

Integration of Pricing and Reserving Functions - Talking to the "Other" Actuaries

Reinsurance Perspective

Michael McKnight, ACAS, MAAA
Chief Actuary, Max Capital Group
CAS Annual Meeting, Seattle, WA



Integrating Actuarial Functions

- Personal Observations of Other R/I Companies
- Background and Approach at Max
- Flow of Information Between Actuaries
- Flow of Information Between Actuaries and Other Departments
- Odds and Ends

Personal Observations

- Every R/I company has a slightly different approach; examples include:
 - Insular Pricing and Reserving departments
 - Very small, Pricing and Reserving are the same department
 - Reserving is done annually
 - Reserving is done exclusively by outside actuaries
 - Reserving department unilaterally sets capital requirements and booked loss ratios

Approach at Max

- Evolution
- Not perfect
- Based on basic Actuarial Science, not Rocket Science
- Requires constant communication
- Analysis is performed on a contract-by-contract basis
- Strive for consistency and accountability

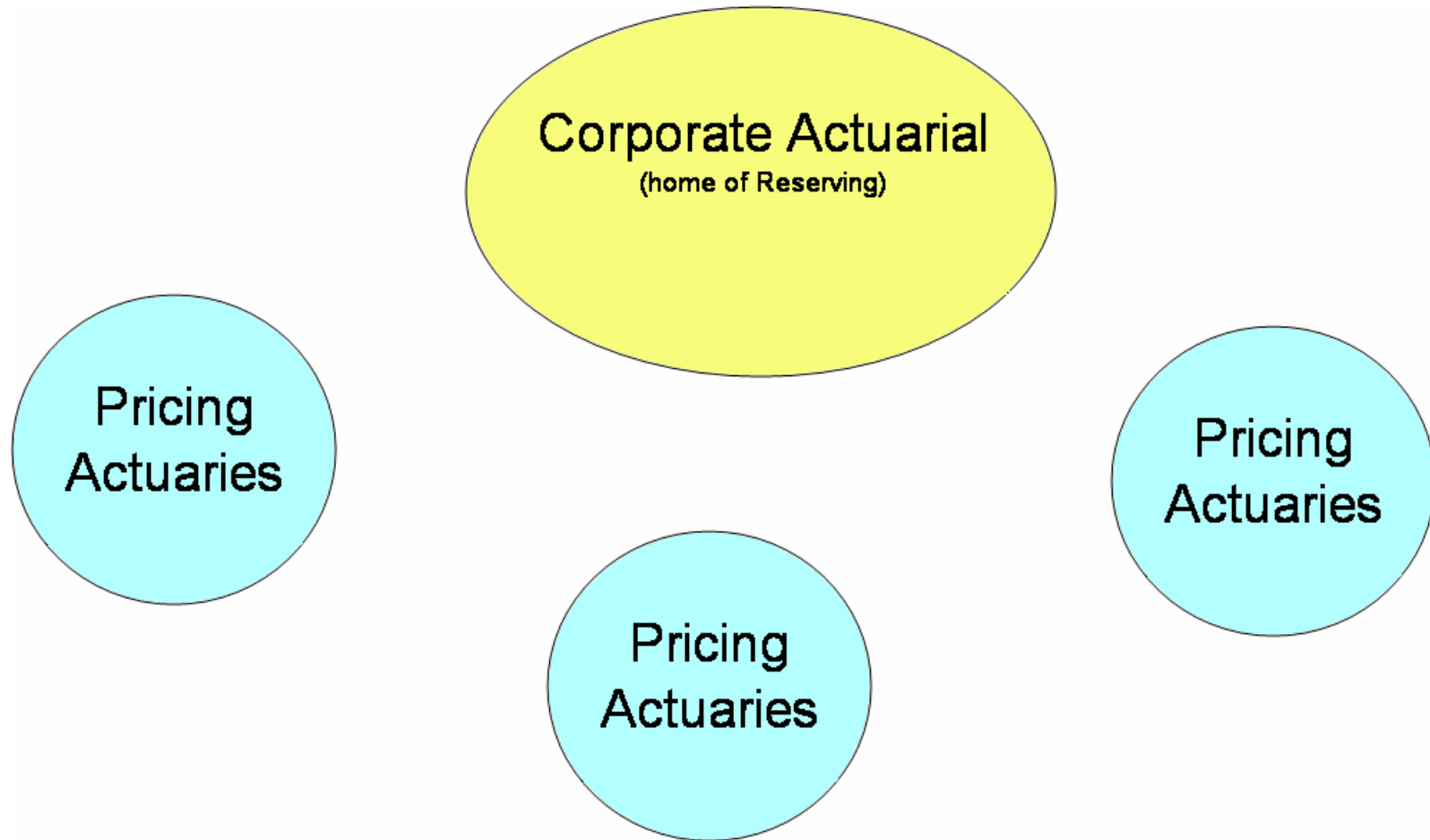
Background

- Types of business underwritten
 - Workers Compensation
 - Property Catastrophe and Per Risk XOL
 - Medical Malpractice
 - Professional Liability
 - Aviation and Satellite
 - Energy and Marine
 - General Casualty
 - Agriculture
 - Whole Account

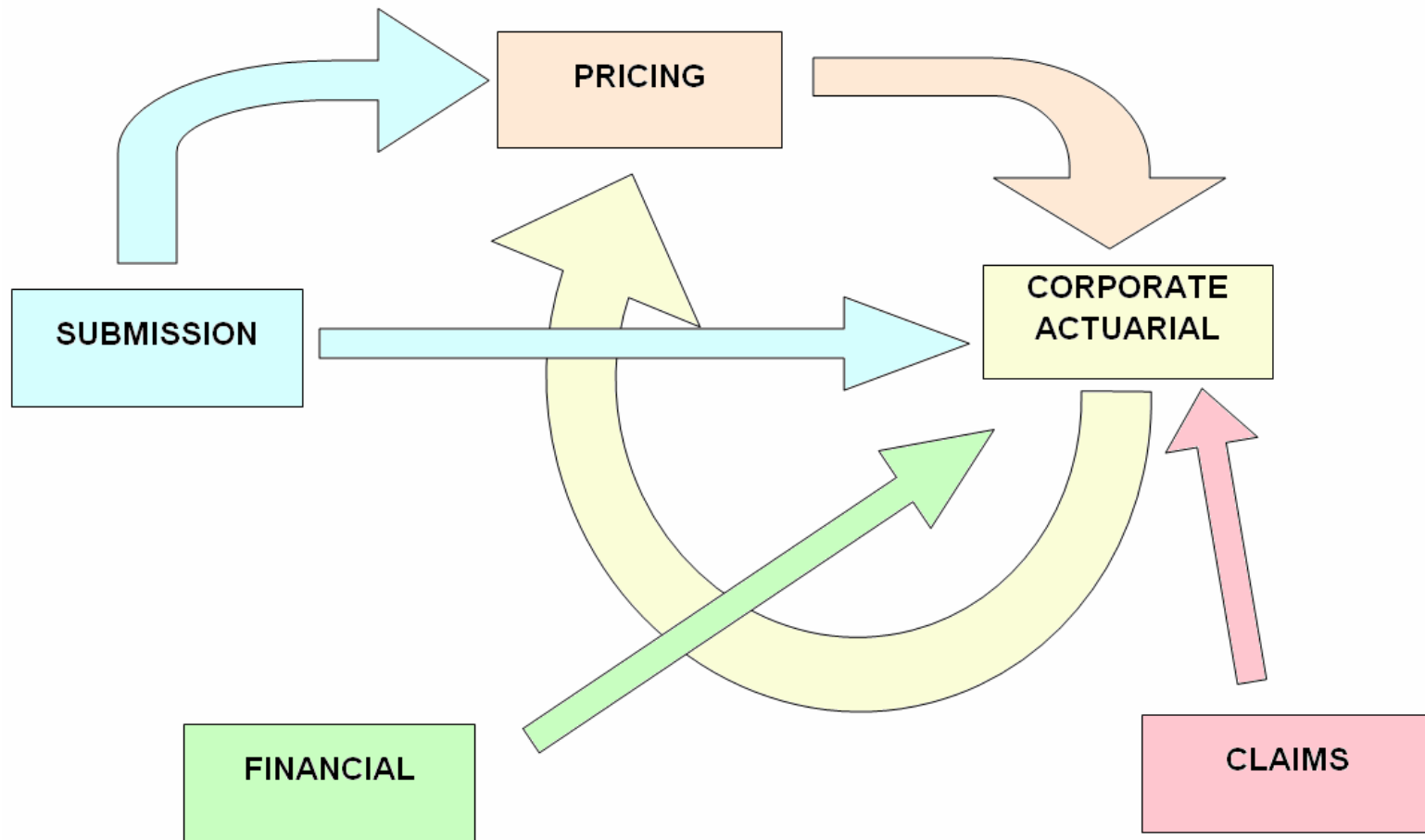
Background

- Types of structures
 - Excess of Loss
 - Quota Share
 - Aggregate Stop Loss
- Types of business/structures NOT underwritten
 - Financial Guaranty
 - Surety
 - Loss Portfolio Transfers
- Annual Volume (approximate)
 - \$500 million in P&C Reinsurance
 - 750 contracts

Actuarial Functions



Actuarial Feedback Loop



Pricing Process

- Pricing Actuaries take submission information and create a Pricing Model; outputs include:
 - Loss Pick
 - Variance
- Pricing Actuaries take output from Pricing Model and create a ROE Model.
- Chief Actuary reviews models prior to quote.

Review Process

- Fairly quick and dirty given:
 - the number of contracts
 - the concentration of effective dates (e.g., 1/1)
- Very quick turn-around time.
- Focus on:
 - high level review / reasonability tests
 - capturing key statistics
 - consistency with prior projections (renewals)
- Expand discussions on big deals or new types of deals.

Pricing \Leftrightarrow Reserving

- Expected Loss Ratio
- Stochastic Range of Loss Ratios
- Support of Loss Pick

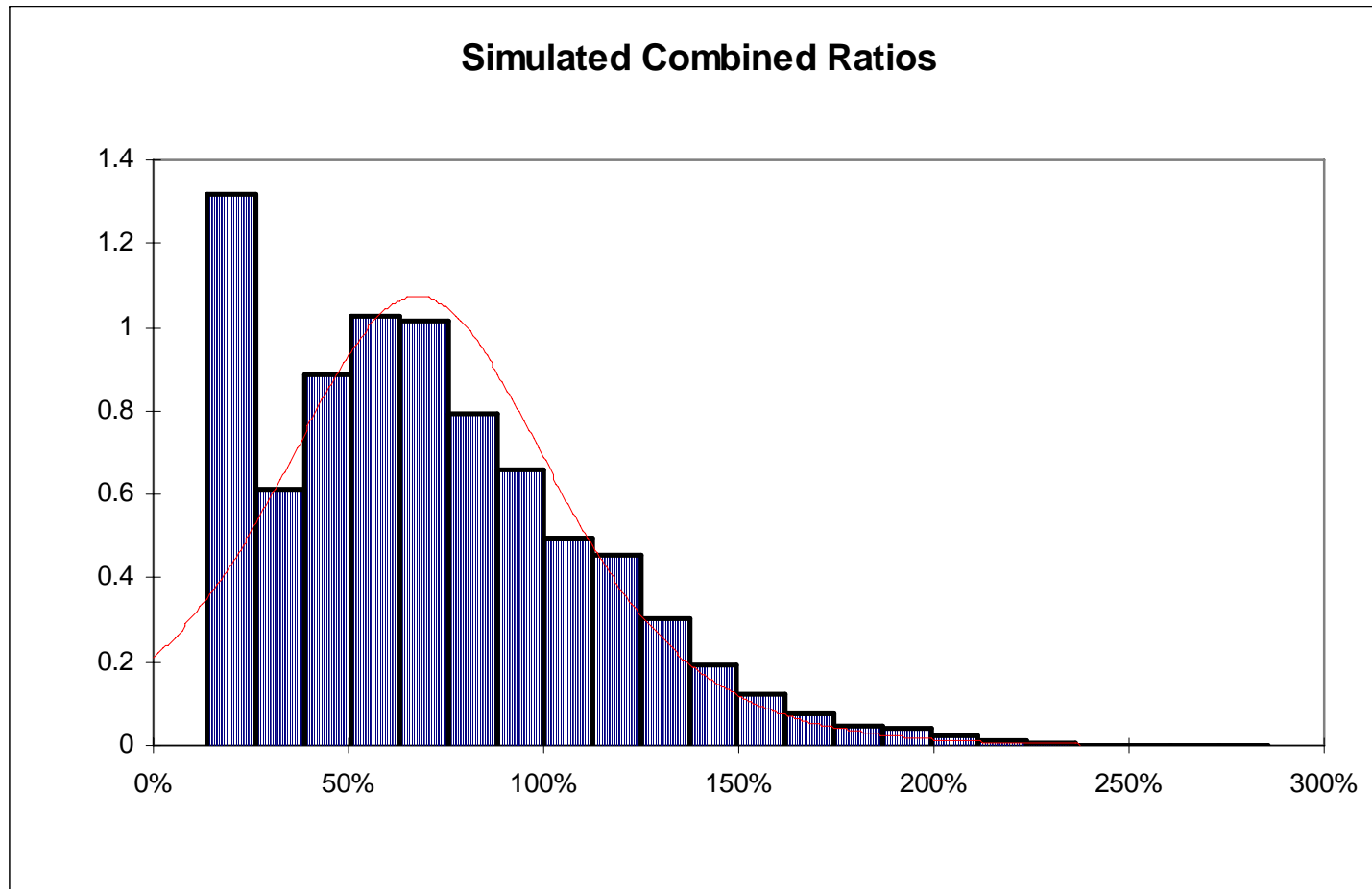
- Occasionally
 - Development Patterns
 - Severity Distributions (including ILFs and ELF)
 - Frequency Selections

Reserving \Rightarrow Pricing

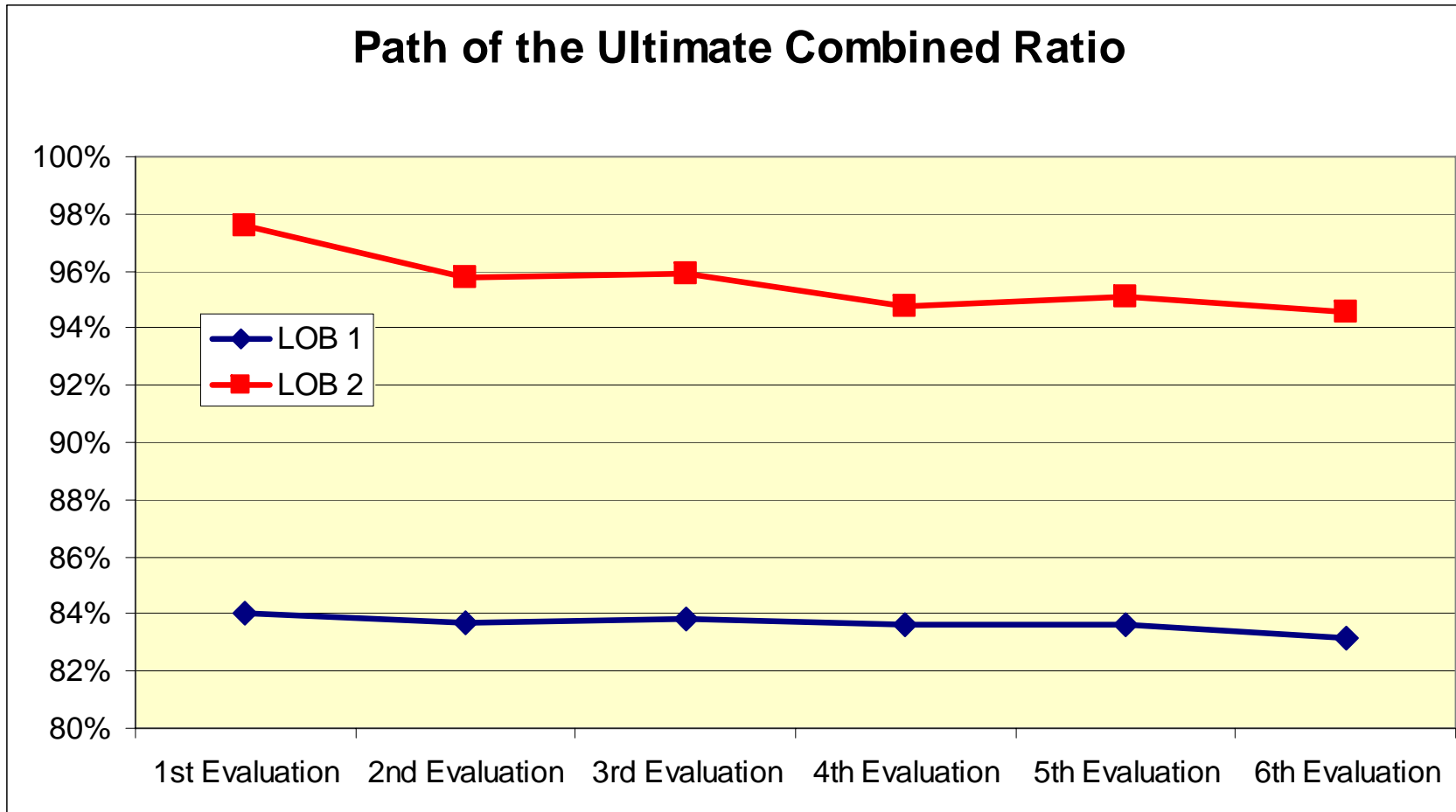
- Case Incurred
- Projected Ultimate Loss based on Loss Experience
- Projected Ultimate Premiums based on above
- Projected Ultimate Acquisition Expenses based on above
- Aggregate Results by LOB, UW Yr, UW-er, etc.

- Occasionally
 - Development Patterns (db of over 600 patterns)
 - Severity Distributions
 - Frequency Analysis

Measuring Success Pricing



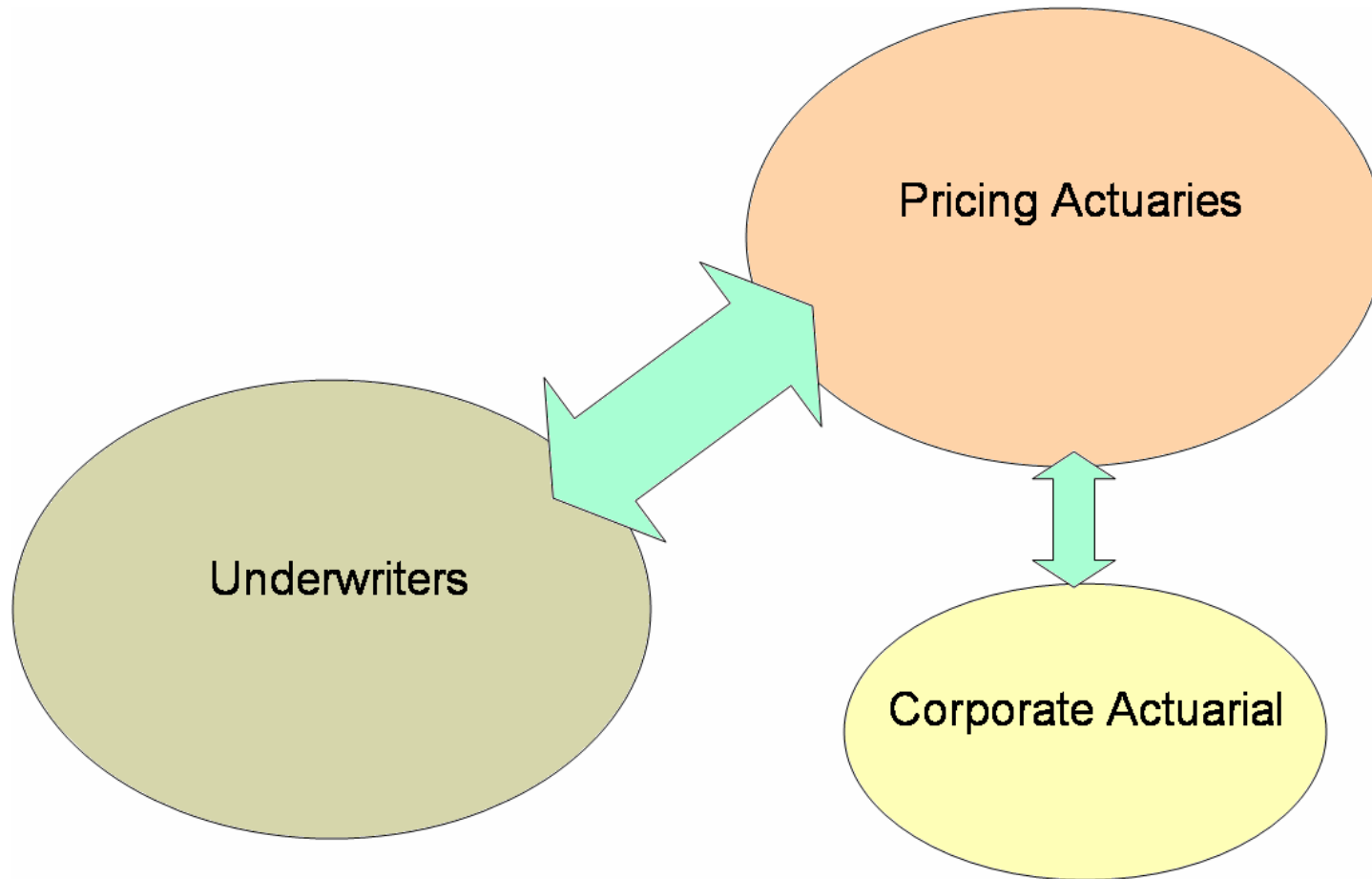
Measuring Success Reserving



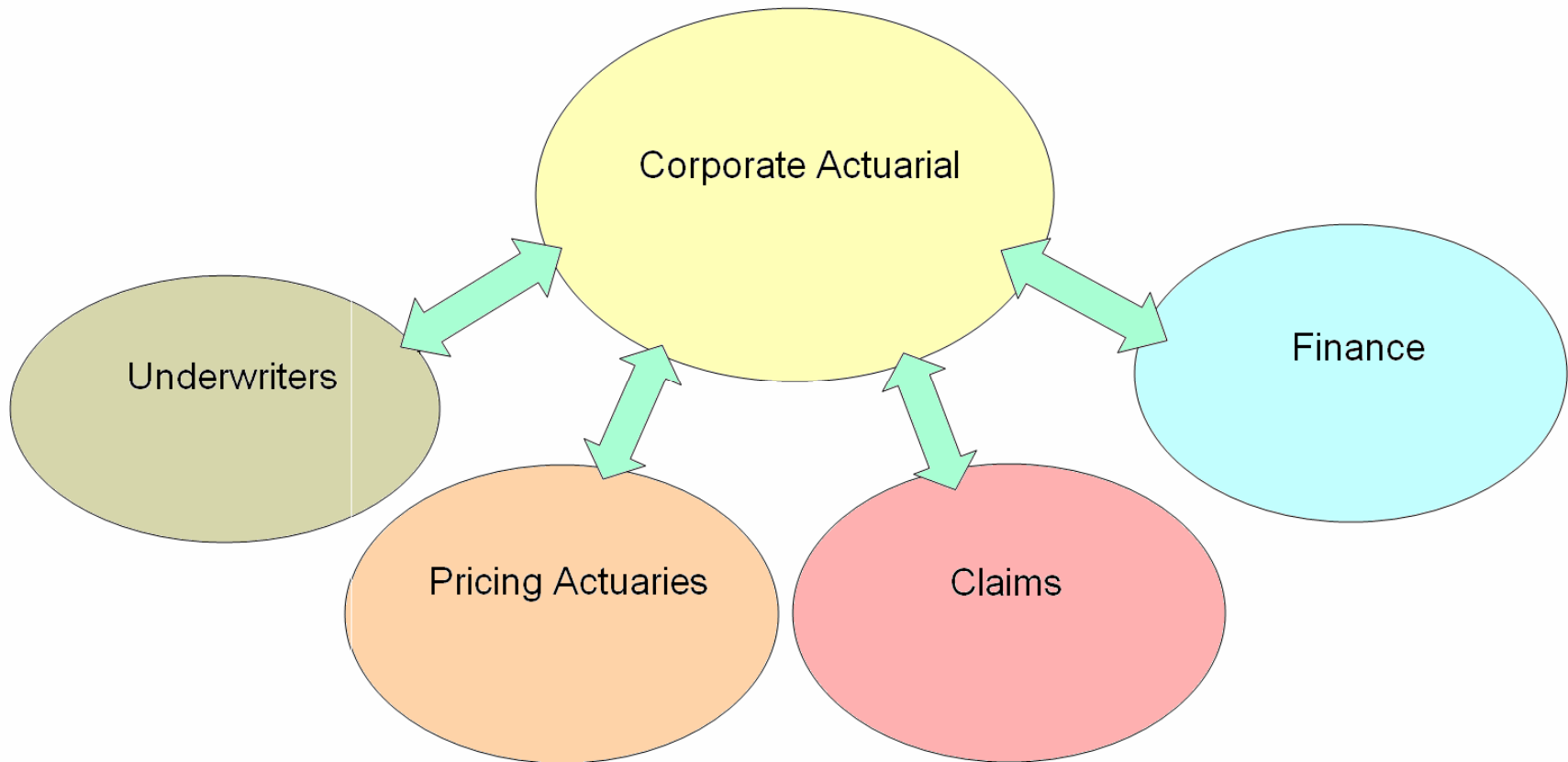
Actuaries Interacting with Other Departments

- Keys to success:
 - Constant communication
 - Understanding the other person's:
 - Perspective
 - Needs and timelines
 - Respecting the other person's:
 - Experience
 - Opinion
 - Consistency
 - Documentation

Pricing Actuaries - Interaction



Corporate Actuarial - Interaction



Documentation

- Actually saves time, avoids confusion
- Actuarial Standards of Practice
 - ASOP 41 – Actuarial Communications
 - ASOP 23 – Data Quality
 - ASOP 43 – Property/Casualty Unpaid Claim Estimates
 - ASOP 21 – Responding to or Assisting Auditors or Examiners in Connection with Financial Statements for All Practice Areas

Odds and Ends

- Working with External and Auditing Actuaries
- Have a Plan
- Be Flexible But Never Compromise Professional Ethics