



2017 Kentucky Captive Association
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Actuarial Methodologies for Determining Premium

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Why are Actuaries Important?

- Central tenet of insurance is a promise to pay if certain events occur
- Ultimate cost of claims is not known at time of sale
- Actuarially sound pricing and reserving helps ensure that company will be able to pay

Estimating Claims and LAE

Possible options:

1. Own historical data
2. Industry data
3. Premium quotes from commercial insurers
4. Rate filings
5. Rate-on-line
6. Research and be creative

1. Own Historical Data

Use your own historical data to estimate average losses

Advantages:

- Tailored to your own operation
- Relevance

Disadvantages:

- Limited to only types of claims you have personally experienced

Mixed:

- Cost
- Credibility

2. Industry Data

Use data from the insurance industry to estimate losses

Advantages:

- Represents data from many different insureds and claims
- Volume of data

Disadvantages:

- May not be a good representation of your exposure, claim types, etc.

Mixed:

- Cost
- Credibility

3. Premium Quotes from Comm. Insurers

Obtain quotes from commercial insurers to see what they would charge for a similar coverage

Advantages:

- Simple/less time-intensive than other methods

Disadvantages:

- Do not know if the quote is generated from credible data
- Do not know what loss ratio the premium is targeting
- May not be a good representation

4. Rate Filings

Look up rate filings from commercial insurers to build a rating procedure

Advantages:

- May provide increased understanding of the risk
- Can add judgmental adjustments to factors where appropriate

Disadvantages:

- Do not know if the rate filing is generated from credible data
- May not be a good representation

5. Rate-on-Line

Charge a premium as a factor of the limit (e.g. 5% of \$1M limit = \$50K)

- Can perform research to see if there is a commonly used factor

Advantages:

- Simple/less time-intensive than other methods

Disadvantages:

- No adjustment for unique exposure of insured
- May not be a good representation

6. Research and Be Creative

Perform research (Google, industry journals, etc.) to estimate frequency, severity

- Identify certain attributes of insured to adjust frequency and/or severity

Advantages:

- Can adjust premium to unique characteristics of insured
- Can target a specific loss ratio

Disadvantages:

- Can be difficult/time intensive
- Sources may be biased, not credible, out-of-date, etc.

Actuarial Standards

Actuarial Standards of Practice (ASOPs)

- Each ASOP focuses on a specific topic (e.g. pricing, communication, data, etc.)
- Gives a framework for performing professional services
 - Best practices, documentation, recommended disclosures, etc.
- Currently 50 different ASOPs
- Continually reviewed and updated by volunteer actuaries

ASOP 41

“The actuary should complete an actuarial report if the actuary intends the actuarial findings to be relied upon by any intended user.”

“the actuary should state the actuarial **findings**, and identify the **methods, procedures, assumptions, and data** ... with sufficient clarity that another actuary ...could make an objective appraisal of the reasonableness of the actuary’s work as presented in the actuarial report.”

Defensible Pricing

Consider how the premium should be affected by:

- Policy provisions
 - *What effect does raising or lowering limits and deductibles have on the expected losses?*
- Exposure units
 - *What characteristics of the company make it more or less susceptible to this type of loss?*
- Volatility of risk
 - *How confident are we that the calculated premium will be sufficient to cover a loss?*

Defensible Pricing

Document:

- Data
- Supporting research
- Actuarial judgment
- Assumptions
- Methods

Final premium is only as defensible as the numbers and calculations used to determine it



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Questions or Comments?

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