REINSURANCE ALLOCATION ISSUE

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Caveats

- The opinions expressed in this presentation are those of the individual presenters and do not necessarily represent those of their employers or of the American Academy of Actuaries. It should also be also noted that there may be exceptions to some of the statements made in this presentation.

Allocation Example—w/o Reinsurance

- Two Blocks making up the Term or ULSG or Other Product Group—assume no policies were excluded
- E.g., Block A: 5 – 15 year term, Block B: 20 – 30-year term
- Block A: MNPR(A) = 100; ModeledRes*(A) = 90: MR(A) = 100
- Block B: MNPR(B) = 100; ModeledRes*(B) = 130: MR(B) = 130

  230
- Combined: MNPR = 200; ModeledRes* = 220: MR = 220

Allocation follows Section 2.C procedure:

- Allocated: MR[A] = MR*MNPR(A)/MNPR = 220*100/200 = 110

  MR[B] = MR*MNPR(B)/MNPR = 220*100/200 = 110

Example: Coinsurance %s: 50%/0%

Method	MR”[A]	MR”[B]	CR[A]	CR[B]
Sec 2.C	110.0	110.0	51.7	-6.7
Stand-Alone CRs	103.3	116.7	45.0	0.0
NPR CRs*	103.3	116.7	45.0	0.0
w/o Reinsurance	110.0	110.0	n/a	n/a

*In this example, the NPR CRs method equals the Stand-Alone CRs method
For other coinsurance percentages, the result will not be same as Stand-Alone CRs

Example—Section 2.C Allocation

Without reinsurance:

- Block 1: MNPR(A) = 100; ModeledRes*(A) = 90: MR(A) = 100
- Block 2: MNPR(B) = 100; ModeledRes*(B) = 130: MR(B) = 130
- Combined: MNPR = 200; ModeledRes* = 220: MR = **220**
- Allocated: MR[A] = **110**; MR[B] = **110**

Coinsure 50% of a block A; block B is not reinsured

- Block 1: MNPR'(A) = 50; ModeledRes*'(A) = 45: MR'(A) = 50
- Block 2: MNPR'(B) = 100; ModeledRes*'(B) = 130: MR'(B) = 130
- Combined: MNPR' = 150; ModeledRes*' = 175: MR' = **175**
- **Allocated based on Section 2.C**: MR'[A] = 175*50/150 = **58.3**; MR'[B] = 175*100/150 = **116.7**
- Credit for Reinsurance: CR = MR" – MR' = MR – MR' = 220 – 175 = **45**

Assume pre-reinsurance MR and stand-alone MRs equal the corresponding MRs without reinsurance

Base PreReinsMR allocation on Section 2.C, so MR"[A] = MR[A] = **110**; MR"[B] = MR[B] = 110

- Allocated: CR[A] = **110** – **58.3** = 51.7**;** CR[B] **=** **110** – **116.7** **=** -6.7**;** Sum = **45**

Allocation Based on Section 2.C

1. Calculate the post- and pre-reinsurance-ceded minimum reserve for each policy using the Section 2.C procedure—note that the each product group is allocated separately, based on the policy NPRs
2. Set the post- and pre-reinsurance-ceded allocated minimum reserves for each block equal to the sum of the policy allocated minimum reserves for all policies in the block
3. Set the credit for reinsurance for the block equal to the difference between the pre- and post-reinsurance allocated minimum reserves for the block

Allocation Based on NPR Credits

1. Calculate the aggregate credit for reinsurance per Section 8.D and the NPR credits for reinsurance (i.e., the SSAP 61R credits) for each block of policies and allocate the aggregate reserve credit to each policy in proportion to its NPR credit
2. Set the allocated pre-reinsurance-ceded minimum reserve for the block equal to the post-reinsurance-ceded minimum reserve for the block plus the allocated credit for that block

Example: Coinsurance %s: 50%/0%

Method	MR"[A]	MR"[B]	CR[A]	CR[B]
Sec 2.C	110.0	110.0	51.7	-6.7
Stand-Alone CRs	103.3	116.7	45.0	0.0
NPR CRs*	103.3	116.7	45.0	0.0
w/o Reinsurance	110.0	110.0	n/a	n/a

*In this example, the NPR CRs method equals the Stand-Alone CRs method
For other coinsurance percentages, the result will not be same as Stand-Alone CRs

Summary: Allocation Alternatives

Proposed Alternatives for Pre-Reinsurance Minimum Reserve Allocation:

1. Section 2.C allocation based on pre-reinsurance policy NPRs
2. Allocation based on stand-alone credits
3. Allocation based on NPR Reserve Credits
4. Hybrids ((1) and (2) or (1) and (3))—latter applied only where security is required
5. Report NPR impact for each treaty and report separately any additional change in aggregate MR
6. Actuarial discretion

Questions?

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