15. (2.5 points)

An employer negotiated a workers compensation retrospective policy with an insurer, effective from January 1, 2011 to December 31, 2011. The first adjustment of the retrospective premium occurs six months after the end of the policy period and annually thereafter until the tenth adjustment.

The reported losses during the policy period evaluated as of June 30, 2012 are as follows:

Claim	Reported Losses
#1	$300,000
#2	$200,000
#3	$100,000

The provisions for this retrospective rating plan are as follows:

Minimum retrospective premium ratio	50%
Maximum retrospective premium ratio	150%
Loss Conversion Factor	1.2
Per Accident Loss Limitation	$150,000
Expense Allowance Excluding Tax Multiplier	25%
Expected Loss Ratio	60%
Tax Multiplier	1.05
Net Insurance Charge	44.6%
Standard Premium	$540,000

a. (2 points)

Calculate the retrospective premium as of June 30, 2012.

b. (0.5 point)

Discuss what could cause the retrospective premium in part a. above to change for the insured between June 30, 2012 and the tenth adjustment.

CONTINUED ON NEXT PAGE

Exam 5 Question #15

a) Basic Premium $= (0.25 - (1.2 - \mathbf{1})(0.6\mathbf{0}) + 0.44\mathbf{6})\, 540{,}000 = 311{,}04\mathbf{0}$

Retro Premium $= (400{,}00\mathbf{0}(1.\mathbf{2}) + 311{,}04\mathbf{0})1.05 = 830\ 59\mathbf{2}$

Before min/max

Max Retro Premium is 1.5(590000)$= 810{,}00\mathbf{0}$

So the final retrospective premium is 810,000

b) The retro premium could decrease from the max cap if reports losses develop downward or if claims are closed with no payment.

points were not awarded. Many candidates who chose credit score lost points for saying the levels were "fully credible", as opposed to "good credibility" which leads to a different discussion and also lead to candidates losing points in Part C.

c. To receive full credit, candidates needed to correctly calculate the full credibility standard, calculate the credibility using the square root rule, calculate the company indicated relativities, credibility weight the company relativities with the competitor relativities, and finally re-base the credibility weighted relativities. The most common mistake here was claiming full credibility, not recognizing that the 400 full credibility standard refers to claim count and not exposure. For candidates who calculated the indicated company relativities relative to the total pure premium, a common mistake was not calculating the revenue neutral competitor relativities as well. Additionally, some candidates missed the instruction to use the competitor's relativities as the complement of credibility.

12. In general, the response to this question was poor. Many candidates recognized the small data volume but incorrectly went about combining alarm types or deductibles into one category. This was often accompanied by a calculation of a proposed factor by weighted the GLM output. Time was unnecessarily lost by this calculation. Another common error was candidate's often recognized unintuitive output that seemed to be the result of sparse data but yet still proposed to select the predicted factor.

13. Many candidates received full credit on this question. Some common mistakes that were made on this problem:

- Forgetting fixed expense is in the numerator.
- Treating the loss elimination ratio as the excess loss ratio. If the candidate used the incorrect LER "correctly" (applied the deductible processing and credit risk loads to the losses under the deductible, the excess risk margin to the losses above the deductible, and used the losses above the deductible in the numerator) candidates still received some partial credit.
- Applying the ALAE % to excess losses.

14.

a. Candidates not receiving partial credit on often restated the same item twice or two sides of the same item. To receive full credit, 2 separate ideas were necessary.

b. On part b, very few candidates only received partial credit. Examples of full credit statements include:

- "An insurer's retention may decline if a rate cap is not adopted."
- "State laws may require a maximum rate change be followed for all policies."

15. This question was answered poorly with few candidates receiving full credit.

a. In order to get full credit, candidates would need to calculate the basic premium and retrospective premium correctly, and calculate and apply the maximum/ minimum premium.

The common errors included:

- incorrectly calculating the capped losses
- when calculating the basic premium, applying factors to adjust the net insurance charge that was provided in the question
- incorrect basic premium formula
- not applying the max/ min premium

b. Candidates did better on this part. The most common error was to provide reasons that the premium could increase, as it was already at the maximum level. However, if candidates incorrectly calculated the retrospective premium in part a, and produced a number that was in between the min and max, we did award them full credit in part b if they stated that premium could rise or fall.

16.

a. Most candidates were able to properly apply development factors, while not everyone reflected the seasonality in the data. Some of the common mistakes were as follows:

- Developing the 6 month closed claims for the first half of the year instead of the 12 month closed claims.
- Failing to reflect seasonality.
- Applying 1^{st} half factors to the 2^{nd} half closed claims and vice-versa
- Only calculating the ultimate claims for one half of the year

b. Most candidates were able to recognize the seasonality. A significant number also recognized the exposure growth and shifting of average accident date. A common mistake was to misinterpret the question as referring to development age (6, 12, 18, etc vs 12, 24, 36, etc). This resulted in many responses along the lines of making the LDFs less leveraged.

17.

a. About ½ the candidates received full credit on this question. The most common error was providing IBNR instead of total unpaid claims.

b. Many candidates got partial credit on this question for only listing the “industry development/mix might not be like carrier development/mix” limitation. The other two limitations (large loss and leveraged) were not very common. There were several common limitations that did not receive credit, such as “this method only produces unpaid claims” or answers that made reference to the other case outstanding method (references to claims made policies).

c. Many candidates got this question completely correct. A wide variety of answers were accepted, but did not give credit for candidates who said that the insurer had “limited” or