

26. (3 points)

a. (0.5 point)

Briefly describe two motivations for a reinsurer to enter into a commutation.

b. (2.5 points)

Given the following information about a reinsurance contract that was recently commuted:

- 25% quota share
- Primary insurer's direct loss reserves = \$1,250,000
- Primary insurer's direct ultimate loss = \$2,550,000
- Prior to the commutation, the reinsurer's carried reserves are 15% higher than the insurer's carried reserves
- As a result of the commutation, the reinsurer's ultimate assumed losses increase by 10%
- Discount factor = 0.875

Calculate the change in taxable income due to the commutation for:

- i. The insurer
- ii. The reinsurer

SPRING 2017 EXAM 6U SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 26	
TOTAL POINT VALUE: 3	LEARNING OBJECTIVE(S): E
SAMPLE ANSWERS	
Part a: 0.5 point	
Any two of the following: <ul style="list-style-type: none"> • End a troubled relationship • Expect they would be profiting from commutation • Concern the other party's financial solvency • Want to exit a line of business 	
Part b: 2.5 points	
Sample answers include:	
<u>Sample 1</u>	
<u>Reinsurer before commutation</u>	
Reserve = $1,250,000 \times 25\% \times 1.15 = 359,375$	
Paid Loss = $1,300,000 \times 25\% = 325,000$	
Ultimate Loss = $359,375 + 325,000 = 684,375$	
<u>Reinsurer after commutation</u>	
Ultimate Loss = $684,375 \times 1.1 = 752,813$	
Commutation Price = $752,813 - 325,000 = 427,813$	
<u>Change in taxable income</u>	
Primary Insurer = $427,813 - (0.25 \times 1,250,000 \times 0.875) = 154,375$ (increase)	
Reinsurer = $(359,375 \times 0.875) - 427,813 = -113,359$ (decrease)	
<u>Sample 2</u>	
Reinsurer Reserve = $1,250,000 \times 75\% \times 1.15 = 1,078,125$	
Reinsurer paid = 325,000	
Reinsured Ultimate Loss before comm. = $325,000 + 1,078,125 = 1,403,125$	
Ultimate after commutation = $1,403,125 \times 1.1 = 1,543,438$	
Commutation Price = $1,543,438 - 325,000 = 1,218,438$	
<u>Change in taxable income</u>	
i) $1,218,438 - 0.25 \times 1,250,000 \times 0.875 = 945,000$	
ii) $1,078,125 \times 0.875 - 1,218,438 = -275,079$	
EXAMINER'S REPORT	
Candidates were expected to understand the motivation and application of reinsurance commutation.	
Part a	
Candidates were expected to know the motivations of entering into a commutation from a reinsurer's point of view.	

SPRING 2017 EXAM 6U SAMPLE ANSWERS AND EXAMINER'S REPORT

Common errors include:

- Providing a response from the insurer's point rather than reinsurer's point
- Only pointing out the adverse loss development but failing to state that the reinsurer is expected to profit from the commutation

Part b

Candidates were expected to know reinsurer's ultimate loss prior to and post commutation and the calculation for taxable income.

Common errors include:

- Incorrectly calculating the reserve and paid loss for reinsurer.
- Assuming the commutation price was only 10% of reserve/paid loss
- Not applying the discount factor in the change in taxable income calculations
- Calculating the change in tax rather than taxable income
- Incorrectly stating/calculating the formula for the change in taxable income (which led to the opposite answer of whether the income is increasing or decreasing)