
CASUALTY REINSURANCE

SEMINAR SESSION V

Summaries, Supplementary Questions and Solutions

SYLLABUS READINGS REFERENCED

**Seminar Session Review of Subsections within the Clark Article,
Basics of Reinsurance, included in this Handout:**

<u>Author(s)</u>	<u>Article Name</u>	<u>Page</u>
Clark	Casualty Per Occurrence Excess Treaties	3
Clark	Exposure Rating and Certain Complicating Factors	16
Clark	Questions from the 2005 Exam	42

Clark – Casualty Per Occurrence Excess Treaties

Clark: Casualty Per Occurrence Excess Treaties

1. Introduction

Casualty per occurrence excess treaties are often categorized as follows:

① Working layer treaties:

These treaties are **characterized by a relatively low layer attachment point that is expected to be penetrated**, perhaps more than once, during the treaty period.

There is an expectation that loss will be ceded to the treaty during a treaty period.

② Exposed excess treaties:

These treaties **attach below some of the policy limits on the underlying reinsured business** so that a total limits loss on a particular underlying policy would result in a loss to the treaty. **Losses are expected to be less frequent** relative to working layer treaties, and there may even be periods when there are no losses.

③ Clash Covers:

These treaties **have relatively high attachment points**. Typically a loss on a **single** policy will not impact the treaty layer. A clash cover will generally be impacted only by:

1. Multiple policies triggered by a single loss occurrence.
2. Extra-contractual obligations (ECO) or rulings awarding damages in excess of policy limits (XPL).
3. Allocated loss adjustment expenses being treated as in addition to loss under the treaties coverage terms.

Notes:

- a. **Cass, et. al categorizes casualty excess of loss treaties in the same manner.**
- b. **Cass, et. al mentions the same 3 types of losses that would impact a clash cover as well as the following:**
 4. Workers compensation losses excess of an attachment point.

Note:

According to Clark the distinctions between these categories of coverage in the pricing process tend to be "soft." For example:

- Experience rating is still used when the treaty layer approaches the "exposed excess" category.
- For large ceding carriers, "clash" losses may be so common that experience rating may also be used in the pricing of clash layers.

Clark focuses his pricing analysis on the following lines of business:

- General liability (including products),
- Auto liability, and
- Workers compensation.

Clark – Casualty Per Occurrence Excess Treaties

2. Experience rating casualty covers

- a. Clark identifies the following five steps in pricing casualty excess of loss treaties (comparable to the five steps in pricing property per-risk excess treaties).

Step 1	<p>Compile the historical experience on the treaty</p> <p>Gather the subject premium and historical losses for as many years as possible. ALAE should be captured separately from losses (considered very important). For general liability and auto liability losses, the associated policy limit should be listed. For auto losses from policies issued on a split limits basis (rather than a combined single limit (CSL) basis), additional work may be necessary to adjust for the separate capping of bodily injury and property damage amounts. Workers compensation losses should be requested on a fully undiscounted basis.</p>
Step 2	<p>Adjust subject premiums to future levels</p> <p>Use rate, price (change in premium discount schedule, change in average experience mod) and exposure inflation factors. These factors will vary by line of business.</p>
Step 3	<p>Adjust historical losses to future price levels, reflect capping associated with policy limits, and include ALAE (as appropriate) (i.e. trend and cap)</p> <p>Inflation factors will also vary by line of business.</p>
Step 4	<p>Develop historical losses to ultimate</p> <p>Apply excess development factors to the aggregate excess losses for each period. For casualty lines, this step is especially critical. The loss development factors should be based on the ceding company's actual experience, if possible. Where the ceding company's actual experience is not available, or is not credible, other defaults selections (such as the RAA development patterns, see below for more) can be used.</p>
Step 5	<p>Produce the loss cost rate (i.e. Step 3 ÷ Step 4)</p> <p>Divide trended and developed losses by the adjusted subject premium to produce loss costs. The selected loss cost would then be adjusted for time value of money, expenses, and profit margin/risk load.</p>

- b. Complications associated with Step 3: Adjustment of historical losses

1) More on the **selection of a loss trend factor**:

- It is difficult to find appropriate data on which to base this selection.
- **Theoretically, the appropriate loss trend factor is an unlimited trend factor derived from large loss information, only.**
- Insurance Service Office (ISO) data
ISO estimates basic and total limits loss trends for general and auto liability lines of business.
Problem with the use of total limits losses
The use of total limits losses, however, **may understate the actual loss trend factor because these losses are still capped at the underlying policy limit.**
- An implicit assumption in most trend procedures is that the same loss trend factor applies to all losses, regardless of the size of claim.
- No generally accepted solution/guidelines for the selection of loss trend factors exist.

2) More on the **treatment of policy limits**:

- **Theoretically, we want to cap losses at the policy limit that would exist if the same policy were written in a future treaty period.**

Clark – Casualty Per Occurrence Excess Treaties

- Possible approaches:
 - a) **Apply the historical policy limit to each trended loss**
This approach **ignores the trend towards higher policy limits that occurs over time.**
 - b) **Do NOT apply the historical policy limits, at all**
Trend the historical losses without applying a policy limit cap. This approach assumes that policy limits "drift" upward in proportion to the amount of loss inflation.
Note: If this approach is used, the subject premium also has to be adjusted to reflect the expected charge for the additional policy limits. If the adjustment to subject premium is not made, the expected loss cost will be overstated, everything else being equal.
- Again, no generally accepted solution for the treatment of policy limits capping exists.

3) More on the treatment of ALAE:

According to Clark, there are two common treatments of ALAE in reinsurance:

- **ALAE shared pro-rata with loss:**
ALAE in the layer is in proportion to losses in the layer.
- **ALAE included with loss** (a.k.a ALAE "on top" or ALAE "add-on"):
The treaty limit applies to the combined loss and ALAE amount.

Note: The method chosen to handle ALAE does not **necessarily** mean the ALAE in the layer will be higher or lower. The amount of ALAE in the layer depends on the actual loss and ALAE experience incurred under the treaty.

The treatment of ALAE:

Example 1:

Trended loss:	\$640,000
Trended ALAE:	320,000
Treaty Attachment:	400,000
Treaty Limit:	600,000

Category	ALAE Pro-Rata			ALAE Included
	Loss	ALAE	Total	Total
Retained	\$400,000	\$200,000	\$600,000	\$400,000
In Treaty	240,000	120,000	360,000	560,000
Above Treaty	0	0	0	0
Total	640,000	320,000	960,000	960,000

Example 2:

Trended loss:	\$920,000
Trended ALAE:	460,000
Treaty Attachment:	400,000
Treaty Limit:	600,000

Category	ALAE Pro-Rata			ALAE Included
	Loss	ALAE	Total	Total
Retained	\$400,000	\$200,000	\$600,000	\$400,000
In Treaty	520,000	260,000	780,000	600,000
Above Treaty	0	0	0	380,000
Total	920,000	460,000	1,380,000	1,380,000

Note: Cass et. al mentions the same 2 means of covering ALAE within reinsurance contracts.

Clark – Casualty Per Occurrence Excess Treaties

- c) More on the Reinsurance Association of America (RAA)
- The **RAA publishes a loss development study on a bi-annual basis.**
 - The study **serves as an industry benchmark for casualty excess of loss development**
 - The **study** contains historical data spanning over **thirty years of loss development, by line of business.**
 - The RAA statistics highlight the significant differences between primary and excess reported loss development.
 - **Four cautions when using RAA data** according to Clark:
 - 1) **The reporting lag** (time between date of occurrence of an event and reinsurer establishing a case reserve) **may vary by reinsurance company.** For instance, the RAA data includes retrocessional business. Since this business is reinsurance of reinsurance, there is an additional level (maybe several levels) of reporting lag.
 - 2) The RAA experience **combines business written at different attachment points and treaty limits.** The RAA now publishes statistics by attachment point ranges, but this data is much less stable than the combined experience. Loss development varies significantly by attachment point and treaty limit so appropriate adjustments should be made.
 - 3) The RAA requests data excluding Asbestos and Environmental claims. However, **it is not known whether the member companies have consistently excluded these claims.** Other long term exposure claims (e.g., silicone breast implants) are not excluded.
 - 4) Workers compensation. The reporting **reinsurers may not handle the tabular discount on large workers compensation claims consistently.**
For example: **a ceding company may (or may not) report its losses to the reinsurer on a discounted basis. If the reinsurer establishes its case reserve using the discounted value** reported by the primary company (less the primary company's retention), a very high development factor may result.
 - Overall, the RAA data is an important industry benchmark, but the data is simply an unaudited compilation of member reports.

3. Experience rating workers compensation business: unique characteristics

- a. Workers compensation experience **rates can be distorted by the treatment of tabular discounts** associated with larger lifetime workers compensation claims.
- b. To avoid this distortion, Clark suggests to **collect the following information for individual workers compensation claimants:**
 1. Claimant's current age
 2. Claimant's sex (M/F)
 3. Estimate of annual indemnity cost including escalation, if any
 4. Estimate of annual medical cost, including inflation
 5. Amounts paid to date
- c. Using this information, **future indemnity and medical payments are estimated and then a mortality factor is applied to estimate the expected claim cost in the excess layer from first principles.**
- d. **Certain claims** for which the estimated incurred amount reported by the ceding company is **below the treaty retention, will have an expected amount in the treaty layer** using Clark's suggested approach. For these claims, **consider establishing additional case reserves (ACRs).**
For an example of this procedure, see the sample questions below.

