Risk Transfer and Reserving: Is There a Connection?

Casualty Loss Reserve Seminar

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Overview

- Issues affecting risk transfer
- Risk transfer & reserving
- Examples affecting loss estimates
- Examples affecting other accounts

Issues affecting risk transfer

Financial Reporting requirements

- FAS 113 – issued in 1992 for calendar years 1993 & subsequent
- SSAP 62 – issued in 1994 for calendar years 1995 & subsequent
- New disclosures and management attestations required by NAIC with year-end 2005 financial statements
  - General interrogatories
    - Quota share with limiting features
    - Large contract with longer term, cancellation provisions, unilateral commutation, aggregate stop loss, delay in reimbursement
    - Inter-company reinsurance
    - Different treatment under GAAP versus Statutory
  - Supplement to interrogatories
  - Supplement for reinsurance attestations

Actuarial Statement of Opinion requirements

- Actuary must state "not aware of any reinsurance transaction that either has been or should have been accounted for as retroactive or financial reinsurance (contractual arrangements that do not include a transfer of both timing and underwriting risk)"
- Requirement primarily avoids inappropriate accounting of "non-risk transfer" contracts
  - If contracts exist and accounted for properly then deposit accounting is used and it is outside the scope of the reserve opinion

Risk transfer testing approaches

- Contracts with risk limiting features must be tested for risk transfer
- Various methods are in use for testing risk transfer
  - 10%-10% rule – Value-at-Risk (VaR) at 90% ($VaR_{90\%} \geq 10\%$)
  - Tail VaR 90% ($TVaR_{90\%}$) = mean severity of PV (underwriting loss) at and beyond 90th percentile
  - Expected Reinsurer Deficit (ERD) – Frequency x Average Severity ≥ A
    - — Frequency = probability of PV (underwriting loss)
    - — Average severity = TVaR @ economic breakeven

Risk transfer & reserving

Impact of risk transfer testing

- If contract fails then deposit accounting and the contract is not considered in loss reserve estimates
- If contract passes then the losses associated with the contract would be reflected within the loss reserves
  - Both assumed and ceded contracts should be considered
    - — Reinsurers liability may be limited
    - — Insurers liability may be higher
- Other assets and liabilities may be impacted by the estimated ultimate losses associated with the contract

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Contract features affecting loss estimates

- Deductibles
  - Per loss
  - Aggregate
    - e.g. $4 million excess of $1 million with an annual deductible of $1 million
- Loss ratio caps
  - e.g. quota share contract with an aggregate limit expressed as a percentage of premium
- Loss corridors
  - e.g. quota share contract with a corridor where the cedant retains the risk of the contract

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Contract features affecting other accounts

- Commissions
  - Sliding scale commissions – e.g. quota share contract with a ceding commission that varies indirectly with the loss ratio
  - Contingent/profit commissions – e.g. reinsurance contract with an additional commission if the contract is profitable
- Premiums
  - Retrospectively/swing rated – premium varies with loss experience
  - Reinstatement premiums – additional premium due when losses occur
  - No-claim bonuses – repayment of a percentage of premium when no losses occur
- Experience funds – tracking of cash flows related to contract often including interest crediting

Examples affecting loss estimates

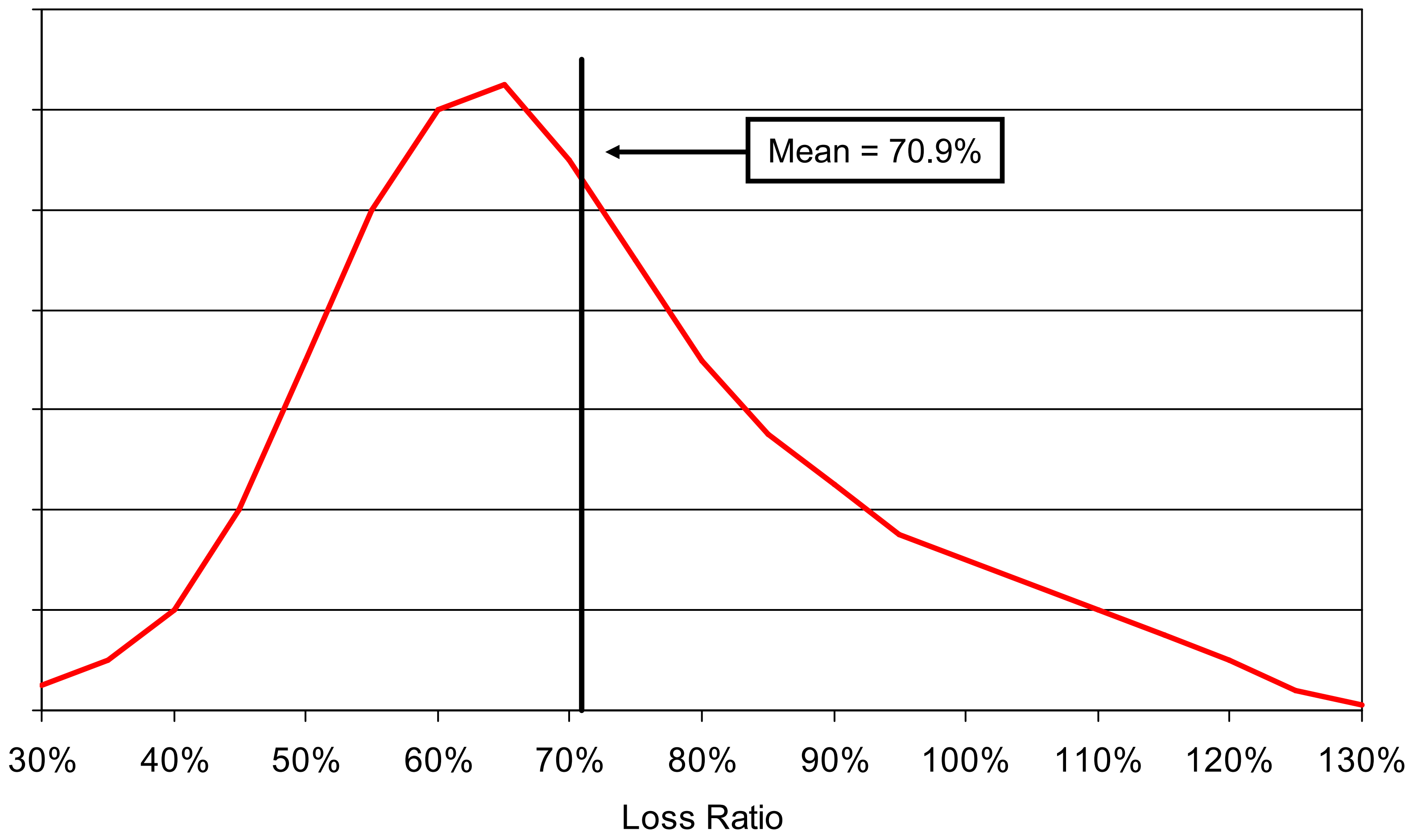
Deductibles

- Per loss
  - Loss development patterns will require adjustment
  - Reinsurer’s gross analysis will likely require a slower development pattern
  - Cedant’s net analysis will likely require a faster development pattern
- Aggregate
  - Loss development patterns will require adjustment
  - Depending upon the size of the deductible, the loss development patterns may be delayed for a number of years

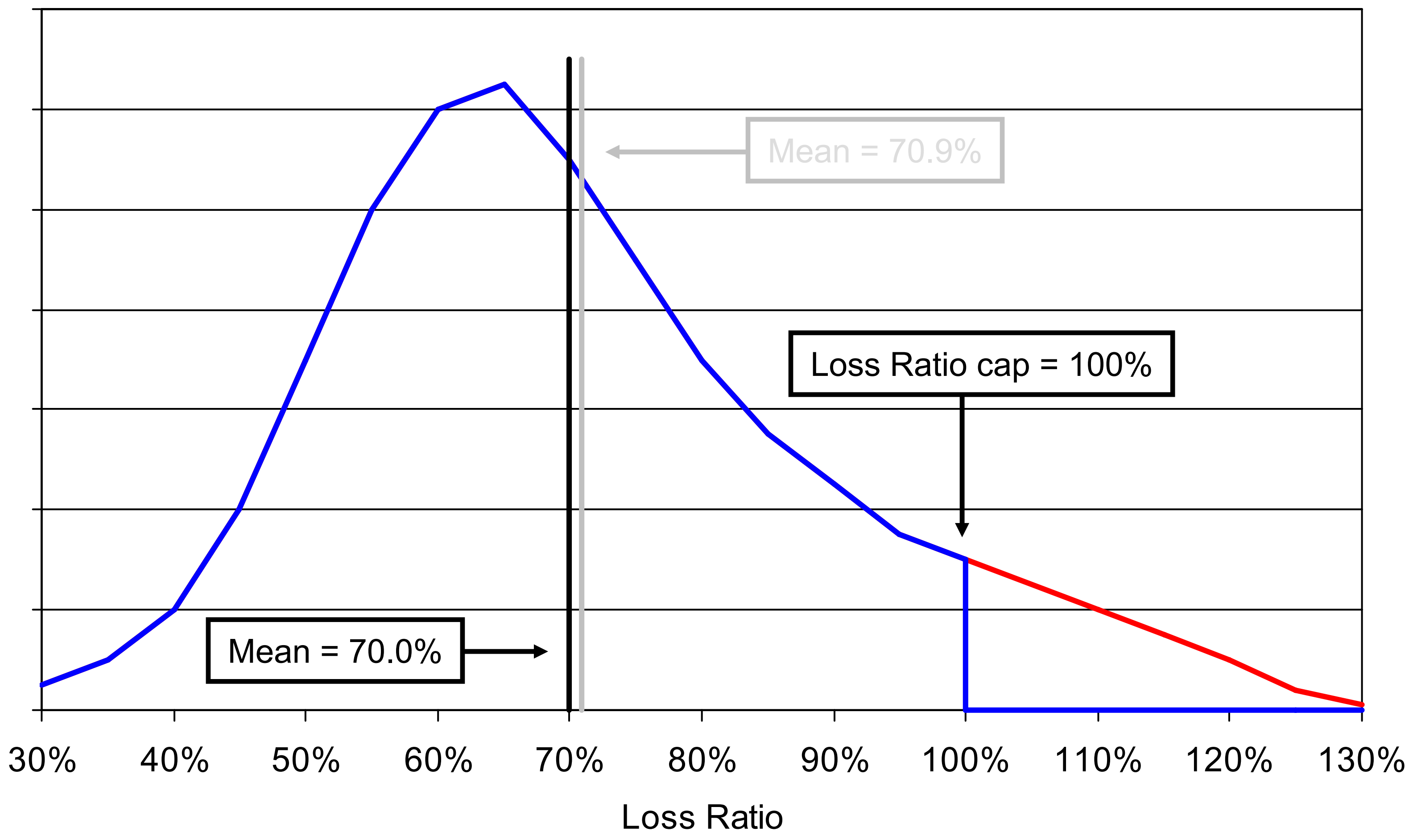
Loss ratio caps

- If ultimate loss estimate exceeds the cap, then losses are retained by the cedant
  - Reinsurer – gross loss liability cannot exceed cap so loss reserves and volatility will be lower
  - Cedant – insurer retains some of the liability that would otherwise be ceded
- If ultimate loss estimate is lower than cap, there still may be some increased liability to cedant
  - Ultimate loss estimate is one point on the distribution of loss reserves that is represented by carried reserves
- Pricing concepts can be applied to determine additional liability
  - Analysis of losses will need to be adjusted to reflect the probability of losses exceeding the cap

Base case loss distribution



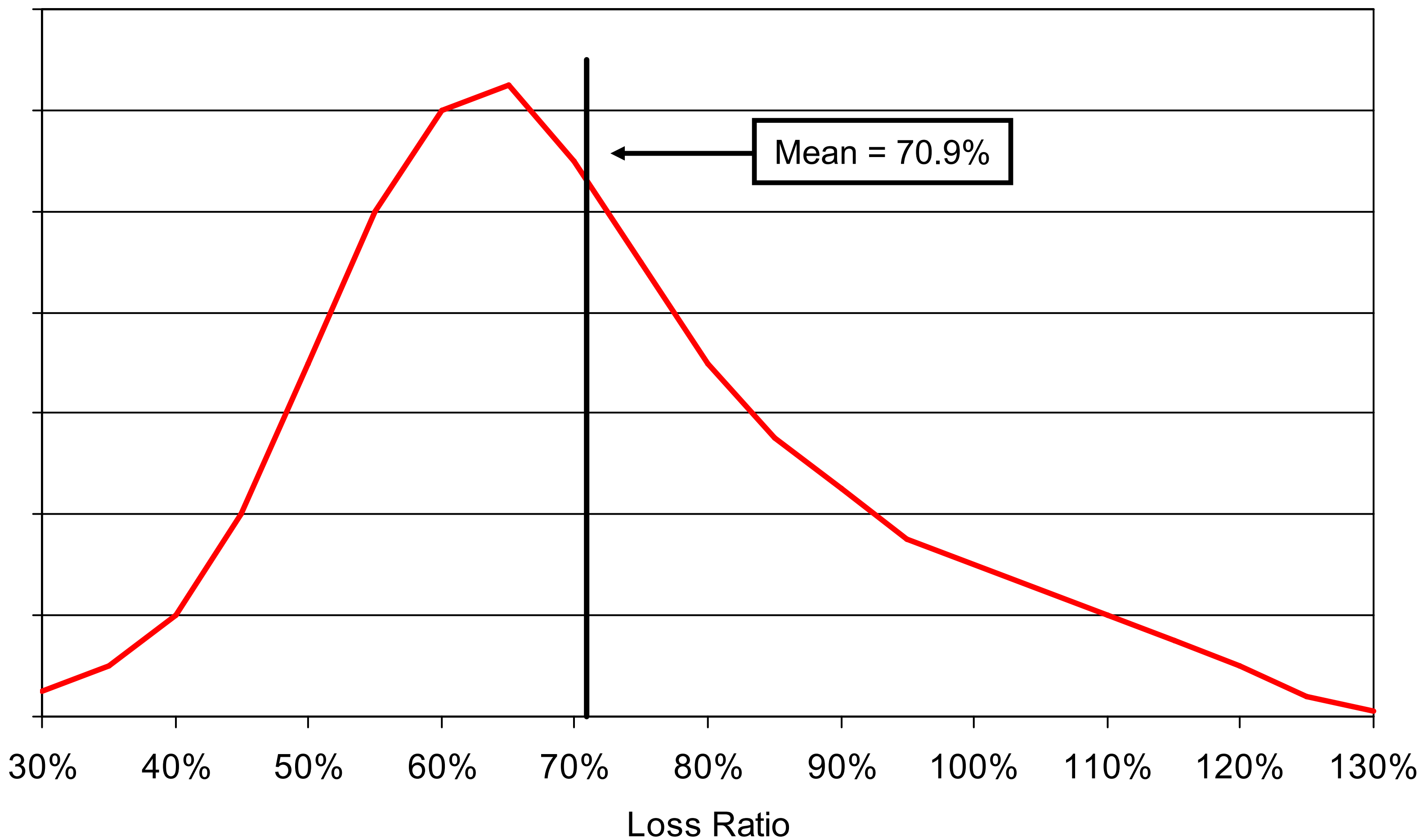
Loss distribution with loss ratio cap



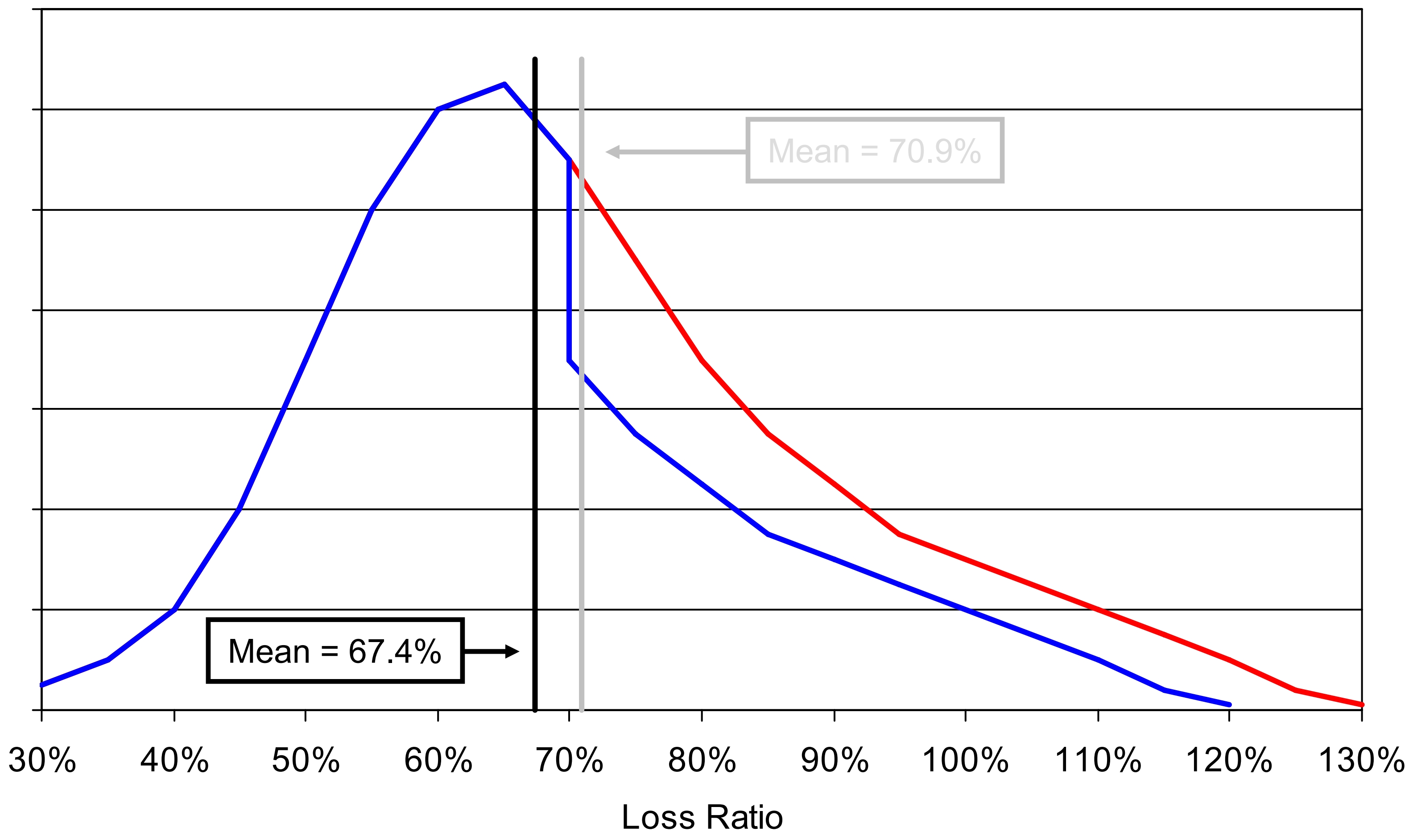
Loss corridors

- If ultimate loss estimate is within the corridor then these losses would be retained by cedant
- If ultimate loss estimate is below the corridor, there still may be some increased liability to cedant
  - Ultimate loss estimate is one point on the distribution of loss reserves that is represented by carried reserves
- Pricing concepts can be applied to determine additional liability
  - Analysis of losses will need to be adjusted to reflect the probability of losses falling within the corridor

Base case loss distribution



Loss distribution with loss corridor



Examples affecting other accounts

Commissions

- Loss sensitive commissions arrangements will result in balance sheet asset or liability accounts that will vary with loss estimates
- Sliding scale – typically move inversely to losses
  - Cedant will receive lower commission with higher losses
- Contingent/profit – typically result if losses are lower than expected
- In either case, these balance sheet accounts should be consistent with the loss reserve estimates

Premiums

- Loss sensitive premium arrangements will result in balance sheet asset or liability accounts that will vary with loss estimates
- Retrospectively/swing rated – higher losses equals higher premiums
  - Cedant will pay more premium with higher losses
- Reinstatement premiums – if loss reserves reflect an occurrence that generates additional premium, then premium payable should also be required
- No claim bonuses – Can not carry receivable for bonus if loss reserves reflect a recoverable

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Experience funds

- When contract contains an experience fund where one of the parties will receive the residual funds then this fund balance should be reflected as a payable/receivable