Reinsurance

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When insurance companies issue insurance policies, they assume risk from the policyholders. If the insurance companies (i.e., the primary insurers) want to pass a portion of this risk to other entities, they can purchase ***reinsurance***.

Reinsurance is essentially insurance for insurance companies. Under a reinsurance contract, the primary insurer transfers, or ***cedes***, a portion of its risk to a reinsurance company.

Although reinsurance is not a loss caused by an extraordinary event, like shock losses or cat losses, historical loss data may still need to be adjusted for its expected effect when performing a ratemaking analysis.

Types of Reinsurance

Under reinsurance agreements, the primary insurer and the reinsurer have to decide how to share or allocate the risk. Reinsurance can generally be categorized as either ***proportional*** or ***non-proportional***, depending on how the risk is allocated.

Under **proportional reinsurance**, the same proportion of premium and losses are ceded to the reinsurer.

- An example of proportional reinsurance is a 70%/30% agreement, for which the primary insurer pays 70% and the reinsurer pays 30% of any claims arising from the covered risks.

Under **non-proportional reinsurance**, the primary insurer cedes a portion of the premium (i.e., the cost of the reinsurance) to the reinsurer, who agrees to assume a predefined portion of the losses. For the primary insurer, this portion of the losses that the reinsurer assumes is known as the ***reinsurance recoverables***, as it is the amount of losses the primary insurer can expect to recover from the reinsurer.

- One example of non-proportional reinsurance is catastrophe excess-of-loss reinsurance, where the reinsurer assumes 60% of losses that are over $10 million up to $20 million on the primary insurer's entire property book of business if a catastrophe occurs.

- Another example is per risk excess-of-loss reinsurance, where the reinsurer assumes the portion of any large single loss from a specified risk that is between $2 million and $6 million.

Adjusting Losses for Reinsurance

In the past, ratemaking analyses at primary insurance companies were conducted on a direct basis, that is, without consideration of reinsurance. However, the scope of reinsurance contracts has expanded, and the costs associated with them have grown significantly for some lines of business. So, ratemaking analyses are now often performed on a net basis, that is, with consideration of reinsurance.

Proportional reinsurance, where the same portion of premium and losses is ceded to the reinsurer, may not require explicit inclusion in a ratemaking analysis.

However, adjustments should be made for non-proportional reinsurance. A common approach is to

1. reduce the projected losses for any expected recoveries from non-proportional reinsurance, and
2. reduce the total premium by the cost of the reinsurance, i.e., the amount of premium that is ceded to the reinsurer.

Alternatively, the net cost of non-proportional reinsurance, i.e., the cost of reinsurance minus the expected recoveries, can be included as an expense item in the overall rate level indication.