17. (1.25 points)

The following information is available for a self-insured entity:

Accident Year	Case Outstanding	Industry Reported CDF to Ultimate	Industry Paid CDF to Ultimate
2010	$30	1.005	1.105
2011	$60	1.035	1.235
2012	$110	1.120	1.560

a. (0.5 point)

Using a case outstanding development technique, estimate the unpaid claims for accident year 2012 as of December 31, 2012.

b. (0.5 point)

Identify two limitations to the technique used in part a. above.

c. (0.25 point)

Briefly describe a situation when this technique is particularly useful.

Exam 5 Question #17

a. Case O/S development factors 2012 $= \dfrac{(1.12 - 1) \times 1.56}{1.56 - 1.12} + 1 = 1.425$

Unpaid claim $= 110 \times 1.425 = 156.75$

b. 1) Industry benchmark CDF often prove to be inaccurate for a particular insurer
2) Analysis can be distorted by large losses in case outstanding

OR

Industry benchmarks aren't accurate or don't apply to this self insured entity
- Paid CDFs might be highly leveraged→ subject to inaccurate estimates

c. This technique is useful when no other technique is available because the only information the self-insured has is case O/S.

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 1st half factors to the 2nd 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

"thin" data. Credit was not given for candidates that referenced the other case outstanding method (references to claims made policies).

18.

   a. The majority of candidates received full credit. Those that didn't receive full credit typically lost points because they didn't differentiate between total claim versus unreported/unpaid claim.

   b. The majority of candidates received full credit. Those that didn't receive full credit were often mentioning the credibility calculation but were not mentioning to which method this factor would apply. Another common mistake was to weight Z with [Actual loss / reported / paid] instead of [Development Method Ultimate Loss/ reported / paid]

   c. The majority of candidates did not receive full credit. A common mistake for candidates was that they were mentioning situation where BF method was not appropriate instead of referring to a situation where credibility weighting assumption itself of BF method was not appropriate.

   d. The majority of candidates did not receive full credit. Most of the candidate identified the right method, but only a few had a clear explanation on why the reported method was more appropriate.

   e. Most candidates received full credit on this part.

19. Candidates generally performed well on the calculation portion of this question.

   Some candidates did not calculate frequency (claim counts / payroll) and simply multiplied the average of 2010 and 2011 claim counts by a severity selection to determine 2012 ultimate claims. This does not account for the 2012 exposure levels and was not awarded full credit.

   Some candidates calculated the ultimate loss indication correctly and subsequently lost points by failing to calculate the indicated IBNR associated with the ultimate loss. A small portion of candidates calculated the IBNR for all 3 accident years rather than just 2012.

   Some candidates did not justify their selections, as specified in the question. Additionally, a portion of candidates simply wrote out their selection in words; for example, writing "select average of 2010 and 2011" does not constitute a justification and did not receive credit.

   There were some candidates that spent time converting the percentage reported factors to loss development factors and subsequently multiplying by the claim counts and severities. The mathematical equivalent of dividing by the percentage reported could have saved the candidates time. A smaller portion of candidates used the percentage reported figures to create triangles of counts and severities that were unnecessary and subsequently not used in their solution.