Three Aspects of Reinsurance Decision Making

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Three Aspects of Reinsurance Decision Making

• Topics
  – Cost Benefit Analysis in Excess Insurance / Reinsurance Decision Making
  – Reinsurance vs Excess Insurance – Differences / Similarities
  – Capital and Counterparty Diversification

• Panel
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Cost-Benefit Analysis in Excess Insurance/Reinsurance Decision-Making

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Cost-Benefit Analysis in Excess Insurance/Reinsurance Decision-Making

• What is cost-benefit analysis?
• How it can help
• Complicating/qualitative factors
• Pool evaluation vs. reinsurer evaluation
• Data & info needed
• Methodology
• Expected scenario vs. potential variation
• Case Study
What is Cost-Benefit Analysis?

In this context, comparing, for each coverage structure/option:

• Excess/reinsurance cost, with

• Losses/loss adjustment expenses transferred to carrier
  – Expected scenario
  – Stressed or higher confidence level scenarios

• In light of qualitative considerations
How cost-benefit analysis can help

• Makes both quantitative and qualitative considerations and tradeoffs more explicit
• Highlights differences in expected outcome vs. different scenarios
• Rationalizes decision-making
• Provides input to long-term planning process
• Increases Board comfort with process and outcome
How Pool Considerations Compare to Excess/Reinsurer Pricing

**Pool**
- Qualitative considerations may play greater role
- Expenses allocated to retained layer?
- Surplus can be used to assume greater risk
- Tend to place greater reliance on own loss development and trend
- Sparse size-of-loss (SOL) data
- Conformance to members’ coverage needs

**Excess/Reinsurer**
- Heavier reliance on quantitative considerations
- Expense loads at least 10%
- Availability of capital, but need to price to corporate ROE standard
- Tend to rely on industry (public sector?) loss development and trend
- Access to large volume of SOL data
- May exclude coverages or impose other terms to compete on price
- For small volume deals, may impose minimum premium
Complicating/Qualitative Considerations

- Historical structure of excess/reinsurance program
- Comfort with change and risk-taking
- Surplus level
- Exclusions and other coverage terms
- Historical broker/reinsurer relationships
- Degree of control over risk financing destiny
Data & Info Needed for Analysis

- Pool coverage terms & conditions (MOC)
- Existing & proposed excess/reinsurance contracts and pricing for various options
- Most recent actuarial reports – reserves & pricing
- Pool financials
- Tort claims act, if any

- Recent claims listing by coverage & year – ground up & uncapped
- Total exposures by year + upcoming year forecast
- Changes in membership, exposures, coverage, underwriting, claims process, etc.
- Sample member application/proposal
Methodology

**Experience Rating**

- Uses pool’s own excess experience
- Individual losses adjusted for loss development & trend
- Adjusted losses layered as in proposed options
- Relate to annual exposures & select loss cost per exposure for layer

**Exposure Rating**

- Uses pool’s ground up loss experience to some limit and then uses size-of-loss (SOL) distribution to estimate excess layer losses
- Often uses actuarial projection of loss cost at retained limit
- SOL distribution based on industry adjusted for tort caps, pool experience
Other Considerations

• Analysis of specific or per occurrence cover vs. aggregate excess cover
• Treatment of allocated loss adjustment expense (ALAE)
• Effect of tort caps
• Guaranteed cost vs. loss-sensitive
• Corridor deductibles
• Adjusting for changes in:
  – Pool membership
  – Coverage
  – Claims administration/case reserving
Expected Results vs. Potential Variation

• Modeling expected losses/ALAE may suggest one decision, but

• Relatively minor changes in assumptions may suggest another decision

• Alternative scenarios may be generated by:
  – Higher confidence level results from statistical simulation analysis
  – Historically worst excess loss year
  – More conservative assumptions
  – Alternative methods
Case Study

- School district pool with $5 million annual contributions, $3.5 million in surplus, 10,000 students
- General liability reinsurance currently $1.5 million x/s $500,000 for $750,000 annual premium (Option 1)
- Pool considering $1,000,000 x/s $1,000,000 reinsurance structure (Option 2) for $300,000 annual premium
Analysis Results (per student):

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<tr>
<th>Layer</th>
<th>Experience Rating</th>
<th>Exposure Rating</th>
<th>Selected</th>
</tr>
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<tr>
<td>$500 K x/s $500 K</td>
<td>$5.00</td>
<td>$2.00</td>
<td>$4.00</td>
</tr>
<tr>
<td>$1.0 M x/s $1.0 M</td>
<td>$1.00</td>
<td>$3.00</td>
<td>$2.50</td>
</tr>
<tr>
<td>TOTAL: $1.5 M x/s $500 K</td>
<td>$6.00</td>
<td>$5.00</td>
<td>$6.50</td>
</tr>
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</table>
## Case Study, continued

<table>
<thead>
<tr>
<th></th>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess/reinsurance cost</td>
<td>$750,000</td>
<td>$300,000</td>
</tr>
<tr>
<td>Expected loss/LAE retained by pool</td>
<td>$3,000,000</td>
<td>$3,400,000</td>
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<tr>
<td>Total expected cost excluding pool expenses</td>
<td>$3,750,000</td>
<td>$3,700,000</td>
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<tr>
<td>90% confidence level loss/LAE retained by pool</td>
<td>$3,750,000</td>
<td>$4,420,000</td>
</tr>
<tr>
<td>Total 90% confidence level cost</td>
<td>$4,500,000</td>
<td>$4,720,000</td>
</tr>
<tr>
<td>Other considerations</td>
<td>Role of current broker/carrier Long-term financial strategy Good higher layer experience Full SIR loss: 29% of surplus</td>
<td></td>
</tr>
</tbody>
</table>

2015 FALL CONFERENCE & TRAINING
Reinsurance vs. Excess Insurance

Jerry Tanella
Scholar Associates
Reinsurance vs Excess Insurance

• So what is reinsurance and how is it distinguished from excess insurance?
  – Pools can use either product (not in all states)

• A brief description
  – Reinsurance:
    • is the transfer of risk for a variety of reasons on a proportional or excess of loss basis from an insurance company to a facultative or treaty reinsurer
      – it may be described, also, as insurance for insurance companies or other reinsurers (retrocessions)
  – Insurance
    • is also the transfer of risk for a variety of reasons, on a primary or excess of loss basis, from an entity not necessarily engaged in the insurance business to an insurer

• Generally, an insurance company can write reinsurance while most reinsurers either can not or do not write insurance contracts as a principal part of their business
Reinsurance vs Excess Insurance

• Therefore, the reinsurer may be:
  – solely focused on reinsurance, whether as an independent firm or part of a larger entity engaged in both insurance and reinsurance or
  – another insurance company

• Does the nature of the entity assuming the risk provide clarity as to whether a product is excess insurance or reinsurance?
  – Possibly but not with 100% certainty.

• So, let’s examine the issue by looking at some broad brush descriptions of:
  – The Accounting treatment utilized
  – Some of the similarities and differences between the insurance and reinsurance products and entities
Accounting Treatment

• Key Considerations or “Skin in the Game”:
  – Who writes the risk that is being insured?
  – Who bears the risk ultimately if the counterparty does not pay?

• Accounting for reinsurance – Traditional Insurance Companies
  – Income statement records premium written and incurred losses, net of reinsurance
  – Balance sheet records gross losses as a liability account and reinsurance recoverables as an asset account
    • (admitted or non-admitted reinsurance)

• Accounting for reinsurance and excess insurance – pools
  – Generally follow the reinsurance model noted above
Accounting Treatment

- So can you tell if you have purchased excess insurance or reinsurance by the accounting approach taken?
- If the pool does not have “skin in the game” then it's not a reinsurance relationship.
- Otherwise not necessarily.
Similarities and Differences

• Insurance and reinsurance products:
  – Contain a coverage promise to protect against a future event or events that are fortuitous and fluctuations in cause, timing, severity and ultimate development
  – Are risk transfer mechanisms established between either the policyholder or risk aggregator (insurer or pool) and an insurer or reinsurer
  – Require a premium payment
  – Agree to pay for contractually defined losses arising out of described exposure generally up to a limit of liability
  – May also pay for loss adjustment expenses either within or in addition to the limit of liability.
Similarities & Differences

• Insurance and reinsurance products:
  – Are influenced to varying degrees upon the reinsurance and retrocessional (reinsurers) marketplaces for capacity.
  – Seek to benefit from the float (time value of money) via investment policies.
  – Require underwriting analysis to evaluate, price and assume risk.

• Standing behind the insurer reinsurers tend to lower operating expenses
  – due to smaller staffs and other infrastructure expenses.

• Reinsurers typically experience delayed cash flow as compared to a insured-facing insurer.
Similarities and Differences

• Reinsurers typically depend more on the knowledge of the insurer to assume risk
  – This dynamic may be reversed, for example, if a cedent seeks support to enter a new line or area

• Reinsurers are deemed to be dealing with buyers who are knowledgeable professionals while insurers deal with buyers of variable knowledge.
  – Ambiguity in an insurance contract generally is interpreted in favor of the insured.
  – This is not so in a reinsurance contract – no contra proferentem.
  – Reinsurance on the other hand operates under the principle, often stated in the contract, of Uberrimae Fides or Utmost Good Faith and Fair Dealing (derived from the marine insurance world).
Similarities and Differences

• The reinsurance market tends to be a subscription marketplace with different producers

• Reinsurers have a smaller marketplace in which to operate than insurers; i.e. fewer potential clients.

• Reinsurers tend to have globalized portfolios of assumed risks. Only the larger insurers have a similar profile.

• Reinsurance is, classically, a contract of indemnification

• Excess insurance can be written on a pay on behalf of or indemnification basis
  – Because claims expenses do not have to paid up front this a significant pool financial consideration
Similarities and Differences

• Reinsurers tend to use proportional or excess of loss treaties (covering a portfolio of risks), facultative certificates or semi-automatic facultative agreements

• Insurers most commonly use policies (often utilizing a jacket containing standardized provisions and general conditions to which appropriate coverage parts and endorsements are attached)

• As indemnification contracts reinsurance wordings tend to contain language designed to maintain privity of contract between the insurer and reinsurer
Reinsurance vs. Excess Insurance

• So, knowing this broad based stuff, how does a pool determine if it has reinsurance or excess insurance
  – By examination of the contract and the substance of the relationship
  – An insurer might draft an excess policy in the format of reinsurance contract

• Some issues to consider then are:
  – An excess insurer:
    • May seek/insist upon contact with the insured
    • Could reserve the right to control/participate with or wish to adjust losses and / or defend the insured against suits; whether the allegations are false, frivolous or groundless.
  – Reinsurers generally only in contact with the insurer’s personnel or work in concert with them
    • Does the wording contain counsel and / or consent wordings, to participate in the claims process?
Reinsurance vs Excess Insurance

– What are the notice of loss and loss settlement provisions of the contract?
  • Are there specific duties imposed upon the pool in the contract?
– Does the wording state that the pool decides what is covered under its policy, determine its liability thereunder and determine the amount it is proper to pay in settlement of the loss?
– Does the contract contain an original conditions clause (possibly called a follow the fortunes or follow the settlements clause?)
– How are disputes between the contracting parties to be handled?
  • Arbitration or Litigation
– Named Reinsured
  • The pool or the members of the pool
– Concurrency of coverage – definitions, date of loss, exclusions etc.
  • Business Covered
  • Term including run-off and cut-off options
  • Definitions – occurrence and date of loss determination
  • Ultimate net loss and treatment of loss adjustment expenses
Reinsurance vs Excess Insurance

• When the pool has “skin in the game” such considerations determine the nature of the relationship sought
  – Which is best depends on the goals for the coverage and relationship
  – A diversified portfolio of transferred risk should evaluate these considerations with both approaches in mind
  – A question to ask – how much control does pool management desire?
Capital and Counterparty Diversification

Jerry Tanella
Scholar Associates
Capital and Counterparty Diversification

• The traditional functions of reinsurance are widely regarded to be:
  – Catastrophe (surplus protection)
  – Stabilization (protection of results)
  – Capacity (enhanced coverage and limits)
  – Finance (supporting a volume of and types of business)

• Reinsurance is a substitute for capital. Reinsurers enable the purchaser to use their capital, for appropriate consideration, to pursue the purchaser’s operational and financial objectives.

• Ultimately it is a capital management tool
Capital and Counterparty Diversification

• The real world operational and financial objectives for which JPA’s may purchase reinsurance may include:
  – Reduction of the JPA’s risk of ruin by absorbing catastrophe risks
  – Risk mitigation by allowing the JPA to issue higher limits than may be deemed prudent; thereby improving the overall risk balance of retained risk
  – Stabilization by absorbing errors in risk estimates, random fluctuations, the impact of new or unexpected risks and thereby enhancing the JPA’s ability to offer stable rates and coverage
  – Mission execution via enhanced underwriting capacity; i.e. by providing financial (surplus) support the JPA can now issue a broader variety of coverages and / or services
Capital and Counterparty Diversification

• The real world operational and financial objectives for which JPA’s may purchase reinsurance may include:
  – Competitive Advantages; e.g. the ability to offer a lower rate, broader coverage or a specific coverage due to such factors as the reinsurer’s economies of scale, regulatory environment, tax status, underwriting expertise etc.
  – Services; e.g. training, risk modeling support, research etc.
Capital and Counterparty Diversification

• These benefits are achieved by the JPA through the assumption of a counterparty risk (the risk to each party of a contract that the counterparty will not live up their contractual obligations).

• From a JPA’s perspective what is the counterparty risk?

• At is most basic this risk relates to the counterparty default risk of any individual reinsurer; i.e. the clear inability to honor 100% of all obligations when presented.
Capital and Counterparty Diversification

• Another aspect of counterparty risk, other than default risk, is recovery risk - the expectations of recovery vs. the reality given any given concentration of risk (reserves) on an external party’s balance sheet.

• Such counterparty recovery risk might arise from:
  – Differing perceptions concerning the intent of the contract revealed in difficult circumstances.
  – Differing interpretations of coverage provided by the JPA and under the reinsurance
Capital and Counterparty Diversification

• What circumstances might give rise to such a situation. Some examples are:
  – Honest disagreement
  – Multiple cedents presenting differing interpretations of coverage application to the same reinsurer for the same or similar loss circumstances
  – A soured business relationship

• Yet another counterparty risk is the risk that the reinsurer refuses to continue to write the cedent or offer acceptable terms, perhaps leaving the scene with a sizable positive balance of premiums to losses. What might cause such a counterparty stability risk? For example:
Capital and Counterparty Diversification

– The reinsurer has changed; e.g. management, underwriting personnel or strategies or has ceased to write business of the type ceded (perhaps consolidated)
– The reinsurer has been downgraded
– JPA management has changed, e.g. strategy or approach
– An irreconcilable view about a new exposure or the efficacy of a new approach.

• These all may be a low, even very low, probability events but the probability is not zero.
Capital and Counterparty Diversification

• Diversification of counterparty risk is a common approach utilized by investors and asset managers to manage against default risk and various other type of risks in a portfolio.

• Diversification can improve investors’ risk/reward profile. The active and growing alternative capital marketplace gives testimony to investors’ interest in such diversification.

• Hurricanes, for example, are not affected by the FED’s interest rate policy.
Capital and Counterparty Diversification

- Can diversification in a reinsurance program reduce counterparty default risk?
  - In an era with few AAA organizations a reinsurance placement with the highest rated, largest reinsurer might seem to be the right solution
  - Mathematically, though, diversification – a larger reinsurer panel - reduces total loss probability
Capital and Counterparty Diversification

- Assume a three reinsurer universe
  - A++ with a 1.1% default chance
  - A+ with a 2% default chance
  - A with a 3% default chance
  - Three alternative placements each for a $1,000,000 limit with the following panels
    - Placement 1 - 100% with A++ reinsurer
    - Placement 2 - 50% each A++ / A+
    - Placement 3 – 33.33% each A++, A+, A

<table>
<thead>
<tr>
<th>Placement</th>
<th>Default Percent</th>
<th>Default Dollars</th>
<th>Placement Credit Risk</th>
<th>Probability of Total Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.10%</td>
<td>$11,000</td>
<td>$11,000</td>
<td>1.1000%</td>
</tr>
<tr>
<td>2</td>
<td>2.00%</td>
<td>$20,000</td>
<td>$15,500</td>
<td>.02200%</td>
</tr>
<tr>
<td>3</td>
<td>3.00%</td>
<td>$30,000</td>
<td>$20,331</td>
<td>.00066%</td>
</tr>
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</table>
Capital and Counterparty Diversification

• Can diversification in a reinsurance program reduce counterparty stability risk?
  – A larger reinsurer panel can be labor intensive and challenging to assemble but deliver benefits over time and cycle as long term relationships are created and sustained
  – The end of a single relationship does not end the efficacy of the reinsurance program

• Diversification offers the JPA an opportunity to protect its members against the largest number of possible risk variables; whether presently foreseeable or not.