

13. (3 points)

An insurance company has reported the following information:

Accident Year	As of Date	Reported Claims (\$000)
2011	December 31, 2011	25,000
2011	December 31, 2012	45,000
2011	December 31, 2013	56,250
2012	December 31, 2012	30,000
2012	December 31, 2013	51,000
2013	December 31, 2013	21,000

Assume there is no development beyond 36 months.

a. (1.5 points)

Calculate the ultimate claims for accident year 2013 using the reported claim development technique.

b. (0.5 point)

State two assumptions of the reported claim development technique.

c. (1 point)

For each assumption identified in part b. above, identify and briefly describe an alternative technique that may be utilized when the assumption does not hold.

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QUESTION: 13

TOTAL POINT VALUE: 3 points

LEARNING OBJECTIVE(S): B2, B3

SAMPLE/ACCEPTED ANSWERS:

Part a: 1.5 points

This was a "calculation" question. The responses below give examples of a thorough response with all necessary components as well as a very efficient response that still illustrates full knowledge of the required steps. The first response uses a simple average and the second response uses a volume weighted average. These were the only two averages used by candidates that were accepted.

Sample 1:

Cumulative Reported Claims (000s)

AY	12	24	36
2011	25,000	45,000	56,250
2012	30,000	51,000	
2013	21,000		

Age to Age Factors

<u>AY</u>	<u>12-24</u>	<u>24-36</u>	<u>36-Ult</u>
2011	1.8	1.25	
2012	1.7		
Selected (2 Yr Avg)	1.75	1.25	1.00
Cumulative	2.188	1.25	1.00

AY 2013 Ult Claims = 21,000 x 2.188 = 45,938

Sample 2:

Triangle Reported (000's)

<u>AY</u>	<u>12</u>	<u>24</u>	<u>36</u>
11	25	45	56.25
12	30	51	
13	21		

Ult 2013 = 21,000 x (45+51) / (25+30) x 56.25 / 45 x 1.00 = 45,818.20

2 yr volume wtd link ratio

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Part b: 0.5 point

Answers receiving full credit include:

- Assumes that claims will develop the same way into the future as they did in historical period.
- The past is indicative of the future.
- It assumes a stable mix of claims
- Stable case reserve adequacy
- Claims handling & processing has not changed.
- Claims observed in an immature AY tells something about claims yet to be observed.
- Consistent mix of policy limits and deductibles throughout the experience period.

Part c: 1 point

Answers receiving full credit include:

- If you do not believe losses will continue to develop in the future consistent with historical development, you could use the expected claims technique as it uses an a priori assumption of ultimate losses and does not rely on losses paid to date.
- Use expected loss method. When selecting ELR, make sure ELR is corresponding to the new mix of claim type.
- Could use the paid development method since it will be unaffected by a change in case reserves.
- The Berquist-Sherman method for case outstanding adjustments should be used. Historical case outstanding is adjusted based on the level of case reserves after the changes, from which adjusted reported claims are derived and the reported development method is performed on the adjusted claims.
- BF method can be used when reported claims are not related to IBNR. BF method assumes that IBNR is more closely related to expected claims, independent of reported losses. $IBNR = \% \text{ unreported loss} \times \text{Expected Loss}$
- Use expected claims method. The unpaid claims rely on a priori estimate. I can select a new a priori loss estimate for new policy limit.

EXAMINER'S REPORT:

Part a

Candidates were expected to have knowledge about the full process for reported claim development method. The scores were generally very high with the majority of the candidates receiving full credit. Common errors were a failure to recognize the tail factor and "calculator errors."

Part b

Candidates were expected to be able to list at least two assumptions of the reported claim development method. There were many assumptions listed throughout chapter seven of the Friedland text. There were many answers that were accepted. The majority of candidates received full credit. There were a

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few candidates that gave responses referring to when the reported claim development method does not work well -- these items are not all necessarily synonymous with or related to an assumption, so not all of these responses were accepted.

Part c

Candidates were expected to know two of the many alternative methods or techniques. Accepted responses included valid methods (to address the violation of the part b assumption) and either a.) why it was an improvement over the reported claim development technique or b.) a description of the method. Candidates struggled more with this part than part a. or part b. The majority of candidates were able to identify methods but were less successful at providing valid descriptions. Common errors include an omission of a description after identification of a method or simply restating part b.