Risk Transfer: Background and Relevant Subject Matter

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Agenda

- Background
- Current state of market
- Accounting standards
- Actuarial guidance
- Interpretation issues
- "Reasonably self-evident"
- Cash flow tests
- Other risk-transfer tests
- Conclusions

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Background

- Why enact risk transfer guidance?
  - Risk transfer testing principles were implemented to improve the representational faithfulness of accounting for insurance and reinsurance contracts
    - Prior to implementation, numerous issues arose concerning determination of whether an insurance or reinsurance contract transfers significant insurance (or reinsurance) risk
    - Insurance (or reinsurance) contracts can be used to improve certain metrics (e.g., surplus, profitability, net results) in a company's financial statements but passed limited risk to risk bearer
  - After implementation of FAS 113 and SSAP 62 resulted in the need to demonstrate significant risk transfer, ceding companies can no longer manipulate financial statements in this manner

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Background (cont.)

- Absence of risk transfer
  - If risk transfer does not exist under an insurance or reinsurance contract, insurance accounting principles cannot be applied
  - Deposit accounting
    - Used for non-insurance contracts
    - No immediate impact to revenue or expenses (and therefore, income)
    - Ceding company cannot recognize benefit of contracts to underwriting gain or capital levels

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Background (cont.)

- Example: insurance accounting vs. deposit accounting

- Under insurance accounting, surplus increases after implementation of the insurance or reinsurance contract
- Under deposit accounting, no surplus benefit is achieved

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Current state of market

- Little motivation to intentionally misrepresent financial statements
  - Controls and fraud prevention measures in place
  - Potential loss of management employment in instances of questionable judgement
  - Fines and penalties enacted in instances where fraud is prevalent
- Fewer reinsurers and larger companies from a capital and market share perspective
- Companies have tended to buy less reinsurance

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Current state of market (cont.)

- Competitive marketplace
  - Companies may:
    - Be unwilling to pay for full risk transfer coverage
    - Be unwilling to pay for coverage in uncertain areas
    - Be willing to take on additional risk
    - Want to limit coverages provided
    - Want to purchase coverage in a tough marketplace
- Other considerations
  - Decreasing reserve levels
  - International increase in regulatory requirements (Solvency II)
  - Rating agency issues
  - Start-up companies
    - Uncertainty, rating, and capitalization

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Accounting standards

- FAS 113
  - Implemented in 1992
  - Standards addressing risk transfer under Generally Accepted Accounting Principles (GAAP)
- SSAP 62
  - Shortly after implementation of FAS 113, United States statutory accounting developed similar accounting guidance to handle risk transfer for SAP
  - Originally Chapter 22 of the NAIC Accounting Practices and Procedures Manual for Property and Casualty Insurance but eventually became SSAP 62

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Accounting standards (cont.)

- To be considered "insurance that passes risk transfer" under FAS 113 and SSAP 62:
  - Reinsurer must assume significant insurance or reinsurance risk
    - Known as the 9a test
  - The realization of a significant loss by the reinsurer is "reasonably possible" under the transaction
    - Known as the 9b test
- Must qualify based upon both timing and amount associated with the risk in order to be classified as insurance risk
  - FAS 113 defines "reasonably possible" as "more than remote."
    - This somewhat ambiguous definition of insurance and risk transfer is still utilized today
    - Only exception given within the guidance to the above definition is for contracts that cede "substantially all" of the insurance risk relating to the reinsured portions of the underlying insurance contracts
      - "Substantially all" still fairly ambiguous

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Actuarial guidance

- American Academy of Actuaries (AAA) developed the January 2007 Reinsurance Attestation Supplement 20-1: Risk Transfer Testing Practice Note
- Note excluded contracts:
  - With no recoverable
  - That preceded 1 January 1994
  - That were reasonably self-evident

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Interpretation issues

- Actuaries play a critical role in determination of risk transfer
  - Actuarial community usually plays prominent role and is heavily involved in cash flow testing, including determination of assumptions
  - Depending on company and jurisdiction, actuary may be the one concluding as to whether risk transfer is present
  - In other settings, actuary may be heavily supporting the one making such a determination

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Interpretation issues (cont.)

- Relevant questions
  - Why is analysis being performed (e.g., is a single contract term disqualifying a contract from "reasonably self-evident" status)?
    - Is the contract "reasonably self-evident", and if so, why is additional testing being performed?
  - If another party is questioning aspects of the analysis you performed, what is prompting their question?
    - Is it an individual party's interpretation of the guidance, or is it something that is anchored to specific guidance?
    - This question often necessary to unlock key drivers of an individual or company perspective to determine whether this view is their own or anchored to common practice
  - What guidance is being satisfied (SSAP 62, FAS 113, American Academy Attestation Guideline or, most likely, all of the above)?
    - As the guidance items do not specify a means of testing, what tests are to be performed and what are the relevant thresholds for the testing?
    - What terms in the guidance are being evaluated via cash flow testing (e.g., reasonable possibility of a significant loss)?

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"Reasonably self-evident"

- "Reasonably self-evident" concept introduced within the attestation supplement to address increase in the amount of cash flow testing on standard contracts that should clearly pass risk transfer
- Establishment of a "reasonably self-evident" contract status helped to avoid the time and expense associated with cash flow testing on a large volume of transactions
- To be defined as "reasonably self-evident", contracts must have:
  - A potential loss to the reinsurer that is much larger than the premium for the coverage provided
  - Terms and conditions of coverage that are standardized for the classification or type of contract
  - An absence of provisions that enable the reinsurer to recover all or a significant portion of the covered loss
- Contracts not considered "reasonably self-evident" include:
  - Premium is close to the present value of the coverages provided
  - Contract is manuscripted using terms of coverage that are not standard for contracts within the classification or type of contract
  - Includes provisions that enable the reinsurer to recover all or a significant portion of the covered losses
- In most instances, if the contract satisfies all three attributes listed in the attestation guideline for "reasonably self-evident" status, it is considered to pass risk transfer

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"Reasonably self-evident" (cont.)

- According to examples cited in the attestation, contracts that are reasonably self-evident have:
  - Quota shares with high limits on the coverage provided and flat ceding commissions
  - Excess of loss contracts with low rates on line, with little risk-limiting and flat premium rating
  - Property catastrophe and clash coverages with low rates on-line and single-year terms
    - Reinstatement premiums on these types of contracts would typically be acceptable as well
- The attestation also provides the following examples of contracts that are not reasonably self-evident:
  - Aggregate stop loss coverages
  - Experience accounts and refunds
  - Multiple-year contracts
  - Quota-share contracts with swing premiums or risk features
  - Loss limited corridors
  - Sliding-scale commissions
  - Loss ratio with low limits or caps
  - Significant loss sub-limiting features

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Cash flows tests

- Generally accepted risk transfer standards within the industry for most applications
  - 10/10 rule
  - Expected Reinsurer Deficit (ERD)

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Cash flows tests – 10/10

- 10/10 rule
  - 10% chance of a 10% loss
  - A basic test that requires determination of the present value of losses and premiums paid at the 90% confidence level
  - Requires calculation of the following ratio:

$$\frac{\text{Present value of losses and included expenses at 90\% confidence level}}{\text{Present value of premium, including commission adjustments, at 90\% confidence level}}$$

  - If ratio exceeds 110%, there is at least a 10% probability of a 10% loss and contract complies with risk transfer
  - Usually determined at risk-free rate of interest, unless contract provisions dictate otherwise
  - 10/10 would indicate many standard contracts do not pass risk transfer
    - E.g., A catastrophe contract may only transfer risk 1% of the time

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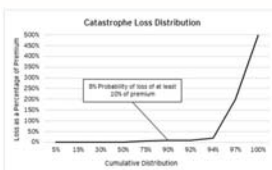
Cash flows tests – 10/10 (cont.)

Premium 5,000,000

Loss Size	Probability < Loss Size	Cumulative Probability	% of Premium
10,000	5.0%	5.0%	0.2%
25,000	10.0%	15.0%	0.5%
50,000	15.0%	30.0%	1.0%
100,000	20.0%	50.0%	2.0%
250,000	25.0%	75.0%	5.0%
400,000	15.0%	90.0%	8.0%
500,000	2.0%	92.0%	10.0%
1,000,000	2.0%	94.0%	20.0%
10,000,000	3.0%	97.0%	200.0%
25,000,000	3.0%	100.0%	500.0%



- The above table and chart show a loss distribution where expected losses exceed 10% of premium only 8% of the time
- Under the 10/10 rule, risk transfer is not present

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Cash flows tests – 10/10 (cont.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			[illegible]	[illegible]	[illegible]		[illegible]
Ceded Premium	Present Value of Ceded Premium	Loss Ratio with 10% Probability	Loss with 10% Probability	Minimum Ceding Commission @ [illegible]	Brokerage @ [illegible]	Present Value of Loss with 10% Probability + Expenses	10-10 Calculation
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

- The above table illustrates a situation whereby risk transfer has not been achieved under the 10/10 rule

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Cash flows tests - ERD

- Expected Reinsurer Deficit (ERD)
  - ERD test takes present value of a loss across all probability levels of a distribution multiplied by associated probability
  - ERD is equal to sum of the loss values across all probabilities
  - Typically, if ERD is greater than 1%, then the contract is assumed to pass the risk transfer test
  - Equates to the same level of risk associated with 10/10, but assumes that the loss can happen anywhere along the distribution and does not identify a certain probability of loss
  - Values other than 1% are used in practice, but 1% is most common value

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Cash flows tests – ERD (cont.)

NPV Loss Size	Underwriting G/L	G/L as % of Premium	Probability < Loss Size	Cumulative Probability
100,000	-	0.00%	85.0%	85.0%
105,000	(5,000)	-5.00%	5.0%	$\boxed{90.0\%}$
110,000	(10,000)	-10.00%	3.0%	93.0%
115,000	(15,000)	-15.00%	2.5%	95.5%
120,000	(20,000)	-20.00%	1.5%	97.0%
130,000	(30,000)	-30.00%	1.1%	98.1%
150,000	(50,000)	-50.00%	1.0%	99.1%
200,000	(100,000)	-100.00%	0.8%	99.9%
500,000	(400,000)	-400.00%	0.1%	100.0%

- In the above table, the sum of the expected losses multiplied by their respective probabilities exceeds 1%, meaning the related contract transfers risk under the ERD rule
- Note that expected losses exceed 10% of premium only 5% of the time, meaning that this contract does NOT transfer risk based on the 10/10 rule

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Other risk transfer tests

- Comparison of results between parties
- Four possible scenarios associated with a reinsurance transaction:

(1) Insurer Profits Reinsurer Profits	(2) Insurer Profits Reinsurer Losses
(3) Insurer Losses Reinsurer Losses	(4) Insurer Losses Reinsurer Profits

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Other risk transfer tests (cont.)

- Comparison of results between parties (scenarios 2 and 3)
- Scenario 2
  – Risk transfer is passed from the insurer to the reinsurer
  – Reinsurer has written an unprofitable deal
- Scenario 3
  – Risk transfer is passed from the insurer to the reinsurer
  – Insurer and reinsurer have written an unprofitable deal together
- In most cases under these scenarios, risk transfer is evident
  – There may be instances where the reinsurer writes an unprofitable deal, but its results are capped such that there is risk transfer, but not enough risk transfer
    • In practice, this scenario is not common

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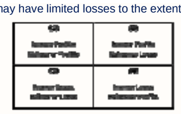
Other risk transfer tests (cont.)

- Comparison of results between parties (scenarios 1 and 4)
- Scenario 1
  – Scenario where a large percentage of the contracts should be looked at in detail
  – In this scenario, where the deal is profitable and risk-limiting features exist, both the insurer and reinsurer perceive a gain without anyone suffering a downside
    • Seems difficult to justify the need for risk limitations
  – Many reinsurance transactions fall into this first scenario
  – Most of these transactions are "reasonably self-evident", as they do not have risk-limiting features
- Scenario 4
  – Reinsurer has participated in a profitable reinsurance deal at an economic cost to the insurance company
  – In these cases, risk transfer can be an issue if there are limiting terms present, as the reinsurance company may have limited losses to the extent that it has a profitable outcome



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Other risk transfer tests (cont.)

- Margin Analysis
  – Determine if the insurer and reinsurer have reinsurance contract loss ratios that diverge by significant amounts and behavior in a similar directional manner
    • Analysis can be used to support an argument for or against risk transfer
  – In example below, a graphical approach indicates a high correlation between the insurer's and reinsurer's bottom line results
  – This result is associated with a contract where risk-limiting features do not affect the overall loss sharing between the insurance company and reinsurance company
  – When the insurer has loss activity, the reinsurer has correlated loss activity
  – When insurer and reinsurer results are correlated, it strongly supports an argument for risk transfer

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Conclusions

- Read relevant guidance and determine policy on how to best interpret risk transfer
- Take caution in accepting risk transfer conclusions made by business partners that may result from differing interpretations of risk transfer guidance
- When discussing risk transfer, determine whether "reasonably self-evident" status has been achieved
- Point out to counterparties when cash flow testing should not be required
- When considering or reviewing results of a risk transfer assessment:
  - Level set what issues are relevant
  - Determine what analysis is being performed
  - Discuss assumptions and relevant standards for testing

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Questions and Discussion