Three Perspectives on Peer Review
From Three Professionals Who Review Loss Reserve Analyses

Commitment Beyond Numbers

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About the Presenters

Erich Brandt
Senior Consulting Actuary
Pinnacle Actuarial Resources, Inc.

- CAS Fellow
- Illinois State University
- 22 years of experience
- Reserving studies for insurance companies, captives and self-insureds
- Experience includes:
  - Financial statement data reviews
  - Commercial and liability lines
  - Workers’ compensation
  - Medical professional liability
About the Presenters

**Darcie Truttmann**
Consulting Actuary
Pinnacle Actuarial Resources, Inc.

- CAS Fellow
- B.A., M.S. Mathematics, Illinois College
- 14 years of experience
- Reserving studies for insurance companies, captives and self-insureds
- Experience includes:
  - Funding recommendations for emerging coverages
  - Commercial and liability lines
  - Workers’ compensation
  - Medical professional liability
About the Presenters

Carolyn Rice
Partner
Johnson Lambert LLP

- CPA
- B.A., M.S. Accounting, University of Vermont
- 20 years of experience
- 16 years experience auditing insurance companies
- Experience includes:
  - Alternative risk
  - Governmental risk pools
  - Commercial
1. About the Presenters
2. Peer Review – Procedures and ASOPs
3. Peer Review – Methodology, Selections and Exhibits
4. Auditor’s Perspective on Actuarial Conclusions
What is Peer Review?

• An evaluation of professional work product
  – Conducted by a qualified professional
  – Peer of the preparing actuary

• Perspectives differ as to peer review

• What are common peer review concepts and approaches in loss reserving?
Examples of Peer Review

• Are methods reasonable?
• Does it comply with ASOPs?
• Are the conclusions supported?
• Check calculations
Some General Considerations

- Positive, not defensive
- Strong organizational support
- Evaluated by risk:
  - “Higher risk” vs. “lower risk”
  - Higher risk = more intensive review
Which of the following is the MOST important for a successful peer review program?

A. Independence
B. Peer reviewer’s knowledge
C. Emphasis on education during the process
D. Follow through of feedback
E. Strong management commitment
Benefits of Peer Review

- Enhanced quality
- Compliance with ASOPs
- Learning through exchange of ideas
- Enhanced reputation
- Greater consistency of procedure and work product quality
- Error reduction
CAS Code of Professional Conduct

1. An actuary shall perform Actuarial Services with skill and care

2. Material departures from ASOPs must be justified and documented

3. Actuarial communications are clear and appropriate
   – Right for intended audience

4. Work product shall not be used to mislead other parties
   – Specify limitations
ASOP 36 – Statements of Actuarial Opinion

• Applies to work products regarding reserves
• Are the three dates identified?
• Are the reserve amounts identified?
• Stated basis of reserves
  – Discounted
  – Risk margin
  – Recoverable
  – What expenses are included in loss adjustment expenses?
• Has actuary made use of another’s work? Another actuary’s opinion?
ASOP 43 – Unpaid Claim Estimates

• Identify intended purpose

• Identify constraints:
  – Data
  – Staff and/or time

• Nature of unpaid claims:
  – Coverage
  – Limits and reinsurance
  – Claims adjustment process
  – Conditions that may affect severity

• Are assumptions reasonable?
ASOP 41 – Actuarial Communications - Report

• Identify:
  – Methods
  – Procedures
  – Assumptions
  – Data

• Another qualified actuary could make objective appraisal of reasonableness of work product.
ASOP 41 – Actuarial Communications

• Identify responsible actuary and actuarial documents
• Necessary disclosures:
  – Scope
  – Cautions, reliances and limitations
  – Reliance on sources of data
  – Responsibility for assumptions and methods
• Be clear to minimize misinterpretation and/or misquotation
• Is potential variability of results adequately discussed
Other Standards of Practice

- **ASOP 1** Introductory actuarial standard of practice
- **ASOP 20** Discounting
- **ASOP 21** Working with auditors
- **ASOP 23** Data quality
- **ASOP 38** Models outside the actuary’s area of expertise
www.actuary.org
Other References

- AAA Law Manual
- COPLFR Practice Note
- Internal Captive Law Reference Sheet
- Annual Statement Instructions
Peer Reviewing the Results

• Focusing on unpaid claim estimates
• Exhibit or line/segment specific
  – Reviewing LDFs
  – Evaluation of methods
  – Ultimate loss selections
• Big picture
  – Do exhibits flow?
  – Are findings reasonable and supported?
Peer Reviewing Loss Development Factors

- How do they compare to benchmarks?
- Are differences from benchmarks or triangles explained?
- Would other types of loss development analysis be of benefit?
  - Counts and averages
- Should other averages or diagnostics be added?
  - Average excluding low and high
  - Volume-weighted average
  - Three and five years averages
## Peer Reviewing Loss Development Factors

### Loss Development Interval

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<th>Accident Year</th>
<th>Line A 12-24</th>
<th>Line B 12-24</th>
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<td>1.43</td>
<td>1.2</td>
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<td>2014</td>
<td>1.7</td>
<td>1.18</td>
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<td>1.21</td>
<td>1.18</td>
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<tr>
<td>2016</td>
<td>1.19</td>
<td>1.2</td>
<td>1.43</td>
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<tr>
<td>2017</td>
<td>1.43</td>
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<td>1.45</td>
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<tr>
<td>2018</td>
<td>1.21</td>
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**Average:**

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<th>Line A</th>
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<th>Line C</th>
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**Average Last 5:**

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</thead>
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<td>12-24</td>
<td>1.35</td>
<td>1.20</td>
<td>1.39</td>
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</tbody>
</table>

**Selection:**

- [ ]
- [ ]
- [ ]
Evaluation of Development Methods

• Are assumptions and methods reasonable for this assignment?
• Are known biases in methods taken into account?
• If a BF method is used, is the a priori assumption appropriate?
• If only one method, is it adequate?
• Are loss adjustment expenses treated appropriately?
## Is the A Priori Appropriate?

<table>
<thead>
<tr>
<th>Policy Period</th>
<th>Scenario 1</th>
<th></th>
<th></th>
<th>Scenario 2</th>
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</thead>
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<td>Selected Ultimate Losses</td>
<td>Indicated Loss Ratio</td>
<td>Earned Premium</td>
<td>Selected Ultimate Losses</td>
<td>Indicated Loss Ratio</td>
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<td>1,000,000</td>
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<td>75.00%</td>
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<td>2013</td>
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<td>66.67%</td>
<td>1,500,000</td>
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<td>50.00%</td>
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<tr>
<td>2014</td>
<td>2,000,000</td>
<td>1,500,000</td>
<td>75.00%</td>
<td>2,000,000</td>
<td>750,000</td>
<td>37.50%</td>
</tr>
<tr>
<td>2015</td>
<td>2,000,000</td>
<td>1,500,000</td>
<td>75.00%</td>
<td>2,000,000</td>
<td>1,750,000</td>
<td>87.50%</td>
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<tr>
<td>2016</td>
<td>2,500,000</td>
<td>2,000,000</td>
<td>80.00%</td>
<td>2,500,000</td>
<td>2,000,000</td>
<td>80.00%</td>
</tr>
<tr>
<td>2017</td>
<td>3,000,000</td>
<td>2,000,000</td>
<td>66.67%</td>
<td>3,000,000</td>
<td>3,000,000</td>
<td>100.00%</td>
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<tr>
<td><strong>Total:</strong></td>
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<td><strong>9,000,000</strong></td>
<td><strong>75.00%</strong></td>
<td><strong>12,000,000</strong></td>
<td><strong>9,000,000</strong></td>
<td><strong>75.00%</strong></td>
</tr>
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**Selected:** 75.00%  75.00%
Peer Reviewing Ultimate Loss Selections

• Are final selections appropriate?
  – Lines of business and available data
  – Are loss dev methods over-reacting to large claim(s)?

• Compare subtotals or across policy periods

• Are differences between methods intuitive?
Big Picture – Are Findings Reasonable?

• Is there negative IBNR?

• Can unusual loss ratios between lines be explained?

• Can unusual loss ratios between policy periods be explained?

• Any unusual observations in frequency or severity?
Big Picture

• Do exhibits flow?
• Do findings make sense given diagnostics?
  – Expected vs. Actual
  – Compare from previous analysis
  – Comparisons of frequency / severity / loss ratios
• Are limits and reinsurance communicated and calculated correctly?
Peer Reviewing the Results – Adjustments to Data

- Are differences between source and analysis data taken into account?
- Are there reconciliations between data provided and numbers in the analysis?
- Does the analysis adequately take reinsurance structure into account?
Which of the following is the most helpful when peer reviewing a loss reserve analysis?

A. Expected vs. Actual Exhibits
B. Comparison of data and selections from last review
C. Frequency and Severity Analysis
D. Narrative describing the analysis
E. Comments embedded in the analysis

Polling Question #2
Peer Review – An Auditor’s Perspective

Carolyn Rice
Partner
Johnson Lambert LLP
Learning Objectives

- Testing of actuarial reports – audit risk
- Requirement of auditor’s under GAAS
- Testing of key data, and testing over key areas of the actuary’s report
- Review of actuarial methodologies
- Adequacy of booked reserves
Auditor Goals, Approach and Focus

• **The Goal:** comfort over management’s booked loss reserves
• **The Approach:** test the work of management’s specialist
• **The Focus:** IBNR reserves (GAAS Audits)
Have you ever received pressure when setting reserves?

A  Yes
B  No
C  I receive target ranges preferred by management

Polling Question #3
Significant Estimate

• Loss reserves (IBNR) = significant estimate
  – Usually material to the Financial Statements
  – High degree of uncertainty, judgment required
  – Susceptible to bias and manipulation
  – Generally, few internal controls over IBNR estimation
Why We Need to Do This—The Standard (GAAS)

- AU-C 500 paragraph .08: Management’s Specialist
  - evaluate the competence, capabilities, and objectivity of that specialist;
  - obtain an understanding of the work of that specialist; and
  - evaluate the appropriateness of that specialist’s work as audit evidence for the relevant assertion.
What We Need to Do—Evaluate the Specialist

• Evaluate [and document] the competence, capabilities, and objectivity...
  – Actuary’s qualifications, specialties, experience
  – Actuary’s firm specialties, staffing/resources, history
  – Change in actuary from the prior year? If yes, understand the reason(s) for the change.
  – Is the actuary objective, independent? What’s the actuary’s role?
Obtain an Understanding—Scope Actuary’s Work

• What’s the scope, what’s included, excluded?
• What’s changed since last year?
• Is the actuary’s understanding of the business, exposures and coverages accurate?
Obtain an Understanding—Actuary’s Data

- Which data does the actuary consider critical/significant
- NAIC filers: significant data letter required
- We are required to test data we deem significant to the estimate we are auditing
Evaluate the Work—Loss Data Testing

• Example testing approach
  – Tie-out each line of business in total
  – Paid and case reserves
    • This step should effectively tie-out data in aggregate
  – Select sample lines of business and sample years
    • Tie-out data in total by year for each line selected
  – This step tests accuracy of loss data allocation
Evaluate the Work—Loss Data, Potential Pitfalls

- Actuary’s valuation date may not be client year-end
- The actuary may limit loss data in some way
- Multiple claims may be combined as one loss event
- Actuary may sort/disaggregate loss data differently than management
- Certain exposures, years, insureds etc. may be carved out
- We need to understand why actuary manipulates data and evaluate the appropriateness, may re-perform on a sample basis
Evaluate the Work—Loss Data, Specifics

• Variances—if the data does not tie exactly

• Judgment required, must understand:
  – Sources/causes of variances
  – Impact on reserve estimates/booked reserves

• Materiality applies to the booked reserves, consider the impact of variances on the overall reserve estimate, booked reserves
Evaluate the Work—**Analysis, Overview**

- We are not actuaries, our responsibility is to:
  - obtain an understanding of the work of that specialist; and
  - evaluate the appropriateness of that specialist’s work as audit evidence for the relevant assertion.
Evaluate the Work—Analysis, Overview

- Review actuary’s description of business and program
- Review actuary’s understanding of policy terms and limits, etc.
- Review actuary’s scope of work
- Something missing, things don’t add up?
The goal: gain comfort over booked loss reserves (IBNR)

Consider lines where the bulk of IBNR resides

Consider significant lines for ASU 2015-09 disclosure
  - >10% total gross reserves, by line
  - ≥75% total gross reserves, in aggregate
Evaluate the Work—Analysis, Methodologies

- Review schedule of selected ultimates
- Which methodologies drive total IBNR estimate?
- Select methodologies that most closely approximate IBNR estimate on the selected lines
Evaluate the Work—Inquiries

- Inquiry is essential component of testing
  - Variances, potential errors? Discuss with the actuary!
  - Errors confirmed—discuss impact, will this change the actuary’s analysis or recommendations?
Do you receive inquiries from auditors on your report?

A  Yes
B  No
C  Only by management

Polling Question #4
Evaluate the Work—Methodologies, Overview

- We must **understand** and **evaluate** the appropriateness of the methodologies used by the actuary, consider:
  - Are these commonly used methodologies?
  - Does the application seem reasonable, is it a novel approach?
  - Do the inputs (exposure data, industry data) appear reasonable?
  - Do the results appear reasonable given what we’ve noted in the underlying loss data or exposure data?
Questions?
Join Us for the Next APEX Webinar

Thursday, January 16
2:00 p.m. ET
Registration is Open

Statements of Actuarial Opinion at Year-End 2019

Joe Herbers  Aaron Hillebrandt
Final notes

• We’d like your feedback and suggestions
  • Please complete our survey

• For copies of this APEX presentation
  • Visit the Resource Knowledge Center at Pinnacleactuaries.com
Thank You for Your Time and Attention

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