26. (4.25 points)

Given the following information on a 50% quota share agreement between an insurance company and a reinsurer:

Direct Paid Loss

Policy Year	As of 12 months	As of 24 months
2014	1,000	2,000
2015	1,000	

Direct Case and IBNR Loss

Policy Year	As of 12 months	As of 24 months
2014	2,000	1,500
2015	2,000	

- The quota share has been in place for all two policy years.
- All primary policies have an effective date of January 1, and a term of one year.
- The reinsurer reserves its portion of the book at the same level as the insurer.
- The 2014 policy year was commuted at the end of 2015 for a price of $700.
- The insurer's discount factor is 0.825.
- The reinsurer's discount factor is 0.775.

a. (2.25 points)

Using SAP, calculate the following loss triangles after the commutation:

i. The insurer's net paid loss

ii. The insurer's net ultimate loss

iii. The reinsurer's gross ultimate loss

b. (1 point)

Calculate the change in taxable income due to the commutation, for each of:

i. The insurer

ii. The reinsurer

<<QUESTION 26 CONTINUED ON NEXT PAGE>>

26. (continued)

    c. (0.5 point)

    Briefly describe two motivations for an insurer to enter into a commutation.

    d. (0.5 point)

    Describe how financial instability of a reinsurer may impact the price of a commutation.

END OF EXAMINATION

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 26	
TOTAL POINT VALUE: 4.25	**LEARNING OBJECTIVE: E1**
SAMPLE ANSWERS	
Part a: 2.25 points	
i. *500 300* *500* *ii.* *1500 1800* *1500* *iii* *1500 1700* *1500*	
Part b: 1 point	
i. 700 – 750 * .825 = +81.25 increase in taxable income ii. 750 * .775 – 700 = -118.75 decrease in taxable income	
Part c: 0.5 point	
Any two of the following: • To facilitate exiting a line of business or geographic area • Cash infusion to the insurer • End a strained or frayed relationship between insurer and reinsurer • Believes the commutation is profitable based on their view of the loss reserves • Solvency concerns with the other party	
Part d: 0.5 point	

• Insurer would accept a lower price because:
  • it is concerned about the credit risk associated with the reinsurer
  • it would rather receive something now rather than the possibility of nothing later
• Reinsurer would accept a higher price because
  • Reinsurer instability causes insurer to require additional collateral and as a result the reinsurer may find it financially beneficial to pay a higher commutation price rather than increase collateral
  • Reinsurer believes reserves may develop more adversely and therefore would pay a higher amount to remove the liability	

EXAMINER'S REPORT	
The candidates were expected to be able to determine the impact of reinsurance and a commutation on paid and ultimate loss triangles as well as taxable income. Candidates were also expected to demonstrate knowledge regarding the motivations for a commutation as well as	

factors that would impact its price. Candidates were more familiar with the general motivations around commutations than they were the calculated impacts to triangles and income.
Part a
The candidates were expected to understand the impacts of reinsurance and commutation on the loss triangles. A common mistake was not applying the quota share to development at 24 months
Part b
The candidates were expected to calculate the impact of a commutation on taxable income, recognizing the consideration paid / received and the impact of discounting the change in reserves. Common mistakes included: • Applying the discount to the change in paid loss or the change in total incurred loss • Applying the tax rate of 35% • Reversing the signs of consideration paid/received vs. change in loss reserve
Part c
The candidates were expected to understand motivations from the insurer's perspective. A common mistake was indicating that the insurer would enter a commutation to generate a tax loss.
Part d
The candidates were expected to understand the impact of reinsurer instability on the commutation price. Two tracks of answers emerged. The first, and most prevalent, was that the insurer would accept a lower price as a result of the credit risk associated with the reinsurer. The second was that the reinsurer would accept a higher price because they believed that the reserves in question would develop more adversely. A common mistake was not understanding the direction of the commutation payment and therefore confusing the impact on price (example, insurer would pay a higher price now to avoid future losses).