Go All in! IASA 2015

Educational Conference & Business Show
June 7-10, 2015 • Mandalay Bay, Las Vegas, NV
Reinsurance Accounting: Calculating Technical Results

Session 307
Tuesday, June 9, 2015
9:45am – 10:45am
Introductions

**Tim Corley**

Tim is a Senior Solutions Executive for Inpoint in the area of Operations. Tim has worked in the field of reinsurance since 1989, when he joined an aviation insurance and reinsurance underwriting company serving as a statutory and reinsurance accountant. Tim earned his Bachelor of Business Administration and holds a Certified Public Accounting (CPA) license.

**Jon Morris**

Jon is an Account Executive for Inpoint in the area of Operations. Jon has worked in the field of reinsurance since 1999, holding a variety of positions in a major reinsurance broker and its subsidiary companies. Jon holds a Bachelor of Arts in addition to the Associate in Reinsurance (ARe) and Chartered Property Casualty Underwriters (CPCU) designations.
AGENDA

- Accounting Overview & Definitions
- Common Reinsurance Calculations & Accounting Examples
- Inuring Reinsurance Calculations
- Regulatory Issues
  - Financial Statement Disclosures
Agenda

- Accounting Overview & Definitions
- Common Reinsurance Calculations & Accounting Examples
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Accounting Authorities

- Financial Accounting Standards Board ("FASB") – responsible for Generally Accepted Accounting Principles ("GAAP")
- Statutory Accounting Principles Working Group (state regulation) – responsible for Statements of Statutory Accounting Principles ("SSAPs")
- Internal Revenue Service ("IRS") – responsible for tax law and interpretation of tax regulation
- International Accounting Standards Board ("IASB") – responsible for the International Financial Reporting Standards ("IFRS")
Differences in Accounting Methods

- **GAAP** – “Going concern” assumption, matching expenses with revenue, emphasis on historical cost
- **Statutory** – “Current liquidation value” assumption, immediate recognition of expenses, emphasis on current exit value of assets
- **IRS** – based on the GAAP framework, with an emphasis on cash flows and structured recognition of amortized costs
- **IFRS** – similar to GAAP, but is concept-based rather than rule-based; IFRS rules have yet to be fully established for transition in the US
## Differences in Accounting Methods

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<tr>
<th></th>
<th>Statutory Accounting</th>
<th>GAAP Accounting</th>
</tr>
</thead>
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<tr>
<td><strong>Method of Expense Accounting</strong></td>
<td><strong>Immediate Recognition</strong></td>
<td><strong>Amortized with Revenue</strong></td>
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<td><strong>Business Status</strong></td>
<td><strong>Liquidation Assumed</strong></td>
<td><strong>Ongoing Concern</strong></td>
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<td><strong>Premium Recording</strong></td>
<td><strong>Book Unearned Premium</strong></td>
<td><strong>Book Unearned Premium</strong></td>
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<td><strong>Valuation of Assets</strong></td>
<td><strong>Several Identified Non-Admitted Assets and Conservative Valuation</strong></td>
<td><strong>Most Assets Admissible, with Favorable Valuation</strong></td>
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<td><strong>Balance Sheet Presentation</strong></td>
<td><strong>Book Net of Reinsurance</strong></td>
<td><strong>Book Gross of Reinsurance</strong></td>
</tr>
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<td><strong>Promulgated (who sets the rules)</strong></td>
<td><strong>State Insurance Depts., NAIC</strong></td>
<td><strong>FASB, SEC</strong></td>
</tr>
</tbody>
</table>

**Promulgated (who sets the rules)**
- State Insurance Depts., NAIC
- FASB, SEC
Definitions - Premium

- **Written Premium** – the amounts charged policyholders for insurance coverage

- **Earned Premium** – the pro rata portion of written premium applicable to the expired portion of the policy term for which insurance or reinsurance was in effect

- **Unearned Premium** – the portion of the premium applicable to the unexpired portions of a policy

- Written = Earned + Unearned

Source: IASA Insurance Accounting Guide
Definitions - Losses

- **Incurred Losses** –
  - Losses which have happened and which will result in a claim under the terms of an insurance policy or reinsurance agreement:
  - An amount representing the losses paid plus the change in outstanding loss reserves within a given accounting period [accounting definition]

- **Losses paid** – The total checks or drafts issued in settlement of claims under insurance provided by the company

- **Losses outstanding** – Losses (reported or not reported) which have been incurred but not yet paid

Source: IASA Insurance Accounting Guide
Definitions – Statutory Statements

- **Annual Statement** – The primary financial report required by state insurance departments which summarizes an insurance company’s financial operations for a particular year, including a balances sheet supported by detailed exhibits and schedules.

- **Reinsurance Schedules** – listing reinsurance balances by individual ceding company or reinsurer
  - P&C Schedule “F” and L&H Schedule “S”

Source: IASA Insurance Accounting Guide
Reinsurance Related GL Accounts

- **Ceded Premium Written** – a contra-revenue account that offsets (reduces) Gross Premium Written income
- **Ceded Losses Incurred** – a contra-expense account that offsets (reduces) Gross Losses Incurred expense
- **Ceded Premium Payable** – the balance sheet account where premium due to reinsurers is recorded
- **Ceded Losses Recoverable** – the balance sheet account(s) where amounts due from reinsurers are recorded (separated between amounts paid and amounts outstanding)

Source: IASA Insurance Accounting Guide
Primary vs. Ceded Accounting

- Primary Accounting
  - Premium: **Revenue**
  - Commissions: **Expenses**
  - Losses: **Expenses**
  - A/R for premium receivable
  - A/P for losses payable

- Ceded Accounting
  - Premium: **Contra-Revenue**
  - Commissions: **Revenue**
  - Losses: **Contra-expenses**
  - A/P for premium payable
  - A/R for losses recoverable
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- Common Reinsurance Calculations & Accounting Examples
  - Effect of Reinsurance on “Surplus Drain” / Quota Share Example
  - Surplus Share Calculations
  - Excess of Loss: Per Risk (Premium/Loss/Adjustment Expense)
  - Excess of Loss: Catastrophe & Agg. Catastrophe (Premium/Loss)
- Inuring Reinsurance Calculations
- Regulatory Issues
  - Financial Statement Disclosures
Timing of Reinsurance Transactions
Effect on Financial Results (STAT)

No Reinsurance Example – Policy Incepts July 1

<table>
<thead>
<tr>
<th></th>
<th>July1</th>
<th>Dec31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Premium</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Unearned Premium</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>Earned Premium</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>UW Expenses</td>
<td>(30)</td>
<td>(30)</td>
</tr>
<tr>
<td>Net Income</td>
<td>(30)</td>
<td>20</td>
</tr>
</tbody>
</table>
Ceding Commission Definition

- Calculated as a percentage of the ceded written premium
- Intended to dilute the “surplus drain” associated with the immediate expense of acquisition costs
- The ceding commission rate generally mirrors the acquisition costs of the ceding company, including:
  - Agent commissions
  - Premium Taxes
  - Other acquisitions costs
Timing of Reinsurance Transactions
Effect on Financial Results (STAT)

25% QS - Premium at 7/1, with a 30% Ceding Commission

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Ceded</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Premium</td>
<td>100</td>
<td>(25)</td>
<td>75</td>
</tr>
<tr>
<td>Unearned Premium</td>
<td>100</td>
<td>(25)</td>
<td>75</td>
</tr>
<tr>
<td>Earned Premium</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UW Expenses</td>
<td>(30)</td>
<td>7.5</td>
<td>(22.5)</td>
</tr>
<tr>
<td>Net Income</td>
<td>(30)</td>
<td>7.5</td>
<td>(22.5)</td>
</tr>
</tbody>
</table>

*Immediate recognition of ceding commission*
### Timing of Reinsurance Transactions: Effect on Financial Results (STAT)

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<tbody>
<tr>
<td>Written Premium</td>
<td>100</td>
<td>(25)</td>
<td>75</td>
</tr>
<tr>
<td>Unearned Premium</td>
<td>50</td>
<td>(12.5)</td>
<td>37.5</td>
</tr>
<tr>
<td>Earned Premium</td>
<td>50</td>
<td>(12.5)</td>
<td>37.5</td>
</tr>
<tr>
<td>UW Expenses</td>
<td>(30)</td>
<td>7.5</td>
<td>(22.5)</td>
</tr>
<tr>
<td>Net Income</td>
<td>20</td>
<td>5</td>
<td>15</td>
</tr>
</tbody>
</table>

*Immediate recognition of ceding commission*
Ceding Commission Example

- $12M Direct Written Premium for the year
- Total acquisition costs of 20% = $2.4M **recognized immediately**
- Premium income earned in first month $1M
- Total expenses $(2.4M)
  
  Current U/W gain/(loss): $(1.4M)

- Assume 50% quota share & 20% ceding commission:
  - Ceded Written Premium: $6MM (earning $500K/month); and
  - Immediate Ceding Commission income of $1.2MM

- Calculate: **Position after Reinsurance**
**3 Minute Group Exercise:**
Net Result with Quota Share Reinsurance

### 50% Quota Share:

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Ceded</th>
<th>Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Premium</td>
<td>$12M</td>
<td>$(6M)</td>
<td>$6M</td>
</tr>
<tr>
<td>Total Expenses (20%)</td>
<td>$2.4M</td>
<td>$(1.2M)</td>
<td>$1.2M</td>
</tr>
</tbody>
</table>

**Month 1:**

- Earned Premium: +$1M
- Acquisition Cost: -$2.4M
- Ceded Earned Prem.:
- Ceding Commission:

- **Net Result:** _____
### Ceding Commission Example

#### 50% Quota Share:

<table>
<thead>
<tr>
<th></th>
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<th>Net</th>
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<tr>
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<td>$2.4M</td>
<td>($1.2M)</td>
<td>$1.2M</td>
</tr>
</tbody>
</table>

#### Month 1:

- Earned Premium: +$1M
- Acquisition Cost: -$2.4M
- Ceded Earned Prem.: -$500k
- Ceding Commission: +$1.2M

- Ending net loss is reduced to $700K

Prior U/W (loss): $(1.4M)
Exercise:
25% Quota Share – Example GL Entries

- **Premium:**
  - $100M Subject Written Premium
  - 30% Ceding Commission:

- **Losses:**
  - $60M in losses

- **Debit:** CWP $25M (25% of $100M)
- **Credit:** Ceding Comm. Income $7.5M (30% of $25M)
- **Credit:** Ceded Bal. Payable $17.5M
- **Credit:** Ceded Losses Incurred $15M
- **Debit:** Ceded Reins. Recoverable $15M (25% of $60MM)

**Net results for treaty:**
- $2.5M reinsurer’s profit
  ($25M CWP - $7.5M Commission - $15MM Losses)
Example of Sliding Scale Commission

- Ceding commission percentages that are adjusted (i.e. “slide”) based on the loss ratio of the contract subject to a minimum and maximum commission rate
- Are usually associated with quota share contracts
- Utilized as an incentive for minimization of the loss ratio to the contract
- Are often quoted in terms of the change: e.g.
  - Minimum commission of 20% at a loss ratio of 80%
  - Slides 1:1 to
  - Maximum commission of 35% at a loss ratio of 65%

[Loss ratio = the percentage of premium used for claims incurred (losses incurred/premium earned)]
Example of Sliding Scale Commission Adjustment Calculation

- **Quota Share Contract** –
  - Minimum commission of 20% at loss ratio of 80%
  - Slides 0.5:1 to –
  - Maximum commission of 30% at loss ratio of 60%

- **If the loss ratio is 70%:**
  - Minimum commission loss ratio of 80%, less actual loss ratio of 70% = difference of 10%
  - Adjustment of commission of 0.5% for each 1% change in loss ratio

- Therefore 10% change in LR = 5% change in commission rate
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## Surplus Share – Example

Determine Cession by Policy

<table>
<thead>
<tr>
<th>Risk</th>
<th>Policy Limit</th>
<th>Exposure Retained</th>
<th>Percent Retained</th>
<th>Exposure Ceded</th>
<th>% Ceded</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$400,000</td>
<td>$100,000</td>
<td>25%</td>
<td>$300,000</td>
<td>75%</td>
</tr>
<tr>
<td>B</td>
<td>$50,000</td>
<td>$50,000</td>
<td>100%</td>
<td>---</td>
<td>0%</td>
</tr>
<tr>
<td>C</td>
<td>$700,000</td>
<td>$200,000</td>
<td>*29%</td>
<td>$500,000</td>
<td>71%</td>
</tr>
</tbody>
</table>

*Initial $100,000 retention plus $100,000 liability limit above maximum cession

In Surplus Share, “Retention” refers to amount of liability used to determine percentage of premium/loss to be retained.
### Surplus Share – Example

#### Calculate Results

<table>
<thead>
<tr>
<th>Risk</th>
<th>Written Premium</th>
<th>Policy Losses</th>
<th>Cession Percent</th>
<th>Ceded Premium</th>
<th>Ceded Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$10,000</td>
<td>$50,000</td>
<td>75%</td>
<td>$7,500</td>
<td>37,500</td>
</tr>
<tr>
<td>B</td>
<td>$2,000</td>
<td>$1,000</td>
<td>0%</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>C</td>
<td>$15,000</td>
<td>$10,000</td>
<td>71%</td>
<td>$10,650</td>
<td>7,100</td>
</tr>
</tbody>
</table>

#### Ceding Commission:
- 25%

#### Determine GL Entries for Reinsurance

| A    | $10,000 | $50,000 | 75% | $7,500 | 37,500 |
| B    | $2,000  | $1,000  | 0%  | ---    | ---    |
| C    | $15,000 | $10,000 | 71% | $10,650| 7,100 |

| Total | 18,750 | 42,600 |

---

### Coverage:
- Retention: $100,000
- Maximum session: $500,000

---

### Determine GL Entries for Reinsurance

- **Ceding Commission:**
  - 25%

- **Risk:**
  - **Written Premium:**
    - A: $10,000
    - B: $2,000
    - C: $15,000
  - **Policy Losses:**
    - A: $50,000
    - B: $1,000
    - C: $10,000
  - **Cession Percent:**
    - A: 75%
    - B: 0%
    - C: 71%
  - **Ceded Premium:**
    - A: $7,500
    - B: ---
    - C: $10,650
  - **Ceded Loss:**
    - A: 37,500
    - B: ---
    - C: 7,100

- **Total GL Entries:**
  - **Written Premium:** $18,750
  - **Policy Losses:** $42,600
Surplus Share – Example GL Entries

**Premium:**
- $18,150 CWP (prior slide) & 25% ceding commission:
- Debit CWP $18,150
- Credit Ceding Comm. Inc. $4,537.50 (25% of $18,150)
- Credit Ceded Balance Payable $13,612.50

**Losses:**
- $44,600 in ceded losses
- Debit Ceded Reins. Recoverable $44,600
- Credit Ceded Losses Incurred $44,600

**Net results to treaty:** $30,987.50 loss to reinsurers
($18,150 CWP - $4,537.5 Commission - $44,600 Losses)
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Excess of Loss:
Audit Adjustments Premium

- Some contracts are priced as a percentage of subject premium to be written over future periods.
- Often deposit premiums are paid in advance until the subject premium amounts are known.
- Contracts will specify the timing of the adjustment calculations (sometimes called “true-up” calculations).
- Some contracts may require more than one calculation (perhaps annually for 3 years or other terms specified in the reinsurance contracts).
Excess of Loss – Per Risk - Premium

- Layered reinsurance program
  - First: $100,000 in excess of 100,000 Per Risk
  - Second: $300,000 in excess of 200,000 Per Risk
  - Third: $500,000 in excess of 500,000 Per Risk

- Reinsurance Premium
  - First: 10% of Subject Premium – Annual Deposit of $1M
  - Second: 5% of Subject Premium – Annual Deposit of $500k
  - Third: 3% of Subject Premium – Annual Deposit of $300k

  Total Deposit: $1.8M

- Estimated Subject Premium = $10M
**XS Per Risk – Example GL Entries – Adjustment to Deposits**

- Assume $12MM in subject premium (not estimated $10MM)

- **Deposit Premium Entry - $1.8MM in Deposit Premium**
  - Debit Deposit Balances Accrued (balance sheet) $1.8MM
  - Typically no ceding commission on XS contracts
  - Credit Ceded Balances Payable $1.8MM

- **Ceded Premium Entry (when calculated) - $2.16MM**
  - Debit Ceded Written Premium $2.16MM
  - Credit Deposit Balances Accrued $1.8MM
  - Credit Ceded Balances Payable $360K
Excess of Loss – Per Risk - Losses

- A single loss for $750,000
  - First: $100K in excess of 100K Per Risk – $100K recovery
  - Second: $300K in excess of 200K Per Risk – $300K recovery
  - Third: $500K in excess of 500K Per Risk – $250K recovery

- Total Recovery = $650K

- Each policy (i.e. “risk”) loss is considered separately

```
1st XS: $100k
2nd XS: $300k
3rd XS: $500k
$1M

Loss $750k
```

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**XS Per Risk – Example GL Entries**

- **Deposit Premium Entry** –
  - Debit Deposit Balances Accrued (balance sheet) $1.8MM
  - Typically no ceding commission on XS contracts
  - Credit Ceded Balances Payable – $1.8MM

- **Ceded Premium Entry (when calculated/accrued)** –
  - Debit Ceded Written Premium $1.8MM
  - Credit Deposit Balances Accrued $1.8MM

- **Losses** – assume $650,000 in ceded losses
  - Debit Ceded Reinsurance Recoverable $650,000
  - Credit Ceded Losses Incurred $650,000
Allocating Loss Adjustment Expenses on Excess Contracts

- Loss adjustment expenses can be handled 3 ways:
  - **Excluded**
    - Not covered under the reinsurance contract
  - **Included** in the limit
    - Added to the loss for reinsurance calculations
  - **Prorated** based on the loss
    - Reinsurance limit is applied to the loss portion only
    - Cedent and Reinsurer share LAE in proportion to share of gross loss
    - Prorated expenses are considered “in addition” to this limit
Loss Adjustment Expense

- Assume:
  - Reinsurance Retention: $2,000,000
  - Reinsurance Coverage: $8,000,000
LAE Included in Ultimate Net Loss

- Subject Loss = $5,000,000
- LAE = $250,000
- Loss Payable by Reinsurer: $5,000,000 + $250,000 = $5,250,000 (UNL)

Less Retention: $5,250,000 - $2,000,000 = $3,250,000

Ultimate Net Loss to Reinsurer: $3,250,000
3 Minute Group Exercise: LAE Pro-Rated in Addition to Limit

- Subject Loss = $5,000,000
- LAE = $250,000

Payable by Reinsurer:

\[
\text{Paid Loss - Retention} \times \frac{\text{Paid Loss}}{\text{Paid Loss}} = \%\%
\]

\[
\%\% \times \text{Total Expenses} = \text{Reinsurer’s Pro-Rated Share Of Expenses}
\]
First: Calculate Reins. share of loss:

\[
\begin{align*}
5,000,000 - 2,000,000 &= 3,000,000 \\
\frac{3,000,000}{5,000,000} &= 0.60 \\
\end{align*}
\]

Reinsurer’s share of Ground Up Loss = 60%

Apply Same Share of LAE:

60% of $250,000 = $150,000
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Catastrophe Reinsurance Contracts

- Designed to cover accumulation of losses from multiple policies/risks
- Typically have high retention levels
- Usually cover only one loss with additional reinstatement premium for one additional loss
- These contracts are intended to remove large variations in financial results from a single event
Catastrophe Reinsurance Example

- Catastrophe coverage $10M x 10M for 2 or more policies in the same event (72 hour window)
- Original catastrophe premium of $500K
- Losses Incurred – 3 claims for $3M, $4M, and $5M respectively
- Total of $12M Losses Incurred less $10M retention yields ceded catastrophe losses of $2M (20% of limit)
- *Reinstatement premium of $100K (20% of original premium)
  *See next slide
Reinstatement Premium

- Additional premium that is charged in the event of a loss. Charging additional premium when losses occur is a method of reducing the cost of the original coverage.

- Most common on catastrophe and high layer attachment.

- Usually does not have any ceding commission associated with the premium.

- The amounts are usually prorated in some fashion.

- For settlements, these amounts are deducted from the claims.
Example of Reinstatement Premium

- An Excess of Loss contract of $3M xs 2M – reinstatement premium provisions:
  - 100% of original reinsurance premium ($1M) prorated for each loss

- A gross loss of $4.4M is recorded:
  - $2M Retention
  - $2.4M Ceded Loss

- The $2.4M ceded loss = 80% of the limit of $3M (2.4M/3.0M)

- Reinstatement Premium = 100% of premium x 80% of limit
  or $1M x 80% = $800K

- Other percentages of original premium may apply
Aggregate Catastrophe Characteristics

- Responds to the total amount of cat losses suffered during the year *net of any Per Occurrence recoveries*

- Flat dollar retention and limit
- Retentions set at level requiring multiple losses to recover
- Coverage for loss frequency, not severity
- May or may not include co-participation
### Aggregate Catastrophe (continued)

- Responds to a frequency of “smaller” catastrophe events
- Includes a limit, retention and a trigger
- Common trigger: **“Subject Excess Loss (SEL)”**
  - Cedent’s ultimate net losses within a defined range
- Less common trigger: **“Franchise Deductible”**
  - Dollar amount of loss that must be met/exceeded to trigger coverage; if loss exceeds deductible, entire loss amount is subject
- Annual Aggregate Retention
- Usually cannot be reinstated

### Annual Aggregate Catastrophe Cover Example:
- $20M xs $20M of SEL for Contract Year
- SEL: $10M xs $5M UNL

<table>
<thead>
<tr>
<th>Loss</th>
<th>UNL</th>
<th>Per Occurrence Deductible</th>
<th>Aggregate Accumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>$14M</td>
<td>$5M</td>
<td>$9M</td>
</tr>
<tr>
<td>#2</td>
<td>$3.5M</td>
<td>$3.5M</td>
<td>$0</td>
</tr>
<tr>
<td>#3</td>
<td>$15M</td>
<td>$5M</td>
<td>$10M</td>
</tr>
<tr>
<td>#4</td>
<td>$13M</td>
<td>$5M</td>
<td>$8M</td>
</tr>
<tr>
<td>Total</td>
<td>$45.5M</td>
<td>$18.5M</td>
<td>$27M</td>
</tr>
</tbody>
</table>

- $27M - $20M (retention) =
  - $7M Cat Agg recovery
Agenda

- Accounting Overview & Definitions
- Common Reinsurance Calculations & Accounting Examples
- Inuring Reinsurance Calculations
  - Definitions & Contract Wording
  - Example #1: Quota Share & Excess Per Risk
  - Example #2: Per Risk, Quota Share, & Catastrophe
- Regulatory Issues
  - Financial Statement Disclosures
Inuring reinsurance refers to the interaction and order of response of various types of reinsurance coverage.

When one coverage “inures to the benefit” of another, it potentially reduces the loss subject to the second form of coverage.

Inuring order should be specified in each contract.

Multiple layers of the same coverage (i.e., three layers of an Excess Per Risk, or two layers of Clash) do not technically inure to each other.
Purpose of Inuring Reinsurance

- Coordinate coverage
- Avoid double-payment of premium
- Avoid double-collection of loss
- Avoid gaps in coverage
- Assist in creating pricing efficiencies
Facultative Reinsurance

- Reinsurance placed to cover one individual risk, or specific coverage under one individual risk
- Individually placed in the reinsurance market
- Highly tailored to a specific need
- Can be structured in any form, including proportional, excess, or aggregate
- Calculation and recording for the general ledger is the same as other types of reinsurance
Common Inuring Order of Operations

- Premiums and/or Losses covered by one form of reinsurance may not be included in the covered amounts under subsequent reinsurance agreements.

Rule of thumb: Always look at the Contract to determine inuring relationships.
Sample Contract Wording

- Sample contract wording identifying an inuring relationship:
  - “The Company shall purchase, or be deemed to have purchased, property excess per risk coverage of $500,000 excess of $500,000 per risk, per occurrence, recoveries under which shall inure to the benefit of this Contract.”

- Sample contract wording identifying the existence of other reinsurance coverage, but NO inuring relationship:
  - “The Company may purchase underlying property excess per risk reinsurance, recoveries under which shall inure solely to the benefit of the Company and be entirely disregarded in applying all of the provisions of this Contract.”
Agenda

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Defining Inuring Relationship – Example without inuring

- Sample Insurance Company purchases two reinsurance treaties:
  - 50% Quota Share Cession
  - $400,000 xs $100,000 UNL Per Risk, Per Loss (10% reinsurance rate)
  - Total Subject Earned Premium: $1,000,000

- Calculate ceded premium for each Contract:
  - Quota Share: 50% of $1M = $500,000
  - Excess Per Risk: 10% of $1M = 100,000

- Sample incurs a $250,000 loss, so how does each cover respond?
  - Quota Share: 50% of $250K = $125,000 recovery
  - Excess Per Risk: $250K less $100K retention = $150,000 recovery
  - Total Recovery: $275,000

- *Is a recovery of $275,000 on a loss of $250,000 equitable to the reinsurer(s)?*

- An inuring relationship must be established
Recovery Example – Quota Share inures to Per Risk

- Sample Insurance Company purchases two reinsurance coverages:
  - 50% Quota Share Cession
  - $400,000 xs $100,000 UNL Per Risk, Per Loss (10% reinsurance rate)
  - Total Subject Earned Premium: $1,000,000
  - Quota Share inures to the benefit of the Excess Per Risk

- Calculate ceded premium for each Contract:
  - Quota Share: 50% of $1M = $500,000
  - Excess Per Risk: 10% of $500K (net of Quota Share; $1M SEP less $500K QS premium) = $50,000

- Sample incurs a $250,000 loss, so how does each cover respond?
  - 1st: Quota Share: 50% of $250K = $125,000 recovery
  - 2nd: Excess Per Risk: $125K (net of QS) less $100K retention = $25,000 recovery
  - Total Recovery: $150,000

- A recovery of $150,000 on a loss of $250,000
Recovery Example – Per Risk Inures to Quota Share

- Sample Insurance Company purchases two reinsurance coverages:
  - 50% Quota Share Cession
  - $400,000 xs $100,000 UNL Per Risk, Per Loss (10% reinsurance rate)
  - Total Subject Earned Premium: $1,000,000
  - *Excess Per Risk inures to the benefit of the Quota Share*

- Calculate ceded premium for each Contract:
  - Excess Per Risk: 10% of $1M = $100,000
  - Quota Share: 50% of $900K (net of Per Risk; $1M SEP less $100K XPR premium) = $450,000

- Sample incurs a $250,000 loss, so how does each cover respond?
  - 1st: Excess Per Risk: $250K less $100K retention = $150,000 recovery
  - 2nd: Quota Share: 50% of $100K (XPR retention) = $50,000 recovery
  - Total Recovery: $200,000

- A recovery of $200,000 on a loss of $250,000
Retention, Limit & Per Occurrence Limit

- This loss recovery example illustrates how the Property Per Risk responds first
- The XPR protects or “inures to the benefit” of the Property Cat
- The XPR provides limited protection for cat events: the *per occurrence limit*

### Property Per Risk Recoveries

<table>
<thead>
<tr>
<th>Risk</th>
<th>Loss</th>
<th>Retention</th>
<th>Recovery</th>
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**$1M**

$500k *xs* $500k XPR ($1.5M Per Occurrence)

$500k Retention

Property Per Risk

Property Catastrophe

$15M Retention
Agenda

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Example #2 – Program Structure

- **Per Risk**
  - $600,000 xs $400,000 UNL per risk, per occurrence
  - *Per occurrence limit of $1,800,000*
  - Rate: 7.5% of subject earned premium
  - Inures to the benefit of the Quota Share and Catastrophe

- **Quota Share**
  - 25% Cession
  - Flat ceding commission of 32.0%
  - Per occurrence limit of 150% of ceded net earned premium
  - Inures to the benefit of the Catastrophe

- **Catastrophe Excess of Loss**
  - First Layer: $3M xs $1M; Rate: 5.00% of NEP
  - Second Layer: $6M xs $4M; Rate: 4.75% of NEP
  - Third Layer: $10M xs $10M; Rate: 3.00% of NEP

- **Total subject earned premium:** $20,000,000
Example #2 – Program Structure

**Per Risk**
- $1M
- $600,000, $400,000, $1.8M Per Occurrence
- $400,000 Retention

**Quota Share**
- 25% Cession
- 75% Retention

**Catastrophe XOL**
- $10M Retention

**First Layer**
- $3M xs $1M

**Second Layer**
- $6M xs $4M

**Third Layer**
- $10M xs $10M

Total:
- $400k
- $75% Retention
- $25% Cession
- $1M
- $600,000 xs $400,000
- $1.8M Per Occurrence
- $1M Retention

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Example #2 – Ceded Premium with Inuring Relationships

- Per Risk inures to the Quota Share, so its ceded premium is calculated first
  - 7.5% rate against total SEP generates $1.5M of ceded premium
  - Net premium of $18.5 is basis for Quota Share ceded premium calculation
- Quota Share is calculated next
  - 25% cession amount is taken against $18.5M premium base ($20M SEP less Per Risk ceded premium of $1.5M)
  - $4.625M (25% of $18.5M) is total ceded premium amount
  - Net premium of $13.875 is basis for Cat program
- Quota Share inures to the Cat program
  - QS net premium amount of $13.875M is base for Cat rate calculation

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<thead>
<tr>
<th></th>
<th>Per Risk</th>
<th>Quota Share</th>
<th>First Layer</th>
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<td>659,063</td>
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<table>
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<th>Second Layer</th>
<th>Third Layer</th>
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<td>Net premium</td>
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</table>
Example #2 – Tornado Loss Occurrence

- Assume a tornado caused $6.9M of total loss, made up of 18 individual claims
- The next step is to see how much the Ceding Company will recover from its reinsurance program

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<tr>
<td><strong>Total</strong></td>
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</table>
Example #2 – Loss Recovery

- Set up a spreadsheet to show how the loss recoveries flow among the reinsurance treaties
- The next step is to calculate recoveries from the “first” program: the Per Risk

<table>
<thead>
<tr>
<th>Risk</th>
<th>Incurred Loss</th>
<th>Per Risk Recovery</th>
<th>Net to QS</th>
<th>Quota Share Recovery</th>
<th>Net to Cat</th>
<th>Catastrophe Recoveries</th>
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Group Exercise: Calculate Per Risk Recovery
Example #2 – Per Risk Recovery

- Per Risk pays first
- The per occurrence limitation is $1.8M, so this must be considered when calculating recoveries
  - Risk ‘R’ does not get a full recovery, since the $1.8M per occurrence limit is met
  - The column labeled “Per Occurrence” shows aggregate accumulation of per risk recoveries for this example, which exhausted during risk ‘R’
- Incurred loss amount less Per Risk recoveries equals the amount which is subject to the Quota Share

### Incurred Loss Table

<table>
<thead>
<tr>
<th>Risk</th>
<th>Incurred Loss</th>
<th>Per Risk Recovery</th>
<th>Per Occurrence</th>
<th>Net to QS</th>
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**Group Exercise:**

Calculate QS Recovery
Example #2 – Quota Share Recovery

- Quota Share pays next
  - Apply 25% cession percentage to each loss, since the cover is on a per risk basis
- The per occurrence cap is 150% of Ceded Earned Premium (CEP), so this must be considered when calculating recoveries
  - Quota Share CEP is $4.625M, deriving a limitation of $6.9375M (150% of $4.625M), which is greater than the total loss amount in this example
- The total retained amount after the quota share ($3.825M) is the base for Cat program

<table>
<thead>
<tr>
<th>Risk</th>
<th>Incurred Loss</th>
<th>Per Risk Recovery</th>
<th>Net to QS</th>
<th>Quota Share Recovery</th>
<th>Net to Cat</th>
<th>First Layer</th>
<th>Second Layer</th>
<th>Third Layer</th>
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Group Exercise: Calculate Catastrophe Recovery


**Cat program pays last**
- Per occurrence coverage, meaning the total subject loss amount is to be applied against the individual layers
- The first layer ($3M \times $1M) is the only one affected
- First layer recovery is $2.825M

**Of $6.9M of total loss, the Company recovers $5.9M and retains $1M**

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Well done!
Agenda

- Accounting Overview & Definitions
- Common Reinsurance Calculations & Accounting Examples
- Inuring Reinsurance Calculations
- Regulatory Issues
  - Financial Statement Disclosures
Reinsurance as “Soft Capital”

- The amount of capital and surplus influences the amount of business an insurer and reinsurer can write
  - Reinsurance is often referred to as “soft capital” as it serves to offset the need for capital
    - Companies may write more business
    - Companies may write larger policies

- Reinsurance is a tool that helps companies retain the appropriate net amount of premiums and losses for their capital base
  - Reinsurance can be used to “shrink” the Balance Sheet
  - Proportional reinsurance is the most effective form of reinsurance for reducing leverage

- Many financial measures are based on the net amount of business retained
  - Leverage measures
    - Premiums/Reserves/Reinsurance Recoverables/PHS
    - “RBC” Risk Based Capital
CEO and CFO shall attest, under penalties of perjury, with respect to all reinsurance contracts for which the reporting entity is taking credit on its current financial statement, that to the best of their knowledge and belief after diligent inquiry:

- Consistent with SSAP 62, there are no separate written or oral agreements between the reporting entity and the assuming reinsurer that would, under any circumstances, reduce, limit, mitigate or otherwise effect any actual or potential loss to the parties under the reinsurance contract…”

- For each reinsurance contract entered into, …, for which risk transfer is not reasonably considered to be self-evident, documentation concerning the economic intent of the transaction and the risk transfer analysis evidencing the proper accounting treatment,…is available for review;

- The reporting entity complies with all the requirements set forth in SSAP 62:

- The reporting entity has appropriate controls in place to monitor the use of reinsurance and adhere to the provisions of SSAP 62
Reinsurance Accounting - Advanced

- Accounting Overview & Definitions
- Common Reinsurance Calculations & Accounting Examples
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- Regulatory Issues
  - Financial Statement Disclosures
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