Reinsurance and Loss Reserves

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Building a better
working world

Contents

Changes in a reinsurance program – helpful concepts

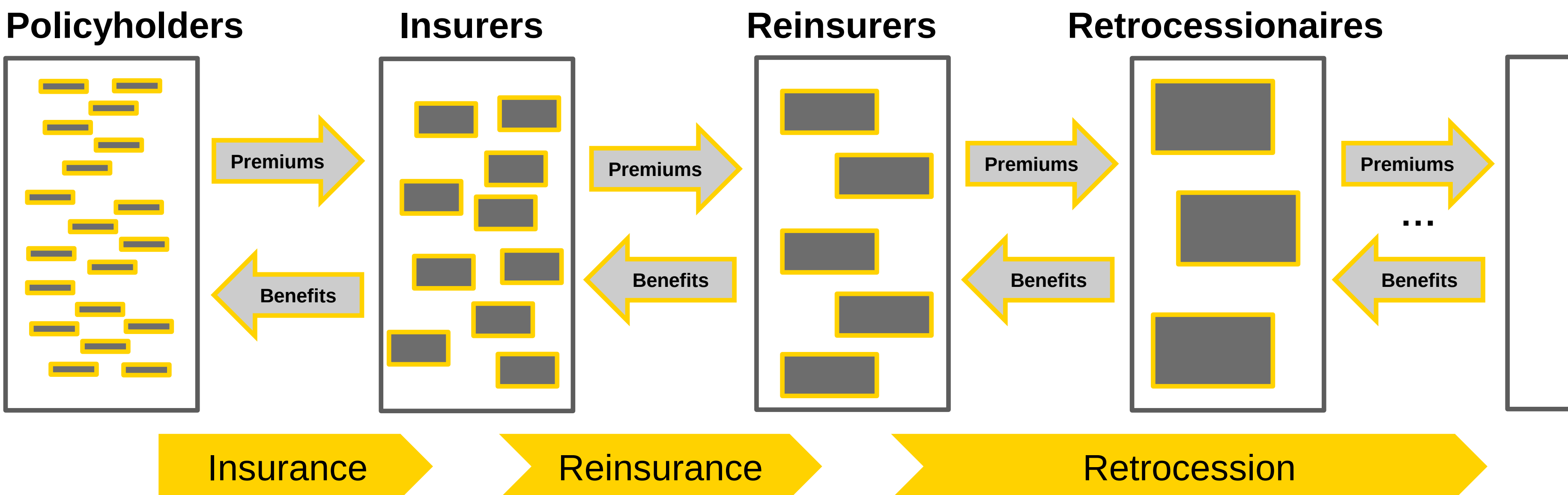
- Often helpful to explore company triangles at varying attachment points
- XOL reinsurance can minimize tail development for advanced maturities for low retentions
- For reinsurance books of business higher attachments can increase the tail associated with the business
- Have to distinguish a late reporting tail in a bimodal distribution
- Need to be aware of loss development books can have a smaller severity shorter-tailed grouping of claims coupled with a longer-tailed later reporting higher severity group of claims.
  - This can be seen with some professional liability books of business that often have clusterings of smaller shorter tailed claims combined with larger longer tail more severe claims

Changes in a reinsurance program – helpful concepts – underlying pricing analysis

- One should review and include relevant material from the underlying pricing analysis used in making the ceded purchasing decision in the reserving report and workpapers
- Can be helpful to develop a pricing analysis even if it does not exist
- Basics, such as developing a price based on exposure and experience rating, will be helpful in quantifying the ceded
  - Specifically when there has been a significant change in the coverage placed and the reserving workpapers lack a logical amount of detail to justify a change in loss selection levels based on underlying changes in the reinsurance program

Reinsurance basics

- Insurers can themselves purchase **reinsurance** coverage to help manage their own risk.



- Reinsurance takes a share of the insurer's premium in return for covering a portion of the benefits that are promised to policyholders.
- It can cover an equal share or losses above a given threshold.
- Retrocession companies are fewer and bigger since they need to be able to pool larger risks. The largest among them become important for the whole system.

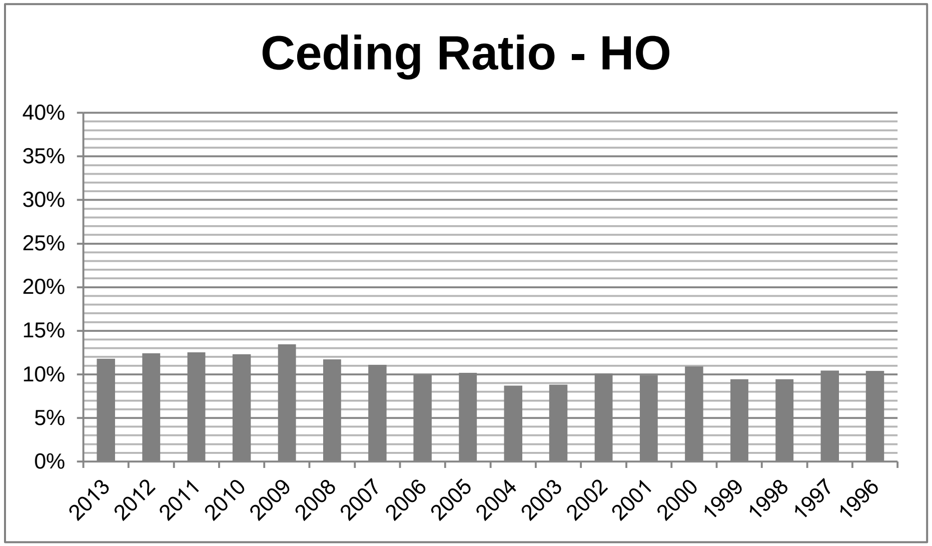
Reinsurance basics - Reserve Process

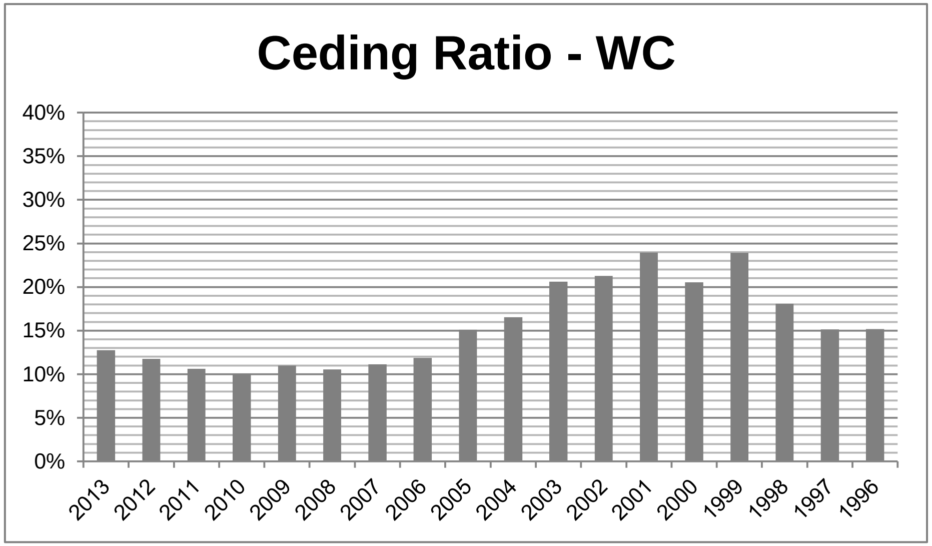
- Typically, most companies do either a full gross reserve analysis or a net of reinsurance analysis, not a detailed analysis of both.
- Simplified way of coming up with the ceded
- Review of the ceded often not as in-depth as the most detailed piece
- Similarly, secondary reviewers, such as the auditors and state examiners, usually spend less time reviewing the less detailed work.
- Greatest chance for uncertainty can be in the ceded
- Magnified with significant changes in the ceded attachments points and limits provided

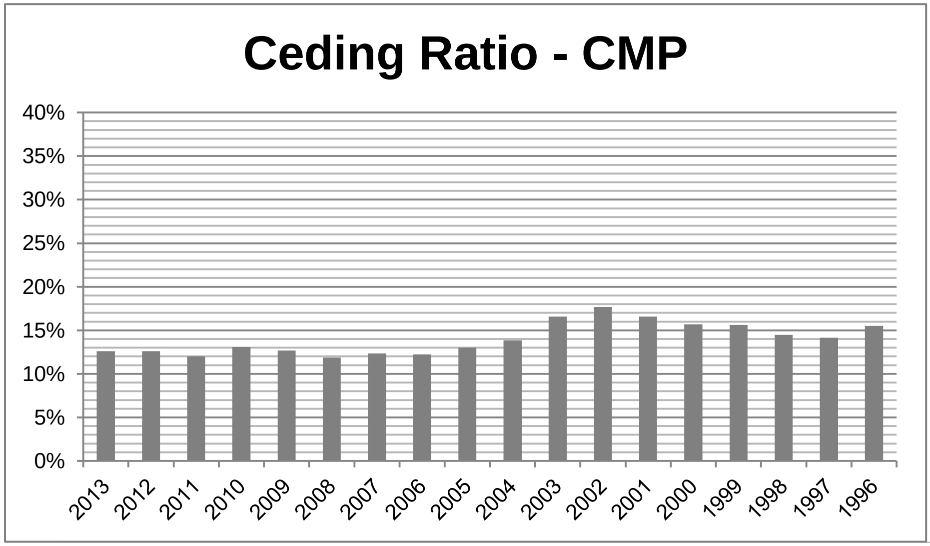
Reinsurance basics - Reinsurance buying in the last decade

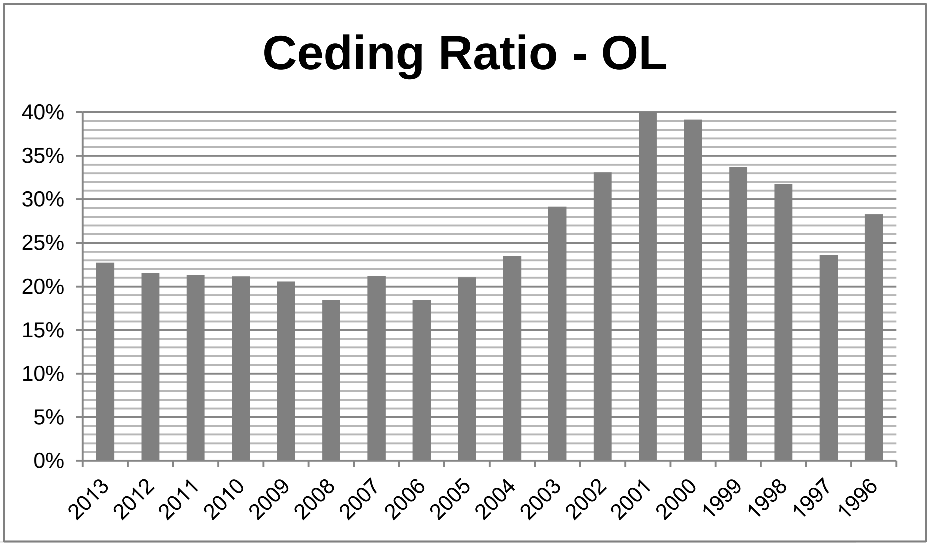
- Market tends to be over-capitalized
  - Cycles of underpricing insurance
  - Cycles of overpricing insurance
- Insurance Prices
  - In the last decade, they have gone down.
  - In the last three years, they have increased.
- Reinsurance prices
  - Ceded loss ratios follow same cycle as gross.
  - Soft market phase ceded results typically worse
  - Recently reinsurance results are slightly better than gross
- Larger insurers have grown market share and have become more well capitalized.
- Reinsurance buyers have become more sophisticated and have retained more risk (don’t want to cede profits).

Industry Ceding Ratios by Lines









Changes in the reinsurance program – quota share

- Simple to determine ceded loss ratio if placed for the entire book of business
- Not as simple if percentages differ by subline
- What happens if quota share subline percentages change with dramatically different loss ratios by subline?
- Examples:
  - Retain more of a highly profitable segment of the business
  - Cede more of a less profitable segment of the business
  - Need additional documentation developing gross loss ratio for each subsegment

Changes in the reinsurance program – quota share (cont)

- Need to produce historical relativities for the sublevels in the quota share with differing participations.
- Once the relativities of the sublines change, this history needs to be developed.
  - History must be developed for a number of years to develop the track record.
- The pricing analysis or the data provided to the reinsurers is a good starting point for this analysis.
- Reserving analysis is incomplete
  - References to a plan or reinsurance pricing are contained in the reserving report without further detail.
  - Quota share not place on 1/1 how does one deal with the allocations
  - Quota share runoff provisions portfolio reserves unearned premium reserves

Changes in the reinsurance program – quota share – ceding commissions

- Ceding commission is the variable on a quota share
- Reinsure pays insurance company expenses plus usually a positive margin to the insurance company for profit
- Ceding commissions can often vary with experience
- One also needs to accrue ceding commission levels to ultimate loss ratio levels
- To the extent to which sublines are introduced, the ceding commission also may become a bit more involved

Changes in the reinsurance program – excess of loss

- Net triangle sufficient if retentions have stayed the same over time
- In the last decade, insurers' retentions have increased dramatically.
- Precision of most insurers dealing with increased retentions in their reserves is not always there.
- Ideal way is to create as if retentions at the different retentions.
- If not available, use exposure rates to adjust retentions to different levels (bureau or company ilfs and elrs).
- Again, you need additional analysis if you have changed retentions in the last year.
- Pricing information can be helpful.

Changes in the reinsurance program – excess of loss (cont)

- Many instances where a company increases its retention
- Phantom increased cession ratio
- No documentation
- No pricing analysis
- Spend a lot of time debating
- Some form of exposure and experience rating from the pricing files should be used to justify analysis.
- Should contemplate adjusting triangles and looking at increased limits factors relativities
- Loss distribution analysis
- Will we see the trend of increasing retentions changing now that reinsurance prices are dropping at least for property?

Industry Loss Warranty

- Industry Loss Warranties
- Often double trigger
  - Industry loss of X (usually by an organization PCS etc.)
  - Company loss of Y
- What happens when the industry loss trigger is close to the threshold of X?
- What happens when the industry loss trigger is an unidentified source?
- What happens when a company tries to influence the organization calculating the industry loss?

Industry Loss Warranty (cont)

- Do you book the full recovery if one thinks the industry level will be breached but has not yet?
- Does one book a percentage of the recovery?
- Does one book no recovery until the threshold is breached?
- Often a big recovery significant impact on reserves.

Commutations and the reserve process

- How are commutations impacting your loss reserves?
- Most important items
  - Need to be aware of what treaties have been commuted
  - Need to be aware of how data is being treated
  - Is it a paid ceded loss?
  - Need to build back in the ceded that was taken away
  - Tail is now closer to gross for the portion of the loss that has been commuted. (could be gross if all reinsurance is commuted)
- Importance of commutations has grown with the increasing use of collateralized reinsurance
- Typically tied to reinsurance that is based on insurance linked securities (ILS)
- ILS vehicles are often commuted and commuted rapidly after inception

Rapid Commutations and the reserve process

- Actuarial Considerations
- Important for an ILS market to commute very rapidly due to rate of return consideration for investors
- Typically willing to commute at a higher value than anticipated due to rate of return considerations
- Mostly short tailed exposure
- Short tail exposure may still have a tail
- Examples
  - Building values increasing due to labor and supply shortages
  - Legislative and court decision losses Katrina, Rita, Wilma

Rapid Commutations and the reserve process (cont)

- Secondary wave of development on shorter tailed losses
- Consider subsequent development on the commuted layer (expect the unexpected)
- Buying less than full coverage if rapid commutation takes place
- Costa Concordia loss increased dramatically due to salvage efforts
- New Zealand earthquakes Christchurch costs increased due to higher building and business interruption costs
- US storms that have experience development
  - Katrina (2010 RAA data) 93% reported at 24 months
  - Rita 88% reported at 24 months
  - Wilma 88% reported at 24 months

Reinsurance Terms that complicate the ceded if reinsurance terms change

- A contract that does not incept on January 1st
  - Quota share
    - Weight the two contracts properly
    - How does unearned premium apply?
    - Cutoff or runoff basis
  - Excess of loss
    - Need to determine recoveries for each treaty
    - Need to use different loss development
- Annual aggregate deductible
  - How should one treat partial losses?
- Direct, Assumed or ceded stop loss business
  - How does one treat partial year results?

Summary Concepts (Takeaways)

- Document changes in your reinsurance program
- Document changes in loss ratios based on changes in your reinsurance program
- Might involve additional workstreams
- More documentation provided the easier it will be for reviewers to understand and accept the rationale
- Understand the trigger concepts on industry loss warranties and how they impact your ceded loss experience
- Stay up to date with commutation activity
- Understand how commutation data is being treated and the impact it has on net results
- Be aware of commutations that take place soon after expiration and the impact on net experience

Summary Concepts (Takeaways continued)

- Model ceded differently for an accident year when coverage is not incepted on January 1st
- Need to know how coverage is treated
- Is unearned premium coverage provided? (runoff)
- Or not (cutoff)
- Need to develop an ultimate for annual aggregate deductible
- Subtract the deductible from the ceded recovery
- When Aggregate stop loss coverages are provided
  - Need to develop partial year estimates
  - Are you going to factor in early returns when the exposures are not fully earned?

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