27. (2.75 points)

a. (0.75 point)

Fully describe the Expected Reinsurer Deficit method of evaluating whether a contract qualifies for reinsurance accounting.

b. (1 point)

Discuss whether each of the following items is appropriate for use in a risk transfer analysis:

i. Profit commission

ii. Reinsurer expenses

c. (1 point)

Briefly describe four considerations for determining the appropriate discount rate to be used in risk transfer analysis.

END OF EXAMINATION

QUESTION 27	
TOTAL POINT VALUE: 2.75	**LEARNING OBJECTIVE(S): E**

SAMPLE ANSWERS

Part a: 0.75 point

Sample answers include:

- The ERD is the net present value of the average severity UW loss to a reinsurer multiplied by the probability of a NPV loss to the reinsurer. This is divided by the ceded premium. If the resulting ratio is greater than 1%, the contract qualifies for risk transfer.
- If the (probability that the NPV of loss to reinsurer) *(Ang severity given that there is a loss) > a threshold (usually threshold 1%), then that proves the contract does in fact transfer sufficient risk and qualifies for reinsurance accounting.
- ERD = Probability (NPV of an U/W loss)*Avg Severity of U/W Loss. The ERD method takes the probability that a reinsurer will get an U/W loss (losses LAE > ceded premium) multiplied by the average of the loss for that probability. If ERD is less than 1%, then it is not considered to be reinsurance and must use deposit accounting instead of reinsurance accounting.

Part b: 1 point

Sample answers include:

<u>Profit Commission</u>

- No – this is only applicable if there is no reinsurance loss, and risk transfer only considers scenarios with a reinsurance loss
- Profit commission shouldn't be included in the analysis because the analysis isn't concerned with profitable scenarios.
- No – we only want cases where the profit is negative and this wouldn't apply.

<u>Reinsurer Expenses</u>

- No – this is not a cash flow between the cedant and the reinsurer, so it should not be considered.
- Reinsurer expenses are not a payment between the reinsurer and ceding company, so they should be excluded from the risk transfer analysis.
- Not appropriate – should only consider items directly transferred between reinsurer and insured in this analysis, not reinsurance expenses.

Part c: 1 point

Any four of the following. Sub bullets indicate related thoughts that were given credit as long as they were not repeated:

- Equal in duration to that of the reinsurer's net cash flows
  - Does it account for the timing of payments?
  - Tail of line being reinsured (duration)
- Should use the risk-free rate as its minimum or floor
  - Consider the risk-free rate
  - If lower (higher) than the risk-free rate may over-(under) detect risk
  - Should exceed the risk-free rate
- Should be the same rate for all cash flows

- Same discount used for all scenarios (no interest rate risk)
  - Yield curves are not appropriate
- Use of interest rate from US treasury department
- Should be reasonable
  - Should be appropriate (per SSAP 62)
- Should not include non-U/W risk
  - Should not incorporate a provision for credit risk in the discount rate
  - Should not reflect interest rate risk
  - Should not consider investment return of reinsurer
  - Should not use pricing assumptions

EXAMINER'S REPORT

Candidates were expected to be familiar with the aspects of the ERD calculation.

Part a

Candidates were expected to:

- Describe the ERD calculation (probability of a NPV underwriting loss for the reinsurer multiplied by the NPV of the average severity of the reinsurer underwriting loss).
- Note that the ratio of ERD to Reinsurer premium is compared to a threshold ERD.
- Note that this ratio must exceed the threshold of 1% in order for the contract to qualify as risk transfer.

Common errors include:

- Failure to specify "reinsurer U/W loss" (e.g. "Calculate the PV of loss offset by premium to get the underwriting loss. Multiply by the probability of loss occurring and divide by premium."
- Failure to include mention of NPV in the calculation (e.g. "ERD calculates Prob of a loss and the average severity of the loss to the reinsurer")
- Responses that only described the 10-10 rule. An example of such a response is as follows: "it must show a 10% probability of realizing a 10%significant loss. There must be presence of insurance risk, both timing and UW risk."
- Responses that only described the requirements of risk transfer. An example of such a response is as follows: "calculates the likelihood that a reinsurer would experience a loss…without some chance of loss, little chance there's actually a transfer of risk. Amounts to determining a n% likelihood of a loss size k."

Part b

Profit Commission

Candidates were expected to:

- State that it is not appropriate to include profit commission in the risk transfer analysis
- State that profit commission only applies when there has been no reinsurer loss. Risk transfer analysis only takes into account scenarios with a reinsurance loss.

Common errors include:

- Providing the rationale that profit commission is not part of risk transfer, as this

statement does not describe why profit commission should not be considered. For example, "No, it has nothing to do with risk transfer".
- Responses that offered an incorrect rationale. For example, "No, it is not appropriate because reinsurance contracts should not have profit provision. It is also difficult to model."
- Responses that stated that including a profit provision was appropriate. For example, "Profit commission is appropriate to use since this a portion of the cost associated with an individual risk transfer."

Reinsurer Expenses

Candidates were expected to:
- State that it is not appropriate to include reinsurer expenses in the risk transfer analysis.
- Explain that reinsurer expenses are not a component of the cash flow between the cedant and the reinsurer.

Common errors include:
- Providing the rationale that reinsurer expenses don't apply to the definition of risk transfer, as this statement does not describe why reinsurer expenses should not be considered. For example, "No, expenses are not part of risk transfer"
- Stating that it was appropriate to include reinsurer expenses in risk transfer analysis, "as it corresponds to the premium being charged" or "it is part of the cost of reinsurance."
- Responses that inaccurately described the reasoning. For example, "No, they are not part of the contract and have no bearing on the riskiness of the business."
- Responses that stated that including reinsurer expenses was appropriate. For example, the response, "Yes, reinsurer expenses are passed between insurer and reinsurer should be part of the analysis."

Part c

Candidates were expected to identify four distinct considerations, which could include:
- Constant discount rate for each scenario
- Same discount rate for each cash flow
- Risk free rate as a lower bound
- Not non-insurance risks (e.g. pricing, reinsurer returns, currency risk)
- Reasonable / Appropriate (SSAP 62)
- Duration used to select interest rate is based on net cash flows to reinsurer
- Treasury yield rates

Common errors include:
- Duplication of responses. For example, stating that the risk-free rate should be considered, rates lower than the risk-free rate would over-detect risk transfer, and rates higher than the risk-free rate would under-detect risk transfer as three separate considerations.
- Citing considerations for unpaid loss estimate discount rates (risk margin, illiquidity premium).
- Stating that company historical payment patterns should be considered.