25. (3.25 points)

Assume the following conditions apply to an annual reinsurance contract:

- The contract was effective on January 1, 2018
- According to the reinsurance contract, the reinsurer will pay all ceded losses in entirety on January 1, 2020
- 50% of the premium is paid at inception and 50% on July 1, 2018
- The risk-free rate is 5%
- The premium for contract is $10,000,000

Additionally, assume the following loss distribution for this contract:

Loss Probability	Severity of Loss
5%	$16,000,000
95%	$5,000,000

a. (2 points)

Determine whether or not this contract would qualify as risk transfer under each of the following:

i. The 10-10 rule

ii. The Expected Reinsurer Deficit (ERD) method with a 1% threshold

b. (0.5 point)

Identify the appropriate accounting treatment for this contract, and briefly describe the rationale.

c. (0.5 point)

Describe one advantage of the ERD method over the 10-10 rule.

d. (0.25 point)

Briefly describe one advantage of the 10-10 rule over the ERD method.

CONTINUED ON NEXT PAGE

There were no common errors in the remaining parts.

FALL 2018 EXAM 6US, QUESTION 25

TOTAL POINT VALUE: 3.25	**LEARNING OBJECTIVE: E**

SAMPLE ANSWERS

Part a: 2 points

i.
- Only 5% chance reinsurer will incur a loss, does not pass 10-10 rule

ii.
- ERD = .05 * (16/1.05^2 – 5 – 5/1.05^0.5) = 0.23 million
- 0.23/(5 – 5/1.05^0.5) = 2.34%
- Since ERD % > 1% qualifies for risk transfer

Part b: 0.5 point

- If candidate determined in part a that the contract does not qualify as risk transfer:
  - Deposit accounting as no underwriting risk is transferred
  - Deposit accounting since there is no risk transfer
- If candidate determined in part a that the contract qualifies as risk transfer:
  - Deposit accounting as no timing risk exists due exact payment date in contract
  - Payment is made a specified date, no timing risk
  - Deposit accounting, no timing risk

Part c: 0.5 point

Any one of the following:

- Considers time value of money
- Allows for discounting
- Based on distribution of losses which can be modeled
- Identify risk transfer when very small chance of catastrophic loss
- Allows for recognition of parameter risk
- Allows for simulation
- Ability to vary the threshold
- More flexibility to model additional contract terms

Part d: 0.25 point

Any one of the following:

- Easier to calculate
- Easier to understand

- Simpler
- Easy to adopt and understand
- Ensures both frequency and severity are present
- This method is more conservative
- Fewer underlying assumptions
- Does not need interest rate to compute
- Recognized industry standard
- More established method

EXAMINER'S REPORT

Candidates were expected to know basic concepts risk transfer testing of contracts for reinsurance accounting, how they are calculated, and advantages of two methods.

Part a

Candidates were expected to know how to apply the 10-10 rule and the expected reinsurer deficit methods for determining underwriting risk to a hypothetical reinsurance contract.

A common error in the 10-10 calculation was forgetting to subtract premium when determining the underwriting loss.

Common errors in the ERD calculation include:

- Not subtracting the PV of premium from PV of losses in determining the UW loss
- Calculating an average NPV of the contract rather than an average NPV given an underwriting loss on the contract
- Not discounting premium and losses

Part b

Candidates were expected to know that both insurance risk and timing risk were required to account for the contract using reinsurance accounting, and if those two items were not present deposit accounting would be required.

Common errors include:

- Stating reinsurance accounting would apply
- Not stating a predetermined payment date would violate timing risk

Part c

Candidates were expected to know what an advantage of the ERD method has over the 10-10 method.

A common error was stating a disadvantage of the 10-10 method without stating how the ERD method corrects for it.

Part d

Candidates were expected to know what an advantage of the 10-10 method has over the ERD method.

A common error was stating a disadvantage of the ERD method without stating how the 10-10 method corrects for it.

FALL 2018 EXAM 6US, QUESTION 26	
TOTAL POINT VALUE: 2	**LEARNING OBJECTIVE: E**
SAMPLE ANSWERS	
Part a: 0.5 point	

Sample 1
An agreement b/t a ceding insurer and a reinsurer that provides for the valuation, payment, and complete discharge of all obligations b/t the parties under a particular reinsurance contract.

Sample 2
When a ceding company is paid a price to undo a reinsurance contract. The ceded reserves are zeroed out for the ceding company. The ceding company records the commutation as a negative paid loss. The reinsurer records the commutation as a positive paid loss. The price is determined based on the discounted loss reserves.

Part b: 1.5 points

- A ceding insurer may wish to exit a particular line of business. Commutation may be a 1st step followed by a loss portfolio transfer to a 3rd party.
- The ceding insurer has concerns about the solvency of the reinsurer. Commuting will eliminate the credit risk associated with the reinsurer.
- The ceding insurer wants to end a troubled relationship with the reinsurer. There may have been disputes over claim resolution.
- The two parties may have different estimates of future liabilities so each may see a benefit from commuting.
- A ceding insurer may receive tax relief by re-assuming the ceded reserves and thus a decrease to taxable income (assuming a price less than the reserves).
- The insurer's IRIS 4 ratio of surplus level is getting out of normal range. They might want to decrease their surplus relief to be good with the regulators.
- It has been spending significant resources on disputes over claim payments with the reinsurer and believes it would be more cost effective to end the contract.
- The ceding co may need the cash inflow it receives from the commutation for liquidity reasons.

EXAMINER'S REPORT

Candidates were expected to describe a commutation agreement and then describe three motivations for a ceding insurer to commute a reinsurance contract.

Part a