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## SURVEY ON RISK TRANSFER FOR REINSURANCE

# REPORT TO THE NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS' CASUALTY ACTUARIAL AND STATISTICAL TASK FORCE

American Academy of Actuaries  
Committee on Property and Liability Financial Reporting

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This is a report from the American Academy of Actuaries' (Academy) Committee on Property and Liability Financial Reporting (COPLFR) to the Casualty Actuarial and Statistical Task Force (CASTF) of the National Association of Insurance Commissioners (NAIC). This report contains the results of the 2008 survey of current industry practices regarding risk transfer.

In 2005, the NAIC's Casualty Actuarial Task Force requested assistance from the Academy to develop a survey for which the NAIC solicited responses from insurance companies. The NAIC then compiled these responses and provided them to the Academy. Summaries and findings from the Academy's evaluation of these responses was included in our report, "Risk Transfer In P&C Reinsurance: Report To The Casualty Actuarial Task Force Of The National Association Of Insurance Commissioners," released in August 2005.

Both the Academy and the CASTF agreed on the value of issuing an updated survey on reinsurance risk transfer matters now that the Reinsurance Attestation Supplement (Attestation) and disclosures, which became effective at year-end 2005, have likely had a positive impact on controls and corporate governance surrounding reinsurance accounting. Accordingly, COPLFR worked with the CASTF to issue an updated survey to US-domiciled insurance companies regarding the industry's current practice on evaluating and documenting risk transfer as it relates to reinsurance contracts. The content of the survey is similar to that of the 2005 survey. Most changes are the result of the "reasonably self-evident" language, which became effective after the 2005 survey was completed, and is used in the Attestation.

The CASTF issued the updated survey to insurance companies/groups in March 2008, and responses were received within approximately 60 days. The CASTF then stripped survey responses of information that could identify individual respondents, protecting respondents' anonymity. The anonymous responses were then provided by the CASTF to COPLFR. This section of the report contains a description of the survey and an evaluation of the responses.

### **Contents of the Survey**

The survey has the following sections:

- Background Questions
- Criteria and Attestation
- Risk Transfer Testing and Thresholds

The appendix to this report contains a copy of the survey and a summary of the responses.

## Summary of Observations

There are 239 responses to the 2008 survey, down from 390 responses to the 2005 survey. Below are some of our more significant general observations, followed by comments on the responses to each question.

- There are fewer respondents than for the 2005 survey; the most notable reduction is in the number of smaller companies. More than half the respondents are participating in the survey for the first time.
- The percentage of respondents that have recently entered into a finite contract, either assumed or ceded, has declined 30% to 40% since the last survey. The decline is greatest among the largest companies, in which the percentage that entered into a finite contract dropped from 29% to 5%. While there is a one-year time difference (i.e., the 2005 survey asks about the prior 4-year period, while the 2008 survey asks about the prior 3-year period), for the largest companies, it is very likely that the number of finite contracts has declined significantly since 2005.
- While the percentage of companies that have a formal written policy regarding the evaluation of reinsurance accounting for both ceded and assumed contracts has increased, as of 2008, fewer than half have such policies. Smaller companies continue to be much less likely than larger companies to have such policies.
- More ceded reinsurance contracts are assessed for risk transfer, with cash flow testing performed and documentation maintained, than assumed reinsurance contracts.
- Large companies are more likely than small companies to document, cash flow test, and explicitly consider various types of risk in their statistical models.
- Most companies have classes of contracts for which they consider risk transfer to be reasonably self-evident without having to perform cash flow testing.
- The vast majority of those who responded to question 10, which addresses characteristics of contracts for which risk transfer is regarded as reasonably self-evident, consider certain features such as (1) a large potential loss compared to premium, (2) standardized contract terms, and (3) the lack of provisions permitting the reinsurer to recover much of the loss, to be characteristics of contracts in which risk transfer is considered to be reasonably self-evident.
- The most common benchmark for cash flow testing remains an X% probability of a Y% loss, and almost all of those using such a benchmark continue to use a 10% chance of a 10% loss.
- Where actuaries lead the analysis, Expected Reinsurer Deficit has emerged as a relatively common measure; this method was not explicitly addressed in the 2005 survey.
- Accountants remain primarily responsible for the analysis of risk transfer. It is uncommon for actuaries to have primary responsibility for the analysis of risk transfer.

The remainder of this document contains our evaluation of responses by category of questions in the survey. When reading the discussion below, it may be helpful to refer to the survey and summary of responses in the appendix. It is important to note that additional analysis of the survey's responses is possible based on different organizations of the responses – for example, responses for stock companies versus mutual companies.

## **Background Questions**

Based on responses to question #1 regarding surplus, 58% of respondents are smaller companies (i.e., less than \$100 million in surplus), 32% are mid-sized companies, and 10% are larger companies (more than \$1 billion in surplus). The responses are skewed even more to smaller companies when measured by net written premiums – 70% for smaller companies (less than \$200 million in net written premiums), 23% for mid-sized companies, and 7% for larger companies (more than \$2 billion in net written premiums). As such, it is possible that larger companies are under-represented in this survey, even though their representation in the responses doubled compared to the 2005 survey. Respondents include 14% public stock, 31% mutual, 47% non-public stock, and 8% other companies. Hereafter, we will refer to companies as small, medium, and large based on the levels of surplus in reference to the above questions.

For question #2, only 2.5% of respondents, half the amount compared to the 2005 survey, have a definition of finite reinsurance that is substantially different than that contained in the survey's cover letter. For those who disagree with the definition in the cover letter, the most common response is that the company does not have a definition because finite reinsurance is not used by the company. One respondent provides an alternate definition, emphasizing limited risk transfer in finite contracts.

For questions #3 and #5, only 4% (10 of 239) of respondents have entered into an assumed finite contract in the last three years, and only 4% (9 of 239) of respondents have dedicated units designed to write assumed finite reinsurance. This is higher than the 1% of respondents that had dedicated units in our 2005 survey, and, because larger companies are more likely to have such units, may be due to a greater percentage of large company representation among these survey respondents.

For question #4, 16% of respondents entered into a ceded finite contract in the past three years. The range is 19% for small insurers, 14% for medium insurers, and 5% for large insurers. This is a much higher percentage than those entering into assumed finite contracts in #3 above, likely due in part to fewer companies assuming than ceding such arrangements, and potentially due in part to an under-representation of large companies, who are more likely to have dedicated finite reinsurance units. However, this percentage is smaller than the 23% entering into ceded finite contracts in our 2005 survey results, and the spread is reversed from 21% small, 25% medium, and 29% large in our 2005 survey results. This may indicate that ceded finite contracts are less popular now, especially among larger companies.

For question #6, about half of the 2008 survey respondents also participated in the 2005 survey.

## **Criteria and Attestation**

For question #7, only 40% of respondents, excluding those who responded “not applicable,” have a

formal written policy regarding the evaluation of reinsurance accounting and the application of appropriate accounting rules and regulations to its ceded reinsurance products. Interestingly, among the respondents who indicated that they entered into a ceded finite contract in the past three years (question #4), only 32% have a formal written policy. This compares to 31% and 29%, respectively, from our 2005 survey, possibly indicating a slight increase in formal written ceded reinsurance policies.

Question #8, which asks the same question as #7 from the assuming company's perspective, generated similar responses. Excluding those who responded "not applicable," 35% of respondents have a formal written policy regarding the evaluation of reinsurance accounting as described above. Interestingly, however, only 50% (5 of 10) of the respondents that have written a finite contract in the past three years have a formal written policy. These percentages compare to 22% and 48%, respectively, from the 2005 survey.

Based on responses to question #9, a substantial majority of respondents (87%) believe there are classes of contracts for which their group considers risk transfer to be reasonably self-evident and thereby does not require cash flow testing for appropriate accounting treatment.

Question #10 asks which contract features are considered to be defining characteristics of reasonably self-evident risk transfer. The vast majority of respondents agree that characteristics consistent with risk transfer being considered reasonably self-evident include: (a) the potential loss to the reinsurer is much larger than the premium for the coverage provided; (b) the terms and conditions of coverage are standardized for the classification or type of contract; and (c) the contract does not include provisions that enable the reinsurer to recover all or a significant portion of the covered losses (80%, 75%, and 74%, respectively). Of those not agreeing that these features are defining characteristics of reasonably self-evident risk transfer, most provide alternative features that are generally similar in substance to the features listed in (a), (b), and (c) above.

Question #11 asks respondents if certain contract features require detailed disclosure. Approximately half of the respondents require detailed disclosure for contracts with the following features:

- long term and non-cancellable by cedant
- conditional cancellation requiring cedant to enter into a new contract with reinsurer
- aggregate stop loss
- unconditional commutation rights except when there is a decline in the credit rating of one of the parties
- payment or reporting more than quarterly unless no activity
- features inherently designed to delay timely reimbursement to cedant

Large companies (~80%) are more likely to require detailed disclosure than medium (~60%) or small (~40%) companies on any of the above features, and approximately two-thirds of large companies require disclosure for all of the above features.

Question #12 asks what documentation is maintained by the respondent for its ceded reinsurance contracts. A summary of responses follow, excluding those respondents who answered "No Ceded Reinsurance" to question #7. For all except the first and last items, a higher percentage of companies maintain such documentation than in the 2005 survey. In addition, larger companies are more likely to

require each item of documentation than medium-sized companies, which are more likely to do so than smaller companies.

- 90% maintain relevant correspondence among the parties.
- 58% maintain risk transfer documentation.
- 48% maintain a memorandum from management describing the business purpose of the contract and other relevant concerns.
- 28% maintain internal management signoff of risk transfer analysis, including only 47% of those who maintain risk transfer documentation.
- 26% maintain signoff of accounting treatment from internal accounting management, including only 39% of those who maintain risk transfer documentation.
- 19% maintain signoff from an actuary, including only 29% of those who maintain risk transfer documentation.
- 15% maintain signoff from an external auditor and/or regulator.

Question #13 asks what documentation is maintained by the respondent for its assumed reinsurance contracts. Responses follow for those companies that indicated in question #8 that they write assumed reinsurance. The responses are similar to question #12, except that it is somewhat less likely that the assuming company has as comprehensive a contract file as the ceding company, and there is an immaterial difference in responses between large, medium, and small companies.

- 77% maintain relevant correspondence between the parties.
- 39% maintain risk transfer documentation.
- 39% maintain a memorandum from management describing the business purpose of the contract and other relevant concerns.
- 22% maintain signoff of accounting treatment from internal accounting management.
- 20% maintain internal management signoff of risk transfer analysis.
- 13% maintain signoff from an actuary.
- 13% maintain signoff from an external auditor and/or regulator.

Question #14 asks about accounting policies and procedures for handling international (non-US statutory reporting) entities. Only 15% of companies responded that they have international operations, and, of those, 89% follow the same accounting standards as they use for domestic entities, which is much higher than the 33% who responded that way in our 2005 survey.

### **Risk Transfer Testing and Thresholds**

Questions #15 and #16 ask respondents if their companies/groups have a formal written policy regarding the evaluation of risk transfer, both for reasonable self-evidence and cash flow testing and for its ceded and assumed reinsurance products, respectively. Excluding those who responded, “no ceded reinsurance” or “no assumed reinsurance,” it is evident that most companies do not have such written policies – only 31% for ceded reinsurance, and 23% for assumed reinsurance have such policies. However, these figures have doubled from what they were in the 2005 survey.

Questions #17 and #18 ask respondents to identify the people who lead the evaluation of risk transfer for their ceded and assumed reinsurance products, respectively. Excluding those who responded, “no ceded

reinsurance” or “no assumed reinsurance,” the responses to these questions are similar to one another and similar to those provided in our 2005 survey. For both ceded and assumed reinsurance, the accountants are the most commonly identified group (25% of those respondents offering ceded or assumed reinsurance products) to lead the evaluation of risk transfer. In addition, about 30% of respondents answered “other” for both ceded and assumed contracts. Two common written responses by those who replied “other” included outside auditors and senior management, including the CFO or CEO or a committee.

Question #19, which allows multiple answers, asks respondents what type of testing is performed for ceded reinsurance contracts in which cash flow testing is used in the evaluation of risk transfer. Question #20 asks which of the tests selected in question #19 is predominantly used. The responses below are only for companies indicating that they have ceded reinsurance contracts.

- For question #19, the most common response, given by 45% of respondents, is a review of historical results. This was also the most common result in our 2005 survey, at 64%.
- The next most common response, given by 31% of respondents, is statistical modeling generating probabilistic results; however, this percentage is much greater, approximately 68%, when actuaries lead the risk transfer analysis (question #17, responses a and d). This result is essentially the same as that of the 2005 survey.
- 22% of respondents develop a single scenario via judgment that could be viewed as reasonably possible. 33% of respondents replied similarly in the 2005 survey.
- Offsetting the fewer respondents performing a review of historical results and single scenario tests compared to the 2005 survey is more respondents performing “other” tests, including multiple scenario tests and tests based on catastrophe models.
- Surprisingly, it appears that less than half of these respondents perform cash flow testing on their ceded reinsurance contracts. Large and medium-sized companies are more likely to cash flow test than small companies, and, specifically, they are twice as likely to perform statistical modeling and review historical results.
- For question #20, statistical modeling, review of historical results, and “other” are most predominantly used, by 24%, 22%, and 23% of respondents, respectively. A single scenario test is predominantly used by only 6%, while the remaining respondents did not respond. Review of historical results, used by 44% of respondents, was more dominant in the 2005 survey results.

Question #21 asks which risks are explicitly considered in statistical modeling cash flow tests. Only about 20% of companies who indicate that they have ceded reinsurance contracts report that they explicitly consider process, parameter, or acceleration risk. This is less than the approximately one-third of respondents who so indicated in the 2005 survey. However, the result nearly triples to almost 60% among companies employing statistical modeling cash flow tests, as identified in question #19, matching the responses received in the 2005 survey. That these sources of risk are not almost always explicitly considered suggests that companies may be either performing an incomplete evaluation of risk or that their approaches do not allow them explicitly to identify the types of risks being evaluated.

In considering the results for Questions #19 through #21, an observation at odds with our experiences arises. Surprisingly, fewer companies explicitly consider process, parameter, and acceleration risk than in our 2005 survey. There are many possible reasons for this unexpected result. One possibility may be that, since there are fewer finite contracts written in the years covered in the 2008 survey as compared to

the 2005 survey, the need for sophistication in cash flow modeling has declined.

Question #22, which allows multiple answers, asks respondents what type of testing their companies perform for assumed reinsurance contracts in which cash flow testing is used in the evaluation of risk transfer. Question #23 asks which of the tests selected in question #22 is predominantly used. The responses below pertain only to companies indicating that they have assumed reinsurance contracts.

- 30% of respondents review historic results. 15% use statistical modeling. 15% judgmentally develop a single scenario that could be viewed as reasonably possible. Statistical modeling is used more frequently by large companies.
- 22% of respondents predominantly review historical results. 13% predominantly use statistical modeling. However, the majority (60%) of respondents to this question primarily use ‘other’ tests, with the most common explanation being ‘not applicable’ or the equivalent.

Question #24 asks which types of models are used in cash flow testing ceded and assumed reinsurance contracts. Of the 50% of respondents who answered this question, results are about evenly distributed among internal models, external models, and a separate spreadsheet-based model for each contract, as they were in the 2005 survey.

Question #25 asks which benchmarks are considered when evaluating a reasonable possibility of a significant loss. The most popular response is ‘an X% chance of a Y% loss,’ selected by 31% of respondents. 13% consider an ‘Expected Reinsurer’s Deficit (ERD) > Z%.’ These two benchmarks may be most popular as a result of the Academy’s Risk Transfer Testing Practice Note, and their use doubles when an actuary leads the analysis. ‘Value at Risk (VaR)’ and ‘Tail Value at Risk (TVaR)’ are both considered by 6% of respondents. Large companies are more likely to utilize ‘an X% chance of a Y% loss,’ ERD, and VaR benchmarks, and medium-sized companies are slightly more likely to use TVaR and other benchmarks. An explanation of other benchmarks is only offered by 10 companies and includes probable maximum loss, decline in asset value, loss ratio, and quota share performance.

Question #26 requests the numerical criteria for the benchmarks utilized in question #25. Of the 24% of respondents who offer a criteria for ‘an X% chance of Y% loss,’ 91% use a 10% chance of a 10% loss (comparable to 86% of respondents to the 2005 survey), and each of the following are used by 2% of respondents: a 5% chance of a 20% loss, a 10% chance of a 20% loss, a 10% chance of a 100% loss, a 15% chance of a 15% loss, and a 35% chance of a 15% loss. Of the 13% of respondents indicating they use the ERD benchmark, 45% do not indicate a criteria, 36% indicate a criteria of 1%, 10% indicate a criteria of 10%, and 3% each indicate a criteria of 2%, 2.5%, and 15%. Too few companies elaborate on their value-at-risk or tail-value-at-risk criteria to compute significant results.

Question #27 asks how the benchmark statistics are considered in question #25. 25% of respondents indicate that statistics are treated as key inputs into a broader assessment of risk transfer, similar to the respondents to the 2005 survey. The statistics are considered minimum thresholds but further assessment is performed to confirm risk transfer by 13% of the respondents. 16% of respondents answered “other,” and 43% did not answer this question, with comments nearly unanimously indicating that cash flow modeling is not applicable to their ceded reinsurance contracts.

It is somewhat surprising that so many companies indicate that cash flow testing is not applicable to their reinsurance contracts, but this result is consistent when compared with the responses to other questions in this section of the survey.

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COPLFR is pleased to have worked with the NAIC on this updated survey, and we would be happy to answer any questions or provide further information about the updated survey and its results. If you need additional information, please feel free to contact Lauren Pachman, the Casualty Policy Analyst at the Academy at (202) 223-8196 or [Pachman@actuary.org](mailto:Pachman@actuary.org).

Sincerely,

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