22. (2 points)

Given the following information:

Reported Losses Gross of Reinsurance ($000,000)			
	Age		
Accident Year	12	24	36
2010	$20	$40	$60
2011	$15	$30	
2012	$18		

Reported Losses Net of Reinsurance ($000,000)			
	Age		
Accident Year	12	24	36
2010	$16	$32	$30
2011	$14	$24	
2012	$11		

- Each accident year has a 20% quota share reinsurance treaty.
- Each accident year has an aggregate stop loss treaty attaching at $30 million applied after quota share.
- Assume the gross data is correct.

a. (0.5 point)

Review the loss triangles above and briefly discuss whether the net data is reasonable based on both reinsurance treaties.

b. (0.75 point)

Explain and justify an approach for estimating gross, ceded, and net ultimate claim estimates.

c. (0.75 point)

Predict the relationship between the gross reported loss tail factor and the ceded reported loss tail factor. Explain the impact of both the quota share agreement and the stop loss agreement.

Exam 5 – Question #22

A. Net before stop loss treaty

AY	12	24	36
2010	20(1 - .2) = 16	40(.8) = 32	60(.8) = 48
2011	15(1 - .2) = 12	30(.8) = 24	
2012	18(1 - .2) = 14.4		

Net after applying stop loss

AY	@12	@24	@36
2010	16	30	30
2011	12	24	
2012	14.4		

Net data is not correct for AYs 2011, 2012 @ 12 months; AY 2011 @ 24 months.

Or

A. No, it is not. AY 2011 and 2012 at age 12 do not reflect a 20% quota share (lower in 2011 and higher in 2012). In addition, AY 2010 at age 24 is $32M, which is too high given the loss treaty (but correctly decreases at 36 mos.).

B. I would estimate gross of reinsurance, then apply reinsurance treaty, both quota share and stop loss on the estimate gross reinsurance to estimate the part that ceded to reinsurance. The remaining will be net ultimate claim estimate.

Or

B. Would use development method on the gross data (assume to be correct) and calculate impact of reinsurance to define net ultimate claims. Net data is defective so cannot use it. Difference between gross ult and net ult is ceded ult.

C. The quota share will not affect the tail factors, since it is proportional. The stop loss will make the ceded factor much more leveraged than the gross, since a higher % will come late once the ceded has already hit its limit.

Or

C. The ceded reported loss tail factor will be greater. The quota share will not impact the tail factor but the stop loss treaty does. As the gross increases beyond $30M, all of those losses will go into the ceded triangle. The increase pattern of losses is greater in the tail compared to gross due to this reasoning.

22.

    a. Many candidates answered this question correctly. Most candidates who did not receive full credit missed either the stop loss error in 2010 or both of the quota share errors in 2011 & 2012. A small amount of candidates received no credit on this question.

    b. Most candidates answered this question correctly or received almost full credit. The majority of the points were taken off for not correcting the net data provided. Most candidates knew to develop gross losses and were able to explain the relationship between gross, net and ceded.

    c. Few candidates received full credit on this question. A majority of candidates misread the question and assumed that it asked them to compare gross and net tail factors. Of those that did compare the ceded and gross tails, many got the relationship wrong. For the candidates that correctly explained the relationship between the gross and ceded tails, some were not able to explain the impact of the quota share and stop loss.

23.

    a. The majority of candidates scored well on this part. This part involved describing a potential operational change (case reserve strengthening, but alternatively slower settlement of claims is acceptable) which required an explanation using the data for full credit. Some common errors were:

- Candidates just stated "change in reserve adequacy" without clear rationale for this conclusion.
- Candidates stated "all reported are higher than paid". However, it is necessary to distinguish among the reported methods as Berquist-Sherman was a critical element.

    b. The majority of candidates scored well on this part. This part requires candidates to provided three questions to claim department regarding the operational change noted in part a. Some common errors were:

- A simple repeat of the operational change.
- Questions that are not related to the operational change.
- Asking if there was a recent large loss that was reported but not paid. The reported Berquist-Sherman method would not have been in line with the paid methods if this was the case.
- Repeating the questions with minor alterations.

    c. The majority of candidates scored very poorly on this part. This part requires candidates to provide three diagnostics for ultimate claim estimate. Most candidates attempted the question as if it is a continuation of previous parts and tried to explain the answers of the previous parts. The common errors include stating disposal rates, statistics related to paid, reported, case. They do not provide direct diagnostic to ultimate claim reasonability.