Risk Transfer

Presentation to the NAIC Property Casualty Reinsurance Study Group

May 10, 2005

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Outline

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- Risk Transfer Background
- Risk Transfer Analysis
- Reasonable Level of Risk Transfer
- Bifurcation
- Conclusions

Risk Transfer Background
Relevant Regulations

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- **FASB 113**
- **SSAP 62**

Risk Transfer Background
FAS 113 and SSAP 62

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- **The reinsurer assumes significant insurance risk**
  - Amount and timing of reinsurer payments vary directly with those of the cedant
  - Determination based on examination of contract wording
- **The reinsurer has a reasonable probability of a significant loss**
  - Measured using present value of cash flows
  - “10/10” rule generally accepted although not documented
  - Actuarial analysis required

Risk Transfer Background
10-10 Rule

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- **Not codified, but applied in practice**
- **Not applicable to all contracts**
  - e.g. catastrophe excess
- **Provides framework for an analysis**
- **Probability of some loss is greater than 10%**
- **Losses are on a continuum**
  - “remote” probability events have been observed
  - losses greater than 10% should be considered

Risk Transfer Background
Simple Example of Cash Flow Analysis

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Does Qualify as Sufficient Transfer of Risk

Reinsurance	
Type	Property Quota Share
Cede Commission	30%
Loss Cap	100%
Ceded Premium	$100

Subject Loss Parameters	
Average	60%
Standard Deviation	18%
Distribution	Lognormal

- **10% chance of 83.7% loss ratio**
- **Loss of 13.7%**
  - Premium: 100
  - Loss: (83.7)
  - Cede Commission: (30)
  - Net: (13.7)

In a full analysis the cash flows would be discounted using an appropriate interest rate. This has little impact on short-tail business such as a property book

Risk Transfer Background
Simple Example of Cash Flow Analysis

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Does Not Qualify as Sufficient Transfer of Risk

Reinsurance	
Type	Property Quota Share
Cede Commission	30%
Loss Cap	**75%**
Ceded Premium	$100

Subject Loss Parameters	
Average	60%
Standard Deviation	18%
Distribution	Lognormal

- **10% chance of 83.7% loss ratio**
- **Loss of 5%**
  - Premium: 100
  - Loss: **(75)**
  - Cede Commission: (30)
  - Net: **(5)**

Risk Transfer Analysis Documentation

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The file should include some explanation of:

1. Client data was available
2. Assumptions made based on that data
3. Supplementary data used and why
4. Summary of conclusions

Risk Transfer Analysis
Analytical Requirements

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- **Model reflective of all contract features**
- **Actuarial analysis consisting of**
  - Subject loss distribution, and
  - Subject loss payment pattern

Risk Transfer Analysis Criteria

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- **10/10 rule still generally acceptable**
  - Some auditors now want to see a definite growth in reinsurer loss above the 90th percentile
  - If loss probability is “remote” (e.g. catastrophe excess), amount must be greater than 10% of premium
- **Specifics of ratio**
  - Present values of all cash flows should be taken utilizing a single duration matched treasury yield rate
  - The “duration” can be reflective of the time between premium receipts and loss payment
  - Denominator needs to reflect present value of gross premium (cede commission nor brokerage may not be netted out)
- **Based on facts available at inception**
  - Hindsight is 20/20

Reasonable Level of Risk Transfer
Average P&C Company

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Loss and LAE Ratio:	**74.6%**
Expense Ratio:	**24.9%**
Average Life of Loss Payments:	**2 years**

2003 National Underwriter Insurance Services including over 2,000 public companies.

Reasonable Level of Risk Transfer
Underwriting Margin

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Combined Ratio: **99.5%**

Nominal Underwriting Margin: **0.5%**

Present Value Underwriting Margin: **4.3%**

(PV Premium less PV expenses less PV losses) / (PV Premium) =
(98.3% - 24.5% - 69.6%) / (98.3%) = 4.3%

Reasonable Level of Risk Transfer
Reinsurance Capital

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- **It is in the best interest of the consumer to require a company to maintain sufficient capital.**
- **A widely considered benchmark is to hold enough to cover a 99th percentile loss position.**
- **Using 2003 industry results and a lognormal distribution, the 99th percentile loss ratio is 105.0% nominal loss ratio; 97.9% present value.**
- **The resulting Present Value Underwriting Margin is -24.5%** = (98.3% - 24.5% - 97.9%) / (98.3%).
- **Capital would be allocated at 24.5% of premium.**

Note: the loss distribution predicts that there is a 32% chance that the reinsurer will have a loss. In 2003, 28% of P&C companies reported an operating loss supporting the validity of the assumptions.

Reasonable Level of Risk Transfer
Industry Loss Curve

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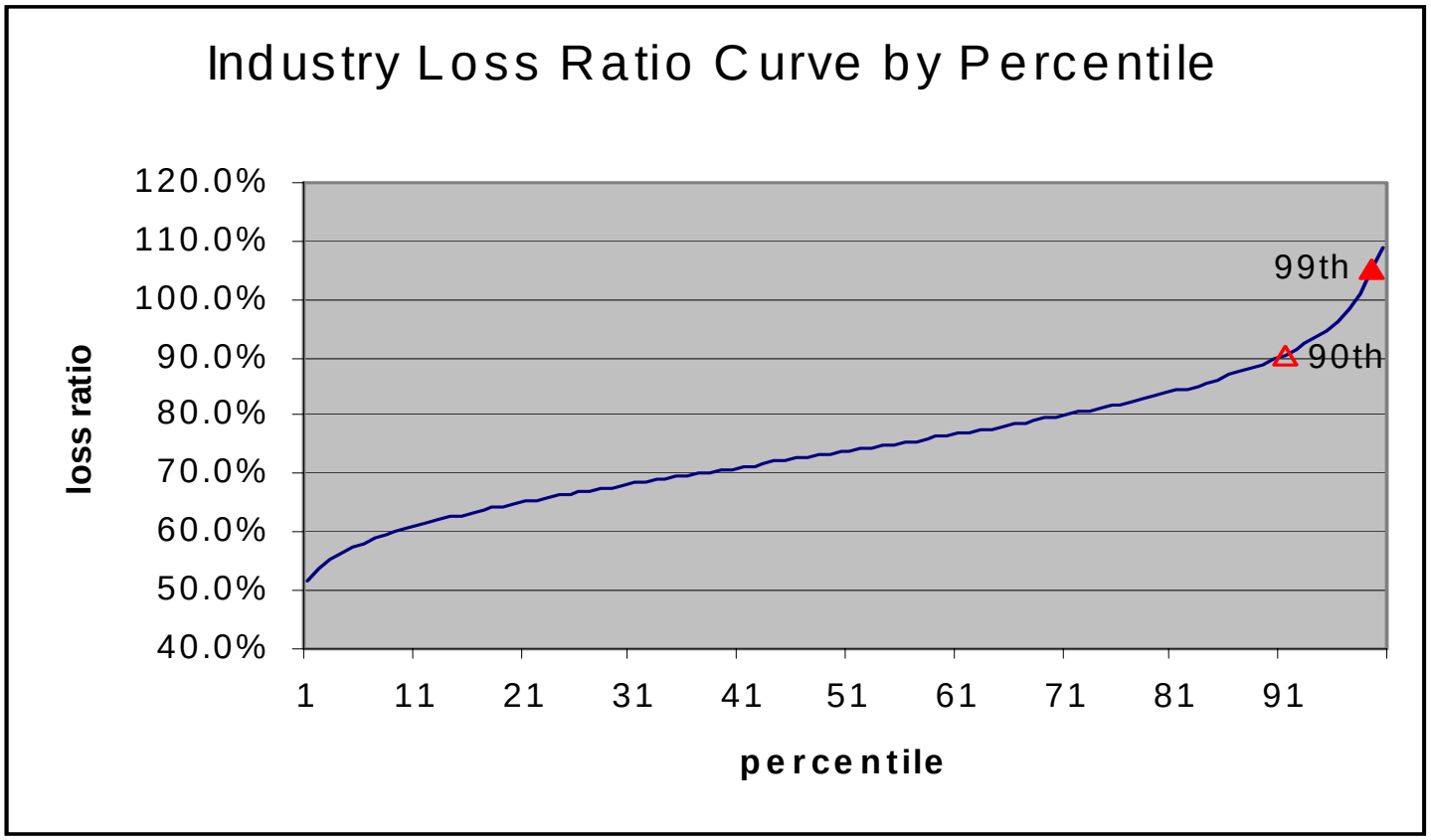

Reasonable Level of Risk Transfer
ROE

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- **ROE = Expected profit / allocated capital**
- **ROE = 65% of 4.3%/24.5% = 11.4%**
- **Actual historical P&C returns:**

1997	11.9%
1998	9.2%
1999	6.6%
2000	6.3%
2001	-2.7%
2002	1.0%
2003	9.4%
2004	10.5%

source: Insurance Information Institute

Reasonable Level of Risk Transfer
Reinsurance Capital

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- **Matrix of ROE results with 10/10 alternatives**

		Chance of loss		
		10%	15%	20%
Size of loss	10%	11.40%	8.10%	5.60%
	15%	7.70%	5.40%	3.50%
	20%	5.70%	3.90%	2.30%

- **Average US stock market return 1990-1999 = 18%**
- **Average US stock market return 1926-1999 = 11%**
- **Higher risk thresholds will restrict availability**

Bifurcation
Proposed SSAP No. 62 Revisions

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- SAP today recognizes economic substance of reinsurance
  - when properly applied
- NY proposal moves away from economic substance
  - valid quota shares may be deposit accounted
  - contracts now deposited may be treated as reinsurance
- Implementation issues will be substantial
- Economic penalties
  - disproportionate penalty for smaller insurers
  - increase in cost of insurance to consumers

Bifurcation
Proposed SSAP No. 62 Revisions

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- Layers where there is a 90% probability of indemnification shall be deposit accounted
- Will be differing views of:
  - 90% Loss Level
  - Payout Pattern
  - Discount Rate
  - Premium Allocation - Circular
- All estimates that will change over time
- Ceding commission deposit accounted?

Bifurcation
Proposed SSAP No. 62 Revisions

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- **N4 would encourage elimination of the reinsurance features increasing the cost of reinsurance and/or reducing availability, negatively impacting the ultimate insurance consumer**
- **Divergent accounting treatments could distort figures and ratios used to assess a company's financial strength**
- **Many features in N4 are beneficial to a buyer and this would discourage their use**

Conclusions

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- Reported problems with risk transfer are willful misrepresentations
- Further rules would not affect those ignoring them in the first place
- The current guidance regarding risk transfer is adequate and appropriate to support an essential reinsurance marketplace for the benefit of the consumers
- Changes including bifurcation and bright line rules will complicate and confuse statutory accounting