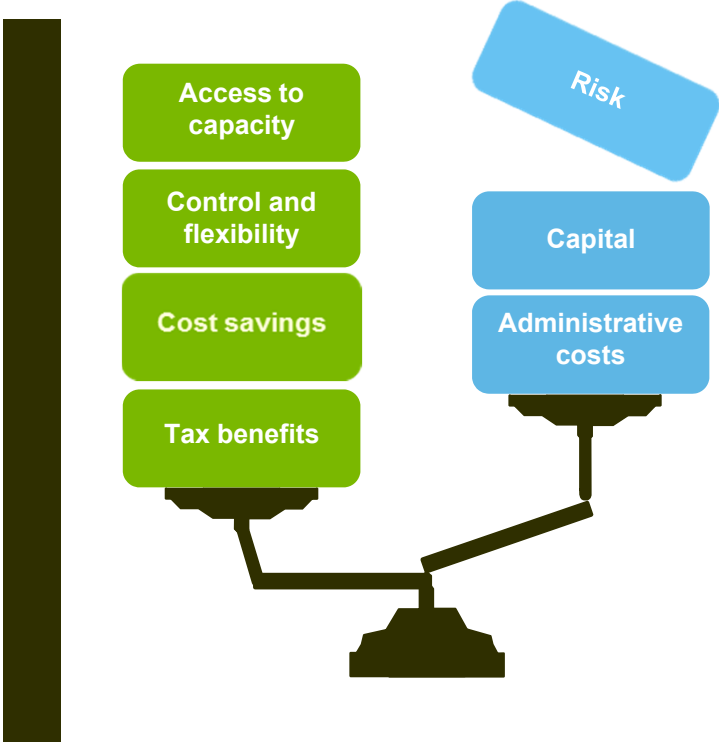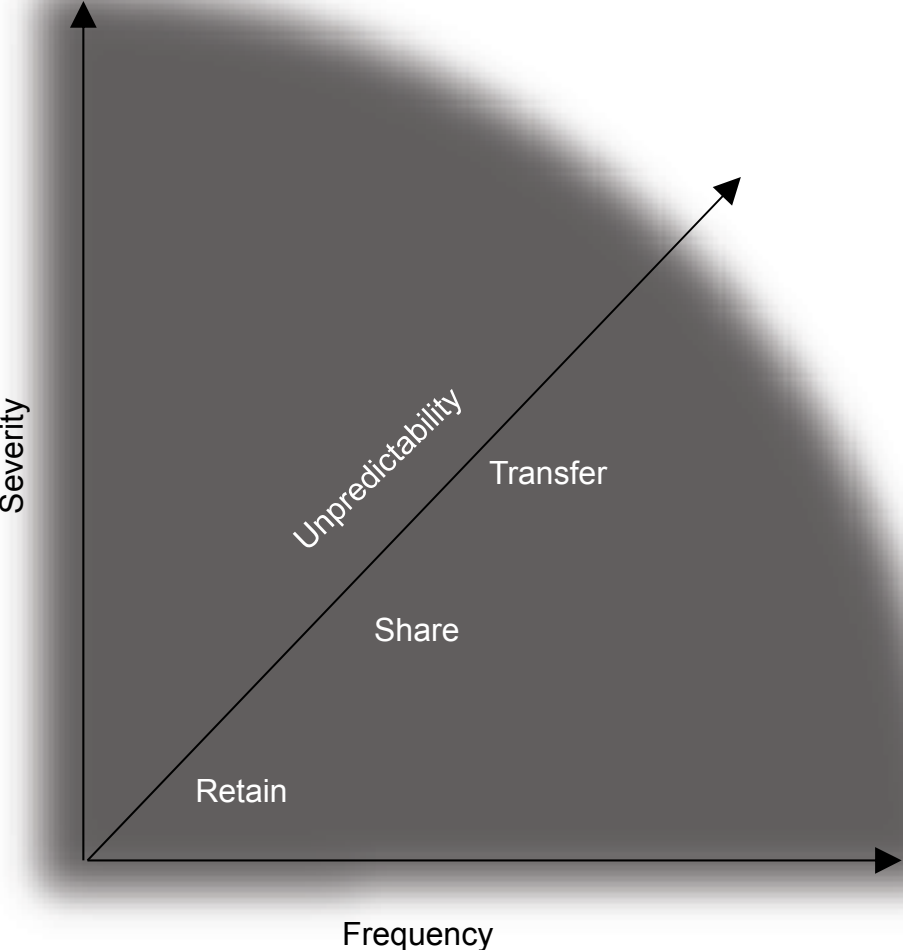
  - Unanticipated court decisions

  - Law changes

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Capital

Low frequency, high severity losses (Catastrophe)

Should Insure

Can Insure - Optimization Layer

Should Retain

High frequency, low severity losses (Attritional)

Capital required

Premium spend

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Case Study

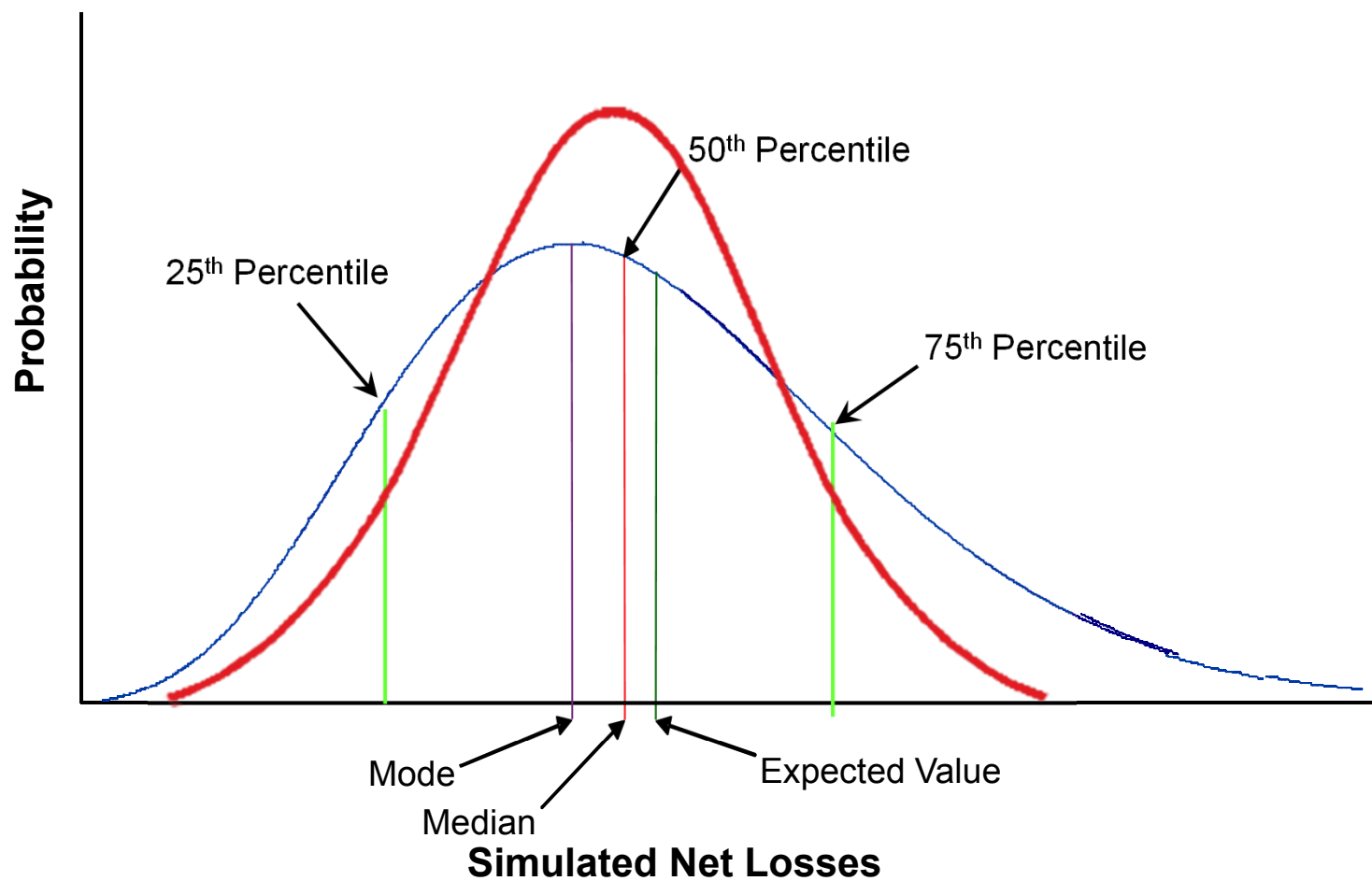Worldwide Risk Insurance

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Worldwide Risk Insurance (WRI) Background

- WRI was formed in 2005 to provide a funding vehicle for Avery Dennison's (AVY) retained risk

- WRI provides AVY operations with two types of protection:
    - Budget Certainty by "ground up" funding:
    - Gap protection by covering the difference between operational retention and optimal insurance market attachment:

- As a result AVY:
    - AVY has reduced its ongoing risk cost
    - AVY is also able to exert significant control over claims resolution and loss control services
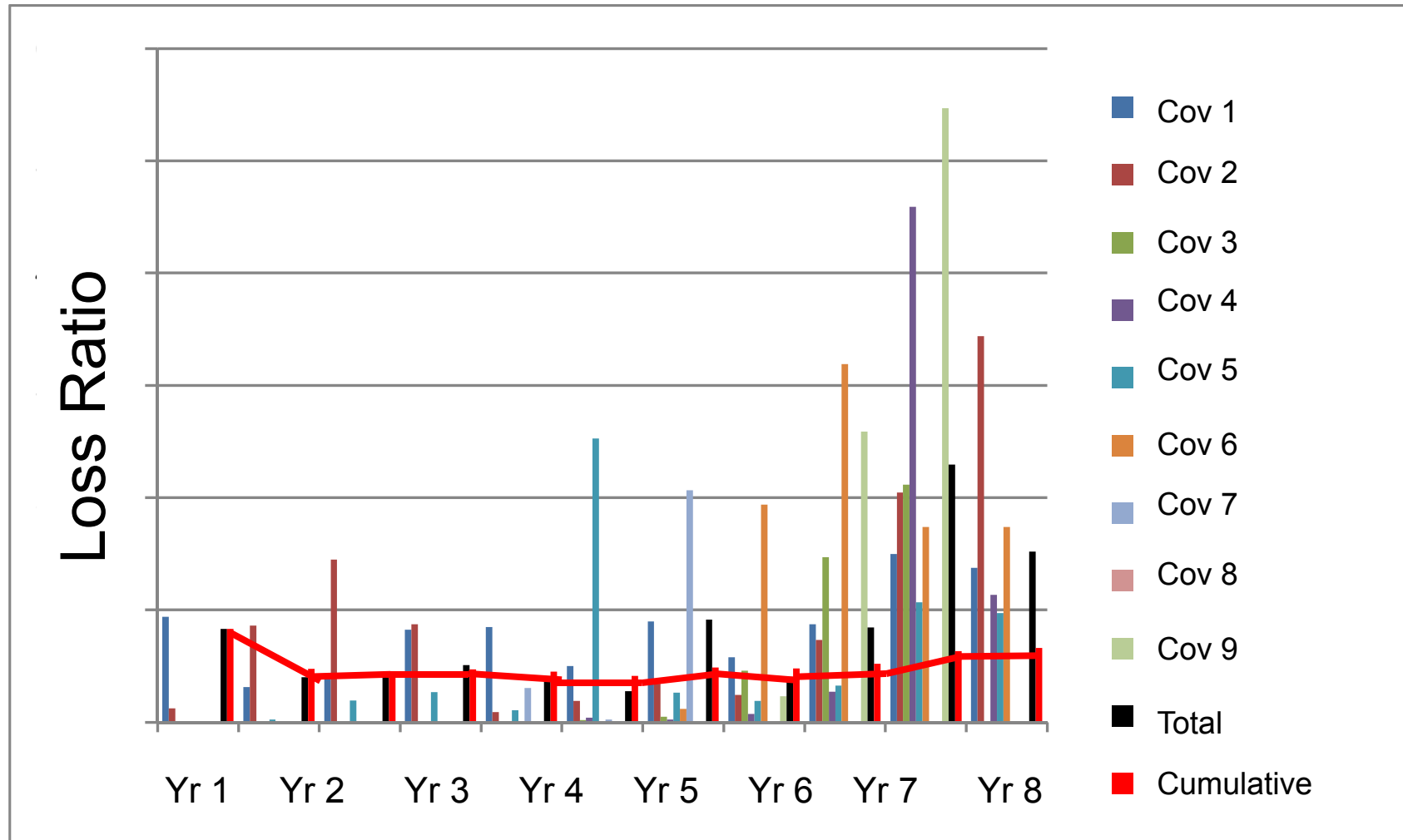
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Deciding what to keep, what to transfer

Severity

Unpredictability

Transfer

Share

Retain

Frequency

Access to capacity

Control and flexibility

Cost savings

Tax benefits

Risk

Capital

Administrative costs

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Sample: Resulting Loss Distribution

Probability (y-axis)

25th Percentile

50th Percentile

75th Percentile

Mode

Median

Expected Value

Simulated Net Losses

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Loss Ratio – Portfolio Effect

Questions?