

EXAM 5, FALL 2014

16. (1.75 points)

The following information is available for an insurer:

Accident Half - Year	<u>Reported Claim Counts as of (months)</u>				
	<u>6</u>	<u>12</u>	<u>18</u>	<u>24</u>	<u>30</u>
2011-1	28	35	39	39	39
2011-2	40	80	140	168	168
2012-1	20	25	28	28	
2012-2	32	64	112		
2013-1	36	45			
2013-2	35				

- There is no development after 30 months.
- The actuary's estimate of ultimate claim counts for accident year 2013 is 152.

Assess the reasonability of the actuary's estimate of ultimate claim counts.

CONTINUED ON NEXT PAGE

EXAM 5 FALL 2014 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 16

TOTAL POINT VALUE: 1.75

LEARNING OBJECTIVE: B3

SAMPLE ANSWERS

Accident Half Year	6-12	12-18	18-24	24-30
2011-1	1.250	1.114	1.000	1.000
2011-2	2.000	1.750	1.200	1.000
2012-1	1.250	1.120	1.000	
2012-2	2.000	1.750		
2013-1	1.250			
2013-2				

Looks like there is a seasonality issue. First half claims develop differently from second half claims. Select development factors separately:

	6-12	12-18	18-24	24-30
First Half	1.250	1.117	1.000	1.000
Second Half	2.000	1.750	1.200	1.000

Estimated AY 2013 Ultimate Claim Counts: $45 \times 1.117 + 35 \times 2.000 \times 1.750 \times 1.200 = 197$

The actuary’s estimate of 152 is too low – maybe he/she did not take seasonality into consideration.

EXAMINER’S REPORT

The candidate was expected to identify seasonal loss development, to separately calculate and apply unique loss development factors to the half-year data, and to comment on the reasonability of the actuary’s projected ultimate for 2013.

In general, candidates did well on this question. Most identified the need to apply seasonally-adjusted LDF’s and were able to determine that the actuary’s estimate, based on non-seasonally adjusted LDF’s, was unreasonably low.

Common mistakes included:

- Incorrectly calculating an LDF or incorrectly calculating/selecting an appropriate average for a specific age-to-age link factor (most notably, problems occurred with the 12-18 factor for the 1st half year)
- Failing to note the seasonality (and calculating/applying “blended” ldf’s)
- Not applying the proper age-to-ultimate cumulative development factor (CDF) to the proper 2013 half-year raw claim count
- Neglecting to comment on the reasonability of the actuary’s projected ultimate of 152